MORTALITY STATISTICS
1906

EXTRACT FROM THE PRESIDENT'S MESSAGE TO CONGRESS.

THE PUBLIC HEALTH.

There is a constantly growing interest in this country in the question of the public health. At last the public mind is awake to the fact that many diseases, notably tuberculosis, are national scourges. The work of the state and city boards of health should be supplemented by a constantly increasing interest on the part of the National Government. The Congress has already provided a bureau of public health and has provided for a hygienic laboratory. There are other valuable laws relating to the public health connected with the various departments. This whole branch of the Government should be strengthened and aided in every way.

THEODORE ROOSEVELT.

The WHITE HOUSE,
December 3, 1907.

RESOLUTION BY CONGRESS.

JOINT RESOLUTION REQUESTING STATE AUTHORITIES TO COOPERATE WITH CENSUS OFFICE IN SECURING A UNIFORM SYSTEM OF BIRTH AND DEATH REGISTRATION.

Whereas, the registration of births and deaths at the time of their occurrence furnishes official record information of much value to individuals; and

Whereas, the registration of deaths, with information upon certain points, is essential to the progress of medical and sanitary science in preventing and restricting disease and in devising and applying remedial agencies; and

Whereas, all of the principal countries of the civilized world recognize the necessity for such registration and enforce the same by general laws; and

Whereas, registration in the United States is now confined to a few states, as a whole, and the larger cities, under local laws and ordinances which differ widely in their requirements; and

Whereas, it is most important that registration should be conducted under laws that will insure a practical uniformity in the character and amount of information available from the records; and

Whereas, the American Public Health Association and the United States Census Office are now cooperating in an effort to extend the benefits of registration and to promote its efficiency by indicating the essential requirements of legislative enactments designed to secure the proper registration of all deaths and births and the collection of accurate vital statistics, to be presented to the attention of the legislative authorities in nonregistration states, with the suggestion that such legislation be adopted: Now, therefore,

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the Senate and House of Representatives of the United States hereby expresses approval of this movement, and requests the favorable consideration and action of the state authorities, to the end that the United States may attain a complete and uniform system of registration.

Approved February 11, 1903.

VITAL STATISTICS THE FOUNDATION OF PUBLIC HEALTH.

An accurate basis of facts, derived from a sufficient amount of experience and tabulated with the proper precision, lies at the very foundation of hygiene, as of all exact sciences. Probably no single cause has contributed more to the attention now paid to questions of public health than the careful collection of the statistics of births and deaths and of the causes of death. These collections of figures and facts are usually spoken of as vital or health statistics, because they are so intimately associated with the various problems relating to the health or chances of life which the community enjoys.—*Parkes's Hygiene.*

MORTALITY STATISTICS.

INTRODUCTION.

While the present report forms the seventh of the series of annual reports on mortality statistics compiled by the Bureau of the Census, it is the second mortality report annually published. Reports for the first five years were issued together in 1906 as the special report on "Mortality, 1900 to 1904," with summary tables and textual analysis embracing the five-year period. The sixth annual report (1905) was made ready for publication by the end of 1906, and the seventh annual report (1906) follows at the end of 1907. It is intended to advance the date of publication of these annual reports, which may be readily accomplished with some further cooperation on the part of certain states and cities in the way of securing prompter returns of deaths, until the annual report of mortality statistics for each year will appear about the middle of the year following, thus making the statistics of more timely value.

As rapidity of compilation and publication are very important factors in the usefulness of annual mortality reports, amplification of tables and elaboration of ratios have been dispensed with as far as possible. It is deemed desirable to present only the most essential facts, in a form convenient for reference and comparison. As the mere number of deaths reported from a state or city has little significance until the basis of population is known, death rates based upon estimated populations for noncensus years have been generally employed. A series of rates for several years (five) is usually presented for each cause of death whose mortality is reported for any given state or city, and for convenience the mean rate for an established five-year period, 1901 to 1905, is frequently employed as a basis of reference.

Detailed analysis of the returns of deaths by age, sex, nativity, parent nativity, or other factors, is properly reserved until the results of the enumeration of the population by the Thirteenth Census in 1910 shall enable these constituents of the population to be satisfactorily estimated for the intercensal years 1901 to 1909. In only one respect has this rule been departed from in the present report, and this consists in the introduction of comparative death rates for the white and colored population in areas having a considerable proportion of colored inhabitants. The general demand for the separate statement of death rates for white and colored, and the fact that the estimation of colored population is not affected by immigration, would seem to justify the presentation of such rates.

ANNUAL ESTIMATES OF POPULATION.

Table 1 contains statements of the population of each registration state and city for the five years 1902 to 1906. The figures given are estimates except for those states that had interdecennial censuses in 1904 or 1905. Detailed information in regard to the results of the state censuses, and also in regard to the method employed for intercensal estimates, may be found in Census Bulletin 71, Estimates of Population, 1904, 1905, 1906. No estimates of population have been made for Los Angeles, Cal., for any of the years shown, and for 1906 no estimates are given for Berkeley, Oakland, Pasadena, San Diego, San Francisco, and Stockton, Cal., or for the following cities in Washington: Seattle, Spokane, and Tacoma.

The great changes in population resulting from the earthquake in California on April 18, 1906, render the ordinary formula inapplicable to certain cities, and in others there would seem to be unusual rates of growth. In this connection the following correspondence, which has been published as a supplementary leaflet to Census Bulletin 71, will be of interest. A paragraph of the letter of the Director has been italicized on account of its important practical bearing upon the relation of more frequent enumerations of population, by means of state censuses, to the proper presentation of vital statistics.

CORRESPONDENCE CONCERNING THE POPULATION OF THE STATE OF WASHINGTON.

WASHINGTON, D. C., *April 1, 1907.*

Hon. S. N. D. NORTH,
Director of the Census, Washington, D. C.

DEAR SIR: In view of the estimates of the population of the four cities of the state of Washington which appear in Census Bulletin 71, as worked out in accordance with the Census formula, I have put myself in communication with the commercial bodies of these cities and with the secretary of state in the state of Washington, and have secured from each of them statements which indicate the

present population of the state and of the cities as shown by the most reliable local authorities. I submit the figures so received and so vouched for in parallel columns with your estimates as follows:

Population of the state of Washington.

	Census estimate, June 1, 1906.	Local estimate.
State	614,625	950,000
Cities:		
Seattle	104,169	196,000
Spokane	47,006	95,990
Tacoma	55,392	[1]90,000
Wallawalla	13,253	20,000

[1] I am informed by the secretary of the Chamber of Commerce of Tacoma that, adding Rustin and other contiguous suburbs, which are in reality a part of Tacoma, the city has a population of 100,000.

While I do not question that the Census method of estimating population will reach approximately accurate results when applied to long-settled cities of the East where a normal rate of growth can be anticipated, it is clear that results very far from the truth must follow the application of this method to the cities of a young and rapidly growing state like Washington. The complete evidence of this fact is found in an examination of the figures from the previous Federal censuses of these cities. I only mention the cities above named because your Census bulletin does not name any of the other cities in the state of Washington, but which have grown in like proportion.

Yours truly, (Signed) S. H. Piles.

Department of Commerce and Labor,
Bureau of the Census,
Washington, April 4, 1907.

Hon. S. H. Piles,
United States Senate.

Dear Senator Piles:

I am entirely willing, if you wish it, to publish your letter of April 1 and distribute it with Bulletin 71 containing the Census estimates. But if I do that, it seems to me that in justice to the Census Office, I must also publish with it the letter which I am now writing to you.

The Census Office makes these annual estimates of population because they are an essential feature of statistical work required by law. The act of Congress under which the permanent Census Office was organized provides that there shall be an annual collection of mortality statistics. These statistics have no value or significance unless accompanied by a death rate, which can only be computed in intercensal years by an estimate of the population. That estimate is computed on the basis of the annual growth of a state or a municipality as shown by the last two censuses. That it results in a surprisingly accurate total for the country at large and for most municipalities is shown by comparison with the fourteen state censuses taken in 1904 and 1905. The difference between the estimated and the enumerated aggregate population of the states taking these censuses was only two-tenths of 1 per cent. This result is sufficiently close to the fact to justify the method employed in making the estimates, so long as it is necessary, under the law, to employ some method.

It is true that our cities and states do not all grow at a constant rate, and that the estimate may thus fall considerably below the mark, especially in new localities where there has been a large recent influx of immigration. I think it probable that this is the case in regard to the cities of Washington, and that the census method of estimating does not credit these cities with as large a population as they actually have. On the other hand, it seems to me at least equally probable that the local estimates submitted in your letter of April 1 are too high. I base this conclusion upon a comparison of the death rates as presented in the following tabular statement:

City.	1900			1906				
				Estimated population.			Death rate according to—	
	Enumerated population.	Deaths.	Death rate.	Census estimate.	Local estimate.	Deaths.	The Census estimate.	The local estimate.
Seattle, Wash.	80,671	899	11.1	104,169	196,000	1,319	12.7	6.7
Spokane, Wash.	36,848	511	13.9	47,006	95,000	839	17.8	8.8
Tacoma, Wash.	37,714	500	13.3	55,392	90,000	658	11.9	7.3

In 1900 the death rates for Seattle, Spokane, and Tacoma were 11.1, 13.9, and 13.3, respectively. In 1906 the death rates based upon the Census estimates of population were 12.7, 17.8, and 11.9, respectively. In the case of Seattle and Tacoma the death rates in 1906 according to these estimates were about the same as they were in 1900. In the case of Spokane there was a considerable increase in the death rate, which not improbably may be due in part to the fact that the Census estimate of population for 1906 is too low. If, however, we substitute the local estimate, we get a death rate in 1906 of 6.7 for Seattle, 8.8 for Spokane, and 7.3 for Tacoma. Death rates as low as these are, perhaps, not absolutely impossible, but they are most unusual, and, when compared with the rates for 1900, which are based upon the enumerated population, create a strong presumption that local estimates of population are too large.

If the Census Office departs from the uniform formula in individual cases and resorts to local estimates, directory canvasses, and school and police censuses, it will involve itself in all sorts of complications. Every city in the United States will at once demand that its own estimate of population shall be accepted for determining its death rate; it would become impossible to discriminate, and these statistics would become worthless. So long as they are all calculated on a uniform basis, allowance can easily be made for possible deficiencies in isolated cases. In the great majority of cases, however, the difference between the actual and the estimated population is not sufficient to materially affect the death rate.

The vital statistics of the United States are, unfortunately, more defective and incomplete than those of most European countries. This country is, in fact, just awakening to the great importance of reliable statistics as the basis of sanitary reform, and of the scientific warfare now being organized against preventable diseases. The Census Office is doing its best to unify and perfect this class of statistics, but the real difficulty lies with the states themselves. Few of them have made efficient and adequate provision for the registration of births and deaths; and all but 14 of them rely upon the ten-year Federal censuses instead of taking their own midway census, as every state ought to do. As time passes, as science advances in its warfare upon disease, it is to be hoped that all the other commonwealths will awaken to the fact that the first essential, in any attempt to measure and combat the diseases which are controllable, is to accurately measure the population at frequent intervals. In the absence of such state enumerations, I venture the assertion that a better basis now exists in these Census estimates, by which to measure the annual health conditions in all our states and municipalities, than we ever before had.

It is my hope that Congress in legislating for the next decennial census will give this Bureau authority to cooperate with the state governments in taking quinquennial censuses, in accordance with the plan recommended in my annual report for the year 1903–4. Under this plan, which was originally proposed by a former Superintendent of the Census, Hon. Francis A. Walker, practically one-half the expense of taking a state census would be defrayed from the National Treasury. Thus encouraged, most of the states, I believe,

would sooner or later make provision for an enumeration of the population in quinquennial years; and with a census every five years the possible margin of error in estimating population for the intervening years would be very small.

Very respectfully, S. N. D. NORTH, *Director.*

In addition to the estimates of population given in Table 1 for the years 1902 to 1906, estimates are given in Appendix I for each state and for each registration city having a population of 8,000 inhabitants or more in 1900 for the years 1907 and 1908. The estimates for 1908 are, of course, subject to revision for any territorial changes or unusual variations in growth during the coming year. They are presented for the convenience of registration officials in computing rates for their annual reports of 1907 and monthly bulletins of 1908.

CONSTITUTION OF REGISTRATION AREA: 1906.

Examination of Table 1, which gives the populations of the registration area, of its main subdivisions, of the registration states, and of the registration cities and rural portions of counties exclusive of cities, for each of the years 1902 to 1906, will show a marked change in 1906 as compared with the preceding years 1902 to 1905. For each of the years 1903 to 1905 appears a moderate increase of the population assigned to the registration area and its subdivisions—an increase depending upon the ordinary movement of population and amounting to a total addition of about 600,000 persons each year to the territory covered by the registration record. For 1906, however, an increase of 7,238,506 persons is shown for the population of the registration area as compared with the population of the registration area for 1905. While the usual increment of about 600,000 population, due to the annual increase of the estimated population of the registration area of 1905, is included in this addition, the greater part of it, nearly 6,700,000 persons, is due to the addition of five states to the registration area, namely, California, Colorado, Maryland, Pennsylvania, and South Dakota.

It is an unfortunate fact, in connection with such additions, that the term "registration area" loses the meaning heretofore attached to it in these reports as comprehending a certain defined number of states and registration cities, and now includes, for the year 1906, a somewhat different aggregation of states. The same is true to even greater extent as regards the main subdivisions of the "registration area." Certain cities formerly in nonregistration states are now transferred to the list of cities in registration states, although in either case included in the list of registration cities; to which schedule have been added, however, certain cities now in registration states, but which formerly were not included in the registration record. It is necessary to understand the terms "registration area," "registration cities," "registration states," etc., in the general sense, and as not covering any precise territory except as they may be limited by application to a specified year or period. Thus the data for the "registration area, 1906," are not directly comparable with the data for the "registration area, 1905." There was no marked change in the constitution of the registration area from 1900 (calendar year) to 1905, but the registration area of the calendar year 1900, which forms the first year of this series of annual reports, was not exactly the same as the registration area for the census year 1899–1900, which afforded the material for the mortality statistics of the Twelfth Census. The registration area of the Twelfth Census was not identical with the registration area of the Eleventh Census (1890), and a still greater amount of difference exists between the latter and the registration area of the Tenth Census (1880), which consisted of only two states—Massachusetts and New Jersey—in which transcripts of the deaths registered under state laws were employed instead of the enumerators' returns made use of in 1850, 1860, and 1870 for the entire United States.

The general character of change in the constitution of the registration area, which relates solely to deaths, has been the slow addition of registration states and cities at successive decennial censuses up to 1900, balanced in part by the dropping of one state (Delaware) and of various cities which did not maintain the standard of registration. Since the establishment of the Bureau of the Census upon a permanent basis it has been possible to add new registration states for any year in which it might appear that adequate laws had been enacted and were being effectively enforced. The net results, and the relation of the population of the registration area to the total population of the United States at various periods, may be seen in the following table, in which the populations are enumerated, or estimated for the years 1901 to 1906, as of about the middle of the calendar years or the end of the census years:

YEAR.	Population of continental United States.	POPULATION OF REGISTRATION AREA.	
		Number.	Per cent.
Census year 1879–1880	50,155,783	8,538,366	17.0
Census year 1889–1890	62,622,250	19,659,440	31.4
Census year 1899–1900	75,994,575	28,807,269	37.9
Calendar year 1900		30,765,618	40.5
Calendar year 1901	77,292,021	31,292,130	40.5
Calendar year 1902	78,589,669	31,908,655	40.6
Calendar year 1903	79,922,397	32,536,989	40.7
Calendar year 1904	81,261,856	33,135,453	40.8
Calendar year 1905	82,574,195	33,757,811	40.9
Calendar year 1906	83,941,510	40,996,317	48.8

It is gratifying to observe that the registration area, 1906, now includes nearly one-half (48.8 per cent) of the total estimated population of continental United States, and the inconvenience of lack of direct comparability with the former registration areas may be

lessened by the consideration that each succeeding registration area is a closer approximation to the true registration area of the future covering the entire continental United States. When this result has been attained there will be no more perplexing changes, but consecutive series of rates can be presented for the country as a whole and for each of its geographic subdivisions, omitting the temporary subdivisions of "cities in registration states," "registration cities in other states," etc., which will no longer be needed.

The general progress in the extension of the registration area for deaths, and the entire lack of progress in the establishment of a registration area for births, during the past twelve years may be seen in the map on page 7. The registration area of 1895 is the same as that of 1890, with the addition of Maine. As a matter of fact, one of the states (Delaware), shown as a registration state in 1895, was dropped from the registration record in 1900, as well as twenty-five of the cities in nonregistration states. The marks of interrogation in the section on births, covering certain state areas and the District of Columbia, indicate that at the present time, 1907, there is a possibility that these areas may succeed in registering at least 90 per cent of the births that actually occur, and so may be taken to form a nucleus for a registration area for births in future reports.

The net result of the addition of the new registration states, with reference to total population and also to the various subdivisions of the registration area as employed in the two years 1905 and 1906, may be seen in the following table:

AREA.	1905		1906	
	Estimated population.	Per cent.	Estimated population.	Per cent.
Continental United States	82,574,195	100.0	83,941,510	100.0
The registration area	33,757,811	40.9	40,996,317	48.8
Registration cities	24,358,177	29.5	25,784,839	30.7
Registration states	21,712,888	26.3	32,996,782	39.3
Cities in registration states	12,313,254	14.9	17,785,304	21.2
Rural part of registration states	9,399,634	11.4	15,211,478	18.1
Registration cities in other states	12,044,923	14.6	7,999,535	9.5
Nonregistration area	48,816,384	59.1	42,945,193	51.2

There were nearly 41,000,000 persons represented in the returns of deaths to the Bureau of the Census for the year 1906, or 48.8 per cent of the total estimated population of continental United States, as compared with about 33,750,000, or 40.9 per cent, in the preceding year. The least amount of change in any of the main subdivisions was in the group of registration cities; the total increase, which includes ordinary increments of population as well as the addition of new registration cities, was only about 1,400,000, and the percentage of total population of the United States rose only from 29.5 to 30.7. This group of total registration cities may therefore be taken as nearly identical in the two years, and comparison of its rates may serve to indicate actual changes in mortality from 1905 to 1906. The group of registration states contained nearly 11,300,000 more persons in 1906 than in 1905, and its percentage of the total population of continental United States rose from 26.3 to 39.3. Even now, however, only about two-fifths of the population of the United States is under the operation of satisfactory state laws.

It may be of interest to observe in this connection that the ratio of the population of all registration cities in 1906 to the total population of cities having 8,000 or more inhabitants in 1900, allowance being made for increase since that date, was slightly over 90 per cent, as indicated in the following table:

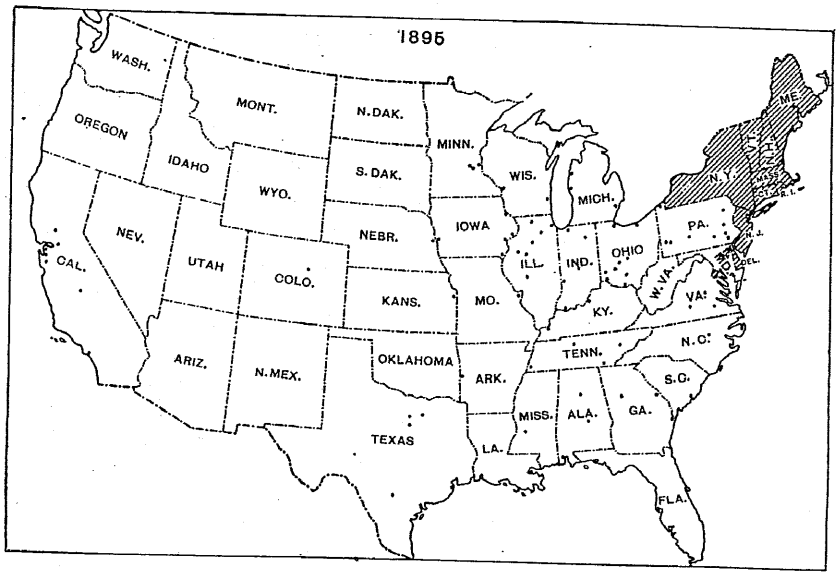
AREA.	1905		1906	
	Estimated population.	Per cent.	Estimated population.	Per cent.
Total cities	28,128,232	100.0	28,466,624	100.0
Registration cities	24,358,177	86.6	25,784,839	90.6
Nonregistration cities	3,770,055	13.4	2,681,785	9.4

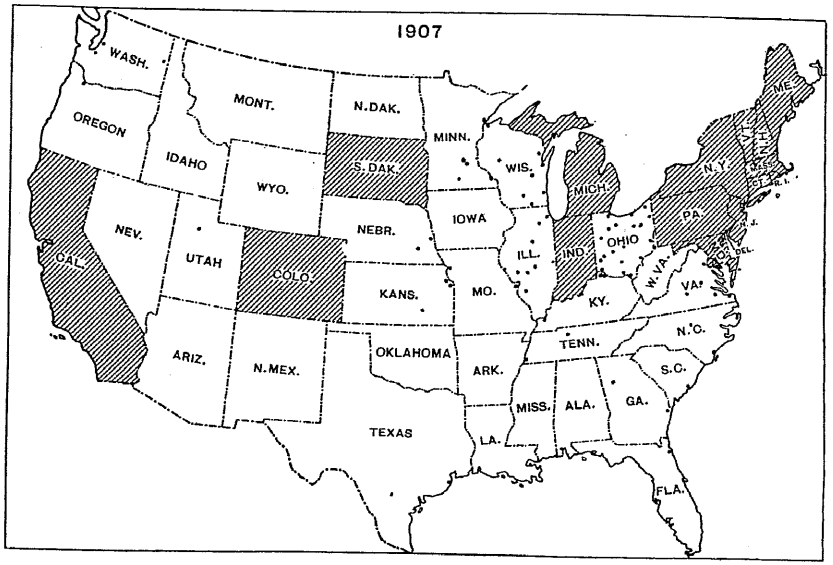
According to the above statement the ratio of registration cities to total estimated population of cities of the United States has increased from 86.6 per cent in 1905 to 90.6 per cent in 1906. The ratio for 1905 is somewhat too low as showing actual returns from cities. Certain municipalities with apparently imperfect registration in the census year 1899–1900 were not compiled as registration cities from 1900 to 1905, but were included in the rural of the counties in which they are situated. These are the following: Auburn, Lewiston, and Waterville, Me.; Adrian, Alpena, and Manistee, Mich.; Bloomfield, East Orange, Hackensack, Kearny, Long Branch, and West Hoboken, N. J.; Batavia, Hornell, Little Falls, North Tonawanda, Oswego, and Plattsburg, N. Y.; and Cranston town, Cumberland town, East Providence town, Lincoln town, and Warwick town, R. I. The total estimated population of all these municipalities in 1905 was 301,224, or 1.1 per cent of the total estimated urban population, and it should be added to the ratio stated in the table above, 86.6 per cent, making a total percentage of 87.7 for comparison with 1906, since these places are compiled as municipalities in the latter year.

The entire population of the new registration states added for the year 1906 does not constitute an addition to the population of the registration area, since a portion of the population of each state, except South Dakota, was already included in the registration cities.

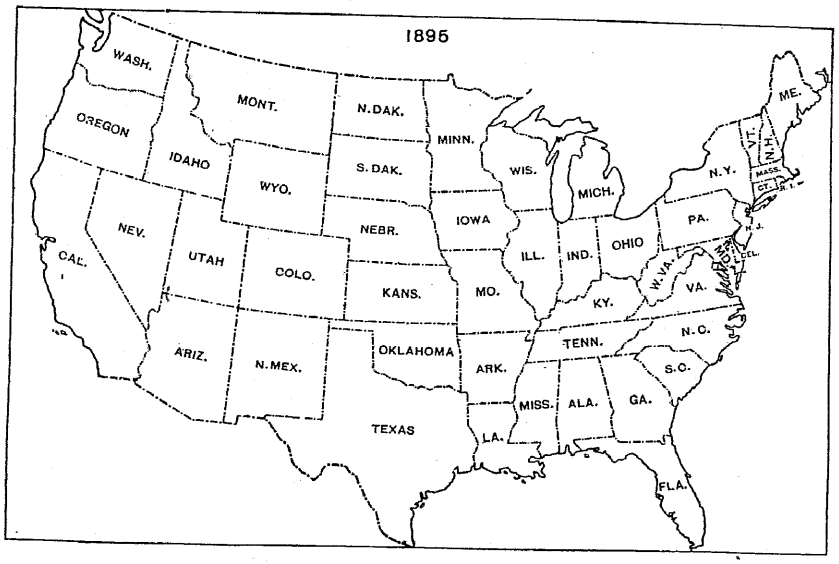
EXTENSION OF THE REGISTRATION AREAS FOR DEATHS AND BIRTHS: 1895 TO 1907.

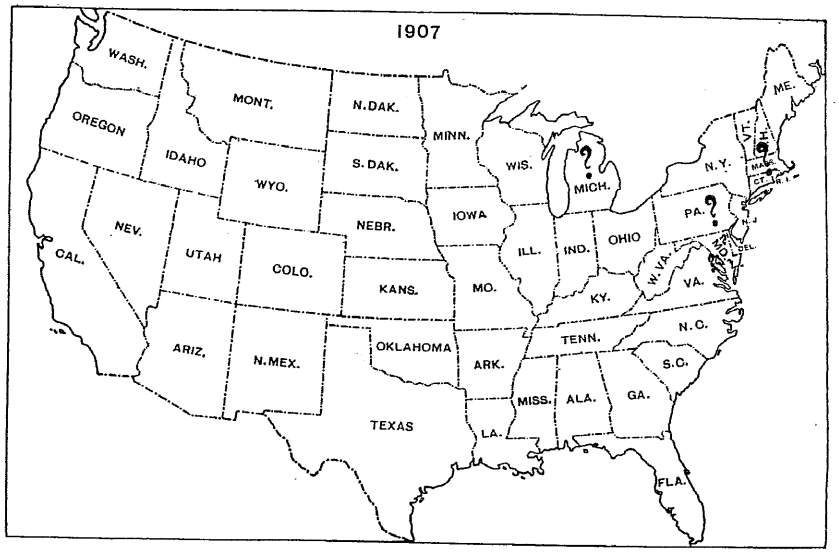
REGISTRATION AREA FOR DEATHS





REGISTRATION AREA FOR BIRTHS





NOTE.—Registration cities in nonregistration states are indicated by dots.

A detailed statement showing the population added for each state, the population formerly included, and the net addition for 1906, may be found in the following table, in which the populations are given as the actually enumerated populations of 1900, the year of the last general census, and as estimated for 1906:

AREA.	POPULATION BY UNITED STATES CENSUS: 1900.			ESTIMATED POPULATION: 1906.		
	Total.	Urban.	Rural.	Total.	Urban.	Rural.
Registration states added in 1906	9,916,482	4,278,730	5,637,752	10,933,471	4,833,554	6,099,917
Cities previously included	3,769,793	3,769,793	.....	4,235,281	4,235,281	.....
Net addition	6,146,689	508,937	5,637,752	6,698,190	598,273	6,099,917
California	1,485,053	649,474	835,579	1,648,044	733,487	914,557
Cities previously included	609,637	609,637	.....	680,055	680,055	.....
Net addition	875,416	39,837	835,579	967,989	53,432	914,557
Colorado	539,700	195,556	344,144	615,570	225,779	389,791
Cities previously included	174,471	174,471	.....	196,441	196,441	.....
Net addition	365,229	21,085	344,144	419,129	29,338	389,791
Maryland	1,188,044	557,497	630,547	1,275,434	608,143	667,291
Cities previously included	526,778	526,778	.....	572,702	572,702	.....
Net addition	661,266	30,719	630,547	702,732	35,441	667,291
Pennsylvania	6,302,115	2,865,937	3,436,178	6,928,515	3,253,454	3,675,061
Cities previously included	2,458,907	2,458,907	.....	2,786,083	2,786,083	.....
Net addition	3,843,208	407,030	3,436,178	4,142,432	467,371	3,675,061
South Dakota (net addition)	401,570	10,266	391,304	465,908	12,691	453,217

It appears that of the total estimated population (10,933,471) of the five new registration states added in 1906 there were 4,235,281 persons in cities previously included, leaving a net addition of 6,698,190. Only 598,273 inhabitants were added to the urban districts, while 6,099,917 were added to the rural districts. As the death rate of the cities is greater than the rural death rate, the figures being 17.3 and 14.1, respectively, per 1,000 of population for the five-year period 1901 to 1905, the result of this addition would tend to give a lower death rate for the entire registration area in 1906 than for 1905.

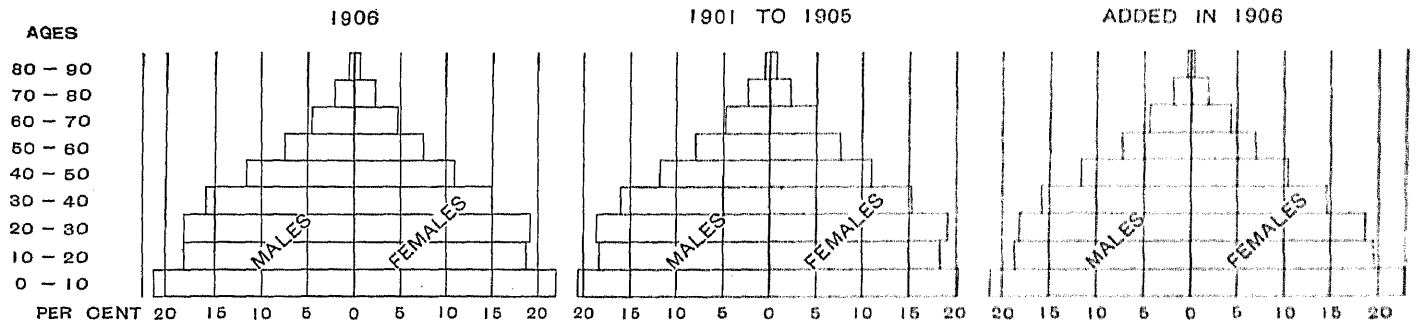
Comparison of registration states of 1901 to 1905 with those of 1906.—The considerable additions to the registration area as constituted for the years 1901 to 1905 to form that for 1906 render direct comparison of death rates difficult or impossible, both for the registration area as a whole and for its main subdivisions, except for the total of registration cities, which is least affected. Aside from the mere numerical increase or decrease, the constitution of the population has changed with respect to sex, age, color, nativity, distribution as urban and rural, and other factors having more or less effect upon mortality. The elements of the population in full detail for the registration area of 1906 can not well be given, as they involve population data which are not available for small municipalities; but it seems desirable to present a comparison of the general character of the registration states of 1901 to 1905 and the registration states of 1906. All populations in the table on page 10 are as of the census of 1900, no attempt being made to estimate the amount of increase of the several elements.

The concentration of population into urban areas was less in the registration states of 1906 than in the registration states of 1901 to 1905, decreasing from about 56 per cent to 52 per cent of the total population of the registration states. The disproportion of the sexes was somewhat greater in the increased area, due to a higher percentage of males in the new registration states; in the old registration states the males and females were practically equal in numbers. The ratio of white population diminished about 1 per cent—from 98 to 97 per cent, approximately, of the total population. Over half a million of colored population was added to the number previously included in the registration states (415,921), but the total colored inhabitants of the registration states of 1906, according to the enumeration of 1900, were notwithstanding only about 3 per cent of the total. The principal addition of this class was that of negroes in rural Maryland.

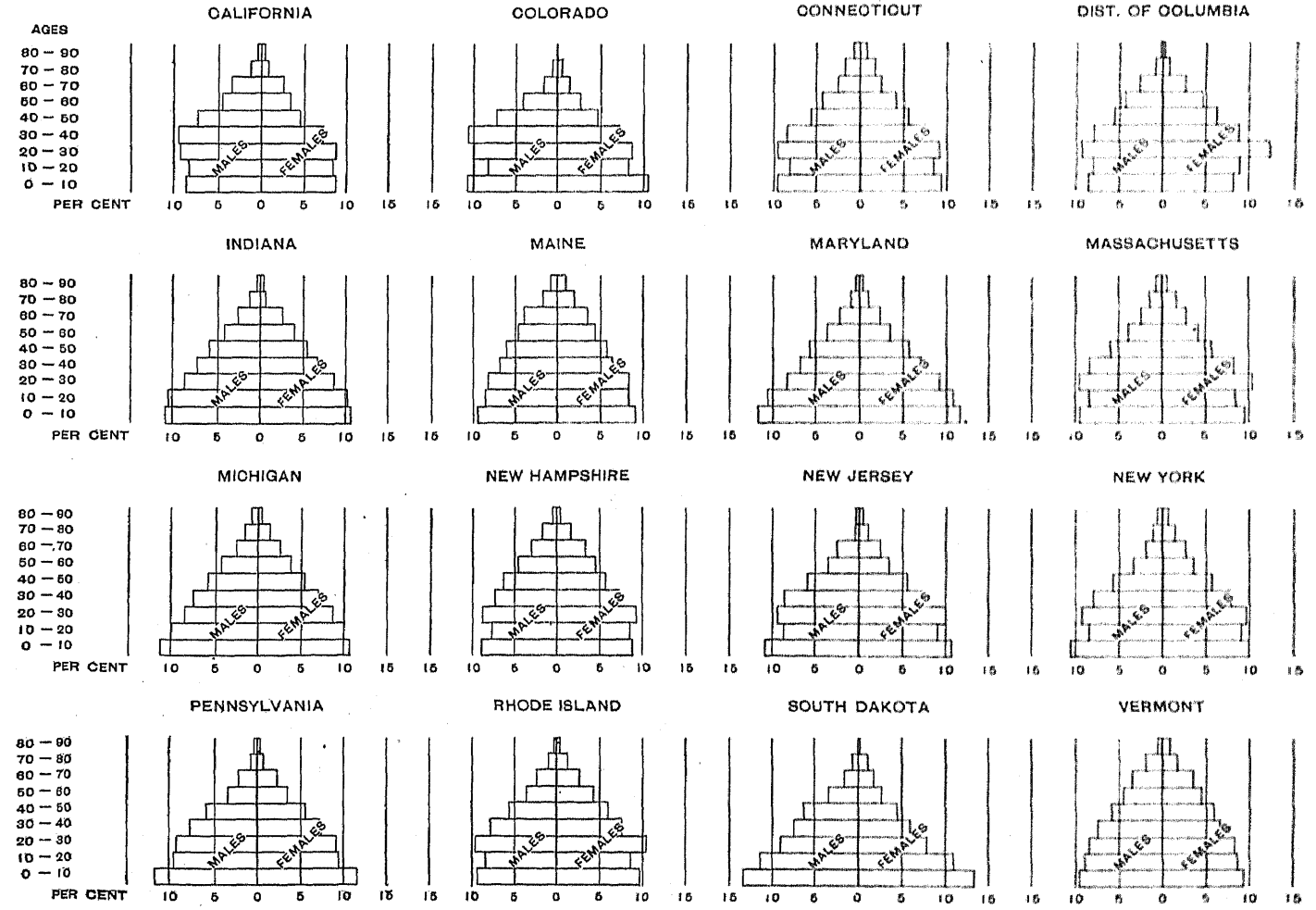
Changes are also indicated in the distribution by civil condition and in age distribution. The latter is graphically represented, by sex, for the present registration states (1906), the former registration states (1901 to 1905), and the new states added in 1906, in the diagram on the opposite page. In this diagram is also shown the age distribution, by sex, of each of the present registration states, as originally given in the Statistical Atlas of the Twelfth Census. The marked differences between the various states should be observed and considered in comparing their gross death rates.

DISTRIBUTION OF THE POPULATION, ACCORDING TO THE CENSUS OF 1900, BY SEX AND AGE PERIODS, FOR THE GROUP OF REGISTRATION STATES, 1906; REGISTRATION STATES, 1901 TO 1905; REGISTRATION STATES ADDED IN 1906; AND FOR THE INDIVIDUAL REGISTRATION STATES, 1906.

AGGREGATE OF REGISTRATION STATES



INDIVIDUAL REGISTRATION STATES



ELEMENTS OF POPULATION.	POPULATION IN 1900 OF GROUP OF REGISTRATION STATES AS CONSTITUTED IN 1906.		POPULATION IN 1900 OF GROUP OF REGISTRATION STATES AS CONSTITUTED FROM 1901 TO 1905.		POPULATION IN 1900 OF GROUP OF REGISTRATION STATES ADDED IN 1906.	
	Number.	Proportion per 1,000 of aggregate.	Number.	Proportion per 1,000 of aggregate.	Number.	Proportion per 1,000 of aggregate.
Aggregate	29,877,224	1,000.0	19,960,742	1,000.0	9,916,482	1,000.0
Classification by locality:						
Urban	15,485,837	518.3	11,207,107	561.5	4,278,730	431.5
Rural	14,391,387	481.7	8,753,635	438.5	5,637,752	568.5
Sex:						
Male	15,112,492	505.8	9,986,649	500.3	5,125,843	516.9
Female	14,764,732	494.2	9,974,093	499.7	4,790,639	483.1
Color (race) and nativity:						
White	28,951,396	969.0	19,544,821	979.2	9,406,575	948.6
Native	22,922,378	767.2	15,086,799	755.8	7,835,579	790.2
Native parents	14,802,673	495.5	9,301,577	466.0	5,501,096	554.7
Foreign parents	8,119,705	271.8	5,785,222	289.8	2,334,483	235.4
Foreign	6,029,018	201.8	4,458 022	223.3	1,570,996	158.4
Colored	925,828	31.0	415,921	20.8	509,907	51.4
Negro	800,187	26.8	388,198	19.4	411,989	41.5
Indian	52,220	1.7	13,539	0.7	38,681	3.9
Chinese	62,656	2.1	13,668	0.7	48,988	4.9
Japanese	10,765	0.4	516	(1)	10,249	1.0
Conjugal condition:						
Single	16,587,760	555.2	10,902,921	546.2	5,684,839	573.3
Married	11,463,215	383.7	7,787,667	390.1	3,675,548	370.7
Widowed	1,689,226	56.5	1,181,303	59.2	507,923	51.2
Divorced	75,433	2.5	52,507	2.6	22,926	2.3
Unknown	61,590	2.1	36,344	1.8	25,246	2.5
Age:						
Under 1 year	671,100	22.5	437,944	21.9	233,156	23.5
1 year	605,187	20.3	394,138	19.7	211,049	21.3
2 years	632,462	21.2	412,353	20.7	220,109	22.2
3 years	637,011	21.3	416,695	20.9	220,316	22.2
4 years	629,905	21.1	411,667	20.6	218,238	22.0
Under 5 years	3,175,665	106.3	2,072,797	103.8	1,102,868	111.2
5 to 9 years	3,050,527	102.1	1,984,846	99.4	1,065,681	107.5
10 to 14 years	2,792,632	93.5	1,819,115	91.1	973,517	98.2
15 to 19 years	2,737,456	91.6	1,804,950	90.4	932,506	94.0
20 to 24 years	2,846,968	95.3	1,905,779	95.5	941,189	94.9
25 to 29 years	2,732,730	91.5	1,839,826	92.2	892,904	90.0
30 to 34 years	2,420,205	81.0	1,630,050	81.7	790,155	79.7
35 to 39 years	2,190,885	73.3	1,474,697	73.9	716,188	72.2
40 to 44 years	1,854,383	62.1	1,247,880	62.5	606,503	61.2
45 to 49 years	1,497,003	50.1	1,013,403	50.8	483,600	48.8
50 to 54 years	1,277,382	42.8	872,741	43.7	404,641	40.8
55 to 59 years	993,546	33.3	685,469	34.3	308,077	31.1
60 to 64 years	814,800	27.3	562,777	28.2	252,023	25.4
65 to 69 years	594,687	19.9	414,450	20.8	180,237	18.2
70 to 74 years	409,402	13.7	288,229	14.4	121,173	12.2
75 to 79 years	244,601	8.2	176,031	8.8	68,570	6.9
80 to 84 years	118,708	4.0	87,093	4.4	31,615	3.2
85 to 89 years	41,904	1.4	31,558	1.6	10,346	1.0
90 to 94 years	10,419	0.3	7,989	0.4	2,430	0.2
95 to 99 years	2,137	0.1	1,576	0.1	561	0.1
100 years and over	539	(1)	343	(1)	196	(1)
Unknown	70,645	2.4	39,143	2.0	31,502	3.2

[1] Less than one-tenth.

It is possible that age distribution may sometimes be only a subordinate element when death rates of populations of widely different characters are compared, but for populations similarly constituted in other respects it may be the determining cause of differences in aggregate death rates. The relations of the registration states of 1906 and those of 1901 to 1905, in this respect, may be analyzed in the following table:

AGE.	REGISTRATION STATES: 1900.[1]				REGISTRATION STATES: 1906.[1]	
	Population.		Deaths.	Death rate per 1,000 of population.	Proportion of population per 1,000 in 1900.	Product of preceding two columns.
	Number.	Proportion per 1,000.				
All ages	19,960,742	1,000.0	343,217	17.2	1,000.0	[2]16.95172
Under 1 year	438,805	22.0	71,364	162.6	22.5	3.65850
1 year	394,913	19.8	16,924	42.9	20.3	0.87087
2 years	413,163	20.7	7,465	18.1	21.2	0.38372
3 years	417,513	20.9	4,707	11.3	21.4	0.24182
4 years	412,477	20.7	3,428	8.3	21.1	0.17513
5 to 9 years	1,988,745	99.6	9,274	4.7	102.3	0.48081
10 to 14 years	1,822,689	91.3	5,442	3.0	93.7	0.28110
15 to 19 years	1,808,496	90.6	8,776	4.9	91.8	0.44982
20 to 24 years	1,909,525	95.7	13,058	6.8	95.5	0.64940
25 to 29 years	1,843,443	92.4	14,583	7.9	91.7	0.72443
30 to 34 years	1,633,252	81.8	14,040	8.6	81.2	0.69832
35 to 39 years	1,477,594	74.0	14,381	9.7	73.5	0.71295
40 to 44 years	1,250,330	62.6	13,784	11.0	62.2	0.68420
45 to 49 years	1,015,395	50.9	13,463	13.3	50.2	0.66766
50 to 54 years	874,455	43.8	14,938	17.1	42.9	0.73359
55 to 59 years	686,816	34.4	16,157	23.5	33.3	0.78255
60 to 64 years	563,881	28.2	18,050	32.0	27.3	0.87360
65 to 69 years	415,264	20.8	19,636	47.3	20.0	0.94600
70 to 74 years	288,797	14.5	20,224	70.0	13.7	0.95900
75 to 79 years	176,375	8.8	18,541	105.1	8.2	0.86182
80 to 84 years	87,265	4.4	14,102	161.6	4.0	0.64640
85 to 89 years	31,621	1.6	7,444	235.4	1.4	0.32956
90 to 94 years	8,005	0.4	2,631	328.7	0.3	0.09861
95 years and over	1,923	0.1	805	418.6	0.1	0.04186

[1] The registration states for the calendar year 1900 were: Connecticut, District of Columbia, Indiana, Maine, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Rhode Island, and Vermont. The list remained unchanged for the years 1901 to 1905, but five states were added for 1906: California, Colorado, Maryland, Pennsylvania, and South Dakota. The age distribution of the registration states (1906) is that shown by the census of 1900.

[2] Sum of products in this column.

A series of death rates at individual ages, for example that of the registration states for the calendar year 1900, is applied to a typical thousand, properly distributed by ages, of the population of the registration states of 1906. Each age being actually subject to the same mortality as in 1900, the population of the registration states of 1906 would show a total death rate of 17 instead of the observed death rate of 17.2. The registration states for the years 1901 to 1905 are the same as those for the calendar year 1900, hence in passing from the death rate of this group in 1905 to the death rate of the registration states of 1906 a decrease of from two-tenths to three-tenths per 1,000 of population might be expected if the mortality at each age remained precisely the same. In other words, there is a slightly improved age distribution in the group of "registration states" since the recent additions. As a matter of fact, the death rate of the "registration states" rose from 15.9 per 1,000 of population in 1905 to 16.1 in 1906, and this apparent rise of two-tenths per 1,000 of population really corresponds to an increase of from four-tenths to five-tenths if corrected for age distribution alone.

PROGRESS OF LEGISLATION FOR VITAL STATISTICS IN THE UNITED STATES.

The most important feature of the present report is the inclusion of data from five new registration states, as announced in the preceding report. Reference to this addition, and also to the efforts that are being made to secure further extension of the registration area, may be found in the Report of the Director of the Census to the Secretary of Commerce and Labor concerning the operations of the Bureau for the year 1906–7:

> The extension of the registration area by the inclusion of new registration states is proceeding apace. There were ten registration states in 1900—Connecticut, Indiana, Maine, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Rhode Island, and Vermont—besides the District of Columbia (city of Washington). Of these, two—Maine and Michigan—were added during the previous decade, while Delaware was dropped. In 1906 five additional states were included—California, Colorado, Maryland, Pennsylvania, and South Dakota. Complete laws were enacted in 1907, which should bring Minnesota, Montana, North Dakota, Wisconsin, and perhaps other states into the list. Earnest efforts will be made by the state authorities in Kentucky, Ohio, and Virginia to secure adequate legislation in 1908; and Illinois, Kansas, and other states will endeavor to secure it in 1909. But since 1900 no registration cities in nonregistration states have been added, although it is entirely practicable for many cities in states which are not likely to secure effective state registration for some years to come to at once pass local ordinances for this purpose and so execute them as to obtain complete registration of deaths. As soon as this is done and the results tested the cities can at once be admitted into the registration area.

Another extract from the Director's report will be of special interest to all who desire accurate vital statistics for the entire United States—not merely for the limited registration area. Under the head of "Legislation for the Thirteenth Census," appears the following statement:

> Certain other sources of economy may be referred to. The annual mortality reports will make it possible to reduce the number of the main reports from four to three. It is the unanimous judgment of the Census experts that with these annual reports covering the mortality of the registration areas, it is a useless expense to continue to collect death returns for the rest of the population upon an enumerator's schedule. By every test that can be applied the enumerator's returns of deaths are too inaccurate to be worth what they cost. They convey no trustworthy indication of the death rates prevailing in the nonregistration areas. Such death rates for these areas can only be secured by proper state and municipal provision for vital statistics. The absence of any such data in the Thirteenth Census may bring sharply to the attention of these states and cities the necessity for this course.

So the time-honored method of enumeration of vital statistics—a method honorable, however, for nothing but time and inertia—will be henceforth discontinued. Sanitary officials in nonregistration states should take immediate notice of this fact, and redouble their efforts to secure effective *registration* laws. The nominal representation of nonregistration areas, once in ten years, by a perfunctory and worthless enumeration of deaths was of little or no practical value; but it enabled each state to figure in a "mortality report" issued by the Federal Government, and the entire lack of reliable statistics was, in many cases, not appreciated by those who attempted to make use of the figures thus published.

Legal importance of registration of births and deaths.—The entire subject of adequate legislation for the registration of vital statistics and the satisfactory enforce-

ment of laws enacted for this purpose demands the earnest consideration of the people of the United States, and especially of the members of lawmaking bodies. Such laws have been chiefly advocated heretofore in this country on account of the resulting benefit to sanitation, and state and city boards of health and the medical profession have been mainly instrumental in securing their passage. Without wishing to detract from the importance of this view, it seems desirable to call special attention to the great legal importance of satisfactory registration laws in the protection of the rights and interests of the individual citizen. As the legal profession has frequent occasion to observe the disadvantages and personal losses occasioned by the present unsatisfactory condition of legislation, or absence of legislation, in this country, and as, moreover, a very large proportion of the constitution of lawmaking bodies is made up of representatives of this profession, it seemed proper to prepare a special statement upon this phase of the subject, which may be found in Appendix II.

Cooperation of Commissioners on Uniform State Laws and American Bar Association.—As a part of Appendix II may also be found the report of the special committee in regard to the proposed cooperation of the Commissioners on Uniform State Laws, which will be followed somewhat later, it is hoped, by similar action on the part of the American Bar Association. By such cooperation the technical construction of legislation for the registration of vital statistics should be greatly improved, its complete compliance with the legal requirements relating to satisfactory records be assured, and, most important of all, the serious attention of legislatures be directed to this great lack among our institutions.

Cooperation of the American Medical Association.—The resolutions adopted by the American Medical Association, at New Orleans, in 1903, were printed on page xi of the Mortality Statistics, 1900 to 1904. During the year 1907 important action has been taken by this association, and, as it is in direct furtherance of the policy declared in these resolutions, it seems advisable to reprint them at this place for the purpose of convenient reference:

Resolved, That the American Medical Association heartily welcomes the action of Congress in promoting the adoption of complete and uniform systems of registration of vital statistics in the United States, and congratulates the American Public Health Association and the United States Census Office on their useful and effective cooperation for this purpose.

Resolved, That the American Medical Association strongly urges on the state medical societies that special committees be appointed to advocate and secure the passage of satisfactory registration laws in states that do not at present possess them; that county societies support and aid in the execution of such laws as far as possible, and that physicians individually, throughout the United States, endeavor to promote the accuracy and value of the mortality statistics by giving clear and definite statements of causes of death on certificates of death.

Resolved, That the committee on public health of the American Medical Association be instructed to cooperate with the corresponding committees of the American Public Health Association, the Conference of State and Provincial Boards of Health of North America, and with other committees organized for this purpose, and with the United States Census Bureau, the United States Public Health and Marine Hospital Service, and other branches of the Federal Government, in the work of promoting the adoption of suitable registration laws and the extension of the registration area, the proper compilation and presentation of vital statistics by states and cities in weekly and monthly bulletins and annual reports, the use of the standard certificate of death, and also in further work relating to the extension, improvement, and practical use of the International Classification of Causes of Death, the disposition of jointly returned causes, and preliminary work relating to its next decennial revision.

At the meeting held at Atlantic City it was voted by the House of Delegates, on June 4, 1907, that the president of the association appoint a committee of five on the nomenclature and classification of diseases. The results of the labors of this committee should afford the medical profession of the United States a guide for the employment of medical terms designating diseases and causes of death similar to that available for physicians in England in the "Nomenclature of Diseases drawn up by a Joint Committee appointed by the Royal College of Physicians of London," of which the third revision has recently been published (1906). No precision can be reached in vital statistics relating to causes of death until physicians generally shall use definite terms and employ them with the same signification throughout the country. A nomenclature of diseases is not a statistical classification of diseases; it is not intended to supplant the International Classification of Causes of Death which is employed in these reports and by the great majority of the registration offices of the United States. But the improvement of the nomenclature of diseases will enable many reforms to be introduced into the International Classification, the time of whose decennial revision is approaching, and will greatly enhance the value of the statistics compiled under it.

The second important sphere of action of the American Medical Association relates to the extension of the registration area and the promotion of adequate laws, whose provisions shall be equitable to all concerned, for the collection of births and deaths. Physicians are intimately affected by the operation of such laws, and it is proper that the medical profession should take part in their framing. As an historical fact many of the registration laws now in force in the United States have been secured through the efforts of physicians, state boards of health, and state medical societies, and the practical enforcement of such laws is very closely dependent upon the attitude of the profession toward them. The Annual Conference of the Committee on Medical Legislation and the National Legislative Council of the American Medical Association has constituted a "Committee on Uniform Vital Statistics, National and State," and, at the last session of the

conference held at Chicago, December 10 to 13, 1907, the chief statistician for vital statistics of the Bureau of the Census appeared before it, by its request, with reference to the practical cooperation of the association in the drafting and advocacy of registration laws. Provision has been made for the organization of a committee of forty-six members, one for each state, to consider and frame uniform legislation on subjects of common interest to the states, and, by the joint efforts of this committee with the Commissioners on Uniform State Laws, the committee on legislation of the Section on Vital Statistics of the American Public Health Association, and the Bureau of the Census, fully satisfactory drafts of laws should be prepared, and the relations of physicians—their rights and duties—in connection with the operation of such laws be so clearly defined that the friction and dissatisfaction sometimes existing will be entirely eliminated.

COOPERATION OF STATE AND MUNICIPAL AUTHORITIES.

It must be thoroughly understood in the examination of these annual reports on mortality that the Government of the United States does not collect the original material upon which they are based under its own laws. It is dependent upon the results of registration of deaths under state laws, or, for certain cities situated in states which do not possess effective laws for this purpose, upon registration under municipal ordinances. Naturally it is exceedingly difficult to secure uniform and comparable data from so many different sources, and a very important part of the function of the national registration office is to promote the use of identical methods and to urge thorough enforcement of the requirements of state laws and city ordinances, so that the resulting statistics will be complete and therefore satisfactory for the purpose of comparison. This requires the organization of registration officials, and their active cooperation with one another, and with the Bureau of the Census, in the standardization of methods and results.

Personnel of American registration service.—A first step is to know the men engaged in registration work, and it has therefore seemed desirable (see Appendix I) to form a check list of American registration officials, noting incidentally the character of the legislation—whether state laws or municipal ordinances—under which the data presented in this report were collected, and the extent to which such data are utilized for the preparation of reports and bulletins containing vital statistics. For the present this list is limited to places of 8,000 or more population at the time of the last Federal census (1900), but it should be remembered that the services of many other local registrars, of places of smaller population and in rural districts, are indispensable; these officials are reached through state publications and by the efforts of state registration authorities. For all alike there is need of a fuller appreciation of the important character of registration service, and the realization that the true upbuilding of American vital statistics must begin in the local registration office. The man who accepts the certificate of death for filing is in a position of vantage in regard to seeing that all of the information required by law is satisfactorily stated, and upon the local registrar must also depend, primarily, the responsibility for securing the registration of all deaths that occur in his district. A competent local registrar should therefore have a long tenure of office, should be adequately compensated for his services, and should be systematically instructed by the central office of the state upon the proper discharge of his duty in obtaining proper records.

Organization of Section on Vital Statistics in American Public Health Association.—The American Public Health Association has been intimately associated with the progress of vital statistics during recent years in the United States, including the adoption of the International Classification of Causes of Death, the formulation of the essential principles upon which a law for the registration of deaths should be based, and the preparation of the standard certificate of death; and it is therefore eminently proper that the first national organization of registration officials of the United States should be effected as a section of this association. This was done at Atlantic City, September 30 to October 4, 1907, the chairman of the section being Dr. J. N. Hurty, secretary of the state board of health and state registrar of Indiana, and the secretary, Dr. Wilmer R. Batt, state registrar of Pennsylvania. The general purpose of the new section may be stated in the following extract from its constitution:

> The purpose of this organization is to bring about a closer official and personal association of the registration officials of the several countries [Canada, Cuba, Mexico, and the United States] composing the American Public Health Association; to promote the introduction of effective systems of registering vital statistics for public health and legal purposes; to aid the adoption of uniform methods of collecting, preserving, correcting, and compiling registration records, and of publishing the statistical data derived therefrom in the most useful form, especially for sanitary purposes; to conduct the active cooperation of the American Public Health Association with the Government agencies of each country and with other organizations interested in the improvement and use of vital statistics; to report on the actual condition of the International Classification of Causes of Death as employed in vital statistics reports and bulletins, and to formulate recommendations for its decennial revision; to help in the better reporting and classification of the mortality of occupations; to present and discuss papers relating to vital statistics both in the section meetings and in the general sessions of the American Public Health Association; and in general to promote a proper appreciation of the necessity and importance of vital statistics as an absolutely essential basis of modern public health work, and to improve the character and status of registration service.

Over sixty members were present at the first meeting of the new section, including delegates from leading registration states and cities, and committees were appointed, among others, on the following subjects: "Legislation for vital statistics, including Federal, state, and municipal;" "Causes of death and revision

of the International Classification;" "Mortality of occupations;" and "Forms and methods of statistical procedure and publication of data in reports and bulletins."

Recommendations submitted for uniform action.—The first serious duty which devolves upon such an organization of registration officials is the establishment of certain definite rules of statistical practice, whereby the operation of all of the registration offices of the country may be regulated, and thereby accurate and thoroughly comparable results may be obtained. No Government office has the right to prescribe such rules, at least in the United States. They must be voluntarily adopted by the registration officials themselves, and must be enforced by them, not as a matter of compulsion, but rather as one of intelligent self-regulation. In no other way can the data published in state and municipal reports be made of general value, or can the returns received by the Bureau of the Census be brought to the proper standard of completeness.

The necessary machinery is provided by the constitution of the section for the careful consideration and determination of practical questions relating to statistical administration, and the results will be published, after action, as Rules of Statistical Practice of the American Public Health Association. Ample provision is made for full consideration of proposed rules by the committees of the section, the section itself, and the American Public Health Association as a whole, and also, in important matters affecting present statistical methods, for a referendum to all registration offices concerned. Certain questions proposed to the section for action, which may be taken at the next annual meeting at Winnipeg, Manitoba, in 1908, relate to the following subjects:

1. Statement of cause of death.
2. Statement of occupation.
3. Statistical definition of deaths.
4. Statistical definition of stillbirths.
5. Statistical definition of births.
6. Essential requirements for registration of deaths.
7. Essential requirements for registration of births.
8. Method of testing accuracy of registration of deaths.
9. Method of testing accuracy of registration of births.
10. Constitution of standard tables of vital statistics.
11. Adoption of uniform age periods in mortality statistics.

All of these questions are important, and on nearly all of them there is the greatest diversity of methods and opinions. The propositions submitted with reference to each subject for the purpose of securing uniform action may be found in full in the Quarterly Publications of the American Statistical Association for December, 1907. The most urgent of all, so far as the need of the Bureau of the Census, as well as that of state and municipal offices, is concerned, is the first, namely, the correct and intelligible statement of the cause of death upon the certificate of death filed by the physician. There are certain prerequisites for the satisfactory statement of this information:

(1) The physician must know the nature of the disease or diseases, with their sequences and complications, that caused death.

(2) He must be able to name the disease or diseases according to a definite nomenclature, and with the avoidance of indefinite or obscure terms.

(3) If more than one disease or pathological condition is assigned as a cause of death, he should be able to properly state them upon the form of certificate employed, so that the registration office that compiles the data will be able to classify the death with precision.

(4) Certificates of death (blanks) must be plain and unmistakable in their language and arrangement, and instructions provided for the use of the busy physician in regard to the statement of cause of death must be clear and unambiguous.

The first of these requirements is dependent upon medical education, the cultivation of pathology, and the more general employment of post-mortems to aid clinical diagnoses. The second will be aided by the special committee of the American Medical Association which already has been referred to in this connection. The third will follow from direct educational efforts made by the Bureau of the Census, and by state and city registration offices, for the purpose of informing physicians in regard to the nature and important uses of the statistical classification of causes of death employed. But improvement in all of these respects will not result in as great benefit as it should unless the fourth requirement is attended to, and this is entirely within the province of the registration officials themselves. So fundamental is this requisite that a special pamphlet has been prepared by the Bureau of the Census on "Modes of Statement of Causes of Death and Duration of Illness upon Certificates of Death," and distributed to the registration officials of the United States so that they may be prepared to take intelligent action on the formulation of a blank for this purpose. It contains samples of all of the principal forms now in use in this country—a great variety, including the standard blank and various modifications of it—and also some of the leading forms used abroad, together with a discussion of the terms used in order to obtain a proper statement of cause of death. As a result of the consideration of the various forms the two resolutions were presented which are given below, together with the explanatory text:

Proposed Resolution No. 1.—That a uniform mode of statement of causes of death upon certificates of death shall be adopted by all registration offices in the United States which shall provide, First, in the case of a death from disease, for the name of the ***disease causing***

death, *and in the case of a death from violence, for the* ***means of death, and whether accidental, suicidal, or homicidal;*** *together with such subsidiary information, if any, as may be necessary, under the head of "Resulting in" or "Aided by."*

As an example of how such data might be provided for with but slight modification of the standard blank, the following form is submitted:

MEDICAL CERTIFICATE OF DEATH

DATE OF DEATH

19..
(Month) (Day) (Year)

I attended deceased from.....**19**....

to.....**19**...., **I last saw h**.... **alive on**

..... **19**...., **and I HEREBY CERTIFY**

that death occurred on the date above at.....**M. The DISEASE**

CAUSING DEATH [*or* ***MEANS OF DEATH**** (Deaths from violence)] **was:** | Duration in Years, Months, Days, or Hours.

.....

.....

.....

.....

Resulting in:
or **Aided by:** .....

.....

(Signed) ..... **M. D.**

.....**19**.... **(Address)**.....

*State how injury occurred and whether { Accidental? Suicidal? Homicidal?

The proposed form will concentrate the attention of the certifying physician or coroner upon the fact that it is necessary to name the *disease* that caused the death, or the *means* from which a violent death resulted, with complete absence of the very uncertain meanings sometimes embraced under the term "cause of death." It will be comparatively easy to give definite instructions as to just what is, and just what is not, a "disease" for the purposes of registration; and to explain the use of the word "means" so that precisely the class of information necessary for classifying violent deaths can be obtained. The expression "cause of death" is an ill-defined or undefined term, of complex significance even when employed in the strict sense understood in vital statistics, and also includes other conceptions, such as terminal condition, mode of dying, and cause of disease, that serve only to perplex reporting physicians and to vitiate the mortality statistics. Its entire disuse upon certificates of death, at least in the most important position, is therefore advised; its use in registration reports and bulletins, as a convenient general term, is quite another matter, as it is seldom improperly employed therein.

The term "disease *causing* death" may be criticised upon the ground that, at the time of the making out of the certificate, the disease is no longer a continuing cause, and that it would be better to speak of the "disease that caused death." Either term will serve, but it is an objection to the latter that a disease that very remotely caused death may not be actually present at the time of death, and hence, under the accepted method of classification, should not be entered as the cause of death. A child may have rheumatic fever with endocarditis and recover from the rheumatic fever. Years afterward the individual may die from valvular heart disease *remotely* due to the rheumatic infection. Under the International Classification, and probably in practical agreement with most methods in use, it is expressly provided that deaths from rheumatic fever shall not include deaths from organic diseases of rheumatic origin; the organic heart affection is taken as the primary cause of death. This rule may be subject to criticism, but while it is practically accepted, only a disease actually present at time of death should be reported as the disease *causing* death.

The word "means," as used only in connection with the statement of deaths from violence, is fairly definite, in the sense of "instrument" and "necessary condition or coagent." When the instrument is a deadly weapon, its use is implied by the mere name, and the statement of the character of the act as accidental, suicidal, or homicidal. When the instrument is not a deadly weapon, the statement of *means* may properly include the necessary condition of action, although even here the mere naming of the instrument is usually sufficient for the main purpose of classification; thus, "elevator," "horse," or "bicycle," would be sufficient, although a little more detail, as "fall of elevator," "kicked by horse," "fell from bicycle," would usually be given. Properly understood, the exclusive use of this term would prevent the mere statement of the lesion, such as "fracture of skull," "hemorrhage," etc., without giving, in the first place, the instrumentality or *means* by which it was caused, and which is primarily necessary for statistical compilation.

The subsidiary information is less important, providing we can assure a correct statement of the *disease causing death,* or the *means of death* in accidents, suicides, and homicides. Possibly some of the old terms could be chosen, such as "secondary," "immediate," "concurrent," and after settling upon their exact definitions and educating all concerned in their definite use, the purpose would be answered, which is chiefly that the true cause of death be picked up in the subsidiary statement when the physician or coroner does not properly enter it in the principal one. The main relations of importance would be clearly shown by the arrangement suggested, which has the advantage of breaking away from the hackneyed terms employed for this purpose, the most definite of them being widely misunderstood.[1] It is possible for the physician to indicate, by crossing out the term that does not particularly apply, just how he wishes the minor cause to be understood: "Resulting in" would always mark a secondary affection, while "Aided by," alone, would show that it was an independent disease or injury. The plan of stating duration is merely suggested; the present form can be retained if desired.

Proposed Resolution No. 2.—That a continuous and systematic effort be made, through the conjoined action of the local, state, and Government authorities, to secure the cooperation of physicians and coroners in the more definite and satisfactory statement of causes of death; and that for this purpose each certificate of death bear a certain minimum amount of suggestions in regard to the statement of cause of death, which shall be uniform throughout the United States, in addition to any special instructions or regulations required for local use.

As a basis for discussion in regard to what this minimum amount shall be, the following draft of suggestions, which can readily be inserted upon the reverse side of any certificate or printed on the inside of the cover of the booklet of blanks supplied to physicians and coroners, has been prepared:

(DRAFT OF) SUGGESTIONS TO PHYSICIANS AND CORONERS RELATIVE TO THE STATEMENT OF CAUSE OF DEATH.

(Adopted by the American Public Health Association and recommended by the United States Bureau of the Census for the purpose of securing uniformity in returns of deaths throughout the United States.[2] *Please read carefully.*)

A. *Deaths from disease.*

1. Name, first, the DISEASE CAUSING DEATH. What is wanted is the name of the *disease* (or malformation) itself responsible for the death; *not* a mere secondary,

[1] For the detailed discussion of these terms and evidence of their ambiguous and unsatisfactory character, reference may be made to the Census pamphlet No. 107, Modes of Statement of Cause of Death and Duration of Illness upon Certificates of Death.

[2] Provided, of course, that any definite instructions can be generally agreed upon.

consecutive, contributory, or immediate cause, complication, symptom, terminal condition, or mode of death. Never report a death from such "causes" as asphyxia, asthenia, collapse, coma, convulsions, debility, dropsy, exhaustion, heart failure, hypostatic pneumonia, inanition, marasmus, old age, shock, syncope, or weakness, if a definite disease causing the condition can be named. WAS IT PUERPERAL? Always qualify, as *puerperal* convulsions, *puerperal* peritonitis, *puerperal* septicemia, etc., all deaths resulting from childbirth or miscarriage.

2. *Important* secondary affections or independent (concurrent) diseases actually contributing to the death may be named.

Example: Measles (disease causing death); bronchopneumonia (secondary affection).

B. *Deaths from violence.*

1. Name, first, the MEANS OF DEATH, and whether ACCIDENTAL, SUICIDAL, or HOMICIDAL; as, *accidental drowning; suicide—carbolic acid; railroad collision.*

NOTE.—In the last example, it is not necessary to write "Accidental," because such cases are *plainly* of that character. A judicial determination of "manslaughter" on account of negligence does not affect the *statistical* character of the return, and a coroner should not delay the filing of the certificate of death on that account.

2. Nature of injury (lesion) or immediate cause of death may be given if not implied under (1).

3. Important *secondary* affections (e. g., erysipelas, septicemia, tetanus) and contributory diseases (e. g., insanity, alcoholism) should always be stated.

Duration.

Enter duration, in years, months, days, *or* hours, after each separate cause of death. Duration of a disease is from its commencement until death occurs; do not merely give time of final illness in chronic diseases. Duration in deaths from violence is from the time of injury or appearance of complication until death.

This draft is merely suggestive. Some cities already have more stringent directions and, by the direct communication possible in a city between the reporting physician and the registrar, have eliminated some undesirable classes of returns. For the country as a whole, however, strict compliance with the instructions given above would work a vast improvement in the returns, and it would be especially beneficial if such a guide could appear on all state blanks.

If it be possible to agree upon certain explicit instructions as suggested above, and similar in their purpose to those disseminated by the registrar-general of England to the physicians of that country, then the Bureau of the Census can cooperate in a very practical manner with the state and local offices by bringing home to the individual attention of every physician in this country, at occasional intervals, the importance of precise and definite statements of causes of death. This may be done by means of a pocket leaflet or small pamphlet of a size such as can readily be carried in a vest pocket or visiting list, and perhaps containing the scheme of statistical classification (International), with indication of indefinite terms and secondary affections, as in the booklet distributed to physicians in Switzerland. Moreover, with exact directions available for reference, the instruction of newly appointed local registrars would be greatly facilitated, and a uniform method of obtaining corrections of imperfect data would be more readily installed.

WHY IS THERE NO REGISTRATION AREA FOR BIRTHS?

The expression "registration area," as employed in the reports on vital statistics prepared by the permanent Bureau of the Census and the preceding decennial censuses since 1880, refers solely to the states and cities from which records of *deaths* are obtained of sufficient precision to make them worthy of acceptance for compilation. No transcripts of births registered under a state law or city ordinance have ever been accepted for this purpose, and it is not yet certainly known whether any registration area, and especially any state area, in the United States has succeeded in obtaining an actual registration of at least 90 per cent of all births that occur—the minimum standard for the admission of a state or city to the registration area for deaths.

For the purpose of learning the causes underlying this unfortunate condition, and of beginning a general movement for the better registration of births and the establishment of a registration area for births, a symposium on the subject was held in connection with the organization of the Section on Vital Statistics in the American Public Health Association at Atlantic City, September 30 to October 4, 1907, and replies from many state and city registration officials representing all parts of continental United States were received to the following questions:

1. What are the chief difficulties in the way of securing approximately complete (90 per cent?) registration of births?

2. Does your state or city *now* do this? What per cent?

3. What tests or checks do you employ, or recommend, for the purpose of learning the completeness of birth registration?

These questions were sent to all states, both registration and nonregistration for deaths, and to all cities of 50,000 population or over in 1900. In a few instances the last question was understood to relate to the accuracy of data upon certificates filed, and not to the completeness of registration regardless of the quality of the returns. Eliminating such replies and also a few in which none of the questions was answered, reports were tabulated from 72 different registration offices representing an aggregate population, in 1900, of 34,305,711 persons, or 45.1 per cent of the total population of continental United States. Of these, 10 were state offices of registration states, whose total population was 19,478,568 persons, or 65.2 per cent of the total population (census of 1900) of the 16 states (including the District of Columbia) which constitute the registration states of 1906. There were also 28 replies, representing 8,140,345 inhabitants, from cities in registration states. From nonregistration states only 7 replies, corresponding to 10,797,887 persons, or 23.4 per cent of this class, were received from state authorities, but 27 additional statements were made by city registrars, representing a population of 4,443,049 persons in 1900, from this group. Altogether the evidence is extensive and should give a fairly good idea of the condition of birth registration in the United States under the most favorable conditions, since the greater proportion of the replies (approximately two-thirds) is from states or cities having effective registration of deaths. The answers may be summarized as follows:

CHIEF DIFFICULTIES PREVENTING COMPLETE REGISTRATION OF BIRTHS.

Out of the total number of 72 reports, no definite statement was made in two instances; in six cases it was stated that no difficulty existed—the completeness of registration in these cities, all but one of which were in registration states, was only claimed to be from 85 to 95 per cent except in one instance (98 per cent). In the remaining 64 state or city areas the reasons assigned by the registration officials were as follows:

(1) The failure of physicians and midwives to report. (2) Carelessness of physicians, also too many midwives. (3) Negligence

of physicians and opposition among them to do work for nothing. (4) Lack of cooperation on part of physicians. (5) Foreigners or those ignorant of our laws and customs. (6) When no physician or midwife is in attendance; oversight of physician. (7) Ignorance of the law on the part of parents; neglect and ignorance on the part of physicians and midwives. (8) Indifference of medical practitioners. (9) Laxity in the enforcement of the law. (10) Failure of physicians to report. (11) Responsibility is divided among the physician, midwife, parent, and householder; sometimes lack of funds. (12) Physicians and midwives have twenty days to make return. (13) Physicians are negligent in reporting. (14) Failure of physicians to report. (15) Assessors can not always make reports because of removals of families. (16) Physicians report only in part and midwives never. (17) Employment of midwives or others without licenses. (18) Difficulties with the less intelligent classes. They generally employ a neighbor, and no reports are made. But during the last year the public has become educated and births are reported more promptly. (19) Difficulty in getting returns of births where regular physicians have not been in attendance. This is true of the colored race who employ midwives. (20) Unscrupulous M. D.'s. and persons of the laity. (21) Want of appreciation, on the part of parents, of the importance of registration; forgetfulness of doctors. (22) Ignorance or indifference of midwives and physicians; insufficient appreciation of the value of such records by the public; the difficulty of tracing unregistered cases. Returns of colored births markedly defective. (23) Unwillingness, negligence, or carelessness of physicians; ignorance and neglect of midwives. (24) Difficulty in proving the nonreturn of births by responsible people; forgetfulness of physicians; objection by physicians to do clerical work for nothing. (25) Laxness of physicians; privilege of unlicensed midwives attending labor cases. (26) No means of knowing where births occur, and, as a result, no means of enforcing the requirements of the statute. (27) Removal of parents. (28) Neglect of physicians to make immediate returns of births. (29) Newness of state, and lack of interest on the part of physicians, midwives, and parents in complying with law; no fee. (30) Failure of doctors and midwives to report promptly. (31) Incomplete law, which does not reimburse physicians and midwives. (32) Failure of the health department to enforce the penalty of $250 on physicians and midwives for failing to report a birth within five days from date. (33) Stubbornness of physicians; nurses acting as midwives, but refusing to acknowledge a responsibility; "grannies." (34) Cases not reported by the attending physician; births occur without any physician in attendance and the family makes no return. (35) Carelessness of attendants. (36) The law is not obeyed. (37) Neglect of attending physicians, midwives, and parents to file certificate of birth. (38) Immediate registration not called for in law. (39) Neglect of duty by the public, and physicians; the nonenforcement of the law against physicians or midwives who do not report births. (40) Failure of physicians and midwives to file certificates. (41) Neglect of physicians and attendants as well as parents. (42) Midwives or no professional attendance at time of birth. (43) No difficulty in getting prompt returns from midwives, but considerable from physicians. (44) Carelessness of doctors and midwives in not reporting. (45) Lack of inclination on part of physicians. (46) Carelessness of attending physicians. (47) Ordinance not enforced; no record kept in city clerk's office. (48) Chief difficulty is to have physicians realize the importance of reporting births promptly. Many children are born where no physician or midwife is in attendance. (49) Births unattended by physicians or midwives. (50) Births unattended by physicians or midwives. (51) Carelessness of physicians and midwives. (52) Negligence of physicians and midwives. (53) Indifference of physicians and their procrastination. (54) Carelessness of physicians and midwives; lack of interest on part of parents. (55) Midwives. (56) People seem more willing to report births than deaths. (57) Irresponsible midwives; some have no one. (58) Lack of proper returns by physicians and midwives; lack of efficient methods of securing knowledge of births in default of proper returns. (59) Carelessness of physicians. (60) Failure to prosecute delinquents. (61) Carelessness of physicians and midwives. (62) Lack of interest shown by physicians. (63) Failure of city council to pass proposed ordinance. (64) Physicians holding reports in order to obtain name of child, then forgetting to report; country midwives not familiar with the law.

COMPLETENESS OF REGISTRATION OF BIRTHS AS CLAIMED BY REGISTRATION OFFICIALS.

Not a single one of the 72 replies summarized claimed that *all* births were registered, as all should be under an efficient law. No definite statements were made in 23 reports. In Springfield, Mass., and Youngstown, Ohio, 98 per cent were stated to be registered, with Boston and Lynn, Mass., coming next with 95 per cent; 15 offices reported 85 or 90 per cent; 13 reported 75 or 80 per cent; 5 reported 65 or 70 per cent; 4 reported 55 or 60 per cent; Columbia, S. C., reported 50 per cent; and Baltimore, Md., 45 per cent. In two instances the answer was given as "no," two answered as "not complete," and two as "unknown."

TESTS FOR COMPLETENESS OF REGISTRATION.

Of the 72 offices represented, 26 did not furnish any definite information and 17 did not use any tests or make any recommendations. In the remaining 29 the following tests were employed or recommended:

(1) We sometimes take the death certificates of infants and see if the births of those infants have been recorded. (2) An approximate control is given by the applications for certificates of births. (3) The occasional examination of birth registers to determine whether the births of deceased native infants under 1 year of age were registered. (4) Check the deaths of children under 2 years old; recommend educating the people first. (5) When the death of a child is turned in, we immediately look up birth register. If not reported as born, our inspector looks up physician or midwife; if first offense, we write him a warning letter; if second offense, we bring him into police court. *This has helped more than any other method, namely, a $25 fine.* (6) Newspaper clippings; assessors' returns every spring, to the town clerks, of the names of children born within the preceding year. (7) Employed—the general birth rate and comparison of birth and death rates; recommended—the child labor law requires a birth certificate if obtainable. (8) Regular monthly reminders to physicians by mail from the health officer or personal notice by the patrolman on the beat in which the physician's office is located, or a reminder from the health warden in charge of the ward in which the physician's office is located. (9) Verification slips to parents on return of each birth. (10) Send out reply postals as soon as original return is received, numbering return and postal the same. (11) Recommend a complete house to house canvass latter part of year (December). (12) Annual house to house canvass. (13) House to house canvass. (14) If all the deaths, stillborn, and children under 1 year of age were looked up to see if their births were recorded, it would show what physicians were negligent. (15) Watch the papers; compare number of births reported with number of deaths; make inquiries of druggists and persons with whom you are personally acquainted as to children recently born and see if such births are recorded. (16) Local publication. (17) Check births reported with the deaths, and where incomplete registration of births is shown, the local board of health is requested to send in all outstanding certificates at once. (18) Comparison of death index (infants) with birth index. (19) Note whether the birth of any child, who dies under 5 years, is recorded in the birth register. (20) Pastors make efficient check mediums. (21) Secure births by having sanitary policemen call frequently upon physicians. (22) Comparison of deaths with births for children under 1 year of age; canvass of certain districts; examination of baptismal records. (23) Reports of sanitary inspectors. (24) Check up all deaths under 1 year of age to see if births have been reported. (25) Comparing list of births with deaths of infants under 1 year.

(26) Newspapers; comparison with infantile deaths. (27) Semi-annual enumeration; look up all births of children dying under 1 year. (28) Death certificates for infants under 1 year are followed up to see if births were reported; sanitary officers ascertain if there is an infant under 1 year in house. (29) Ascertain population of each registration district. If birth rate does not appear sufficient, investigate cause.

These replies may be read in connection with the general discussion of the requirements of a registration law for births in Appendix II. The cumulative force of the answers is very striking, and the reiterated complaints that come from all parts of the country in regard to the neglect or carelessness of physicians and midwives in observing the provisions of the laws for the registration of births would seem to present an obvious explanation of the general imperfection of birth registration. But poor results under a law condemn the law itself—or its administration—and reading between the lines of these replies it would seem that there has been very little serious and determined effort to adequately enforce the registration of births. Health officers and other registration officials are closely dependent upon the opinion of the medical profession for appointment and support. It is considered a trivial matter for a busy physician to forget to register a birth, and any action taken to enforce the law would be treated, in some places, as a personal attack. For this reason the registration of births by physicians may be less thorough than by midwives, despite the contrary opinions expressed in some cases. And the whole matter of the rights and duties of physicians in regard to birth registration, the question of fees or the absence of fees for making these reports required by the state, even the vital point as to whether such reports should be required from physicians at all or from the parents of children born—all these important elements of the problem are yet undetermined in general and professional opinion. It will be necessary to first establish the basis of successful birth registration by defining the essential principles of an effective law, to secure the support of the medical profession, should this duty be devolved upon it, and of the people generally, to the requirements of effective legislation, and to build up a mass of public and professional opinion that will secure the thorough enforcement of just and reasonable laws for this purpose.

SCOPE OF THIS REPORT.

The arrangement of this report follows the usual division into three parts, namely: (1) Text and text tables discussing the more important features of the returns of deaths for the year 1906, and making comparisons with preceding years; (2) summary and rate tables presenting series of death rates for the registration area and its subdivisions for the year 1906 and the four preceding years of registration; and (3) the general or primary tables showing the detailed results of registration for the year 1906. The character of the tables included in each portion of the present report is substantially the same as that for the preceding one, except that for the first time in this series of annual compilations the distinction of color has been introduced, and death rates are stated for the aggregate, white, and colored populations of the one registration state (Maryland) and of the various cities in other states which had a colored population in 1900 equal to 10 per cent or more of the total. The extension of the registration area in 1906 also entails some changes in the constitution of the main subdivisions of the registration area.

Beginning with the present report the District of Columbia, which is coextensive with the city of Washington, is treated as a city in all of the discussions of comparative mortality and in the arrangement of tables, instead of as a state area as heretofore; it is still included, however, in the aggregates for registration states and for the cities in registration states. All tables containing cities have been rearranged so that the cities are listed in the alphabetic order of the states in which they are situated. This enables comparisons to be made more readily of the rates of mortality among the cities of the same state, and corresponds with the similar arrangement of counties, exclusive of cities of 8,000 of population or over in 1900, which follows the list of cities in certain tables.

Establishment of standard quinquennial period.—For many purposes it is desirable to compare the death rates of individual years with those of several years preceding, and it is frequently convenient to employ a mean rate for a short term of years. Thus in the first volume of this series, Mortality Statistics, 1900 to 1904, the average rate for the quinquennial period 1900 to 1904 was made use of. In the second separately published volume of the series, Mortality Statistics, 1905, it was found necessary to present revised rates for the same period, as well as for the individual years 1901 to 1904, based upon the population data afforded by the interdecennial state censuses which are taken in many states. In the present report the quinquennial period 1901 to 1905 is employed, and it is planned to make this a permanent basis of reference until the results of the United States census of 1910 shall enable further revision to be performed, and also permit permanent figures to be given for the quinquennial period 1906 to 1910.

It might appear from the use of the quinquennial period 1900 to 1904 in the preceding volume, and of the quinquennial period 1901 to 1905 in the present one, that a series of shifting periods was to be employed. This is not so, as the use of the former period was merely incidental to the circumstances of the publication of the first volume and of the correction of the rates in the succeeding one. The period 1901 to 1905 is chosen because the rates for this period can be given with greater finality than for the period 1900 to 1904. All of the states which had state censuses took them

in 1905 (except Michigan, whose state census was in 1904), and the mean population of these states can thus be fixed permanently for the period 1901 to 1905. Of course, for other states not having interdecennial state censuses, the final figures for the period 1901 to 1905 can not be given until the census of 1910 enables intercensal estimates to be made for the entire decade. The use of the period 1901 to 1905 is of advantage, moreover, because it begins with the century; includes the first year (1901) in which the compilation of deaths was based solely upon registration returns; and because the same periods or decennial periods in harmony with them are extensively employed in foreign vital statistics.[1] International comparisons may thus more conveniently be made.

Text tables.—The text tables are chiefly extracted from the summary and rate tables, and, together with the accompanying textual analysis, endeavor to point out some of the more important features of the mortality data, especially with reference to the incidence of some of the most important causes of death. Stress is laid upon the general movement of mortality from all causes, and from individual causes of death, in the same area from year to year rather than upon comparisons between death rates in different areas, which are apt to contain elements of fallacy on account of differences in the constitution of the population with reference to age, color, nativity, and other factors. Use has been made of certain limits of high mortality from various diseases, rates above such limits being indicated in bold face type in the text tables, for the purpose of calling the attention of the state and local health authorities to such unusual occurrence of specified diseases and more especially to the continuance of high death rates from year to year. Deaths of nonresident invalids affect the rates from tuberculosis in certain localities, and in no case should inferences of greater or less "healthfulness" be drawn without a full knowledge of all of the contributing factors and conditions. The rates are "crude death rates," and must be employed with a knowledge of the limitations of such rates.

Summary and rate tables.—In Table I may be found the populations of each registration area for the years 1902 to 1906 upon which the rates given in this portion of the report are based.

Table II shows the annual death rates from all causes per 1,000 of population in each registration city for the years 1902 to 1906, with the average for the quinquennial period 1901 to 1905. White and colored are distinguished in places having a considerable proportion (10 per cent) of colored population according to the enumeration of 1900.

Table III gives the total number of deaths returned from each cause and class of causes of death in the registration area, and the corresponding death rates per 100,000 of population for each year from 1902 to 1906, with an average for the quinquennial period 1901 to 1905.

Table IV gives, for the registration area and its main subdivisions, each registration state and city, and each county in the registration states exclusive of cities therein contained, annual death rates per 100,000 of population from certain important causes and classes of causes of death for each year from 1902 to 1906, inclusive. Separate death rates are given for the white and colored (chiefly negro) population when in excess of 10 per cent of the aggregate population in 1900.

Table V gives the annual number of deaths from each cause and class of causes of death, and the corresponding death rates per 100,000 of population for the registration area and its main subdivisions as constituted for each year from 1902 to 1906.

Table VI presents death rates per 100,000 of population, for registration states subdivided into urban and rural, from each cause and class of causes of death during each year of registration from 1902 to 1906. For the first time the colored population of a state area (Maryland) is shown separately.

General tables.—Table 1 gives the deaths in the registration area, its main subdivisions, and each registration state, city, and county, exclusive of cities of 8,000 of population or over therein in 1900, by color, general nativity, parent nativity, and month of death, as returned for the year 1906.

Table 2 presents deaths by ages for the registration area, its main subdivisions, and for each registration state, city, and county, according to their occurrence in 1906. Deaths of the colored population are distinguished for places with 10 per cent or more of colored inhabitants by the census of 1900.

In Table 3 are stated the deaths, for the same subdivisions of the registration area as employed in the preceding tables, from certain important causes during the year 1906. A separate statement, by color, is also given in certain cases.

Table 4 gives the deaths in the registration area and its main subdivisions, and in each registration state, by sex, color, general nativity, and parent nativity, in relation to age for the year 1906. The table is in the same form as that contained in the last report, except that deaths of Chinese and Japanese are stated separately.

In Table 5 are given the deaths in the registration area and its main subdivisions, and in the cities and rural districts of each registration state, from each cause of death in the detailed list during the year 1906. Deaths in Maryland are also subdivided by color.

Table 6 shows the aggregate deaths in the registration area from each cause and class of causes of death, by sex and age, for the year 1906.

Table 7 gives the deaths in each registration state from each cause and class of causes of death, by ages,

[1] See Statistique internationale du mouvement de la population (France, 1907), and Supplement to the Sixty-fifth Annual Report of the Registrar-General of England (1907); the period covered in the latter is 1891 to 1900, a continuation of the series for previous decades.

for the year 1906. The list of causes is the same as that given in Table 6 for the entire registration area. For Maryland separate statements of deaths by color have been added.

Table 8 gives the deaths from certain specified causes in each registration city having a population of 100,000 or more in 1900, by single years of age under 5, and by decennial periods of age from 10 years upward, for the year 1906. Separate tabulations of deaths of white and colored persons are also given for cities with considerable colored population.

SUMMARY OF RESULTS.

There were 658,105 deaths returned to the Bureau of the Census from the entire registration area for the year 1906. The estimated population of this area was 40,996,317 persons, and the death rate was consequently 16.1 per 1,000 of population. The following text will be devoted chiefly to the discussion of death rates based upon comparison of the numbers of deaths returned, from all causes and from individual causes and groups of causes, for the entire registration area and its various subdivisions, with the estimated populations from which these deaths were derived. But before proceeding to the detailed examination of death rates it may be well to consider the gross number of deaths returned, with distinction of sex, age, color, and nativity, and to compare the data for 1906 with previous individual years, 1902 to 1905, and with the average for the quinquennial period 1901 to 1905. As the registration area for the last year of registration, 1906, is not the same as that for the previous years given in the following tables (see previous pages of the Introduction for explanations as to the additional territory included) direct comparisons of the numbers returned for the year 1906 and for previous years can not be made, but the percentages given will enable an idea to be obtained as to the general character of the returns.

The actual numbers of deaths returned for each of the past five years are given, by sex and age, in the following table.

For the purpose of convenient comparison, ratios are presented in this table based upon the total number of deaths returned in each year and the average number during the quinquennial period. Such ratios showing "proportional deaths" may serve to measure the relative contribution of each sex or age period to the total number of deaths, but they do not show the incidence of mortality by sex and age. The latter involves the comparison of the deaths of each sex or at each period of age with the corresponding population, and can not be given on account of the lack of estimated populations by sex and age for the years shown in the table.

SEX AND AGE.	NUMBER OF DEATHS FROM ALL CAUSES.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
Aggregate	520,630	508,640	524,415	551,354	545,533	658,105
Sex:						
Male	283,962	273,585	281,041	296,252	292,912	358,286
Female	245,668	235,055	243,374	255,102	252,621	299,819
Age:						
Under 1 year	100,208	98,575	96,857	102,880	105,553	133,105
1 year	22,325	22,978	21,956	22,268	21,960	28,860
2 years	10,005	10,525	10,079	9,750	9,638	12,188
3 years	6,350	6,475	6,429	6,323	5,916	7,450
4 years	4,737	4,962	4,619	4,681	4,317	5,375
Under 5 years	143,684	143,515	139,940	145,902	147,384	186,978
5 to 9 years	13,679	13,799	14,047	13,774	12,851	15,317
10 to 14 years	8,703	8,163	8,733	9,368	8,835	10,443
15 to 19 years	14,531	13,709	14,541	15,496	14,941	17,928
20 to 24 years	22,246	21,390	22,227	23,206	22,600	26,805
25 to 29 years	24,439	23,542	24,639	25,336	24,438	28,633
30 to 34 years	24,160	23,382	24,053	25,237	24,506	28,502
35 to 39 years	25,332	24,146	25,314	26,449	26,296	30,790
40 to 44 years	24,743	23,797	24,672	25,787	25,143	29,101
45 to 49 years	24,068	22,419	23,686	25,487	25,948	30,703
50 to 54 years	25,706	24,340	25,534	27,182	26,671	31,166
55 to 59 years	26,081	24,654	26,030	27,359	27,054	31,989
60 to 64 years	29,474	27,359	29,042	31,453	31,026	36,109
65 to 69 years	30,382	28,427	30,335	31,688	32,037	38,040
70 to 74 years	30,124	28,196	29,736	32,183	31,343	37,627
75 to 79 years	26,420	24,474	26,298	27,666	27,928	33,501
80 to 84 years	19,446	18,147	19,222	20,476	19,889	24,025
85 to 89 years	9,962	8,946	9,735	10,621	10,841	13,071
90 to 94 years	3,522	3,263	3,447	3,814	3,601	4,179
95 years and over	1,118	1,072	1,124	1,127	1,158	1,393
Unknown	1,801	1,909	2,000	1,743	1,043	1,805

SEX AND AGE.	PROPORTION PER 1,000 DEATHS.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
Aggregate	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0
Sex:						
Male	536.2	537.9	535.9	537.3	536.9	544.4
Female	463.8	462.1	464.1	462.7	463.1	455.6
Age:						
Under 1 year	180.3	193.8	184.7	186.6	193.5	202.3
1 year	42.2	45.2	41.9	40.4	40.3	43.9
2 years	18.9	20.7	19.2	17.7	17.7	18.5
3 years	12.0	12.7	12.3	11.5	10.8	11.3
4 years	8.9	9.8	8.8	8.5	7.9	8.2
Under 5 years	271.3	282.2	266.8	264.6	270.2	284.1
5 to 9 years	25.8	27.1	26.8	25.0	23.5	23.3
10 to 14 years	16.4	16.0	16.7	17.0	16.2	15.9
15 to 19 years	27.4	27.0	27.7	28.1	27.4	27.2
20 to 24 years	42.0	42.1	42.4	42.1	41.4	40.7
25 to 29 years	46.1	46.3	47.0	46.0	44.8	43.5
30 to 34 years	45.6	46.0	45.9	45.8	44.9	43.3
35 to 39 years	47.8	47.5	48.3	48.0	48.2	46.8
40 to 44 years	46.7	46.8	47.0	46.8	46.1	44.2
45 to 49 years	45.4	44.1	45.2	46.2	47.6	46.7
50 to 54 years	48.5	47.9	48.7	49.3	48.9	47.4
55 to 59 years	49.2	48.5	49.6	49.6	49.6	48.6
60 to 64 years	55.7	53.8	55.4	57.0	56.9	54.9
65 to 69 years	57.4	55.9	57.8	57.5	58.7	57.8
70 to 74 years	56.9	55.4	56.7	58.4	57.5	57.2
75 to 79 years	49.9	48.1	50.1	50.2	51.2	50.9
80 to 84 years	36.7	35.7	36.7	37.1	36.5	36.5
85 to 89 years	18.8	17.6	18.6	19.3	19.9	19.9
90 to 94 years	6.6	6.4	6.6	6.9	6.6	6.4
95 years and over	2.1	2.1	2.1	2.0	2.1	2.1
Unknown	3.4	3.8	3.9	3.2	1.9	2.7

While specific death rates, by sex and age, are the only satisfactory means of studying the distribution of the mortality in detail, examination of the actual deaths returned and of the proportional deaths is of interest. The vast number of individual deaths which forms the basis of each of these annual reports is impressive, although for the last year of registration, 1906, the returns were received from not quite one-half (48.8 per cent) of the total estimated population of continental United States. There were 658,105 deaths in the area registered; if the same average death rate (16.1 per 1,000 of population), which is a very low one, prevailed over the entire country, then there are about 1,300,000 deaths each year in the entire United States. Even the number of deaths returned from the partial registration area of the United States, however, is not exceeded by the number returned to any national office in the world except those of France, Germany, Italy, and Japan, not including Russia, for which country no data have been available for several years.

The ratio of deaths of males was slightly higher for the registration area of 1906 than for the registration area of 1905, or for the quinquennial period, to the extent of between seven and eight deaths out of each thousand. This does not necessarily indicate that there was any increase in relative male mortality; the population of the new registration states contained a higher proportion of males than that of the old registration states.

By ages, it appears that somewhat larger proportions of deaths in 1906 were those of infants under 1 year of age and of children under 5 years of age than the average, for a somewhat different area, during the period 1901 to 1905, and that the ratios shown for 1906 were somewhat lower during the middle period of life, and somewhat higher at more advanced ages, than the mean. In consequence of the addition of the new registration states, whose laws have been in effect but a short time and whose registrars are not as thoroughly conversant with their duties as those of the older registration states, the proportion of deaths at "unknown" age—that is, for the most part, deaths in which the local registrar has permitted an imperfect certificate to be filed—has somewhat increased, although the ratio (2.7 per 1,000 of deaths) is still below the average of the five-year period.

The regularity of the proportional deaths by ages from year to year is remarkable. The life of man is divided, for the purpose of this table, into twenty periods, each consisting of five years with the exception of the final one (95 years and over) which is of indeterminate length. With a perfectly uniform distribution of the number of deaths, each quinquennial period of age would show one-twentieth of the total number of deaths, or 50 per 1,000. The first age period, that from birth to, but not including, 5 years, shows rather more than five times as many deaths as it would with a uniform distribution. The next three periods, extending from 5 to 19 years of age, have about half as many deaths, or less, than the average. The twelve five-year periods from 20 to 79 years of age correspond fairly well with the assumed even distribution, and each affords about 50 per 1,000, or 5 per cent, of the total deaths at all ages. Of course, as the population diminishes in numbers with increasing age, this corresponds to a higher death rate at each older age period.

A similar comparison of the distribution of total deaths with reference to nativity may be made in the following table:

COLOR, NATIVITY, AND PARENT NATIVITY.	NUMBER OF DEATHS FROM ALL CAUSES.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
Aggregate	529,630	508,640	524,415	551,354	545,533	658,105
White	493,291	473,645	488,237	513,016	507,715	614,069
Native	347,953	335,704	343,354	361,212	358,247	441,096
Both parents native	159,081	145,056	158,000	172,761	172,220	217,798
One or both parents foreign	116,882	106,062	114,542	127,407	131,677	160,502
Parentage unknown	47,749	43,119	46,911	54,304	49,969	58,439
Parentage not stated	24,242	41,467	23,901	6,740	4,381	4,357
Foreign	135,292	126,590	135,204	141,937	140,951	162,364
Unknown	10,046	11,351	9,679	9,867	8,517	10,609
Colored	36,339	34,995	36,178	38,338	37,818	44,036
Negro	35,042	33,695	34,916	37,065	36,501	41,508
Indian	261	211	255	276	269	1,118
Chinese and Japanese	1,036	1,089	1,007	997	1,018	[1]1,410

COLOR, NATIVITY, AND PARENT NATIVITY.	PROPORTION PER 1,000 DEATHS.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
Aggregate	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0
White	931.4	931.2	931.0	930.5	930.7	933.1
Native	657.0	660.0	654.7	655.1	656.7	670.3
Both parents native	300.4	285.2	301.3	313.3	315.7	330.9
One or both parents foreign	220.7	208.5	218.4	231.1	241.4	243.9
Parentage unknown	90.2	84.8	89.5	98.5	91.6	88.8
Parentage not stated	45.8	81.5	45.6	12.2	8.0	6.6
Foreign	255.4	248.9	257.8	257.4	258.4	246.7
Unknown	19.0	22.3	18.5	17.9	15.6	16.1
Colored	68.6	68.8	69.0	69.5	69.3	66.9
Negro	66.2	66.2	66.6	67.2	66.9	63.1
Indian	0.5	0.4	0.5	0.5	0.5	1.7
Chinese and Japanese	2.0	2.1	1.9	1.8	1.9	2.1

[1] Includes 917 Chinese, 478 Japanese, 5 Hawaiians, 3 Koreans, 3 Filipinos, 2 East Indians, 1 Tahitian, and 1 Hindoo.

The ratio of deaths of negroes shows a decrease, despite the fact that they form an increased proportion of the population from which reports are received. The ratios of parent nativity are affected by the diminution of the returns having "parentage not stated," only a few small cities now failing to include the birthplaces of parents upon their certificates.

POPULATION STATISTICS.

Returns of deaths are necessarily considered in relation to the populations from which they are derived, by the process of computing death rates. The esti-

mation of the populations for such areas as did not take interdecennial censuses in 1905 (or 1904) becomes increasingly difficult with the lapse of every year since 1900, and the rates for the year 1906 will be subject to a larger factor of possible correction than those of the earlier years of the decade. Nevertheless there is no other basis of comparison than the computation of rates based upon estimated populations, and while the figures are submitted with some reservation, inasmuch as they are computed according to a uniform method, there can be no intentional injustice in their use, and the corrections made possible by a later enumeration can be applied to all alike. It is wise, however, to use all rates of areas that have had no recent census of population very guardedly, and to employ them rather for comparing the variations of mortality in any given area from year to year than for the comparison of the healthfulness of different areas.

The detailed estimates of population for the years 1902 to 1906 may be found in Table 1 for the registration area, its main subdivisions, the registration states, cities, and rural population of each county of the registration states. No estimates are given except for the years in which registration returns were received, and in a few instances it has been found necessary to omit estimates for 1906 or previous years on account of disturbed or unusual conditions of growth. In a previous portion of this text (page 8) the important changes in the number and character of the population of the registration area of 1906 were indicated, and comparison made with the registration area as constituted for the years 1901 to 1905. The latter was practically identical with that of the calendar year 1900, but not with that of the census year ending June 1, 1900, as employed in the mortality statistics of the Twelfth Census. The slight difference between the registration area of the calendar year 1900 and that of 1901 was due to the fact that a few cities—Easton, Lebanon, Oil City, and Phoenixville, Pa.—were dropped as registration cities in the latter year; they were restored in 1906 under the state registration law.

The populations of the registration area for 1906 and of its main subdivisions do not coincide in inclusion of territory with those of the registration area and its subdivisions of previous years. The death rates for the various main subdivisions are not directly comparable with those of subdivisions of the same name, and attention must be paid chiefly to the variations of mortality in fixed areas, such as states, cities, and rural populations of counties. The year 1906 begins a new series of rates for the larger aggregations, which will continue until further additions are made to the registration area, which term is of changeable and not of fixed significance, and should always be limited by statement of the year or period covered.

It was shown in the comparison of the constitution of the registration area of 1906 with that of 1901 to 1905 that one of the main subdivisions—registration cities—was practically unchanged. This fact enables death rates for this group to be directly compared for the entire series of years, and in order to furnish certain additional direct comparisons the population of the group of old registration states of 1901 to 1905 has been carried forward, with distinction of urban and rural, in the following table:

AREA.	POPULATION BY UNITED STATES CENSUS: 1900.			ESTIMATED POPULATION: 1906.		
	Total.	Urban.	Rural.	Total.	Urban.	Rural.
Registration states (1901 to 1905)	19,960,742	11,207,107	8,753,635	22,063,311	12,951,974	9,111,337
Connecticut	908,420	589,077	319,343	1,005,716	671,553	334,163
District of Columbia	278,718	278,718	.....	307,716	307,716	.....
Indiana	2,516,462	607,834	1,908,628	2,710,898	741,926	1,968,972
Maine	694,466	164,639	529,827	714,494	177,755	536,739
Massachusetts	2,805,346	2,132,623	672,723	3,043,346	2,335,097	708,249
Michigan	2,420,982	747,334	1,673,648	2,584,532	861,836	1,722,696
New Hampshire	411,588	158,920	252,668	432,622	176,476	256,146
New Jersey	1,883,669	1,153,001	730,668	2,196,237	1,364,436	831,801
New York	7,268,894	4,980,042	2,288,852	8,226,990	5,859,695	2,367,295
Rhode Island	428,556	348,299	80,257	490,387	402,408	87,979
Vermont	343,041	46,620	297,021	350,373	53,076	297,297

In the above table the estimated population of the old registration states (22,063,311) constituted 53.8 per cent of the estimated population of the entire registration area (40,996,317) in 1906. The estimated urban population of the old registration states (12,951,974) was 72.8 per cent of the total estimated population of cities in registration states (17,785,304) in 1906; and the estimated rural population of the old registration states (9,111,337) was 59.9 per cent of the estimated rural population (15,211,478) of the registration states of 1906.

GENERAL DEATH RATES.

All of the death rates given in this report are general rates, sometimes called "crude" or "gross" death rates, based upon the comparison of total deaths from all causes or from individual causes and the total estimated population from which the deaths

were derived. No rates for specified age periods can be given on account of the difficulty of making estimates of population by ages for postcensal years. Death rates by sex are absent for the same reason, but it has been considered advisable to attempt the presentation of general death rates by color for all areas having a percentage of colored population amounting to ten or more in 1900, and for all of the cities and rural districts of Maryland. Rates of infant mortality are, of course, quite out of the question because of the practically entire lack of effective birth registration in the United States.

The cautions necessary in the use of crude rates should be reiterated again and again by all who make public use of them. They are valuable for their proper uses, but the indiscriminate employment of crude rates, without regard to the possibly very different sex, age, or other constitution of the populations involved, is full of fallacy. It is especially undesirable that invidious comparisons should be made, on the basis of crude death rates alone, whereby a certain city or state is proclaimed the "healthiest" of any in a selected list. Carefully "corrected" rates are necessary for satisfactory comparisons, and many elements of "healthfulness" are involved that are quite incapable of expression in a single rate number. With all of these limitations, however, the general rates given for the various states and cities have the merit of being obtained in a uniform manner, without elimination of various classes of deaths as often happens in municipal and even in state reports, and upon a uniformly estimated basis of population; so that for general investigations of mortality, and especially for the study of the movement of disease in any locality from year to year, they will prove to be more satisfactory than any data that have been heretofore at the service of American sanitarians.

Death rates in registration areas.—Subject to the limitations expressed in the preceding section on population, the general death rates of the registration area and its principal subdivisions for the year 1906 may be compared with the rates of similar divisions for the years 1902 to 1905 and for the quinquennial period 1901 to 1905 by means of the following table:

AREA.	NUMBER OF DEATHS FROM ALL CAUSES PER 1,000 OF POPULATION.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
The registration area	16.3	15.9	16.1	16.6	16.2	16.1
Registration cities	17.2	17.0	17.1	17.5	16.9	17.2
Registration states	15.9	15.4	15.6	16.4	15.9	16.1
Cities in registration states	17.4	17.1	17.1	17.9	17.2	17.8
Rural part of registration states	14.1	13.4	13.7	14.4	14.3	14.1
Registration cities in other states	16.9	16.9	17.1	17.1	16.6	15.9

The death rate of the entire registration area in 1906 was 16.1 per 1,000 of population, while the death rate of the smaller registration area of the preceding year was 16.2 per 1,000 of population. In view of the addition of registration states with somewhat more favorable age distribution of population than that of the old registration states, of an increased proportion of rural population having a relatively low death rate, and because the increased proportion of colored population added in 1906 was largely rural and not fully up to the average standard of accuracy of registration of deaths, it would seem probable that the year 1906 was actually attended by somewhat increased mortality as compared with the year 1905. This opinion is supported by the fact that the death rate of all registration cities, a group practically the same despite the changes in the registration area, rose from 16.9 in 1905 to 17.2 in 1906. Also the old group of registration states as constituted in 1905 showed a slight increase from 15.9 to 16, and the cities in these states of from 17.2 to 17.4, although the rural death rate of the old registration states fell from 14.3 to 14.1 per 1,000 of population.

Comparative death rates of certain foreign countries and dependencies, derived from the International Tables published annually by the registrar-general of England, are given for recent years and for the quinquennial period 1901 to 1905 in the following table:

COUNTRY.	NUMBER OF DEATHS FROM ALL CAUSES PER 1,000 OF POPULATION.				
	Annual average: 1901 to 1905.	1902	1903	1904	1905
Australasia	11.4	12.1	11.8	10.8	10.5
Australian Commonwealth	11.7	12.4	12.1	11.0	10.8
New South Wales	11.2	11.9	11.6	10.6	10.1
Queensland	11.4	12.1	12.4	10.1	10.5
South Australia	10.8	11.8	10.7	10.2	10.1
Tasmania	10.8	10.8	11.9	11.0	10.1
Victoria	12.7	13.3	12.9	11.9	12.1
Western Australia	12.4	13.7	12.6	11.9	10.8
New Zealand	9.9	10.5	10.4	9.6	9.3
Austria	24.1	24.7	23.8	[1] 23.7	[2]
Belgium	17.1	17.3	17.0	16.9	[2]
Bulgaria	22.9	24.0	22.9	21.4	[2]
Ceylon	26.7	27.5	25.9	24.9	27.7
Chile	30.0	27.1	26.9	28.8	32.3
Denmark	14.8	14.6	14.7	14.1	15.0
Finland	18.6	18.5	17.9	17.7	[2]
France	19.6	19.5	19.2	19.4	19.6
German Empire	19.9	19.5	20.0	19.6	[2]
Prussia	19.6	19.2	19.7	19.2	19.6
Hungary	26.2	27.0	26.1	24.8	27.8
Italy	21.8	22.1	22.2	20.9	21.7
Jamaica	22.6	19.8	24.6	24.7	21.9
Japan	20.4	20.8	20.0	[2]	[2]
Netherlands	16.0	16.3	15.6	15.9	15.3
Norway	14.5	13.8	14.8	14.3	[1] 14.8
Roumania	25.5	27.7	24.8	24.4	[1] 25.0
Servia	22.4	22.3	23.5	21.1	24.4
Spain	26.1	[1] 26.1	[1] 25.0	[1] 25.8	[1] 25.9
Sweden	15.5	15.4	15.1	[1] 15.3	[1] 15.6
Switzerland	17.7	17.2	17.6	17.8	17.9
United Kingdom	16.3	16.5	15.8	16.5	15.5
England and Wales	16.0	16.2	15.4	16.2	15.2
Scotland	16.9	17.2	16.6	16.9	15.9
Ireland	17.6	17.5	17.5	18.1	17.1

[1] Rates based on provisional figures.
[2] No figures available; average only for years shown.

Even the most casual inspection of these figures and comparison with the international rates for the last century, as given in the preceding report of this series (page 10) and illustrated by a diagram, show at what an era of low mortality the world has

arrived. Many of the former death rates were upward of 25 per 1,000 of population, with occasional rates for a nation during a decennial period of over 35 per 1,000. The average for the past five years shows only a single country in the list (Chile) with a rate as high as 30 per 1,000 of population, and few European countries as high as 25. The tendency in the larger countries, with population of similar character to that of the United States, now seems toward an annual death rate of about 15 per 1,000 or less. And sanitarians are now earnestly striving, with the activities of state and national associations and international congresses directed against various forms of disease, and more especially against tuberculosis—the infectious disease responsible for the largest number of deaths due to any single cause—with systematic efforts for clean milk and pure water, and the consequent prevention of a large share of the infant mortality and deaths from typhoid fever, to cut down the present death rate by a large amount.

Death rates in registration states.—In the following table are given the death rates in the registration states for the years 1902 to 1906, with the average for the quinquennial period ending in 1905:

REGISTRATION STATE.	NUMBER OF DEATHS FROM ALL CAUSES PER 1,000 OF POPULATION.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
Total	15.9	15.4	15.6	16.4	15.9	16.1
California	(1)	(1)	(1)	(1)	(1)	17.4
Colorado	(1)	(1)	(1)	(1)	(1)	15.9
Connecticut	16.0	15.3	16.2	15.9	16.5	16.7
Indiana	13.0	12.8	12.2	13.5	12.8	12.5
Maine	16.0	15.4	15.9	16.5	16.2	16.2
Maryland	(1)	(1)	(1)	(1)	(1)	15.7
Massachusetts	16.6	16.5	16.7	16.3	16.8	16.6
Michigan	13.3	12.7	13.2	13.6	13.5	14.3
New Hampshire	16.4	15.9	16.5	16.0	17.0	17.3
New Jersey	16.1	15.8	15.7	16.9	15.8	16.2
New York	17.1	16.4	16.5	18.0	17.0	17.1
Pennsylvania	(1)	(1)	(1)	(1)	(1)	16.5
Rhode Island	17.8	17.7	18.8	17.2	17.1	17.5
South Dakota	(1)	(1)	(1)	(1)	(1)	8.8
Vermont	16.2	15.0	16.2	16.0	17.0	16.8

[1] Nonregistration.

The new registration states, added in 1906, have rates only for that year. The District of Columbia is omitted from the list of states, although included in the total; the city of Washington with which it is coextensive is treated with the registration cities of 100,000 of population or over in 1900.

Of the older registration states, 6 showed a slightly higher death rate for 1906 than for 1905, 3 showed a slightly lower death rate in 1906, and 1 state (Maine) had the same death rate (16.2) in each year. Three states had higher death rates in 1906 than for any of the other years shown in the table: New Hampshire (17.3), Connecticut (16.7), and Michigan (14.3). All of these rates are so low, and all of the rates for the individual years and for the five-year period are so low for all of the states, that only a comparatively short time ago they would have been regarded as quite below the limit of reasonably possible rates consistent with the complete registration of deaths. At the present time, however, it is only when such remarkably low death rates as that of South Dakota are seen that the attention of the critic is arrested by the figures themselves and doubt is expressed in regard to the completeness of registration. Nevertheless the rate of South Dakota for the year (8.8) is not much lower than that of New Zealand (9.3) for the year 1905, or, in fact, than most of the Australian rates. The limit has not been determined below which it is certain, in the absence of other evidence, that the death rate of a state or city is not worthy of credence; unusually low rates, however, demand investigation and the fullest assurance should be had that the registration systems under which they are obtained are effectively administered before unqualified dependence is placed upon them.

Urban and rural mortality.—A comparative statement of the death rates per 1,000 of the urban and rural population of the registration states may be found in the following table:

REGISTRATION STATE.	NUMBER OF DEATHS FROM ALL CAUSES PER 1,000 OF POPULATION.											
	Annual average: 1901 to 1905.		1902		1903		1904		1905		1906	
	Cities.	Rural districts.	Cities.	Rural districts.	Cities.	Rural districts.	Cities.	Rural districts.	Cities.	Rural districts.	Cities.	Rural districts.
Total	17.3	14.1	17.1	13.4	17.1	13.7	17.9	14.4	17.2	14.3	17.8	14.1
California	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	22.0	13.7
Colorado	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	20.8	13.1
Connecticut	16.4	15.2	15.7	14.5	16.8	15.0	16.1	15.5	16.9	15.5	17.3	15.4
Indiana	14.8	12.4	14.7	12.1	14.6	11.3	15.7	12.8	14.0	12.4	14.1	11.8
Maine	18.5	15.5	18.4	14.8	18.4	15.4	19.5	15.9	17.9	15.9	18.1	15.6
Maryland	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	19.3	12.5
Massachusetts	16.9	16.0	16.9	15.2	16.9	15.9	16.4	16.1	16.9	16.4	16.8	15.9
Michigan	14.6	12.7	14.6	11.9	14.9	12.5	14.3	13.3	14.6	13.0	15.9	13.5
New Hampshire	17.0	16.0	16.8	15.3	16.9	16.2	16.1	15.9	18.1	16.2	18.1	16.8
New Jersey	17.9	13.7	17.7	13.3	17.4	13.3	19.0	14.1	17.5	13.6	18.0	13.3
New York	18.1	14.8	17.6	13.9	17.4	14.4	19.2	15.2	17.8	15.2	18.0	14.8
Pennsylvania	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	18.1	15.1
Rhode Island	17.9	17.6	18.1	16.9	18.9	18.7	17.2	17.3	17.1	17.1	17.0	20.0
South Dakota	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	9.5	8.8
Vermont	17.1	16.0	15.4	15.0	17.9	15.9	17.1	15.8	18.3	16.8	18.0	16.5

[1] Nonregistration.

The aggregate includes the District of Columbia, which is entirely urban and coextensive with the city of Washington, and therefore preferably considered with the larger cities of the next table rather than with the state areas given in the preceding one. By the term "cities" is meant all municipalities having a population of 8,000 or over in 1900. Some towns in New England and New Jersey, villages in New Jersey and New York, and boroughs in Pennsylvania are included in the list of cities. Cities whose enumerated or estimated populations may have reached 8,000 or over since 1900 are not included.

For the year 1906, as usual, the death rate of the cities (17.8) considerably exceeded that of the rural districts (14.1), but the difference (3.7) was somewhat more than the average (3.2). The death rate of the urban population of the old registration states was only 17.4 per 1,000, that of the rural districts in these states being the same as for the rural districts of the registration states of 1906 (14.1). The increased difference may be due to the addition of new registration territory with possibly less effective rural registration.

Among the registration states having rates for the series of years, 6 showed increased rates of urban mortality, 1 showed no change, and 3 gave decreased rates in passing from 1905 to 1906. In rural death rates, 7 of these states had less and 3 greater rates in the last year as compared with the preceding one. The general death rates of the total urban population of Connecticut (17.3) and Michigan (15.9) were higher for 1906 than for any previous year given in the table, while that of Rhode Island (17) was the lowest shown for the series of years. Maximum rates for rural population occurred in Rhode Island (20), New Hampshire (16.8), and Michigan (13.5) as compared with any preceding year given for each state.

In the following table individual cities of 100,000 of population or over are arranged in alphabetic order of states, so that the death rates of cities in the same state can be conveniently compared.

No estimate of population is made for San Francisco, Cal., for the year 1906 on account of the disturbances of population resulting from the earthquake of April 18 of that year, and consequently no rate can be given. The table, and all subsequent tables of similar form, relate, so far as comparisons for the year 1906 are concerned, to 36 of the largest cities of the United States, but do not include any cities that may have attained 100,000 of population since 1900. The boroughs of Greater New York are separately stated, but in the discussion of this and similarly constituted tables New York will be considered as a whole.

REGISTRATION CITY.	NUMBER OF DEATHS FROM ALL CAUSES PER 1,000 OF POPULATION.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
San Francisco, Cal.	20.9	21.6	21.3	20.8	20.1	(1)
Denver, Colo.	19.3	19.1	18.4	19.6	19.2	21.1
New Haven, Conn.	17.5	16.7	17.0	17.2	18.7	19.1
Washington, D. C.	20.6	20.1	20.3	20.8	20.5	20.5
Chicago, Ill.	14.3	14.6	15.3	13.8	13.8	14.2
Indianapolis, Ind.	15.2	14.3	15.8	16.3	14.1	14.6
Louisville, Ky.	18.6	18.0	18.6	19.8	18.1	18.2
New Orleans, La.	22.6	22.3	22.3	22.3	23.7	21.7
Baltimore, Md.	19.7	19.6	19.1	20.1	19.6	19.4
Boston, Mass.	18.8	19.1	18.3	18.3	18.5	18.9
Fall River, Mass.	20.3	21.0	22.2	19.6	19.9	19.7
Worcester, Mass.	16.8	15.8	17.0	16.2	17.7	17.8
Detroit, Mich.	15.2	15.6	15.8	14.9	14.4	17.0
Minneapolis, Minn.	10.2	10.0	10.4	9.6	9.4	10.3
St. Paul, Minn.	10.0	10.0	9.7	10.0	10.0	10.3
Kansas City, Mo.	17.2	15.8	17.4	19.7	16.9	15.3
St. Joseph, Mo.	7.7	8.7	6.5	7.9	7.6	8.2
St. Louis, Mo.	17.8	17.3	18.2	18.8	16.9	15.6
Omaha, Nebr.	11.1	11.9	9.7	11.5	10.8	11.4
Jersey City, N. J.	19.3	18.7	18.7	20.8	19.0	19.5
Newark, N. J.	18.7	18.9	18.4	19.5	17.7	19.2
Paterson, N. J.	16.9	16.6	16.0	18.0	16.6	17.7
Buffalo, N. Y.	15.5	14.7	16.0	16.0	15.6	16.6
New York, N. Y.	19.0	18.6	18.0	20.1	18.4	18.6
Bronx borough	20.9	21.6	19.4	21.5	20.3	21.9
Brooklyn borough	18.2	18.1	17.3	18.8	17.6	18.0
Manhattan borough	19.5	18.7	18.5	21.2	18.8	18.5
Queens borough	16.1	16.3	14.8	16.1	16.1	17.3
Richmond borough	19.0	18.5	17.1	20.4	19.2	20.0
Rochester, N. Y.	14.6	13.5	14.7	15.0	15.3	15.5
Syracuse, N. Y.	14.5	13.3	14.3	15.2	15.5	15.5
Cincinnati, Ohio	19.3	18.1	18.8	20.8	19.2	20.8
Cleveland, Ohio	15.5	15.8	16.6	15.4	14.7	16.0
Columbus, Ohio	15.9	15.9	16.9	16.9	15.7	16.2
Toledo, Ohio	14.1	14.3	14.7	13.7	13.7	14.7
Allegheny, Pa.	18.4	19.0	19.0	17.8	18.8	17.9
Philadelphia, Pa.	18.2	17.6	18.8	18.8	17.7	19.3
Pittsburg, Pa.	20.7	22.0	21.7	19.8	20.0	19.9
Scranton, Pa.	16.3	14.0	14.9	17.9	18.2	16.5
Providence, R. I.	18.8	18.4	20.6	18.5	17.5	18.7
Memphis, Tenn.	18.3	18.0	17.8	19.5	17.9	17.6
Milwaukee, Wis.	13.2	12.6	13.5	13.6	13.0	14.5

[1]Population not estimated.

Of the 36 large cities for which comparisons are available, the death rates of 25 were higher in 1906 than in 1905, the death rates of 9 were lower, and 2 showed the same death rates in each year. Nine of the cities had higher rates for this year than for any of the previous years included in the table. These are, in order of highest rates: Denver, Colo. (21.1); Philadelphia, Pa. (19.3); New Haven, Conn. (19.1); Worcester, Mass. (17.8); Detroit, Mich. (17); Buffalo, N. Y. (16.6); Rochester, N. Y. (15.5); Milwaukee, Wis. (14.5); and St. Paul, Minn. (10.3). Four cities showed minimum rates for the year: Kansas City, Mo. (15.3); St. Louis, Mo. (15.6); Memphis, Tenn. (17.6); and New Orleans, La. (21.7).

In such a table as the above it should be understood that the rates given are crude death rates, and that exact comparisons of "healthfulness" or sanitary condition should not be made without considering the constitution of the population and other circumstances. Some of these cities have a considerable colored population whose death rate is relatively high.

These are Washington, D. C., Louisville, Ky., New Orleans, La., Baltimore, Md., Kansas City, Mo., and Memphis, Tenn., for which comparative death rates by color are given in the following section, together with similar rates for all minor cities having 10 per cent or over of colored population in 1900.

Death rates of white and colored population.—Among the various factors affecting the general death rate of a state or city is the proportion of colored population. By "colored population" is meant in nearly all cases the negro population; the few cities in which the Chinese and Japanese form the chief constituents of the total colored population will be specially noted in the following table, which compares the death rates of the aggregate, white, and colored populations of all cities having 10 per cent or more colored inhabitants in 1900, for each of the years 1900 to 1906, and also presents an average for the quinquennial period 1901 to 1905:

CITY.	Per cent of population: 1900.	NUMBER OF DEATHS FROM ALL CAUSES PER 1,000 OF POPULATION.							
		Annual average: 1901 to 1905.	1900	1901	1902	1903	1904	1905	1906
Aggregate	100.0	20.4	22.4	20.6	20.2	19.9	20.9	20.4	20.1
White	74.2	17.5	18.8	17.5	17.1	17.1	17.9	17.5	17.2
Colored	25.8	28.4	32.5	29.3	28.8	27.8	29.2	28.3	28.1
Mobile, Ala.:									
Total	100.0	24.0	27.2	23.8	22.5	23.2	25.4	25.2	26.1
White	55.6	19.1	22.5	18.5	17.7	18.2	20.6	20.5	21.0
Colored	44.4	30.2	33.0	30.5	28.6	29.3	31.5	31.0	32.4
Fresno, Cal.:									
Total	100.0	20.0	19.3	20.3	18.1	21.4	19.1	20.9	22.9
White	87.4	18.3	16.5	17.1	16.4	19.5	17.8	20.7	21.3
Colored [1]	12.6	31.8	38.8	42.7	30.3	34.3	28.4	22.7	34.2
Wilmington, Del.:									
Total	100.0	16.9	20.2	17.3	17.3	17.9	15.6	16.6	19.7
White	87.2	15.7	19.1	16.1	15.8	16.0	14.7	15.9	18.7
Colored	12.8	25.4	27.5	25.6	27.7	30.8	21.8	21.3	26.5
Washington, D. C.:									
Total	100.0	20.6	22.3	21.4	20.1	20.3	20.8	20.5	20.5
White	68.7	16.8	18.3	17.2	16.1	16.9	17.5	16.5	16.9
Colored	31.3	28.8	30.9	30.4	28.7	27.8	28.3	29.1	28.5
Jacksonville, Fla.:									
Total	100.0	27.5	30.1	26.7	28.2	27.0	26.6	28.7	25.0
White	42.8	23.1	26.6	24.2	22.6	22.4	20.7	25.2	21.1
Colored	57.2	30.8	32.8	28.5	32.3	30.4	31.1	31.3	28.0
Key West, Fla.:									
Total	100.0	21.7	24.4	23.1	22.3	20.9	21.0	21.4	23.4
White	67.3	20.6	23.5	22.2	21.0	19.9	19.9	19.9	21.7
Colored	32.7	24.2	26.3	25.0	25.0	23.2	23.2	24.5	27.0
Atlanta, Ga.:									
Total	100.0	22.7	22.1	21.9	22.3	21.1	23.9	24.1	25.1
White	60.2	18.0	18.6	16.0	17.5	17.2	18.7	20.2	20.7
Colored	39.8	29.8	27.4	30.7	29.5	27.0	31.7	30.1	31.9
Savannah, Ga.:									
Total	100.0	26.1	31.0	29.6	26.1	23.6	26.0	25.6	23.3
White	48.1	18.6	23.4	23.2	17.7	16.7	17.8	18.4	17.2
Colored	51.9	33.0	38.0	35.6	33.9	30.0	33.6	32.3	28.9
Evansville, Ind.:									
Total	100.0	13.3	15.8	13.0	12.0	12.9	14.9	13.6	13.6
White	87.3	12.7	15.2	12.2	11.7	12.3	14.7	12.7	13.1
Colored	12.7	17.0	19.9	18.0	14.0	17.0	16.6	19.3	17.3
Jeffersonville, Ind.:									
Total	100.0	19.7	19.2	23.0	20.4	19.8	18.5	16.7	18.9
White	83.1	18.0	16.4	20.6	17.2	16.9	18.5	16.8	18.4
Colored	16.9	27.9	33.0	34.6	36.2	34.0	18.6	16.4	21.3
Leavenworth, Kans.:									
Total	100.0	14.7	17.7	13.4	14.8	14.7	15.2	15.8	14.1
White	85.9	13.4	16.9	12.4	13.3	12.9	14.0	14.4	12.9
Colored	14.1	23.2	22.9	19.3	24.3	25.3	22.1	24.4	21.4
Louisville, Ky.:									
Total	100.0	18.6	18.9	18.4	18.0	18.6	19.8	18.1	18.2
White	80.9	16.6	16.9	16.8	16.3	16.5	17.6	15.8	16.2
Colored	19.1	27.0	27.3	25.2	25.1	27.7	29.0	27.7	26.6
Paducah, Ky.:									
Total	100.0	21.7	28.1	24.6	23.0	20.8	20.7	19.4	16.2
White	70.0	19.2	23.7	22.2	21.1	18.5	17.0	17.6	12.3
Colored	30.0	27.4	38.5	30.3	27.4	26.1	29.6	23.7	25.6
New Orleans, La.:									
Total	100.0	22.6	26.5	22.3	22.3	22.3	22.3	23.7	21.7
White	72.8	19.4	21.2	19.1	18.9	19.2	19.1	20.8	18.1
Colored	27.2	31.0	40.9	31.0	31.3	30.6	30.9	31.2	31.4
Annapolis, Md.:									
Total	100.0	20.9	27.7	20.3	20.3	18.3	24.4	21.3	20.7
White	64.7	14.6	20.0	13.6	14.7	12.1	17.7	14.8	12.4
Colored	35.3	32.5	41.8	32.5	30.5	29.6	36.6	33.1	35.8

[1] Chiefly Chinese and Japanese.

CITY—continued.	Per cent of population: 1900.	NUMBER OF DEATHS FROM ALL CAUSES PER 1,000 OF POPULATION.							
		Annual average: 1901 to 1905.	1900	1901	1902	1903	1904	1905	1906
Baltimore, Md.:									
Total	100.0	19.7	21.4	20.3	19.6	19.1	20.1	19.6	19.4
White	84.3	17.6	19.2	18.1	17.5	17.2	17.8	17.2	17.2
Colored	15.7	31.3	33.3	32.2	30.5	29.5	32.2	32.3	31.3
Cumberland, Md.:									
Total	100.0	(2)	(2)	(2)	(2)	(2)	(2)	(2)	17.9
White	93.6	(2)	(2)	(2)	(2)	(2)	(2)	(2)	17.5
Colored	6.4	(2)	(2)	(2)	(2)	(2)	(2)	(2)	22.8
Frederick, Md.:									
Total	100.0	22.0	19.6	22.2	24.4	23.7	19.3	20.5	18.6
White	83.5	18.5	17.9	18.3	19.6	19.5	15.9	19.6	17.4
Colored	16.5	38.9	28.0	41.8	48.3	44.6	36.6	25.2	24.3
Hagerstown, Md.:									
Total	100.0	(2)	(2)	(2)	(2)	(2)	(2)	(2)	16.7
White	90.6	(2)	(2)	(2)	(2)	(2)	(2)	(2)	15.6
Colored	9.4	(2)	(2)	(2)	(2)	(2)	(2)	(2)	26.4
Kansas City, Mo.:									
Total	100.0	17.2	16.3	16.1	15.8	17.4	19.7	16.9	15.3
White	89.2	15.9	15.3	15.2	14.6	16.1	18.6	15.5	14.3
Colored	10.8	27.9	24.8	23.3	25.8	28.2	33.2	28.8	23.5
Atlantic City, N. J.:									
Total	100.0	16.2	17.3	18.5	16.5	15.1	14.8	16.7	18.0
White	76.4	16.9	17.6	18.9	17.1	15.5	15.6	17.3	19.3
Colored	23.6	14.3	16.1	16.9	14.5	14.0	12.0	14.4	13.7
Long Branch, N. J.:									
Total	100.0	(3)	(3)	(3)	(3)	(3)	(3)	(3)	18.0
White	88.8	(3)	(3)	(3)	(3)	(3)	(3)	(3)	17.2
Colored	11.2	(3)	(3)	(3)	(3)	(3)	(3)	(3)	24.1
Raleigh, N. C.:									
Total	100.0	24.3	30.1	29.0	26.2	19.2	22.5	24.8	25.0
White	58.1	21.0	23.1	23.6	21.7	16.8	20.3	22.8	22.9
Colored	41.9	28.9	39.7	36.6	32.6	22.4	25.5	27.7	27.8
Wilmington, N. C.:									
Total	100.0	27.1	30.8	27.0	28.5	26.7	28.1	25.0	28.1
White	50.3	21.4	24.8	19.9	22.0	22.1	21.1	21.8	23.6
Colored	49.7	32.8	36.9	34.2	35.0	31.4	35.2	28.2	32.7
Portland, Oreg.:									
Total	100.0	12.8	10.2	12.4	11.7	12.7	13.5	13.7	13.5
White	89.1	13.4	10.5	12.6	12.1	13.3	14.5	14.4	14.3
Colored [1]	10.9	7.8	7.6	10.0	8.6	7.7	5.7	7.6	6.2
Carlisle, Pa.:									
Total	100.0	15.6	21.2	18.5	13.3	16.4	16.1	14.2	12.8
White	88.1	14.8	20.4	17.6	12.7	15.7	14.9	13.4	12.7
Colored	11.9	22.1	27.0	25.6	17.5	22.1	24.9	20.5	13.9
Chester, Pa.:									
Total	100.0	(2)	(2)	(2)	(2)	(2)	(2)	(2)	15.6
White	87.0	(2)	(2)	(2)	(2)	(2)	(2)	(2)	13.9
Colored	13.0	(2)	(2)	(2)	(2)	(2)	(2)	(2)	26.4
Steelton, Pa.:									
Total	100.0	16.8	15.6	12.9	19.6	20.2	14.5	17.0	18.0
White	87.5	16.4	15.3	12.1	19.9	19.6	14.3	16.1	16.5
Colored	12.5	19.7	17.2	18.1	17.7	24.5	15.6	23.5	28.8
West Chester, Pa.:									
Total	100.0	(2)	(2)	(2)	(2)	(2)	(2)	(2)	21.0
White	81.3	(2)	(2)	(2)	(2)	(2)	(2)	(2)	19.8
Colored	18.7	(2)	(2)	(2)	(2)	(2)	(2)	(2)	26.1
Charleston, S. C.:									
Total	100.0	30.1	35.0	31.5	31.1	28.8	30.0	29.0	30.0
White	43.4	20.1	22.9	20.8	20.4	19.5	20.2	19.4	19.5
Colored	56.6	37.8	44.3	39.7	39.3	36.0	37.6	36.4	38.0
Memphis, Tenn.:									
Total	100.0	18.3	22.5	18.4	18.0	17.8	19.5	17.9	17.6
White	51.2	16.4	20.7	16.6	15.6	15.9	17.7	16.3	16.0
Colored	48.8	20.3	24.4	20.4	20.6	19.7	21.4	19.4	19.4
Nashville, Tenn.:									
Total	100.0	21.8	23.8	20.2	22.1	20.8	23.8	21.9	21.5
White	62.8	17.6	18.8	16.3	18.0	17.3	18.9	17.4	18.0
Colored	37.2	28.9	32.1	26.9	29.1	26.7	32.2	29.6	27.3
Galveston, Tex.:									
Total	100.0	(2)	(2)	(2)	(2)	(2)	(2)	(2)	16.5
White	77.9	(2)	(2)	(2)	(2)	(2)	(2)	(2)	14.6
Colored	22.1	(2)	(2)	(2)	(2)	(2)	(2)	(2)	23.3
San Antonio, Tex.:									
Total	100.0	24.7	22.8	24.7	26.6	22.5	25.3	24.5	24.6
White	85.7	25.2	22.7	25.3	26.9	22.5	25.9	25.5	25.6
Colored	14.3	21.5	23.2	21.0	24.9	22.5	21.8	17.9	18.6
Alexandria, Va.:									
Total	100.0	22.1	25.1	23.9	20.9	21.9	23.1	21.0	22.0
White	68.7	19.0	20.5	20.2	18.4	19.9	19.3	17.1	18.3
Colored	31.3	29.2	35.2	31.9	26.6	26.3	31.5	29.5	30.1
Lynchburg, Va.:									
Total	100.0	20.6	27.3	19.3	20.3	19.5	21.8	21.9	22.4
White	56.3	16.8	20.5	15.1	16.3	15.6	20.0	16.8	20.0
Colored	43.7	25.5	36.1	24.6	25.6	24.7	24.2	28.5	25.5
Norfolk, Va.:									
Total	100.0	21.2	27.2	22.1	22.0	20.2	20.9	21.0	23.5
White	56.4	16.7	18.8	17.0	17.2	15.6	17.4	16.4	18.9
Colored	43.6	27.0	38.0	28.7	28.2	26.1	25.6	26.9	29.6
Petersburg, Va.:									
Total	100.0	26.4	30.2	26.5	25.3	25.2	30.5	24.4	30.4
White	50.7	21.1	25.2	19.9	21.5	20.4	24.1	19.4	24.2
Colored	49.3	31.9	35.2	33.3	29.2	30.1	37.1	29.6	36.6
Richmond, Va.:									
Total	100.0	24.3	29.0	24.6	25.5	25.4	24.0	22.1	23.0
White	62.1	19.3	23.7	19.1	20.3	19.9	19.0	18.4	18.4
Colored	37.9	32.5	37.6	33.6	34.0	34.5	32.1	28.2	30.5

[2] Nonregistration.
[3] Not reported separately.

The preceding table includes two earlier years, 1900 and 1901, than are given in other tables of this report for the reason that death rates by color have not heretofore been presented, and it is desirable to begin the series of rates with the first calendar year included in the annual reports. The importance of such a comparative statement of rates is indicated by the fact that for the group of cities as a whole the colored population forms about one-fourth of the aggregate, and the death rate is much higher than that of the white population. For the five-year period 1901 to 1905 the death rate of the white population was 17.5 and that of the colored population was 28.4 per 1,000 of population, or over 60 per cent greater. About the same relation is shown for the year 1906.

While much information of value to sanitary authorities may be derived from a comparison of the death rates of the white and colored populations, and especially those of the same cities, or similarly situated cities, for a series of years, care should be taken to avoid unfair comparisons of selected white mortality with general death rates of cities not having a considerable proportion of colored population. Such cities may contain densely congested quarters filled with recent immigrants, and living under most unsanitary conditions. So far as the death rate of the colored population is dependent upon unsanitary conditions affecting only a certain class of the white population in other cities, it is evident that its elimination prevents a fair comparison of mortality unless the corresponding classes of population are eliminated in all cities alike, which is not feasible. Moreover, the difference in constitution of the white and colored population, especially in regard to the distribution by age, must be considered.

Two cities of Maryland—Cumberland and Hagerstown—are included in the preceding table, and in other tables showing deaths and death rates by color, although their colored population was less than 10 per cent of the total in 1900. This was done in order to make the list of Maryland cities complete, it being the only state of the registration area with a considerable proportion of colored population. Reliable death rates of the rural population by color would be extremely valuable, as many of the conditions, such as overcrowding, unsanitary habitations, and the like, that prevent satisfactory comparisons of white and colored mortality in cities, would be eliminated. Following is a table showing the percentage composition of the rural population of each county in Maryland with respect to color, and the aggregate, white, and colored death rates on the basis of the returns collected in 1906 by the state authorities:

COUNTY.	PER CENT OF POPULATION: 1900.		NUMBER OF DEATHS FROM ALL CAUSES PER 1,000 OF POPULATION: 1906.		
	White.	Colored.	Total.	White.	Colored.
Maryland (total rural)	76.4	23.6	12.5	11.7	15.1
Allegany	98.4	1.6	9.0	8.9	12.4
Anne Arundel	60.2	39.8	9.1	7.8	11.1
Baltimore	87.2	12.8	16.3	16.2	17.6
Calvert	49.7	50.3	12.8	9.4	16.2
Caroline	73.9	26.1	8.5	6.7	13.5
Carroll	93.7	6.3	13.4	13.2	16.4
Cecil	84.5	15.5	12.5	11.7	17.0
Charles	45.4	54.6	13.1	11.3	14.6
Dorchester	66.1	33.9	13.0	11.5	15.9
Frederick	89.5	10.5	11.2	10.9	13.2
Garrett	99.3	0.7	6.4	6.3	14.2
Harford	79.3	20.7	13.4	13.1	14.4
Howard	73.6	26.4	12.7	10.6	18.5
Kent	60.4	39.6	14.7	11.5	19.5
Montgomery	67.0	33.0	11.6	10.1	14.5
Prince Georges	59.9	40.1	15.8	14.2	18.1
Queen Annes	65.3	34.7	14.7	13.8	16.5
St. Marys	51.9	48.1	6.2	6.4	5.9
Somerset	63.2	36.8	8.9	8.2	10.1
Talbot	63.3	36.7	15.3	10.9	22.8
Washington	96.2	3.8	12.9	12.6	19.9
Wicomico	74.5	25.5	12.5	11.8	14.7
Worcester	67.1	32.9	11.7	10.5	14.4

While the state board of health of Maryland has for some years held that the completeness of registration of deaths for the state as a whole was equal to that of the minimum accepted for the registration area (90 per cent), it is evident from inspection of the preceding table that the statistics are practically worthless for certain counties. The state authorities are making earnest efforts to improve the standard of registration. The duty of a state toward the administration of its registration law is well shown in the following extract from the letter of transmittal of Prof. William H. Welch, president of the state board of health, to the governor of Maryland, which accompanied the annual report of the board for the year ending December 31, 1904 (italics of original):

Few if any American states have brought their mortality registration up to a satisfactory degree of efficiency in five years. *Maryland would probably be admitted at this time to the class of "registration states," according to the United States Census standards. That is to say, Maryland's mortality returns lack no more than 10 per cent of completeness. But I beg your excellency to consider that this is the very root and foundation of our sanitary institutions, and that anything short of numerical completeness is not to be tolerated in our statement of losses by death.* No argument is needed on this point; it is the business of the state to discover where this 10 per cent shortage occurs and to compel its detailed statement. I have to say, sir, that nearly all of this shortage occurs in four of the twenty-three counties, that it is in effect a concealment of information in which the state has a material interest, and while this concealment is for the most part due to ignorance, it should be dealt with as if it were vicious. Nine-tenths of the people of Maryland now know the value of systematic registration of deaths, and should no longer wait upon the 10 per cent who consider such information to be of little or no utility. The motive in these localities is to save a petty part of a petty expense. It is possible for the authorities to comply

formally with the law, without exercising any real supervision over current mortality, so that but a fraction of the true mortality may be recorded, while the authorities can not be charged with a specific misfeasance.

CAUSES OF DEATH.

A general view of the causes of death returned for the registration area for the year 1906 may be had in Table III. The causes are arranged in accordance with the International Classification, and the number of deaths and death rate per 100,000 of population for each disease and group of diseases, as well as for the various forms of death from violence, may be compared with the corresponding figures for the years 1902 to 1905, and the average of the quinquennial period 1901 to 1905. It should be remembered, as explained in a preceding section of this report, that the change in the constitution of the registration area for 1906 is responsible for a large increase in the number of deaths returned as compared with preceding years, and that the death rates themselves are not strictly comparable owing to differences in the territory from which returns are derived and to changes in the constitution of the population. Comparisons, therefore, will simply be of a general character, except as they may relate to specified state or city areas.

Death rates from certain important causes and groups of causes, but with less detail of classification, are also given for all primary areas and aggregations in Table IV, which is very important for local comparisons. A series of rates for the last five years, 1902 to 1906, is given in this table, except for new registration areas reported only for 1906, and the distinction of color is introduced for all places having 10 per cent or more of colored population in 1900, and for Maryland throughout.

Table V is similar to Table III, but gives the deaths and death rates by causes per 100,000 of population for the registration area and its main subdivisions for each of the years 1902 to 1906. Table VI gives death rates for the urban and rural population for the individual registration states, and for Maryland by color also, for all years available since 1902.

The number of deaths returned from the various causes may be found in the general tables, which are the same in form as those of the last report. Only the distinction of color has been introduced, and separate statements are given of the total, white, and colored deaths in certain areas, as explained above.

It should be remembered that all of the tables showing state and city areas have been arranged in alphabetic order of states, so that to find the data for any city it is necessary to bear in mind the state in which it is located. The statistics for cities of the same states are thus brought together so that valuable comparisons can readily be made, especially with reference to the control and prevention of certain diseases by state laws.

Increase or decrease in death rates by each class of causes.—While very little attention is now given to the "classes" of causes grouped according to the International Classification of Causes of Death, study of the individual causes being of more practical importance, a general view of the amount of increase or decrease in each class may be found in the following table:

CLASSES OF CAUSES OF DEATH.	DEATHS PER 100,000 OF POPULATION.							
	Number in 1900.	Increase (+) or decrease (−) from—						
		1900–1	1901–2	1902–3	1903–4	1904–5	1905–6	1900–6
All causes	1,755.0	−99.0	−61.9	+17.7	+52.1	−47.9	−11.2	−150.2
I. General diseases	478.6	−13.5	−31.0	+14.9	+2.3	−21.0	−4.3	−52.6
Epidemic diseases	166.2	−10.1	−18.1	+6.2	−14.3	−14.1	+6.7	−43.7
Other general diseases	312.4	−3.4	−12.9	+8.7	+16.7	−7.0	−11.0	−8.9
II. Diseases of nervous system	208.8	−15.7	−7.2	−6.7	+3.6	−0.5	−10.8	−37.3
III. Diseases of circulatory system	147.2	+0.6	+6.5	+6.4	+12.0	+0.6	−1.0	+25.1
IV. Diseases of respiratory system	256.2	−25.9	−7.7	−4.6	+14.3	−26.6	−5.3	−55.8
V. Diseases of digestive system	226.2	−25.0	−9.4	−3.6	+11.4	+4.6	+6.2	−15.8
VI. Diseases of genito-urinary system	105.9	+1.1	+1.5	+8.3	+5.3	+0.4	−5.4	+11.2
VII. Childbirth	13.3	+0.4	−0.7	+1.0	+1.4	−0.4	+0.5	+2.2
VIII. Diseases of skin	8.0	−0.3	−0.6	+0.5	−0.4	−0.1	−0.3	−1.2
IX. Diseases of locomotor system	2.2	+0.4	+0.1	+0.3	[1]	+0.1	−0.1	+0.8
X. Malformations	11.5	−0.5	−0.2	+1.6	+0.8	+0.4	+1.6	+3.7
XI. Diseases of early infancy	76.9	−10.7	+2.2	+0.8	+3.2	−2.4	+2.5	−4.4
XII. Diseases of old age	50.4	−3.2	−2.6	−5.3	−0.3	−2.6	−2.1	−16.1
XIII. Violence	96.0	+10.5	−8.9	+11.6	+1.4	+1.3	+8.9	+24.8
XIV. Ill-defined causes	73.8	−17.2	−3.8	−7.6	−3.0	−1.7	−1.5	−34.8

[1] No change.

In the above table it should be understood that the registration area of 1906 was more extensive than that for the preceding years, hence comparisons can not be made of the increase or decrease of the various classes for 1906 except in a general way. Taking the area for each year as representing the best obtainable approximation to the total area of the United States, a decrease in the mortality of ten of the sixteen groups of causes of death is shown since the year 1900. Considerable amounts of increase are shown for diseases of

the circulatory and genito-urinary systems and in total deaths from violent causes. The largest amounts of decrease are in the death rates from epidemic diseases, diseases of the nervous system, diseases of the respiratory system (not including tuberculosis, which is found among the "other general diseases"), and in ill-defined causes.

Death rates from principal diseases.—The death rates of the individual diseases which afforded an annual average mortality of 10 or more deaths per 100,000 of population are arranged in the following table in groups according to increasing, decreasing, or fluctuating rates:

DISEASE.	NUMBER OF DEATHS PER 100,000 OF POPULATION.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
Diseases with increasing rates:						
Diabetes	11.6	10.4	11.3	12.9	13.0	13.0
Diseases with decreasing rates:						
Old age	41.2	44.6	39.3	39.0	36.4	34.3
Bronchitis	37.0	39.4	36.4	36.0	33.5	30.3
"Convulsions"	22.6	25.0	21.0	20.5	19.8	18.1
Paralysis	20.2	20.9	20.3	19.4	17.7	16.9
Peritonitis	10.9	12.0	10.2	10.1	9.2	8.2
Diseases with fluctuating rates:						
Tuberculosis of lungs	169.9	163.2	165.7	177.3	168.2	159.4
Pneumonia (lobar and unqualified)	126.2	124.5	122.2	135.7	115.7	110.8
Heart disease	124.9	117.8	125.1	134.2	132.5	130.7
Diarrhea and enteritis	109.8	105.4	101.5	111.3	116.7	122.9
Bright's disease and nephritis	97.5	91.3	97.8	103.8	104.3	99.8
Apoplexy	70.0	68.5	68.6	71.9	72.2	71.8
Cancer	68.3	65.3	68.6	70.6	72.1	70.8
Bronchopneumonia	33.1	31.8	33.7	36.9	34.4	38.2
Typhoid fever	32.2	34.4	34.3	31.9	28.1	32.1
Meningitis	31.9	31.3	28.3	31.8	34.5	25.6
Premature birth	30.9	28.5	31.2	34.3	32.9	34.8
Diphtheria and croup	29.7	30.9	31.8	28.5	23.8	26.3
Congenital debility	23.3	21.7	21.3	20.7	31.5	34.2
Influenza	20.0	10.1	18.6	20.3	19.0	10.5
Cirrhosis of liver	14.4	14.0	14.5	15.1	14.8	14.8
Lack of care	12.4	15.8	13.8	14.5	3.0	0.9
Gastritis	11.4	11.6	11.7	11.2	10.6	10.4
Endocarditis	11.3	11.5	9.8	11.7	12.6	12.9
Scarlet fever	11.1	12.7	12.3	10.9	6.8	7.9
Appendicitis	11.0	10.1	11.0	11.9	12.0	11.4
Whooping cough	11.0	12.1	15.9	6.6	10.7	15.4

Only a single disease among those causing an average annual death rate of at least 10 per 100,000 of population shows a generally increasing rate for the years given in the table, and the mortality from diabetes (13) was in fact stationary from 1905 to 1906. The diseases with decreasing rates are mostly those in which more careful statement of cause of death is concerned. "Old age" is very seldom a satisfactory statement of the cause of death, or disease causing death, upon a physician's certificate, its influence being shown by the age of decedent, which is usually merely contributory to the actual disease present. Many deaths from "bronchitis" are more properly returned as deaths from bronchopneumonia, sometimes even as pulmonary tuberculosis. "Convulsions" is an entirely indefinite term, and physicians who know the value of accurate mortality statistics will employ it less frequently every year. So also the definite form of disease of the nervous system causing "paralysis" is preferably stated, and appendicitis and other causes of "peritonitis" should be entered upon the certificate of death when known. Among the diseases with fluctuating rates from year to year are several, such as heart disease and diarrhea and enteritis, in which the rates for the last two years considerably exceed the rates shown for the quinquennial average. The decrease in "lack of care," due to change in a detail of classification, was explained in the last report.

As the comparisons between the death rates of the different causes of death in 1905 and previous years and 1906 are interfered with by the fact of a change in the extent of the registration area in the latter year, it will be of interest to note the death rates from the more important causes of death in an area that did not undergo change. In the following table may be found the death rates of the aggregate population, and of the population as urban and rural, in the old group of registration states for 1905 and comparative figures relating to the same area for the year 1906.

Great uniformity exists in the death rates of this large section of the country, which includes all of the New England states, New York, New Jersey, Michigan, and Indiana, with a population estimated at over one-half (53.8 per cent) of the entire population of the registration area in 1906. The slight total increase in the death rate from all causes, which was only 11.1 per 100,000 or one-tenth per 1,000 of population, was made up of many small items of increase from various diseases, the largest contribution by an individual disease being that of whooping cough (5.6). Meningitis caused fewer deaths, by 11.4 per 100,000 of population, in 1906 than in 1905, and influenza decreased by nearly the same amount (10.4).

CAUSE OF DEATH.	NUMBER OF DEATHS PER 100,000 OF POPULATION: 1905.			NUMBER OF DEATHS PER 100,000 OF POPULATION: 1906.			INCREASE (+) OR DECREASE (—) PER 100,000 OF POPULATION FROM 1905 TO 1906.		
	Total.	Cities.	Rural.	Total.	Cities.	Rural.	Total.	Cities.	Rural.
All causes	1,592.9	1,716.8	1,430.6	1,604.0	1,741.8	1,408.3	+11.1	+25.0	−22.3
Typhoid fever	22.4	22.0	23.0	22.2	21.6	23.0	−0.2	−0.4	(1)
Malarial fever	2.5	1.8	3.5	2.6	2.2	3.0	+0.1	+0.4	−0.5
Smallpox	0.6	0.6	0.5	0.1	0.1	0.1	−0.5	−0.5	−0.4
Measles	7.4	9.1	5.3	11.8	15.3	6.9	+4.4	+6.2	+1.6
Scarlet fever	6.8	8.4	4.6	7.4	9.7	4.1	+0.6	+1.3	−0.5
Whooping cough	9.0	9.8	7.9	14.6	15.9	12.7	+5.6	+6.1	+4.8
Diphtheria and croup	23.6	30.1	15.0	26.0	33.1	16.0	+2.4	+3.0	+1.0
Influenza	20.5	13.7	29.4	10.1	7.4	14.0	−10.4	−6.3	−15.4
Dysentery	8.3	6.4	10.8	8.4	6.4	11.3	+0.1	(1)	+0.5
Tuberculosis of lungs	155.9	178.5	126.2	153.8	177.3	120.5	−2.1	−1.2	−5.7
Venereal diseases	3.4	4.8	1.6	4.1	5.5	2.2	+0.7	+0.7	+0.6
Cancer	73.6	75.7	70.9	74.4	77.7	69.8	+0.8	+2.0	−1.1
Rheumatism	8.5	8.0	9.1	8.0	8.0	8.1	−0.5	(1)	−1.0
Diabetes	14.1	14.8	13.2	14.9	15.4	14.2	+0.8	+0.6	+1.0
Alcoholism	6.0	7.6	3.8	6.4	8.2	4.0	+0.4	+0.6	+0.2
Diseases of nervous system	192.0	194.3	188.9	179.1	175.2	184.6	−12.9	−19.1	−4.3
Meningitis	39.0	51.1	23.1	27.6	33.4	19.2	−11.4	−17.7	−3.9
Apoplexy and paralysis	98.8	90.3	109.9	97.1	88.4	109.6	−1.7	−1.9	−0.3
Diseases of circulatory system	181.6	182.2	180 9	187.3	187.8	186.6	+5.7	+5.6	+5.7
Heart disease	141.8	137.0	148.1	143.3	138.6	149.9	+1.5	+1.6	+1.8
Diseases of respiratory system	202.5	236.2	158.3	205.0	245.8	146.9	+2.5	+9.6	−11.4
Bronchitis	32.8	37.0	27.3	31.2	36.1	24.2	−1.6	−0.9	−3.1
Pneumonia (lobar or unqualified)	112.5	127.7	92.7	111.5	129.4	86.2	−1.0	+1.7	−6.5
Diseases of digestive system	200.7	227.3	165.9	205.8	231.3	169.6	+5.1	+4.0	+3.7
Diarrhea and enteritis	117.3	141.1	86.1	120.7	142.2	90.1	+3.4	+1.1	+4.0
Cirrhosis of liver	14.0	17.0	10.1	14.7	17.7	10.4	+0.7	+0.7	+0.3
Peritonitis	8.7	7.7	9.9	7.7	7.0	8.7	−1.0	−0.7	−1.2
Appendicitis	10.4	13.0	6.9	10.5	13.0	6.9	+0.1	(1)	(1)
Diseases of genito-urinary system	118.9	138.2	93.6	120.9	139.5	94.4	+2.0	+1.3	+0.8
Bright's disease and nephritis	101.5	119.4	78.1	103.7	121.0	79.0	+2.2	+1.6	+0.9
Violence	104.0	111.1	94.8	106.9	115.6	94.6	+2.9	+4.5	−0.2

[1] No change.

The data in this table will be employed in the discussion of the individual diseases and groups of diseases in the following text. Only the more important causes of death will be considered, and the general purpose of the discussion will be rather to note differences between the mortality of the same states and cities during recent years than to undertake comparisons of the mortality of one state or city with that of another. For the purpose of calling the attention of the state and local sanitary authorities to unusually high death rates, certain limits of mortality have been employed for each disease, and rates reaching or exceeding such limits are made prominent by the use of bold face type. Such limits are, of course, arbitrary. There is no general agreement among sanitary authorities as to just what degree of prevalence of infectious diseases constitutes an "epidemic," and this term would, of course, not be applicable to many of the diseases discussed. Nevertheless the epidemic prevalence of many communicable diseases will thus be clearly indicated in various localities, and the fact of the occasional or sporadic character, or the continued occurrence, of high mortality from certain causes will be shown. The limits selected are not the same, in all cases, as those employed in the last report. As a rule they are somewhat lower, thus bringing many additional minor cities into special consideration. It is of very great importance that the sanitary condition of these cities should be known, and by the arrangement adopted under the states in which they are situated the greater or lesser prevalence of certain diseases in the cities of an entire state, or only in certain cities of that state, is very clearly brought out.

TYPHOID FEVER.

By reference to Table III it will be seen that the total number of deaths from typhoid fever (13,160) returned from the registration area for the year 1906 considerably exceeded the number of deaths for any recent year, and for the five-year period 1901 to 1905. This is partly due to the large increase in the registration area, but also to a higher mortality from this disease during the past year as compared with the two years immediately preceding. The death rate for the entire registration area in 1906 was 32.1 per 100,000 of population, the rate for the year 1905 was 28.1, and for 1904 it was 31.9.

A general comparison of the mortality of the registration area of the United States from this disease may be made with that of various foreign countries for recent years in the following table.

Compared with rates based upon the official returns published by the registrar-general of England in his annual report, the death rate of the registration area of the United States from typhoid fever is higher than those of most European countries except Finland, Italy, Servia, and Spain. It is also considerably higher than the Australasian rates, those of Western Australia alone excepted.

COUNTRY.	NUMBER OF DEATHS FROM TYPHOID FEVER PER 100,000 OF POPULATION.				
	Annual average: 1901 to 1905.	1902	1903	1904	1905
United States (registration area)	32.2	34.4	34.3	31.9	28.1
Australasia	19.0	20.5	25.5	15.5	13.7
Australian Commonwealth	21.3	23.3	29.3	17.0	15.6
New South Wales	21.5	19.8	33.4	17.2	16.2
Queensland	25.4	25.9	36.9	17.5	18.1
South Australia	15.0	24.7	15.8	8.8	11.1
Tasmania	14.7	14.2	21.4	12.3	12.8
Victoria	15.[illegible]	16.3	21.0	15.7	10.0
Western Australia	56.[illegible]	88.0	59.7	36.8	42.8
New Zealand	7.[illegible]	6.6	7.4	8.6	5.2
Austria	20.1	18.1	19.7	(1)	(1)
Belgium	17.6	17.8	15.6	14.9	(1)
Ceylon	142.0	150.9	141.6	125.8	154.4
Chile	(2)	(1)	44.8	(1)	(1)
Finland	155.1	162.1	137.8	148.1	(1)
German Empire	[illegible]7.6	7.0	7.3	7.0	(1)
Hungary	28.3	27.0	28.1	25.4	32.2
Italy	35.0	34.6	35.3	36.7	32.4
Jamaica	11.5	12.3	11.2	16.3	8.5
Japan	11.4	11.4	9.8	(1)	(1)
Norway	5.7	4.5	6.4	4.4	(1)
Roumania	12.6	10.1	14.5	12.7	[3]14.3
Servia	67.5	84.6	70.0	73.5	16.2
Spain	46.3	[3]45.8	[3]43.4	[3]44.5	(1)
Sweden	9.2	10.4	4.7	(1)	(1)
Switzerland	6.5	6.0	5.0	7.7	(1)
United Kingdom	12.1	12.7	10.3	9.4	(1)
England and Wales	11.2	12.6	10.0	9.3	8.9
Scotland	12.2	12.2	12.1	8.9	(1)
Ireland	13.1	14.0	10.9	10.6	11.4

[1] No figures available; average only for years shown.
[2] Annual average not shown for less than three years.
[3] Rates based on provisional figures.

Death rates showing the distribution of typhoid fever in the registration area, its principal subdivisions, the registration states, and cities of 100,000 of population or over in 1900, are given in the following table, in which the cities are arranged in alphabetic order of states.

For convenience of reference, rates of 50 or more per 100,000 of population are indicated by bold face type. This limit is of course arbitrary, but may serve to call attention to death rates considerably higher than the average. It should be noted that the addition of 5 states to the registration area renders the death rates of the several subdivisions of the registration area for 1906 not directly comparable with those of the preceding years.

All of the principal subdivisions of the registration area showed an increase in the death rate from typhoid fever as compared with the preceding year, except registration cities in other states. From the latter area, the larger cities of Pennsylvania, which have an extremely high death rate from this disease, have been detached and added to the registration states, or, more particularly, to the group of cities in registration states, whose death rate from this cause is correspondingly increased.

AREA.	NUMBER OF DEATHS FROM TYPHOID FEVER PER 100,000 OF POPULATION.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
The registration area	32.2	34.4	34.3	31.9	28.1	32.1
Registration cities	34.9	37.5	38.1	35.1	30.1	34.2
Registration states	24.9	26.3	24.6	23.8	22.4	31.6
Cities in registration states	24.5	25.8	24.6	24.0	22.0	34.2
Rural part of registration states	25.3	26.9	24.5	23.7	23.0	28.6
Registration cities in other states	45.4	49.3	**51.9**	46.4	38.3	34.2
Registration states:						
California	(1)	(1)	(1)	(1)	(1)	39.6
Colorado	(1)	(1)	(1)	(1)	(1)	**56.0**
Connecticut	22.5	21.8	21.7	17.3	21.6	22.1
Indiana	42.8	49.0	40.7	40.7	37.3	35.9
Maine	20.4	24.5	32.5	35.3	22.4	18.5
Maryland	(1)	(1)	(1)	(1)	(1)	40.5
Massachusetts	18.2	18.5	18.1	16.7	18.0	16.1
Michigan	24.9	24.5	24.1	25.2	24.2	27.8
New Hampshire	19.0	18.1	24.4	18.6	15.4	21.0
New Jersey	19.1	21.6	19.5	18.6	16.4	16.8
New York	22.3	23.2	22.2	21.3	19.9	19.3
Pennsylvania	(1)	(1)	(1)	(1)	(1)	**56.5**
Rhode Island	18.5	20.3	17.6	14.9	17.1	16.5
South Dakota	(1)	(1)	(1)	(1)	(1)	21.0
Vermont	25.4	19.1	24.8	29.9	24.6	19.4
Registration cities of 100,000 population or over in 1900:						
San Francisco, Cal	27.0	29.6	25.0	31.4	23.9	(2)
Denver, Colo	46.6	**60.6**	**55.7**	30.3	40.6	**68.5**
New Haven, Conn	48.0	39.1	36.6	27.4	42.8	**53.6**
Washington, D. C	**56.6**	**79.1**	48.8	47.0	48.2	**52.3**
Chicago, Ill	28.4	45.1	32.1	20.2	16.5	18.3
Indianapolis, Ind	45.6	44.5	**51.1**	**68.4**	30.2	39.2
Louisville, Ky	**55.6**	**60.3**	**59.8**	**61.6**	49.4	**67.7**
New Orleans, La	40.9	44.2	40.9	36.7	32.6	29.6
Baltimore, Md	35.8	42.0	35.0	37.5	35.7	34.3
Boston, Mass	22.2	22.1	20.5	23.6	20.8	21.6
Fall River, Mass	18.0	11.4	22.8	18.9	11.3	7.6
Worcester, Mass	15.3	13.9	15.3	6.3	21.1	11.5
Detroit, Mich	20.3	23.5	20.0	17.6	21.2	22.3
Minneapolis, Minn	37.8	26.9	41.1	40.4	24.4	32.9
St. Paul, Minn	12.5	13.6	10.4	13.7	10.7	21.1
Kansas City, Mo	**53.7**	38.2	**80.3**	43.1	**61.4**	37.8
St. Joseph, Mo	10.9	13.9	8.1	12.4	7.8	11.0
St. Louis, Mo	37.2	40.0	**52.4**	37.9	22.6	18.3
Omaha, Nebr	20.3	21.9	11.5	17.1	24.9	28.2
Jersey City, N. J	18.0	20.3	14.9	18.9	19.8	20.2
Newark, N. J	18.7	19.6	22.9	13.6	14.1	17.6
Paterson, N. J	20.2	34.4	22.0	7.3	14.3	4.4
Buffalo, N. Y	28.9	33.7	34.6	24.2	24.4	23.6
New York, N. Y	18.1	20.3	17.1	16.8	16.0	15.4
Bronx borough	14.4	15.7	14.8	12.0	14.4	15.0
Brooklyn borough	22.0	24.3	19.4	22.4	21.3	16.2
Manhattan borough	16.0	18.5	15.9	13.4	12.7	15.0
Queens borough	18.3	21.1	16.1	19.6	17.7	14.5
Richmond borough	19.8	14.4	19.8	20.9	15.1	13.5
Rochester, N. Y	13.8	11.8	12.1	15.8	11.5	17.2
Syracuse, N. Y	15.8	8.0	17.6	18.2	17.1	10.1
Cincinnati, Ohio	**56.1**	**61.9**	42.7	**80.2**	41.1	**71.5**
Cleveland, Ohio	49.9	35.5	**115.0**	49.6	14.9	20.2
Columbus, Ohio	**72.3**	37.1	37.6	**147.7**	**85.1**	37.1
Toledo, Ohio	36.3	34.7	29.5	37.2	45.7	45.0
Allegheny, Pa	**110.1**	**121.6**	**102.9**	**123.2**	**126.7**	**136.3**
Philadelphia, Pa	**52.3**	47.3	**72.6**	**55.0**	**51.1**	**74.8**
Pittsburg, Pa	**129.6**	**140.6**	**136.5**	**139.4**	**107.9**	**141.3**
Scranton, Pa	20.0	19.6	18.2	10.7	17.2	**61.5**
Providence, R. I	20.1	21.1	19.5	15.5	20.1	19.2
Memphis, Tenn	42.2	30.1	41.3	46.0	33.8	42.4
Milwaukee, Wis	18.1	15.1	16.8	13.6	22.7	30.5

[1] Nonregistration. [2] Population not estimated.

The group of registration cities, so far as aggregate population is concerned, is substantially the same for

1906 as for previous years. An increase of mortality is shown from 30.1 to 34.2, the latter rate, however, being lower than for any of the other years shown in the table except 1905. The states comprising the old group of registration states from 1901 to 1905 showed a slight decrease in the death rate from typhoid fever from 1905 (22.4) to 1906 (22.2). This decrease was entirely due to a fall in the mortality of the cities of these states from 22 to 21.6 per 100,000 of population, the death rate in the rural districts remaining the same in both years (23).

Of the old registration states, two showed higher death rates for the year 1906 than for any of the preceding individual years shown in the table. These are Michigan (27.8) and Connecticut (22.1). In the latter case, however, the death rate for the year was lower than the annual average for the five-year period 1901 to 1905 (22.5). Four of these states showed lower death rates for the year than for any of the previous four years. These were, in order of minimum rates, Massachusetts (16.1), Maine (18.5), New York (19.3), and Indiana (35.9). As compared with the preceding year, 4 of the old registration states showed an increased death rate from typhoid fever, and 6 showed a decreased death rate. The highest death rate for the year shown by any state was that of Pennsylvania (56.5), which was closely followed by that of Colorado (56). All of the states added to the registration area in 1906 show death rates from typhoid fever above the average for the registration area except South Dakota (21).

Coming to the registration cities of 100,000 of population or over in 1900, rates for which can be shown for the year on the basis of estimated populations, 11 cities showed higher death rates from typhoid fever for the year 1906 than for any other of the years 1902 to 1905, inclusive. In order of highest death rates these are the three largest cities of Pennsylvania, namely, Pittsburg (141.3), Allegheny (136.3), Philadelphia (74.8); Denver, Colo. (68.5); Louisville, Ky. (67.7); Scranton, Pa. (61.5); New Haven, Conn. (53.6); Milwaukee, Wis. (30.5); Omaha, Nebr. (28.2); St. Paul, Minn. (21.1); and Rochester, N. Y. (17.2). Eight cities showed lower death rates for 1906 than for the immediately preceding years, as follows, in order of lowest mortality: Paterson, N. J. (4.4); Fall River, Mass. (7.6); New York, N. Y. (15.4); St. Louis, Mo. (18.3); Buffalo, N. Y. (23.6); New Orleans, La. (29.6); Baltimore, Md. (34.3); and Kansas City, Mo. (37.8). Of the 36 cities whose rates are given for 1906, 23 show higher death rates from typhoid fever in that year than in 1905. The highest death rates given for any of the larger cities in 1906 are those for Pittsburg and Allegheny, Pa., which cities were united on December 9, 1907, into one municipality.

The continued high mortality from typhoid fever in Washington, D. C., is a matter of great sanitary interest because of the fact that the city was supplied with water purified by slow-sand filtration in November, 1905, and it was therefore expected that a reduced death rate from this disease would be shown for 1906. But the death rate for 1906 was somewhat higher than the death rates for the three preceding years, although lower than the rate for 1902 or for the five-year period 1901 to 1905. A special investigation into the causes of typhoid fever in the District of Columbia was made by the United States Public Health and Marine-Hospital Service in cooperation with the District health authorities. The resulting Report on the Origin and Prevalence of Typhoid Fever in the District of Columbia[1] covers the investigation of 866 cases of typhoid fever reported between June 1 and November 1, 1906, and reaches the following general conclusion:

> The prevalence of typhoid fever in the District of Columbia is due to several causes. During the period covered by our investigation we found that about 10 per cent of the cases were attributable to infected milk; about 15 per cent of the cases were imported; about 6 per cent of the cases were traceable to "contact." This accounts for about 30 per cent of the 866 cases studied.

It is stated that the typhoid bacillus has never been isolated from the Potomac river water, but colon bacilli were found in 17.5 per cent of the samples of tap water, which the majority of the population drink unboiled. What proportion of the 70 per cent of unexplained causation is finally to be attributed to water infection is a problem for future determination.

The relative mortality, by color, of the rural part of Maryland, the only one of the registration states having a considerable proportion of colored population, and of the large cities in which color is an important factor of mortality, may be seen in the following table:

AREA.	NUMBER OF DEATHS FROM TYPHOID FEVER PER 100,000 OF POPULATION: 1906.	
	White.	Colored.
Maryland rural	35.3	68.8
Washington, D. C	39.3	81.0
Louisville, Ky	63.4	85.6
New Orleans, La	31.1	25.7
Baltimore, Md	31.5	49.6
Kansas City, Mo	36.3	50.8
Memphis, Tenn	40.6	44.2

As a rule the death rate of the colored population from typhoid fever is higher than that of the white population. In rural Maryland and in Washington, D. C., it is about double, but in the other areas given the disproportion is less, and in New Orleans, La., the colored race shows an apparently more favorable death rate from this disease than the white. Com-

[1] Bulletin No. 35, Hyg. Lab., U. S. Public Health and Marine-Hospital Service, Washington.

parison should be made with the mortality from malarial fever as given under that head in the corresponding table.

Minor cities with 8,000 but less than 100,000 inhabitants in 1900, in which the death rate from typhoid fever reached 50 or over per 100,000 of population for any of the years 1902 to 1906, inclusive, are arranged in alphabetic order of states in the following table:

REGISTRATION CITY.	NUMBER OF DEATHS FROM TYPHOID FEVER PER 100,000 OF POPULATION.				
	1902	1903	1904	1905	1906
Mobile, Ala.	80.1	51.6	57.9	106.7	35.0
Fresno, Cal.	117.2	123.4	60.9	82.7	170.9
Sacramento, Cal.	36.8	49.8	75.6	61.8	48.4
Leadville, Colo.	38.9	22.9	286.1	14.8	36.5
Pueblo, Colo.	311.7	184.7	111.5	68.9	113.5
Bristol town, Conn.	19.8	126.0	47.4	18.6	27.3
Norwalk town, Conn.	54.0	24.3	24.0	23.8	28.2
Stamford town, Conn.	61.7	50.5	29.9	29.4	14.5
Wilmington, Del.	60.7	94.7	50.9	35.8	45.8
Jacksonville, Fla.	128.3	61.4	85.5	93.5	76.3
Key West, Fla.	43.3	10.4	85.8	58.5	28.3
Atlanta, Ga.	68.9	66.3	60.8	70.1	75.2
Savannah, Ga.	44.1	54.1	78.8	40.1	40.8
Belleville, Ill.	39.1	77.3	49.1	48.5	26.7
Jacksonville, Ill.	96.7	101.8	56.5	31.0	18.3
Quincy, Ill.	56.4	39.8	52.4	25.9	33.2
Anderson, Ind.	68.0	26.1	37.6	24.1	23.2
Columbus, Ind.	23.8	35.1	103.5	45.3	44.6
Elkhart, Ind.	56.3	55.0	47.8	52.6	11.4
Elwood, Ind.	59.8	49.7	40.9	49.5	46.8
Hammond, Ind.	66.0	126.2	40.3	64.4	62.7
Jeffersonville, Ind.	37.0	64.8	46.2	27.7	55.4
Lafayette, Ind.	81.1	26.8	37.1	68.2	41.6
Logansport, Ind.	29.8	52.7	51.9	73.7	61.3
Marion, Ind.	78.8	23.7	63.4	47.7	25.0
Michigan City, Ind.	31.9	68.4	54.6	35.5	34.7
Muncie, Ind.	95.5	16.4	63.2	76.0	33.0
New Albany, Ind.	29.1	87.3	14.5	67.9	33.9
Peru, Ind.	55.6	72.9	53.7	35.3	17.2
Richmond, Ind.	59.3	26.7	26.5	5.1	25.5
Terre Haute, Ind.	44.8	57.0	61.1	48.2	47.3
Vincennes, Ind.	57.0	55.2	118.1	53.8	17.6
Wabash, Ind.	77.3	21.5	21.0	.....	10.1
Washington, Ind.	22.1	43.0	41.9	71.5	79.6
Leavenworth, Kans.	84.7	52.2	48.3	33.4	22.6
Wichita, Kans.	85.2	44.4	28.3	38.6	28.1
Newport, Ky.	13.8	30.7	33.7	33.3	59.3
Paducah, Ky.	92.9	42.9	60.6	91.1	62.3
Augusta, Me.	50.4	232.7	49.4	48.9	56.5
Bangor, Me.	35.7	44.1	187.4	77.5	42.6
Biddeford, Me.	60.7	54.0	65.4	76.5	17.5
Annapolis, Md.	57.4	34.1	67.5	77.9	33.1
Cumberland, Md.	(1)	(1)	(1)	(1)	121.4
Frederick, Md.	63.0	31.2	61.6	10.2	60.3
Adams town, Mass.	42.8	25.1	32.7	80.1	31.4
Amesbury town, Mass.	21.7	33.0	55.8	45.2	45.9
New Bedford, Mass.	35.7	50.3	20.8	8.1	10.4
Newburyport, Mass.	48.1	13.7	20.5	61.3	54.4
North Adams, Mass.	55.6	56.6	44.3	13.5	32.2
Plymouth town, Mass.	19.6	.....	55.5	18.0	8.8
Southbridge town, Mass.	57.6	9.4	.....	36.4	35.7
Waltham, Mass.	40.6	31.8	15.6	53.3	22.4
Alpena, Mich.	(2)	(2)	(2)	(2)	55.1
Bay City, Mich.	36.2	54.3	43.4	24.6	49.3
Escanaba, Mich.	67.8	28.0	351.4	182.8	101.1
Flint, Mich.	49.3	68.8	20.2	19.7	38.5
Grand Rapids, Mich.	51.3	41.6	61.6	49.1	39.1
Ironwood, Mich.	40.6	.....	39.9	59.4	39.3
Jackson, Mich.	55.5	23.8	47.4	63.2	23.7
Lansing, Mich.	10.9	62.1	44.4	42.4	76.7
Marquette, Mich.	57.9	28.5	37.5	37.0	36.5
Menominee, Mich.	25.1	86.8	117.2	46.9	78.2
Port Huron, Mich.	61.2	25.2	34.9	14.8	53.8
Sault Ste. Marie, Mich.	172.9	115.9	52.4	68.6	58.9
Traverse City, Mich.	19.4	.....	35.6	25.7	90.5
Duluth, Minn.	53.7	64.8	54.4	44.7	46.0
Berlin, N. H.	20.2	38.3	54.8	8.7	116.8
Portsmouth, N. H.	55.6	36.8	9.1	.....	27.0
Morristown, N. J.	34.4	17.0	16.7	90.6	56.8
Phillipsburg, N. J.	102.1	7.9	15.4	22.5	.....
Plainfield, N. J.	12.0	29.0	50.4	16.2	10.5
Trenton, N. J.	39.9	60.1	42.7	24.9	34.7
Cohoes, N. Y.	125.2	95.8	104.0	54.0	54.0
Corning, N. Y.	16.7	48.1	54.0	29.8	35.9
Dunkirk, N. Y.	76.6	50.9	41.4	46.1	37.7
Elmira, N. Y.	36.4	86.8	53.2	28.0	47.6
Geneva, N. Y.	9.0	43.6	50.8	32.9	40.0
Glens Falls, N. Y.	14.9	28.9	49.2	20.5	53.1
Hudson, N. Y.	71.0	39.9	166.7	48.2	38.0
Ithaca, N. Y.	7.3	336.9	28.1	13.8	20.3
Lockport, N. Y.	29.6	52.7	40.6	63.1	62.5
Middletown, N. Y.	53.4	19.7	6.5	38.3	25.1
Niagara Falls, N. Y.	130.4	126.9	139.8	181.6	147.3
Ogdensburg, N. Y.	95.0	54.2	60.9	40.5	87.6
Oswego, N. Y.	(2)	(2)	(2)	(2)	66.9
Port Jervis, N. Y.	52.6	62.7	83.0	92.8	41.0
Poughkeepsie, N. Y.	24.5	44.5	64.2	47.7	43.4
Troy, N. Y.	49.0	35.6	50.0	51.1	34.0
Watertown, N. Y.	64.9	71.3	211.7	23.7	46.2
Watervliet, N. Y.	62.6	69.4	48.4	55.2	48.2
Raleigh, N. C.	65.0	71.8	57.0	42.5	70.3
Wilmington, N. C.	89.8	56.5	75.0	79.3	92.9
Ashtabula, Ohio.	36.3	49.4	137.1	60.0	38.9
Bellaire, Ohio.	90.8	60.5	40.4	20.2	90.8
Chillicothe, Ohio.	82.6	29.7	95.2	57.9	57.2
Hamilton, Ohio.	43.7	42.6	26.5	14.8	54.2
Ironton, Ohio.	66.8	66.5	33.1	65.9	90.3
Marietta, Ohio.	90.5	74.0	65.0	31.5	18.3
Newark, Ohio.	47.5	25.9	10.1	54.7	29.3
Portsmouth, Ohio.	69.1	88.1	75.9	79.0	57.9
Tiffin, Ohio.	18.2	27.2	54.3	18.1	.....
Youngstown, Ohio.	135.5	180.0	89.8	67.9	66.4
Allentown, Pa.	189.5	33.8	32.9	41.9	50.5
Altoona, Pa.	24.5	40.7	60.9	68.0	68.9
Beaver Falls, Pa.	(1)	(1)	(1)	(1)	117.1
Braddock, Pa.	(1)	(1)	(1)	(1)	119.7
Butler, Pa.	(1)	(1)	(1)	(1)	99.0
Carbondale, Pa.	42.8	63.1	34.5	67.9	53.4
Chester, Pa.	(1)	(1)	(1)	(1)	65.8
Columbia, Pa.	79.0	54.5	122.3	45.3	22.3
Danville, Pa.	(1)	(1)	(1)	(1)	62.0
Dubois, Pa.	59.9	38.7	65.6	27.3	44.2
Dunmore, Pa.	(1)	(1)	(1)	(1)	66.0
Duquesne, Pa.	(1)	(1)	(1)	(1)	111.7
Harrisburg, Pa.	63.4	103.9	59.4	69.3	66.4
Johnstown, Pa.	36.0	22.5	34.1	45.1	55.5
Lancaster, Pa.	50.8	51.9	79.6	43.3	78.5
McKeesport, Pa.	81.3	81.0	133.6	85.7	142.7
Meadville, Pa.	105.3	47.5	17.2	34.2	34.0
Nanticoke, Pa.	(1)	(1)	(1)	(1)	52.4
Newcastle, Pa.	192.5	122.7	64.7	50.8	32.6
Norristown, Pa.	48.3	52.2	77.4	46.8	71.6
Phoenixville, Pa.	(1)	(1)	(1)	(1)	83.3
Pottstown, Pa.	43.5	79.6	86.6	57.5	28.7
Pottsville, Pa.	49.9	37.1	12.2	54.5	42.0
Reading, Pa.	66.2	31.7	33.3	25.8	39.5
Sharon, Pa.	(1)	(1)	(1)	(1)	109.2
South Bethlehem, Pa.	57.8	205.3	48.5	13.6	20.0
Steelton, Pa.	276.6	184.1	52.5	51.4	122.2
West Chester, Pa.	(1)	(1)	(1)	(1)	95.9
Wilkinsburg, Pa.	(1)	(1)	(1)	(1)	188.8
Williamsport, Pa.	51.6	30.8	40.8	71.0	47.1
Charleston, S. C.	80.4	64.2	58.8	53.4	83.5
Nashville, Tenn.	51.4	69.7	54.9	71.2	74.4
San Antonio, Tex.	65.5	62.0	50.4	44.2	28.7
Salt Lake City, Utah.	72.4	61.3	74.1	101.8	67.0
Bennington town, Vt.	12.0	35.3	34.5	67.8	.....
Alexandria, Va.	68.7	61.7	102.7	41.0	41.0
Lynchburg, Va.	105.5	74.9	114.4	58.2	65.6
Norfolk, Va.	51.9	59.7	58.2	37.9	73.2
Petersburg, Va.	96.3	96.3	105.5	64.2	137.6
Richmond, Va.	72.3	73.1	54.3	44.9	47.0
Spokane, Wash.	47.2	88.2	80.3	86.1	97.9
Tacoma, Wash.	35.1	59.9	61.8	23.1	39.7
Wheeling, W. Va.	95.6	97.0	78.8	85.2	125.3
Marinette, Wis.	31.5	51.0	25.8	39.1	26.3
Superior, Wis.	33.1	49.5	33.8	30.1	93.0

[1] Nonregistration.

[2] Not reported separately.

The very large number of municipalities in which typhoid fever occurs with marked prevalence is well shown in the preceding table. In many cases the ex-

cessive death rates are more or less constant, each year showing a rate higher than the average mortality and sometimes reaching a very considerable degree. The limit assumed, 50 per 100,000 of population, is a fairly high one, although lower than the limit employed in the last report, 100 per 100,000 of population. Certainly death rates of 50 per 100,000 of population or over should be brought to the immediate attention of the sanitary authorities in whose jurisdictions they occur, and continued rates of this height should lead to immediate improvement in the conditions permitting them.

In the following cities the mortality has exceeded the limit selected (50 per 100,000 of population) for each one of the past five years: Fresno, Cal.; Pueblo, Colo.; Jacksonville, Fla.; Atlanta, Ga.; Sault Ste. Marie, Mich.; Cohoes and Niagara Falls, N. Y.; Wilmington, N. C.; Portsmouth and Youngstown, Ohio; Harrisburg, McKeesport, and Steelton, Pa.; Charleston, S. C.; Nashville, Tenn.; Salt Lake City, Utah; Lynchburg and Petersburg, Va.; and Wheeling, W. Va. The highest death rate for the year among the minor cities of this list was that of Wilkinsburg, Pa. (188.8). This is a new registration area, admitted under the recent registration law of Pennsylvania, and no comparisons are available for preceding years. Next in order of high mortality come Fresno, Cal. (170.9); Niagara Falls, N. Y. (147.3); McKeesport, Pa. (142.7); Petersburg, Va. (137.6); and Wheeling, W. Va. (125.3).

MALARIAL FEVER.

The total number of deaths compiled from malarial fever for the year 1906 was 1,415, corresponding to a death rate of 3.5 per 100,000 of population. By examination of Table III it will be seen that malarial fever is one of the least important of the epidemic diseases so far as the total number of deaths and death rates are concerned. It should be remembered, however, that deaths compiled in this table are returned exclusively from the registration area and that the majority of the registration states and cities are situated in the North, where malarial fever is not so prevalent as in other parts of the country. If the statistics embraced the entire area of continental United States, undoubtedly a much larger number of deaths would be reported from this disease. In Table III, for the registration area, and also in Table V, for its principal subdivisions, comparison may be made of the deaths and death rates for the past five years, remembering the change in the constitution of the registration area in passing from 1905 to 1906.

The distribution of malarial fever in the subdivisions of the registration area and in the principal cities may be seen in the following table:

AREA.	NUMBER OF DEATHS FROM MALARIAL FEVER PER 100,000 OF POPULATION.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
The registration area	4.8	5.4	4.3	4.2	3.9	3.5
Registration cities	5.2	5.9	4.6	4.6	4.1	3.9
Registration states	3.5	4.0	3.0	2.9	2.5	2.4
Cities in registration states	3.1	3.7	2.5	2.6	1.8	2.1
Rural part of registration states.	4.0	4.3	3.7	3.3	3.5	2.7
Registration cities in other states.	7.3	8.2	6.7	6.6	6.4	7.9
Registration states:						
California	(1)	(1)	(1)	(1)	(1)	4.6
Colorado	(1)	(1)	(1)	(1)	(1)	0.3
Connecticut	7.5	9.4	5.5	4.7	6.7	4.6
Indiana	6.7	7.4	5.9	5.6	5.1	5.3
Maine	1.8	3.0	1.6	1.5	1.8	1.0
Maryland	(1)	(1)	(1)	(1)	(1)	4.0
Massachusetts	2.2	2.0	2.2	2.0	1.4	1.2
Michigan	3.2	4.0	2.6	2.6	2.3	1.9
New Hampshire	1.7	0.5	1.9	2.1	1.6	2.1
New Jersey	3.1	3.2	3.1	2.8	2.4	2.2
New York	2.6	3.1	2.1	2.3	1.7	2.2
Pennsylvania	(1)	(1)	(1)	(1)	(1)	1.3
Rhode Island	5.4	5.8	6.1	4.3	3.3	3.1
South Dakota	(1)	(1)	(1)	(1)	(1)	.....
Vermont	1.4	1.2	1.4	1.7	1.7	1.1
Registration cities of 100,000 population or over in 1900:						
San Francisco, Cal	2.2	2.6	2.0	3.9	1.1	(2)
Denver, Colo	0.7	0.7	0.7	.....	2.0	.....
New Haven, Conn	9.6	8.9	5.2	8.6	**10.9**	9.1
Washington, D. C	8.2	**11.1**	7.5	4.0	3.6	7.1
Chicago, Ill	0.9	0.9	1.0	0.5	0.9	0.4
Indianapolis, Ind	4.1	7.0	3.5	4.4	2.4	2.7
Louisville, Ky	5.6	5.2	2.3	5.9	6.3	3.5
New Orleans, La	**26.9**	**32.8**	**26.3**	**22.9**	**16.1**	**11.8**
Baltimore, Md	5.3	6.1	4.1	4.8	3.3	5.4
Boston, Mass	0.9	1.4	.....	0.5	0.5	0.3
Fall River, Mass	0.9	1.0	.....	0.9	1.9	.....
Worcester, Mass	5.6	5.7	8.9	4.0	3.1	1.5
Detroit, Mich	2.3	3.0	1.6	2.2	0.9	2.0
Minneapolis, Minn	0.4	0.4	.....	.....	0.8	.....
St. Paul, Minn	(3)	.....	0.5	.....	.....	.....
Kansas City, Mo	6.9	5.9	8.1	7.4	6.7	0.5
St. Joseph, Mo	3.6	3.7	2.7	2.6	5.2	3.4
St. Louis, Mo	**10.3**	7.3	**10.0**	**10.2**	**15.4**	**12.9**
Omaha, Nebr	1.8	2.7	0.9	2.6	1.7	.....
Jersey City, N. J	2.7	3.2	2.3	2.6	1.3	1.3
Newark, N. J	3.4	4.2	1.1	3.7	1.4	2.1
Paterson, N. J	2.8	4.6	2.8	2.7	2.7	1.8
Buffalo, N. Y	0.5	0.3	0.5	0.8	.....	1.0
New York, N. Y	2.9	3.5	2.0	2.7	1.4	1.9
Bronx borough	8.6	**10.0**	5.8	6.2	2.6	0.7
Brooklyn borough	3.4	4.1	2.5	4.3	1.8	2.1
Manhattan borough	1.5	2.1	1.1	1.1	0.8	1.6
Queens borough	5.6	4.7	3.9	4.2	3.5	4.8
Richmond borough	4.3	5.8	4.3	2.8	1.4	2.7
Rochester, N. Y	0.6	0.6	.....	2.8	.....	.....
Syracuse, N. Y	0.9	.....	.....	0.9	.....	.....
Cincinnati, Ohio	2.4	4.2	1.2	0.9	0.6	1.7
Cleveland, Ohio	1.2	0.7	0.7	1.2	1.1	0.4
Columbus, Ohio	2.2	.....	1.5	2.9	.....	.....
Toledo, Ohio	4.1	7.8	2.7	2.6	5.2	3.1
Allegheny, Pa	0.7	1.5	.....	.....	0.7	0.7
Philadelphia, Pa	1.2	1.5	0.9	1.2	1.3	0.7
Pittsburg, Pa	1.2	1.8	1.2	.....	1.1	.....
Scranton, Pa	1.8	4.7	0.9	1.7	2.6	0.8
Providence, R. I	5.8	8.1	5.3	4.6	3.5	3.4
Memphis, Tenn	**124.9**	**132.0**	**117.0**	**138.8**	**122.1**	**118.4**
Milwaukee, Wis	0.3	0.3	0.3	0.6	0.3	.....

[1] Nonregistration. [2] Population not estimated. [3] Less than one-tenth.

Death rates of 10 or over per 100,000 of population are shown by bold face type. Death rates from malarial fever are usually of little importance, and may be subject to possible correction for inclusion of deaths actually due to typhoid fever, a disease which is frequently confused in the returns with malarial fever. Although the limit of high prevalence is low

(10 per 100,000 of population) as compared with the corresponding limit for typhoid fever (50 per 100,000 of population), only a few areas show death rates in excess of this figure.

In the group of registration cities, which has been little changed by the addition of new registration territory in 1906, the death rate from malarial fever shows a slight decrease from 1905 to 1906, but for the old group of registration states the death rate from this disease rose from 2.5 to 2.6 per 100,000 of population; in the cities of this group the increase was from 1.8 to 2.2, while the rural portion declined from 3.5 to 3 per 100,000 of population.

The number of deaths from malarial fever in Memphis, Tenn., continues remarkably high. There is a wide gap between the rates for this city (118.4 per 100,000 of population in 1906) and those of any other from this disease, the next highest rates for 1906 being those of St. Louis, Mo. (12.9), and New Orleans, La., (11.8). The death rate from malarial fever in St. Louis varied from 7.3 to 15.4 per 100,000 of population during the past five years, while that of New Orleans in 1906 (11.8) shows a very marked decline as compared with the early years of the quinquennial period.

The following table shows the comparative death rates of white and colored populations in certain areas from malarial fever:

AREA.	NUMBER OF DEATHS FROM MALARIAL FEVER PER 100,000 OF POPULATION: 1906.	
	White.	Colored.
Maryland rural	2.5	4.5
Washington, D. C	4.3	13.5
Louisville, Ky	1.6	11.6
New Orleans, La	9.2	18.7
Baltimore, Md	4.1	12.7
Kansas City, Mo	0.6	.....
Memphis, Tenn	68.8	170.4

It is interesting to note that the colored population, according to the returns, seems to be more liable to fatal attacks of this disease in Memphis, Tenn., than the white population, in the proportion of over two to one, although the death rates from typhoid fever of the white and colored inhabitants of this city are about the same.

The mortality from malarial fever in minor cities of the registration area is presented below, the list including only those places in which the death rate amounted to 10 or over per 100,000 of population in at least one of the years 1902 to 1906:

REGISTRATION CITY.	NUMBER OF DEATHS FROM MALARIAL FEVER PER 100,000 OF POPULATION.				
	1902	1903	1904	1905	1906
Mobile, Ala	45.1	51.6	26.6	33.2	30.3
Fresno, Cal	39.1	30.9	22.8	.....	22.3
Sacramento, Cal	10.0	13.3	16.4	13.0	3.2
San Diego, Cal	.....	5.4	5.3	15.9	(1)
Ansonia, Conn	15.2	7.5	.....	.....	.....
Bristol town, Conn	29.7	9.7	9.5	.....	.....
Danbury town, Conn	20.6	5.1	10.3	10.3	5.1
Greenwich town, Conn	23.8	.....	.....	.....	.....
Meriden town, Conn	40.9	40.4	20.0	16.5	26.1
Middletown town, Conn	16.7	11.0	5.4	16.1	.....
Norwich town, Conn	4.0	11.9	.....	11.8	3.9
Stonington town, Conn	11.3	.....	.....	.....	.....
Vernon town, Conn	.....	.....	12.0	.....	.....
Wallingford town, Conn	21.1	10.3	10.0	9.8	19.1
Waterbury, Conn	12.8	1.8	6.9	1.7	.....
Windham town, Conn	29.5	9.8	19.6	.....	.....
Jacksonville, Fla	150.8	147.5	59.0	90.6	81.8
Key West, Fla	21.7	41.8	35.3	19.5	28.3
Atlanta, Ga	6.4	12.4	7.1	6.8	12.4
Savannah, Ga	138.7	92.7	104.5	154.5	100.6
Belleville, Ill	.....	16.6	10.9	.....	10.7
Jacksonville, Ill	12.9	12.7	.....	.....	.....
Columbus, Ind	11.9	.....	.....	.....	.....
Elkhart, Ind	.....	.....	6.0	.....	11.4
Elwood, Ind	13.3	12.4	5.8	.....	5.2
Evansville, Ind	1.6	14.7	8.0	6.3	14.1
Huntington, Ind	.....	19.8	.....	.....	9.1
Jeffersonville, Ind	27.8	18.5	37.0	.....	.....
Lafayette, Ind	10.8	10.7	5.3	5.2	10.4
Logansport, Ind	.....	17.6	.....	.....	.....
New Albany, Ind	34.0	4.8	4.8	9.7	14.5
Terre Haute, Ind	10.5	7.8	5.1	3.9	5.7
Vincennes, Ind	19.0	.....	9.1	9.0	8.8
Washington, Ind	11.1	21.5	31.4	.....	39.8
Leavenworth, Kans	17.8	4.3	.....	9.6	9.0
Wichita, Kans	10.6	.....	.....	.....	2.8
Paducah, Ky	146.7	119.3	121.2	118.4	53.4
Annapolis, Md	11.5	22.7	.....	.....	11.0
Frederick, Md	10.5	.....	.....	.....	.....
Chelsea, Mass	.....	5.6	.....	2.7	10.5
Chicopee, Mass	10.2	5.1	.....	5.0	.....
Clinton town, Mass	14.9	7.5	.....	7.6	.....
Danvers town, Mass	11.4	.....	.....	.....	.....
Framingham town, Mass	8.8	17.5	.....	.....	.....
Hyde Park town, Mass	7.3	7.1	.....	20.7	6.8
Webster town, Mass	10.8	.....	.....	.....	19.5
Woburn, Mass	.....	13.9	.....	.....	.....
Owosso, Mich	.....	.....	10.9	.....	.....
Saginaw, Mich	22.5	2.2	4.3	.....	4.1
Laconia, N. H	.....	.....	12.4	.....	.....
Hackensack, N. J	(2)	(2)	(2)	(2)	17.5
Harrison, N. J	17.4	33.5	40.4	23.4	7.5
Hoboken, N. J	.....	1.6	1.6	.....	1.5
Kearny, N. J	(2)	(2)	(2)	(2)	14.1
Corning, N. Y	.....	.....	.....	.....	14.4
Glens Falls, N. Y	22.3	7.2	.....	6.8	6.6
Hudson, N. Y	.....	19.9	.....	9.6	9.5
Ithaca, N. Y	.....	.....	7.0	20.7	13.5
Kingston, N. Y	8.0	16.0	4.0	7.9	7.8
Mt. Vernon, N. Y	13.2	.....	.....	.....	3.9
Olean, N. Y	10.3	.....	.....	.....	.....
Peekskill, N. Y	.....	.....	15.8	.....	29.1
Port Jervis, N. Y	10.5	.....	20.8	.....	.....
Poughkeepsie, N.Y	12.3	12.1	8.0	4.0	11.8
Saratoga Springs, N. Y	.....	.....	15.5	.....	.....
Watervliet, N. Y	7.0	.....	.....	.....	13.8
Raleigh, N. C	43.4	21.5	7.1	21.2	28.1
Wilmington, N. C	264.7	178.8	206.1	116.6	130.1
Findlay, Ohio	.....	.....	11.4	.....	5.7
Lima, Ohio	12.1	.....	7.6	.....	7.2
Marietta, Ohio	14.0	6.7	.....	6.3	.....
Massillon, Ohio	8.1	.....	.....	.....	15.3
Portsmouth, Ohio	.....	.....	10.1	4.9	.....
Carlisle, Pa	39.9	.....	9.6	9.4	.....
Chester, Pa	(3)	(3)	(3)	(3)	13.2
Danville, Pa	(3)	(3)	(3)	(3)	12.4
Phoenixville, Pa	(3)	(3)	(3)	(3)	10.4
Pottstown, Pa	.....	14.5	7.2	.....	7.2
Titusville, Pa	(3)	(3)	(3)	(3)	24.0
Williamsport, Pa	10.3	.....	.....	3.4	.....
Central Falls, R. I	16.1	5.3	.....	5.1	5.1
Cranston town, R. I	(2)	(2)	(2)	(3)	21.7
Cumberland town, R. I	(2)	(2)	(2)	(2)	10.6
Charleston, S. C	66.1	46.4	46.3	42.7	35.5
Nashville, Tenn	40.3	18.0	34.6	35.6	30.7
San Antonio, Tex	46.1	75.8	47.0	11.4	9.6
Bennington town, Vt	.....	.....	.....	.....	11.1
Alexandria, Va	13.7	6.9	.....	.....	13.7
Lynchburg, Va	9.6	18.7	.....	.....	.....
Norfolk, Va	46.3	16.3	17.7	22.4	28.4
Petersburg, Va	91.7	45.8	55.0	55.0	183.4
Richmond, Va	17.5	20.9	19.6	32.2	16.0

[1] Population not estimated.

[2] Not reported separately.

[3] Nonregistration.

Continued high rates of prevalence from this disease are shown for the following cities: Mobile, Ala.; Meriden town, Conn.; Jacksonville and Key West, Fla.; Savannah, Ga.; Paducah, Ky.; Wilmington, N. C.; Charleston, S. C.; Nashville, Tenn.; Norfolk, Petersburg, and Richmond, Va. The sporadic occurrence of high death rates from "malarial fever," especially in Northern towns, and unconfirmed by determination of the presence of the malarial parasite, should be regarded with some suspicion, as this return may sometimes conceal mortality from typhoid fever. The highest death rates from malarial fever, according to the returns for 1906, occurred in the following cities: Petersburg, Va. (183.4); Wilmington, N. C. (130.1); Savannah, Ga. (100.6); and Jacksonville, Fla. (81.8).

SMALLPOX.

Only 95 deaths were reported from smallpox in the entire registration area of 1906, with all of its additions. Comparison may be made with the number of deaths returned and death rates of the former registration area in previous years by means of Table III. In 1902 there were 2,111 deaths from this disease in the old registration area, and the death rate was 6.6 per 100,000 of population. In 1906 it was only two-tenths of 1 per 100,000 of population.

Death rates from smallpox are given for certain foreign countries in the following table:

COUNTRY.	NUMBER OF DEATHS FROM SMALLPOX PER 100,000 OF POPULATION.				
	Annual average: 1901 to 1905.	1902	1903	1904	1905
United States (registration area)	3.4	6.6	4.2	2.1	0.9
Australasia	0.1	(1)	0.4		
Australian Commonwealth	0.1	(1)	0.5		
New South Wales	0.1	0.1			
Queensland					
South Australia	(1)				
Tasmania	2.3		10.7		
Victoria	(1)				
Western Australia					
New Zealand	(1)		0.1		
Austria	0.2	0.1	0.1	(2)	(2)
Belgium	11.7	9.5	23.3	9.8	(2)
Ceylon	1.3	1.0	0.2	0.1	2.9
Chile	(3)	(2)	13.9	(2)	261.9
Finland	2.2	2.6	1.3	1.3	(2)
German Empire	(1)	(1)	(1)	(1)	(2)
Prussia	0.1	(1)	(1)	(1)	(1)
Hungary	2.3	1.6	1.3	2.2	2.3
Italy	9.3	7.3	18.1	9.3	1.4
Jamaica					
Japan	(1)	0.1	0.1	(2)	(2)
Netherlands	0.2	0.1	0.4	0.2	0.2
Roumania	0.1	0.2	(1)	0.3	(1) (4)
Spain	24.5	430.0	425.1	415.2	(2)
Sweden	(1)	(1)	(1)	(2)	(2)
Switzerland	0.3	0.1	0.1	0.1	(2)
United Kingdom	2.8	6.1	2.0	1.7	(2)
England and Wales	2.5	7.5	2.3	1.5	0.3
Scotland	3.2	1.8	0.9	4.0	(2)
Ireland	0.3	(1)	0.9	0.4	0.1

[1] Less than one-tenth.
[2] No figures available; average only for years shown.
[3] Annual average not shown for less than three years.
[4] Rates based on provisional figures.

The very low and in many cases fractional rates per 100,000 of population for the countries shown indicate the unimportant contribution of smallpox to the general death rate. Occasionally, as in the high mortality shown for Chile in 1905, the disease appears with its old-time pestilential character.

The following table shows the variations in the death rates from smallpox for the registration area, its principal subdivisions, the registration states, and the larger cities, rates of 10 or more per 100,000 of population being distinguished by bold face type:

AREA.	NUMBER OF DEATHS FROM SMALLPOX PER 100,000 OF POPULATION.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
The registration area	3.4	6.6	4.2	2.1	0.9	0.2
Registration cities	4.2	7.9	5.4	2.5	1.1	0.3
Registration states	2.6	6.5	1.5	0.8	0.6	0.2
Cities in registration states	3.4	9.0	1.8	0.6	0.6	0.3
Rural part of registration states	1.5	3.4	1.2	1.1	0.5	0.2
Registration cities in other states	5.0	6.8	9.2	4.5	1.5	0.3
Registration states:						
California	(1)	(1)	(1)	(1)	(1)	2.2
Colorado	(1)	(1)	(1)	(1)	(1)	0.2
Connecticut	0.4	1.5	0.1			
Indiana	3.3	3.0	7.5	3.7	1.3	0.2
Maine	0.6	1.6	1.0	0.4		
Maryland	(1)	(1)	(1)	(1)	(1)	
Massachusetts	2.8	9.8	0.8	0.3	0.1	
Michigan	1.6	1.6	1.2	1.1	2.9	0.2
New Hampshire	0.7	1.7		0.5		
New Jersey	6.0	**21.6**	0.8	1.1	(2)	0.1
New York	2.4	5.8	0.5	0.2	0.1	0.1
Pennsylvania	(1)	(1)	(1)	(1)	(1)	0.1
Rhode Island	2.0	8.2	0.7			
South Dakota	(1)	(1)	(1)	(1)	(1)	
Vermont	0.3	0.6	0.9			
Registration cities of 100,000 population or over in 1900:						
San Francisco, Cal	0.3		0.6		0.3	(3)
Denver, Colo	(2)					
New Haven, Conn						
Washington, D. C	1.0	0.3	0.7	0.3	3.0	1.3
Chicago, Ill	1.5	0.3	2.5	1.5	3.1	
Indianapolis, Ind	**12.8**	9.1	**52.1**		0.5	0.9
Louisville, Ky	2.8	1.4	7.9	3.2	0.4	
New Orleans, La	4.3	1.4	1.3		1.9	2.5
Baltimore, Md	0.6	1.3	0.4	0.7		
Boston, Mass	9.6	**32.9**	2.2		0.2	
Fall River, Mass	0.9	1.9	0.9			
Worcester, Mass	0.8	0.8				
Detroit, Mich	1.3	2.3	3.6	0.3	0.3	
Minneapolis, Minn	2.5		3.7	6.8	0.4	
St. Paul, Minn	2.2		8.7	1.1	0.5	0.5
Kansas City, Mo	6.4	4.7	4.6	4.5	**13.9**	0.5
St. Joseph, Mo	3.6	8.3	0.9	1.8		1.7
St. Louis, Mo	4.4	1.5	0.6	8.2	9.6	0.2
Omaha, Nebr	0.9	2.7		0.9		
Jersey City, N. J	1.4	5.1	0.5			0.4
Newark, N. J	**19.5**	**72.2**	1.1			
Paterson, N. J	0.9	4.6				
Buffalo, N. Y	0.5	0.8	1.1			
New York, N. Y	3.8	8.4	0.1	0.2	0.2	0.1
Bronx borough	**42.8**	**88.2**	1.2	0.4		
Brooklyn borough	2.4	7.1	0.2	0.5	0.7	0.4
Manhattan borough	0.5	0.9			(2)	
Queens borough	(2)					
Richmond borough	(2)	1.4				
Rochester, N. Y	**11.5**	**45.3**	**13.8**			
Syracuse, N. Y						
Cincinnati, Ohio	2.1	1.8	4.2	3.5	0.6	0.3
Cleveland, Ohio	**13.5**	**57.8**	5.5	1.4		
Columbus, Ohio	8.1	0.8	**36.9**		1.4	
Toledo, Ohio	2.1	7.8	2.1		0.6	
Allegheny, Pa	**21.7**	5.9	**88.4**	**12.1**		
Philadelphia, Pa	**13.2**	**16.2**	**20.6**	**16.2**		
Pittsburg, Pa	**26.6**	**36.5**	**91.3**	5.7		1.3
Scranton, Pa	0.9	0.9	1.8			
Providence, R. I	1.1	4.3				
Memphis, Tenn	4.4	4.6	1.8	7.7	0.8	0.8
Milwaukee, Wis	0.3	0.7	0.3	0.3	0.3	

[1] Nonregistration. [2] Less than one-tenth. [3] Population not estimated.

Each of the principal subdivisions of the registration area shows a decline in the death rate from this disease as compared with the preceding year, and also a lower rate than for any year of the period 1902 to 1906. While these areas for the year 1906 are not precisely identical with those for the preceding years, this general diminution of the mortality may probably be taken as correctly representing the marked decline of the disease in importance as a cause of death during the year. In many states and cities there were no deaths from smallpox during 1906.

The highest death rate shown in 1906 for any state was that of California (2.2 per 100,000 of population). No comparison can be made with preceding years, as the state was not admitted to the registration area until 1906. The highest death rate for any of the greater cities shown in the table was that for New Orleans, La. (2.5 per 100,000 of population).

The distribution of smallpox in the minor cities of the country is shown in the following table:

REGISTRATION CITY.	NUMBER OF DEATHS FROM SMALLPOX PER 100,000 OF POPULATION.				
	1902	1903	1904	1905	1906
New Britain town, Conn	10.0				
Belleville, Ill		33.1	250.9	10.8	
Springfield, Ill	22.5	2.8	2.7	2.6	
Hammond, Ind		14.0			
Logansport, Ind		11.7			
South Bend, Ind	5.1		2.4	13.9	
Terre Haute, Ind			50.9		
Vincennes, Ind	19.0				
Wabash, Ind			21.0		
Washington, Ind		129.1			
Portland, Me	13.5				
Amesbury town, Mass	10.8				
Cambridge, Mass	34.0				
Everett, Mass	26.7			3.4	
Melrose, Mass	29.6				
North Adams, Mass			22.2		
Quincy, Mass	15.6				
Revere town, Mass	26.5				
Weymouth town, Mass	17.5				
Escanaba, Mich	19.4				
Grand Rapids, Mich		1.1		34.8	
Jackson, Mich			19.8	43.4	
Menominee, Mich	16.7				
Sault Ste. Marie, Mich	18.2				
Winona, Minn		14.9			
Nashua, N. H	12.1				
Camden, N. J	24.1	7.5	8.5		
Elizabeth, N. J	14.4		1.7		
Montclair, N. J	20.1				
Morristown, N. J	17.2				
Orange, N. J	28.1				
Plainfield, N. J	24.1				
Albany, N. Y	10.5	2.1			
Auburn, N. Y	16.0				
Bellaire, Ohio	10.1	90.8			
Dayton, Ohio		6.5	24.2		
Ironton, Ohio	8.3	41.6	49.7		
Marietta, Ohio		47.1			
Middletown, Ohio		10.8			
Newark, Ohio		15.5	5.1		
Portsmouth, Ohio	37.2	41.5			
Youngstown, Ohio	33.9	4.1	6.0		
Altoona, Pa	4.9	19.1			
Columbia, Pa	15.8				
Dubois, Pa	39.9		18.7		
Johnstown, Pa	59.1	27.5	4.9		
McKeesport, Pa	29.8	10.5			
Mahanoy City, Pa			13.9		
Mt. Carmel, Pa	21.2				
Norristown, Pa	17.6				
Pottstown, Pa			21.6		
South Bethlehem, Pa	14.5				13.3
Williamsport, Pa			17.0		
Woonsocket, R. I	83.9				
Charleston, S. C	3.6	16.1	5.3	1.8	
Spokane, Wash		16.7	11.5		
Wheeling, W. Va	5.0	22.4			

Rates of 10 and over per 100,000 of population for any of the past five years are shown by bold face type. The contrast between the mortality in minor cities in 1906 and 1902 is very marked. In only a single instance, South Bethlehem, Pa., were any deaths at all reported from this disease in 1906 in the areas included in this list.

MEASLES.

There were 5,087 deaths from measles in the registration area of the United States for the year 1906, equivalent to a death rate of 12.4 per 100,000 of population. Not only is the number of deaths greater than for the previous years, as shown by the comparative data given in Table III, but the death rate is also higher.

A comparison of the mortality from measles in the United States (registration area) and various foreign countries may be made for recent years in the following table:

COUNTRY.	NUMBER OF DEATHS FROM MEASLES PER 100,000 OF POPULATION.				
	Annual average: 1901 to 1905.	1902	1903	1904	1905
United States (registration area)	9.1	9.5	9.9	11.0	7.6
Australasia	4.6	11.8	4.9	0.8	2.5
Australian Commonwealth	4.0	10.8	2.3	0.7	2.8
New South Wales	3.0	7.7	1.1	1.5	2.0
Queensland	2.1	0.8	8.6	1.0	0.2
South Australia	13.5	65.3	1.4	.....	.....
Tasmania	0.6	0.6	.....	0.6	1.7
Victoria	3.3	4.1	1.7	.....	6.5
Western Australia	6.4	9.2	1.4	0.4	0.4
New Zealand	7.3	16.8	17.4	1.2	0.9
Austria	38.7	64.6	20.7	(1)	(1)
Belgium	37.5	47.9	33.1	39.0	(1)
Ceylon	4.5	5.3	4.3	1.7	5.4
Chile	(2)	(1)	4.1	(1)	76.5
German Empire	26.1	26.0	27.2	21.2	(1)
Prussia	24.6	28.5	27.0	20.2	17.0
Hungary	40.3	52.0	35.2	29.8	43.7
Italy	21.1	30.3	22.2	16.0	20.1
Jamaica	1.0	0.4	.....	0.4	.....
Japan	5.7	7.3	1.8	(1)	(1)
Netherlands	37.0	46.0	23.0	43.9	21.3
Norway	10.2	12.7	13.2	10.3	(1)
Roumania	25.5	46.1	32.2	26.1	3 4.8
Spain	65.2	3 57.0	3 53.1	3 51.1	(1)
Sweden	11.7	12.3	15.5	(1)	(1)
Switzerland	19.6	14.0	16.0	24.0	(1)
United Kingdom	30.7	36.7	25.9	33.5	(1)
England and Wales	32.6	39.2	27.4	36.4	32.4
Scotland	31.2	30.6	24.7	32.7	(1)
Ireland	16.1	24.0	15.5	11.9	18.4

[1] No figures available; average only for years shown.
[2] Annual average not shown for less than three years.
[3] Rates based on provisional figures.

The death rate of the registration area of the United States from measles is low, on the average, as compared with the rates of most European countries, being only slightly exceeded, however, by those of Norway and Sweden. Australasia shows a mortality from this disease only about one-half that of the United States. The very high death rate of Chile in 1905 may perhaps be noted in connection with the epidemic of smallpox in that country during the same year.

The death rates from measles are given for certain areas, by color, in the following table:

AREA.	NUMBER OF DEATHS FROM MEASLES PER 100,000 OF POPULATION: 1906.	
	White.	Colored.
Maryland rural	5.3	15.9
Washington, D. C	8.5	10.4
Louisville, Ky	1.6	.....
New Orleans, La	1.7	.....
Baltimore, Md	2.6	3.5
Kansas City, Mo	1.8	.....
Memphis, Tenn	.....	.....

Comparisons may be made of the death rates from measles in the various subdivisions of the registration area, including the registration states and principal cities, in the following table. All rates of 20 or more are shown in bold face type. There is an apparently marked increase in mortality from measles for the registration area and each of its principal subdivisions, and the rates for 1906 are higher, except for registration cities in other states, than for any of the individual years. The difference in composition of the registration area of 1906 and that of 1901 to 1905 must be considered in this comparison, however, and it is safer to note the increase or decrease of mortality in individual states and cities. Of the old registration states, 3 showed increased death rates for 1906 as compared with any of the previous years, as follows: Maine (15.8), New York (15.3), and Michigan (9.9). Eight states showed higher death rates for 1906 than for 1905, and only 2, New Hampshire and Vermont, showed decreased rates for the later year.

The group of old registration states taken as a whole showed an increase in the death rate from measles for the year 1906 as compared with the previous year, which was especially marked in the cities. For the entire group the death rate rose from 7.4 in 1905 to 11.8 in 1906. Cities in the former registration states showed an increased death rate from measles from 9.1 to 15.3, while the death rate of the rural population of the group rose only from 5.3 to 6.9. For the entire group of registration cities, in which the increase by the addition of new reporting population was relatively small, the death rate was nearly doubled, rising from 8.5 in 1905 to 14 in 1906.

Among the 36 greater cities shown for 1906 in the table, 2, St. Joseph, Mo., and Memphis, Tenn., reported no deaths from this cause during the year. Ten cities showed higher death rates for 1906 than for any previous year. These are, in order of maximum mortality, Cincinnati, Ohio (33.6); Milwaukee, Wis. (30.2); New Haven, Conn. (28.9); Philadelphia, Pa. (28); New York, N. Y. (24.5); Scranton, Pa. (22.7); Cleveland, Ohio (21.7); Minneapolis, Minn. (16.8); Jersey City, N. J. (13.4); and St. Paul, Minn. (8.3). Twenty-six cities showed increased death rates from measles for 1906 as compared with 1905, 8 cities showed decreased death rates, and 2 cities showed no change (no deaths in either year).

AREA.	NUMBER OF DEATHS FROM MEASLES PER 100,000 OF POPULATION.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
The registration area	9.1	9.5	9.9	11.0	7.6	12.4
Registration cities	10.0	11.0	11.3	11.7	8.5	14.0
Registration states	8.8	9.3	8.8	11.3	7.4	13.2
Cities in registration states	10.5	12.1	10.6	12.9	9.1	16.2
Rural part of registration states	6.7	5.7	6.4	9.3	5.3	9.7
Registration cities in other states	9.5	9.9	12.0	10.5	7.8	9.1
Registration states:						
California	[1]	[1]	[1]	[1]	[1]	10.1
Colorado	[1]	[1]	[1]	[1]	[1]	3.4
Connecticut	9.7	4.8	**22.2**	8.2	5.4	15.3
Indiana	7.6	4.5	6.4	18.6	0.5	2.8
Maine	4.4	4.3	5.7	3.2	4.8	15.8
Maryland	[1]	[1]	[1]	[1]	[1]	5.6
Massachusetts	9.2	11.5	9.3	8.7	8.4	11.0
Michigan	6.2	9.4	6.9	7.5	4.0	9.9
New Hampshire	6.4	4.8	9.9	1.6	14.4	3.7
New Jersey	6.5	11.0	2.9	9.9	5.1	10.2
New York	11.1	11.4	8.5	14.4	11.2	15.3
Pennsylvania	[1]	[1]	[1]	[1]	[1]	**21.1**
Rhode Island	10.0	5.1	**30.0**	3.4	7.5	**24.9**
South Dakota	[1]	[1]	[1]	[1]	[1]	5.6
Vermont	7.2	6.4	8.4	0.9	10.9	8.8
Registration cities of 100,000 population or over in 1900:						
San Francisco, Cal	8.7	12.2	9.3	6.9	0.8	[2]
Denver, Colo	8.3	15.3	2.7	18.2	2.7	3.3
New Haven, Conn	12.2	6.2	**26.2**	14.6	2.5	**28.9**
Washington, D. C	5.8	5.2	15.3	1.3	2.6	9.1
Chicago, Ill	9.9	8.2	15.4	2.8	12.8	6.4
Indianapolis, Ind	3.6	.....	7.1	8.3	0.5	1.8
Louisville, Ky	1.9	2.4	.....	6.4	0.4	1.3
New Orleans, La	2.3	0.3	0.7	10.5	.....	1.3
Baltimore, Md	8.5	8.2	15.6	1.7	15.4	2.7
Boston, Mass	16.0	12.5	10.5	**22.9**	12.6	**20.3**
Fall River, Mass	15.2	**21.9**	12.3	6.6	**31.2**	11.3
Worcester, Mass	8.0	7.4	**23.3**	2.4	3.9	10.0
Detroit, Mich	9.0	**22.9**	4.8	12.9	0.9	19.8
Minneapolis, Minn	3.4	1.3	7.5	0.8	0.8	16.8
St. Paul, Minn	4.4	6.8	7.1	1.6	0.5	8.3
Kansas City, Mo	5.8	14.7	1.7	10.2	1.1	1.6
St. Joseph, Mo	6.3	**22.2**	0.9	8.0	.....	.....
St. Louis, Mo	8.0	1.0	**23.3**	5.1	8.2	1.8
Omaha, Nebr	5.3	13.7	4.4	8.5	1.7	4.0
Jersey City, N. J	6.3	6.9	8.1	4.8	4.7	13.4
Newark, N. J	9.4	**20.7**	0.8	13.9	4.2	12.1
Paterson, N. J	7.3	17.6	0.9	12.7	2.7	16.8
Buffalo, N. Y	12.3	18.8	8.7	9.9	17.5	9.2
New York, N. Y	14.4	17.5	11.4	**21.6**	11.1	**24.5**
Bronx borough	**29.2**	**57.7**	11.1	**43.9**	17.7	**54.2**
Brooklyn borough	15.7	18.5	12.0	**23.8**	12.3	**27.8**
Manhattan borough	12.8	13.7	11.1	19.7	10.3	**20.1**
Queens borough	5.6	5.9	11.7	1.1	6.1	10.6
Richmond borough	7.1	4.3	5.7	5.6	2.7	12.1
Rochester, N. Y	8.1	0.6	15.0	0.6	15.9	2.2
Syracuse, N. Y	6.2	5.4	14.1	4.3	5.1	6.7
Cincinnati, Ohio	14.3	17.3	9.9	**23.1**	2.9	**33.6**
Cleveland, Ohio	5.3	4.5	2.9	12.2	2.3	**21.7**
Columbus, Ohio	7.4	16.6	11.8	7.9	.....	4.8
Toledo, Ohio	6.2	11.3	3.4	8.6	1.3	8.8
Allegheny, Pa	**33.3**	**38.3**	**29.0**	15.7	**55.3**	**20.0**
Philadelphia, Pa	12.4	11.8	17.3	**22.3**	6.6	**28.0**
Pittsburg, Pa	**31.8**	**54.3**	**26.1**	**24.4**	**37.3**	**24.8**
Scranton, Pa	8.2	1.9	8.2	5.3	17.2	**22.7**
Providence, R. I	12.1	3.8	**50.7**	3.1	2.5	**41.3**
Memphis, Tenn	5.3	1.8	3.5	17.0	.....	.....
Milwaukee, Wis	6.3	8.4	1.3	13.3	2.9	**30.2**

[1] Nonregistration. [2] Population not estimated.

A long list of minor cities follows, in which the death rate from measles equaled 20 or more per 100,000 of population in one or more of the years 1902 to 1906. Rates above this limit are indicated by bold face type.

REGISTRATION CITY.	NUMBER OF DEATHS FROM MEASLES PER 100,000 OF POPULATION.				
	1902	1903	1904	1905	1906
Mobile, Ala			33.8		
Fresno, Cal	7.8	7.7	38.1		22.3
San Jose, Cal			21.8	4.3	
Leadville, Colo		38.3	7.5		7.3
Pueblo, Colo	48.5	10.3	50.7	6.6	
Bridgeport, Conn	2.7	25.8	10.0	9.7	29.7
Bristol town, Conn		38.7			36.4
Greenwich town, Conn		15.6	15.4		22.4
Hartford, Conn	10.6	22.8	4.4	5.4	5.2
Middletown town, Conn		44.0		10.7	
Naugatuck, Conn		33.8			
New Britain town, Conn	3.3	77.5	6.3	6.1	41.5
New London, Conn	10.9	32.1			20.2
Norwich town, Conn	4.0	23.9		3.9	19.5
Stamford town, Conn	5.1		24.9	9.8	
Stonington town, Conn		55.9	11.0		10.7
Wallingford town, Conn	10.5	20.6			19.1
Waterbury, Conn	5.5	51.3		8.3	11.3
Key West, Fla			5.0	4.9	75.6
Belleville, Ill		44.2	5.5		
Decatur, Ill	9.3	36.7	4.5		20.2
Jacksonville, Ill		44.5		6.2	6.1
Ottawa, Ill					62.6
Anderson, Ind	13.6		29.2		
Columbus, Ind		11.7	34.5		
Fort Wayne, Ind		2.1	2.0		25.5
Kokomo, Ind		44.2			
Marion, Ind	26.3		22.6		
Michigan City, Ind		68.4			11.6
South Bend, Ind	7.7	29.8	4.8		9.0
Terre Haute, Ind	2.6	2.6	30.6		
Vincennes, Ind			72.6	9.0	
Wichita, Kans		28.5	3.1		
Covington, Ky	11.4	15.6	35.3		15.1
Paducah, Ky		4.8	74.5		
Auburn, Me	(1)	(1)	(1)	(1)	71.6
Biddeford, Me	12.1				23.3
Lewiston, Me	(1)	(1)	(1)	(1)	76.0
Rockland, Me				36.8	
Frederick, Md		62.3			30.1
Adams town, Mass			8.2	40.0	
Amesbury town, Mass	43.4				
Beverly, Mass		27.2			
Brockton, Mass	2.3		32.4		
Brookline town, Mass		9.1	4.4		24.9
Chelsea, Mass	25.5	2.8	13.6	2.7	15.8
Clinton town, Mass	22.3	7.5		15.3	
Fitchburg, Mass	24.9	24.7		9.1	3.0
Gardner town, Mass	17.7	8.7		25.0	8.2
Haverhill, Mass	40.1		18.6	5.3	
Holyoke, Mass	6.3	33.2		16.0	5.9
Lawrence, Mass	27.5	13.4	1.5	40.0	15.4
Leominster town, Mass					34.1
Lowell, Mass	9.5	1.1	20.0	8.4	21.0
Lynn, Mass	30.6		1.3	3.9	8.9
Malden, Mass	25.4	5.5	8.1		18.0
Marlboro, Mass		28.8			21.2
Melrose, Mass				28.0	13.7
Milford town, Mass	51.4			8.3	40.8
Newburyport, Mass	20.6				6.8
Pittsfield, Mass		21.1			
Springfield, Mass		24.7	4.2	2.7	6.6
Taunton, Mass		3.2		3.2	22.6
Wakefield town, Mass	31.0		9.9		9.6
Waltham, Mass	20.3	11.9			29.8
Ware town, Mass		23.6			46.2
Webster town, Mass	10.8			29.9	29.2
Alpena, Mich	(1)	(1)	(1)	(1)	23.6
Bay City, Mich	3.6	54.3	21.7	7.4	
Iron Mountain, Mich	11.2	22.9		83.1	12.1
Ishpeming, Mich	16.1			26.7	9.3
Menominee, Mich	16.7	34.7			
Muskegon, Mich		43.1	14.3		
Owosso, Mich	22.4				
Sault Ste. Marie, Mich	36.4			34.3	
Duluth, Minn	13.9	16.6			26.7
Mankato, Minn	102.3				
Winona, Minn	20.0				9.8
Lincoln, Nebr	16.4	13.6	30.8	4.3	10.4
Berlin, N. H	40.3		9.1	34.9	8.3
Concord, N. H		39.2		9.5	9.4
Dover, N. H				22.4	7.4
Keene, N. H	10.5			69.8	
Laconia, N. H		62.2			12.4
Nashua, N. H	4.0	3.9	23.3	19.1	7.5

[1] Not reported separately.

REGISTRATION CITY—continued.	NUMBER OF DEATHS FROM MEASLES PER 100,000 OF POPULATION.				
	1902	1903	1904	1905	1906
Bayonne, N. J	19.2		22.3	2.4	18.1
Bridgeton, N. J			21.9		
Harrison, N. J	34.8			15.6	
Hoboken, N. J	9.7	11.1	20.2	10.7	54.0
Montclair, N. J	26.8	6.5	25.2	6.1	11.9
Orange, N. J	56.2		7.8	7.7	7.5
Passaic, N. J	53.2	5.9	13.9	34.4	15.9
Perth Amboy, N. J	4.8	8.8	8.2	7.7	21.8
Trenton, N. J	12.9		23.2	5.9	10.4
Amsterdam, N. Y		8.7	8.5	21.0	
Auburn, N. Y		3.2	3.1	27.7	3.0
Binghamton, N. Y		2.4	42.4	2.3	4.6
Cohoes, N. Y				91.4	
Dunkirk, N. Y	46.0		6.9		6.3
Geneva, N. Y		17.4			24.0
Hudson, N. Y		29.9	9.8		9.5
Ithaca, N. Y			28.1		
Lockport, N. Y	11.8	11.7		23.0	
Middletown, N. Y	20.0		25.9	12.8	6.3
Mt. Vernon, N. Y	13.2		8.3	4.0	23.4
New Rochelle, N. Y	11.8	16.6		9.8	32.5
Newburg, N. Y			38.4		3.8
Niagara Falls, N. Y	22.5		8.0	18.9	
North Tonawanda, N. Y	(1)	(1)	(1)	(1)	48.3
Ogdensburg, N. Y				27.0	
Olean, N. Y	30.9				9.8
Peekskill, N. Y	34.8	24.9	15.8	113.6	29.1
Poughkeepsie, N. Y		8.1	44.1	4.0	3.9
Schenectady, N. Y	8.5	25.5	1.8	13.7	6.5
Troy, N. Y	1.3		9.2	42.0	1.3
Watertown, N. Y				27.7	
Watervliet, N. Y		6.9	13.8	48.3	6.9
Yonkers, N. Y	11.3	5.4	8.5		21.8
Raleigh, N. C	7.2			77.9	7.0
Wilmington, N. C			23.4		
Ashtabula, Ohio	7.3	7.0	27.4	6.7	
Bellaire, Ohio			50.4		
Chillicothe, Ohio		37.1			28.6
Dayton, Ohio	22.2		6.3	10.2	1.0
Hamilton, Ohio	11.9		53.0		32.5
Ironton, Ohio	75.2	16.6	8.3		32.8
Lima, Ohio		39.2	3.8		
Massillon, Ohio			31.5		7.7
Middletown, Ohio	32.5				53.7
Newark, Ohio			35.5		
Portsmouth, Ohio	5.3	10.4	5.0		86.9
Tiffin, Ohio		27.2			
Youngstown, Ohio	29.6	12.3	18.0	9.7	17.1
Altoona, Pa	22.1	9.6	18.7	11.0	58.4
Braddock, Pa	(2)	(2)	(2)	(2)	88.5
Butler, Pa	(2)	(2)	(2)	(2)	66.0
Carbondale, Pa	35.7			13.6	20.0
Carlisle, Pa		58.6			
Columbia, Pa			22.9		
Dubois, Pa	29.9	19.3	28.1	18.2	70.7
Duquesne, Pa	(2)	(2)	(2)	(2)	120.3
Hazelton, Pa	13.5	6.6	6.5	6.4	38.0
Lancaster, Pa			35.4		
Mahanoy City, Pa			13.9		33.7
Meadville, Pa		38.0			8.5
Nanticoke, Pa	(2)	(2)	(2)	(2)	59.9
Newcastle, Pa	48.1	6.1	2.9	14.1	16.3
Pittston, Pa	(2)	(2)	(2)	(2)	50.3
Plymouth, Pa	6.9	133.8	13.0		6.2
Pottstown, Pa			28.9		7.2
Pottsville, Pa			24.5		18.0
Reading, Pa	3.6	2.4	37.9	1.1	
Shenandoah, Pa	(2)	(2)	(2)	(2)	34.9
South Bethlehem, Pa	36.2	7.1			6.7
Steelton, Pa	7.9	84.4			21.6
Wilkesbarre, Pa	(2)	(2)	(2)	(2)	24.9
Williamsport, Pa				3.4	23.5
Central Falls, R. I	10.7	5.3		41.1	10.2
Cranston town, R. I	(1)	(1)	(1)	(1)	21.7
Lincoln town, R. I	(1)	(1)	(1)	(1)	21.6
Warwick town, R. I	(1)	(1)	(1)	(1)	23.6
Nashville, Tenn	1.2	25.2	43.0		1.2
San Antonio, Tex		24.1	21.8		
Salt Lake City, Utah	9.0	1.7		47.5	
Barre, Vt		30.8		9.4	
Bennington town, Vt				33.9	
Burlington, Vt	20.6			9.7	
Rutland, Vt	34.3			16.8	
Petersburg, Va	9.2		45.9		9.2
Richmond, Va	4.7	25.5	1.2	4.6	1.1
Appleton, Wis	25.2				
Beloit, Wis		50.5		7.8	
Marinette, Wis	6.3	51.0			6.6
Superior, Wis	24.0	5.8		2.7	37.2

[2] Nonregistration.

The character of this disease with reference to its recurring periods of epidemic prevalence after brief intervals of low or absent mortality is well shown, as is also its very extensive occurrence throughout the country and its considerable mortality from time to time. No city of the list shows a continued mortality of 20 or over per 100,000 of population for each of the years shown, and only 1 city, Peekskill, N. Y., exceeds this limit for four out of the five years. It should be remembered that in the new registration states data for preceding years are not available for comparison. The highest death rates among the minor cities for the year 1906 were those of Duquesne, Pa. (120.3); Braddock, Pa. (88.5); Portsmouth, Ohio (86.9); Lewiston, Me. (76); and Key West, Fla. (75.6).

SCARLET FEVER.

The year 1906 showed a somewhat larger return of deaths from scarlet fever (3,227) than the preceding year (2,284), but some part of this increase was due to the addition of new registration areas. The death rate rose only from 6.8 in 1905 to 7.9 in 1906, being lower for the latter year than for any of the previous years shown in Table III except 1905.

Death rates from scarlet fever in certain foreign countries during recent years were as follows:

COUNTRY.	NUMBER OF DEATHS FROM SCARLET FEVER PER 100,000 OF POPULATION.				
	Annual average: 1901 to 1905.	1902	1903	1904	1905
United States (registration area)	11.1	12.7	12.3	10.9	6.8
Australasia	2.9	3.1	6.9	2.4	1.1
Australian Commonwealth	2.4	2.7	4.9	2.5	1.1
New South Wales	3.3	4.4	6.1	3.5	1.4
Queensland	1.2	0.8	2.5	2.1	0.2
South Australia	2.2	.....	5.3	2.7	2.2
Tasmania	6.2	12.5	14.6	2.2	0.6
Victoria	1.6	1.2	3.8	1.9	0.8
Western Australia	0.9	1.0	0.9	0.8	1.2
New Zealand	5.1	4.9	16.0	1.5	1.1
Austria	54.0	56.2	58.0	(1)	(1)
Belgium	13.8	14.4	10.0	10.0	(1)
Chile	(2)	(1)	0.1	(1)	6.1
German Empire	24.3	23.9	27.0	21.7	(1)
Prussia	29.5	31.5	34.6	28.0	20.1
Hungary	66.2	72.0	82.5	72.3	45.1
Italy	4.7	4.1	6.0	4.8	5.0
Jamaica	0.1	.....	0.1	0.1	.....
Japan	(3)	(3)	(3)	(1)	(1)
Netherlands	2.7	2.0	2.0	3.2	3.4
Norway	4.6	4.7	5.3	3.2	(1)
Roumania	45.2	67.6	59.8	32.8	[4] 17.5
Servia	98.9	102.3	98.9	93.5	127.1
Spain	5.7	[4] 6.0	[4] 5.4	[4] 5.2	(1)
Sweden	8.2	8.4	6.8	(1)	(1)
Switzerland	4.3	2.0	5.0	8.1	(1)
United Kingdom	11.7	13.3	11.3	9.9	(1)
England and Wales	12.6	14.8	12.5	11.2	11.2
Scotland	9.9	11.6	8.9	6.0	(1)
Ireland	4.4	4.0	4.8	4.6	3.9

[1] No figures available; average only for years shown.
[2] Annual average not shown for less than three years.
[3] Less than one-tenth.
[4] Rates based on provisional figures.

The number of deaths from scarlet fever per 100,000 of population for the registration area, its main subdivisions, states, and principal cities, is given in the following table, rates of 20 or more being indicated by bold face type:

AREA.	NUMBER OF DEATHS FROM SCARLET FEVER PER 100,000 OF POPULATION.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
The registration area	11.1	12.7	12.3	10.9	6.8	7.9
Registration cities	12.9	15.3	14.2	12.4	7.6	9.4
Registration states	11.2	11.9	12.3	11.6	6.8	7.5
Cities in registration states	14.8	16.6	16.2	15.1	8.4	9.3
Rural part of registration states	6.5	6.1	7.3	7.1	4.6	5.3
Registration cities in other states	11.0	14.1	12.3	9.7	6.8	9.6
Registration states:						
California	(1)	(1)	(1)	(1)	(1)	3.2
Colorado	(1)	(1)	(1)	(1)	(1)	16.2
Connecticut	11.1	17.9	15.5	8.2	5.2	5.8
Indiana	6.6	6.0	7.2	8.3	5.5	4.1
Maine	2.0	1.8	2.7	1.3	1.0	0.7
Maryland	(1)	(1)	(1)	(1)	(1)	6.0
Massachusetts	10.3	10.7	17.7	5.2	4.2	4.7
Michigan	8.8	10.7	8.0	8.3	4.6	9.0
New Hampshire	3.8	0.5	2.6	2.3	0.9	3.5
New Jersey	13.2	11.6	14.9	**21.1**	8.7	9.5
New York	15.2	16.5	14.5	15.9	9.7	9.2
Pennsylvania	(1)	(1)	(1)	(1)	(1)	8.3
Rhode Island	9.1	6.2	12.8	14.9	7.1	16.3
South Dakota	(1)	(1)	(1)	(1)	(1)	4.7
Vermont	5.5	9.0	1.4	2.6	2.9	2.9
Registration cities of 100,000 population or over in 1900:						
San Francisco, Cal	3.1	5.1	3.7	2.5	1.1	(2)
Denver, Colo	**23.0**	**24.1**	19.0	**[4] 14.1**	12.0	**27.6**
New Haven, Conn	7.0	7.1	13.1	5.1	6.7	0.8
Washington, D. C	2.7	2.1	0.7	3.7	3.6	3.2
Chicago, Ill	12.9	**26.4**	16.3	7.8	4.1	**24.4**
Indianapolis, Ind	4.1	3.8	5.1	1.0	4.2	6.4
Louisville, Ky	3.7	2.4	6.0	3.2	3.6	4.0
New Orleans, La	6.3	4.7	2.7	0.7	2.6	4.5
Baltimore, Md	11.9	7.1	16.2	**26.9**	6.6	9.0
Boston, Mass	16.9	17.4	12.4	7.8	8.2	7.5
Fall River, Mass	11.4	**35.2**	18.0	3.8	.....	4.7
Worcester, Mass	7.2	13.1	5.6	2.4	3.1	0.8
Detroit, Mich	13.9	**24.2**	7.1	11.3	9.5	**30.3**
Minneapolis, Minn	9.7	14.1	11.7	13.2	3.4	4.4
St. Paul, Minn	9.3	9.6	13.6	4.2	9.6	1.5
Kansas City, Mo	9.2	8.8	8.1	11.4	2.2	3.8
St. Joseph, Mo	2.7	2.8	4.5	3.5	.....	2.5
St. Louis, Mo	11.9	**21.0**	15.8	10.6	2.4	2.6
Omaha, Nebr	9.7	12.8	11.5	6.8	6.6	7.2
Jersey City, N. J	18.5	17.5	12.2	**40.4**	6.9	13.4
Newark, N. J	**23.2**	18.4	**26.6**	**44.7**	16.6	12.4
Paterson, N. J	8.3	16.7	1.8	14.5	2.7	4.4
Buffalo, N. Y	6.3	3.0	7.4	4.3	4.2	6.0
New York, N. Y	**22.7**	**25.6**	**20.8**	**22.8**	12.2	13.1
Bronx borough	**58.0**	**82.1**	**70.7**	**68.8**	**26.1**	15.7
Brooklyn borough	**23.7**	**22.9**	**20.5**	**22.5**	14.6	**21.3**
Manhattan borough	19.1	**22.2**	16.3	18.3	9.4	8.2
Queens borough	10.6	7.6	12.2	10.1	8.1	7.3
Richmond borough	15.6	**25.9**	4.3	**26.5**	8.2	6.7
Rochester, N. Y	10.4	7.7	6.9	19.7	13.7	10.8
Syracuse, N. Y	15.0	5.4	1.8	**26.0**	**35.0**	14.3
Cincinnati, Ohio	13.1	17.9	11.1	7.0	**21.8**	4.1
Cleveland, Ohio	7.5	10.2	4.3	0.9	11.4	16.3
Columbus, Ohio	8.9	6.8	12.5	10.1	2.1	5.5
Toledo, Ohio	4.1	6.4	2.1	0.7	3.9	6.3
Allegheny, Pa	**21.0**	**20.6**	**21.0**	16.4	16.8	13.1
Philadelphia, Pa	12.4	10.1	14.7	15.8	4.7	5.1
Pittsburg, Pa	**28.1**	**26.4**	**21.2**	11.6	**45.9**	16.5
Scranton, Pa	6.4	2.8	5.5	2.7	14.6	15.2
Providence, R. I	11.1	4.3	13.2	**22.2**	9.1	**35.9**
Memphis, Tenn	7.9	10.0	5.3	15.3	2.5	1.6
Milwaukee, Wis	6.6	2.0	3.6	13.9	7.7	2.8

[1] Nonregistration. [2] Population not estimated.

While the mortality of the registration area of 1906 and its main subdivisions can not be compared directly with the rates for the preceding years, it is significant that there was an increased death rate from scarlet fever in each subdivision. Of the old registration states, 6 showed higher death rates for 1906 than in the preceding year, and 3 showed lower death rates, one rate (Vermont, 2.9) being the same in each year. The highest death rate of any state in

1906 from scarlet fever was that of Rhode Island (16.3), which rate was the maximum shown by the state for any of the years given. New Hampshire also presented a maximum death rate for the year, although a very low one (3.5). The highest death rate of any state in 1906, next to that of Rhode Island, was that of Colorado (16.2). Maine showed the lowest death rate (0.7) in 1906 of any of the years given, and Indiana (4.1) and New York (9.2) fell to their lowest point with respect to scarlet fever mortality in the current year.

The group of old registration states, taken as a whole, showed an increase of mortality from scarlet fever from 6.8 in 1905 to 7.4 in 1906; the cities therein increased from 8.4 to 9.7, while the rural portion of these states fell from 4.6 to 4.1.

Among the greater registration cities, 23 showed increased death rates for 1906 as compared with 1905, and 13 showed lower death rates. Six cities gave maximum mortalities from this disease in 1906 as compared with previous years shown: Providence, R. I. (35.9); Detroit, Mich. (30.3); Denver, Colo. (27.6); Cleveland, Ohio (16.3); Scranton, Pa. (15.2); and Indianapolis, Ind. (6.4). The rates of 8 cities also reached their lowest points in 1906 for the five-year period, namely, New Haven, Conn., and Worcester, Mass. (each 0.8 per 100,000 of population); St. Paul, Minn. (1.5); Memphis, Tenn. (1.6); Cincinnati, Ohio (4.1); Boston, Mass. (7.5); Newark, N. J. (12.4); and Allegheny, Pa. (13.1).

In the following table may be seen the relative death rates, by color, from scarlet fever in areas having a considerable proportion of colored population:

AREA.	NUMBER OF DEATHS FROM SCARLET FEVER PER 100,000 OF POPULATION: 1906.	
	White.	Colored.
Maryland rural	4.5	1.3
Washington, D. C	3.3	3.1
Louisville, Ky	4.4	2.3
New Orleans, La	6.1	.....
Baltimore, Md	10.3	2.3
Kansas City, Mo	4.3	.....
Memphis, Tenn	3.1	.....

The mortality from scarlet fever is given for the minor cities—those of 8,000 or over but less than 100,000 of population in 1900—in the following table, only places being included in which the death rate from this disease was 20 or over per 100,000 of population for any of the years 1902 to 1906. The cities are arranged in alphabetic order of states, and rates above this limit are shown in bold face type:

REGISTRATION CITY.	NUMBER OF DEATHS FROM SCARLET FEVER PER 100,000 OF POPULATION.				
	1902	1903	1904	1905	1906
Fresno, Cal	7.8	**38.6**	.....	15.0	.....
Leadville, Colo	15.6	7.6	7.5	.....	**21.9**
Pueblo, Colo	**38.1**	10.3	10.1	.....	3.2
Ansonia, Conn	15.2	**67.2**	7.3	.....	7.1
Bridgeport, Conn	19.9	14.2	**21.3**	8.5	2.4
Bristol town, Conn	.....	**29.1**	.....	.....	**27.3**
Danbury town, Conn	**25.7**	10.3	.....	.....	.....
Greenwich town, Conn	**47.7**	.....	.....	.....	.....
Hartford, Conn	**38.7**	14.8	4.4	2.1	5.2
Manchester town, Conn	9.0	**26.5**	8.6	.....	.....
Naugatuck, Conn	**184.1**	**84.5**	.....	.....	7.6
New Britain town, Conn	**26.6**	**32.2**	12.5	6.1	8.9
Norwalk town, Conn	4.9	**29.1**	9.6	4.8	9.4
Stamford town, Conn	.....	**30.3**	**24.9**	4.9	19.3
Stonington town, Conn	**34.0**	**22.3**	11.0	.....	.....
Wallingford town Conn	10.5	**72.0**	**20.1**	.....	.....
Waterbury, Conn	**32.9**	**21.2**	**20.6**	8.3	**29.1**
Windham town, Conn	.....	.....	.....	**88.3**	.....
Jacksonville, Fla	**28.9**	.....	.....	.....	2.7
Key West, Fla	**59.6**	**26.1**	15.1	14.6	.....
Belleville, Ill	**27.9**	**22.1**	.....	.....	.....
Decatur, Ill	**51.2**	.....	.....	.....	.....
Anderson, Ind	**27.2**	8.7	12.5	.....	3.9
Columbus, Ind	.....	.....	.....	.....	**22.3**
Hammond, Ind	**29.3**	.....	**33.6**	.....	**25.1**
Marion, Ind	10.5	**23.7**	**77.0**	.....	.....
Washington, Ind	11.1	**21.5**	**31.4**	10.2	.....
Leavenworth, Kans	**62.4**	4.3	4.4	.....	4.5
Augusta, Me	.....	**83.1**	.....	.....	.....
Frederick, Md	**21.0**	.....	.....	**20.3**	.....
Adams town, Mass	17.1	**58.6**	.....	16.0	**23.5**
Amesbury town, Mass	**43.4**	**33.0**	.....	.....	.....
Brookline town, Mass	4.7	**27.2**	4.4	4.3	8.3
Chicopee, Mass	**71.5**	**217.4**	**20.0**	.....	**34.3**
Hyde Park town, Mass	.....	**35.7**	7.0	.....	6.8
Malden, Mass	8.5	**22.0**	5.4	.....	5.1
Marlboro, Mass	7.2	**21.6**	14.3	.....	7.1
New Bedford, Mass	**50.6**	**214.1**	.....	2.7	3.9
North Adams, Mass	12.8	**87.1**	17.7	.....	9.2
Plymouth town, Mass	.....	**38.1**	.....	.....	.....
Springfield, Mass	19.5	**24.7**	15.4	1.4	5.3
Wakefield town, Mass	**20.7**	.....	.....	.....	9.6
Ware town, Mass	11.9	**47.3**	.....	.....	.....
Watertown town, Mass	**29.1**	.....	.....	.....	.....
Webster town, Mass	**140.0**	.....	.....	.....	.....
Westfield town, Mass	**31.2**	15.3	7.5	14.7	14.4
Woburn, Mass	.....	**34.9**	7.0	.....	6.9
Ann Arbor, Mich	.....	**27.4**	.....	.....	.....
Escanaba, Mich	**58.1**	9.3	.....	.....	8.4
Flint, Mich	.....	6.9	**26.9**	.....	.....
Iron Mountain, Mich	.....	**34.3**	.....	.....	**24.2**
Ishpeming, Mich	**40.2**	8.3	8.6	.....	9.3
Marquette, Mich	9.6	**47.6**	9.4	.....	.....
Traverse City, Mich	**58.1**	18.6	17.8	.....	.....
Duluth, Minn	19.0	**24.9**	14.4	1.5	1.5
Mankato, Minn	**27.9**	9.2	9.2	.....	.....
Winona, Minn	.....	.....	**34.6**	.....	.....
Bayonne, N. J	10.9	**39.0**	**29.7**	4.7	4.5
Elizabeth, N. J	7.2	**50.7**	10.2	18.2	17.7
Harrison, N. J	8.7	**33.5**	**24.2**	7.8	15.1
Hoboken, N. J	**27.5**	3.2	14.0	9.2	**27.0**
Millville, N. J	**36.0**	**26.4**	.....	8.4	.....
Montclair, N. J	.....	13.0	6.3	12.2	**23.7**
Morristown, N. J	**34.4**	.....	8.4	.....	8.1
New Brunswick, N. J	.....	.....	**44.4**	17.3	**37.9**
Orange, N. J	8.0	4.0	**27.2**	11.5	**45.3**
Passaic, N. J	15.6	**88.5**	16.7	13.2	**5.3**
Perth Amboy, N. J	14.3	17.7	**53.6**	15.4	10.9
Phillipsburg, N. J	9.3	7.9	.....	.....	**51.1**
Plainfield, N. J	**36.1**	5.8	5.6	.....	5.2
Trenton, N. J	7.7	5.0	**23.2**	8.3	15.1
Albany, N. Y	3.1	**21.8**	9.3	2.0	2.0
Amsterdam, N. Y	**193.7**	**112.7**	8.5	.....	8.3
Binghamton, N. Y	**21.9**	2.4	9.4	**27.8**	9.1
Cohoes, N. Y	4.2	**54.2**	**20.8**	8.3	.....
Dunkirk, N. Y	7.7	**94.4**	**269.3**	.....	6.3
Hudson, N. Y	.....	.....	.....	.....	**28.5**
Kingston, N. Y	4.0	**71.8**	4.0	3.9	.....
Lockport, N. Y	**23.6**	17.6	11.6	.....	.....
Mt. Vernon, N. Y	17.6	4.3	**24.8**	8.0	7.8

REGISTRATION CITY—continued.	NUMBER OF DEATHS FROM SCARLET FEVER PER 100,000 OF POPULATION.				
	1902	1903	1904	1905	1906
Newburg, N. Y.	102.0	11.6	.....	18.9	3.6
Niagara Falls, N. Y.	71.9	80.4	.....		6.7
Ogdensburg, N. Y.	.....	20.3	.....	9.9	.....
Olean, N. Y.	20.6	20.3	.....		.....
Poughkeepsie, N. Y.	4.1	20.2	.....	.....	.....
Rome, N. Y.	.....	6.0	23.6	23.1	5.6
Saratoga Springs, N. Y.	.....	.....	.....	7.7	45.7
Schenectady, N. Y.	34.0	19.7	5.5	15.5	9.7
Troy, N. Y.	2.6	5.3	2.6	27.5	6.5
Utica, N. Y.	6.7	6.6	86.8	15.7	24.6
Watervliet, N. Y.	.....	.....	.....	27.6	13.8
Yonkers, N. Y.	20.6	12.5	11.9	11.4	12.5
Chillicothe, Ohio	.....	.....	.....	.....	21.4
Ironton, Ohio	.....	.....	8.3	33.0	8.2
Portsmouth, Ohio	21.3	20.7	15.2	9.9	.....
Youngstown, Ohio	19.1	2.0	6.0	31.1	7.6
Allentown, Pa.	24.0	20.8	68.3	.....	2.4
Altoona, Pa.	2.4	28.7	16.4	15.4	.....
Carbondale, Pa.	.....	.....	.....	27.1	80.1
Columbia, Pa.	15.8	46.8	.....	7.5	.....
Dubois, Pa.	29.9	9.7	.....	36.4	17.7
Dunmore, Pa.	(1)	(1)	(1)	(1)	39.6
Duquesne, Pa.	(1)	(1)	(1)	(1)	146.1
Hazelton, Pa.	60.7	6.6	19.6	12.9	12.7
Homestead, Pa.	(1)	(1)	(1)	(1)	25.8
Johnstown, Pa.	113.1	60.0	65.7	28.5	16.2
Mahanoy City, Pa.	21.5	218.8	48.6	6.8	.....
Mt. Carmel, Pa.	21.2	27.3	145.2	51.1	.....
Plymouth, Pa.	6.9	13.4	6.5	.....	30.8
Pottsville, Pa.	43.7	6.2	18.4	6.1	.....
Reading, Pa.	16.9	35.3	24.1	4.5	5.5
South Bethlehem, Pa.	21.7	7.1	20.8	.....	20.0
Central Falls, R. I.	26.8	31.7	5.2	5.1	.....
Woonsocket, R. I.	.....	22.9	3.2	3.1	.....
Sioux Falls, S. Dak.	(1)	(1)	(1)	(1)	23.6
Nashville, Tenn.	23.2	8.4	9.6	.....	3.5
Salt Lake City, Utah	72.4	19.2	.....	3.4	6.5
Barre, Vt.	107.4	.....	29.5	18.9	.....
Bennington town, Vt.	.....	.....	.....	22.6	.....
Lynchburg, Va.	4.8	.....	.....	22.4	4.4
Spokane, Wash.	29.8	11.9	4.6	4.4	2.1
Madison, Wis.	.....	23.1	.....	.....	.....
Marinette, Wis.	31.5	38.2	.....	.....	.....
Superior, Wis.	18.0	113.5	8.5	2.7	2.7

[1] Nonregistration.

The minor cities that had the highest mortality from this disease in 1906 are the following: Duquesne (146.1) and Carbondale, Pa. (80.1); Phillipsburg, N. J. (51.1); Saratoga Springs, N. Y. (45.7); and Orange, N. J. (45.3). The limit chosen for representation of excessive mortality is the same as that for measles and whooping cough, and comparisons may be made with the similar tables for those diseases. The character of the epidemic prevalence is somewhat like that of measles, a high mortality being followed by a rapid decline of the death rate for the succeeding year, and frequently by its entire disappearance. No city in the list shows a continued high death rate above the limit for each of the five years, although several—Waterbury, Conn.; Chicopee, Mass.; Johnstown, Pa.; and Mt. Carmel, Pa.—show rates above the maximum chosen, and in some cases far above the limit, for four out of the five years given in the table.

WHOOPING COUGH.

The number of deaths from whooping cough was largely increased in the year 1906 over the preceding year, being 6,324, while that for 1905 was 3,599. Making allowance for additions of registration territory and for increase in the population, the death rates for the years 1905 and 1906 were 10.7 and 15.4, respectively. The rate for the latter year was higher than for any previous year of registration since 1900, except that of the year 1903, which was 15.9 per 100,000 of population.

Following are the death rates from whooping cough during recent years in certain foreign countries:

COUNTRY.	NUMBER OF DEATHS FROM WHOOPING COUGH PER 100,000 OF POPULATION.				
	Annual average: 1901 to 1905.	1902	1903	1904	1905
United States (registration area)	11.0	12.1	15.9	6.6	10.7
Australasia	10.0	13.6	14.8	7.9	0.9
Australian Commonwealth	10.4	14.3	12.6	8.8	1.0
New South Wales	12.1	18.7	13.1	10.2	0.3
Queensland	8.9	4.1	5.9	16.4	1.9
South Australia	9.9	10.0	16.6	6.8	1.6
Tasmania	13.6	13.1	36.6	14.5	.....
Victoria	9.1	15.4	9.1	3.8	1.6
Western Australia	8.6	11.2	19.0	7.2	0.4
New Zealand	8.1	10.4	24.9	4.1	0.3
Austria	50.2	60.2	44.4	(1)	(1)
Belgium	38.4	38.4	39.1	41.2	(1)
Ceylon	1.9	1.1	1.7	0.9	4.3
Chile	(2)	(1)	47.8	(1)	59.9
German Empire	33.1	34.6	30.6	30.4	(1)
Prussia	35.8	37.6	32.5	33.0	36.0
Hungary	41.8	65.0	48.0	26.8	32.9
Italy	19.5	21.9	19.7	17.8	17.2
Jamaica	47.6	.....	36.8	192.6	4.9
Japan	3.9	4.1	4.5	(1)	(1)
Netherlands	21.4	20.0	16.0	25.8	22.1
Norway	15.3	20.5	19.4	6.2	(1)
Roumania	15.9	23.0	21.6	9.7	[3] 15.5
Servia	196.4	202.4	287.8	173.8	163.9
Spain	23.0	[3] 23.0	[3] 24.2	[3] 24.4	(1)
Sweden	18.8	20.9	18.3	(1)	(1)
Switzerland	20.4	15.0	17.0	24.4	(1)
United Kingdom	32.6	30.0	29.6	37.1	(1)
England and Wales	30.0	29.7	28.5	35.3	25.5
Scotland	48.7	39.0	42.5	52.0	(1)
Ireland	24.1	23.0	24.1	35.2	13.2

[1] No figures available; average only for years shown.
[2] Annual average not shown for less than three years.
[3] Rates based on provisional figures.

The United States occupies a very favorable position as compared with many other countries with respect to the average annual death rate from whooping cough. The diminished mortality shown for Australasia as a whole during recent years is remarkable.

The following table shows the distribution of the mortality from whooping cough for the registration area, its subdivisions, states, and principal cities, rates of 20 or more per 100,000 of population being in bold face type.

Disregarding the change in the constitution of the registration area, the mortality from whooping cough was higher in each of its principal subdivisions during the year 1906 than during the preceding year, except in registration cities in other states. In this group the rates for 1906 have been affected by the transfer of many places in Pennsylvania with unusually high death rates from this disease to the group of cities in registration states. Out of the 10 registration states as constituted at the beginning of the period shown, 9 showed an increased death rate from whooping cough for 1906 as compared with 1905, and only 1 (Vermont, 6.6) showed a decreased mortality for the later year. Five

of the old registration states show higher death rates from whooping cough than for any previous years in the table: Massachusetts (23.1), New Hampshire (19), Michigan (17.8), New Jersey (16.7), and Indiana (12). The highest death rate of any state area for the year was that of Maryland (30.2), followed by Massachusetts (23.1), Pennsylvania (22.4), and Connecticut (20.9). California showed the lowest death rate from this disease (5.9), with Vermont (6.6) and New York (9.9) next in order.

AREA.	NUMBER OF DEATHS FROM WHOOPING COUGH PER 100,000 OF POPULATION.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
The registration area	11.0	12.1	15.9	6.6	10.7	15.4
Registration cities	11.9	13.1	17.4	6.9	11.7	15.4
Registration states	10.0	12.4	14.3	5.8	9.0	16.5
Cities in registration states	11.1	14.6	16.0	5.9	9.8	17.3
Rural part of registration states	8.6	9.6	12.1	5.7	7.9	15.5
Registration cities in other states	12.8	11.5	18.8	8.0	13.7	11.1
Registration states:						
California	(1)	(1)	(1)	(1)	(1)	5.9
Colorado	(1)	(1)	(1)	(1)	(1)	15.3
Connecticut	13.2	15.5	**25.2**	6.6	7.4	**20.9**
Indiana	9.2	9.1	10.6	6.0	10.8	12.0
Maine	8.1	7.3	15.3	7.8	5.5	13.6
Maryland	(1)	(1)	(1)	(1)	(1)	**30.2**
Massachusetts	11.8	13.7	**21.1**	5.6	9.6	**23.1**
Michigan	8.5	10.6	15.2	5.7	4.5	17.8
New Hampshire	8.5	7.4	15.2	4.9	8.4	19.0
New Jersey	10.7	15.3	14.3	6.6	8.5	16.7
New York	9.0	11.9	10.1	5.4	9.5	9.9
Pennsylvania	(1)	(1)	(1)	(1)	(1)	**22.4**
Rhode Island	13.5	17.6	**34.6**	1.7	9.6	19.0
South Dakota	(1)	(1)	(1)	(1)	(1)	19.3
Vermont	8.6	9.8	4.3	6.6	11.5	6.6
Registration cities of 100,000 population or over in 1900:						
San Francisco, Cal	**14.6**	1.7	**30.6**	14.4	11.8	(2)
Denver, Colo	12.5	11.7	7.5	14.1	**24.6**	4.6
New Haven, Conn	18.3	**29.4**	**20.1**	11.1	8.4	**28.0**
Washington, D. C	**24.9**	**42.3**	**24.2**	13.1	**23.4**	16.2
Chicago, Ill	13.1	13.3	13.7	7.2	18.3	8.1
Indianapolis, Ind	6.1	9.1	11.6	1.0	5.2	**21.9**
Louisville, Ky	7.4	7.5	**20.4**	0.9	4.9	12.4
New Orleans, La	7.0	4.4	9.3	3.6	9.7	5.7
Baltimore, Md	11.9	16.4	13.2	4.8	12.6	**28.2**
Boston, Mass	15.6	**23.3**	**26.1**	7.5	9.7	**31.9**
Fall River, Mass	12.3	**22.8**	12.3	1.9	**24.6**	19.8
Worcester, Mass	15.3	**21.3**	12.1	11.1	19.5	6.2
Detroit, Mich	10.7	18.9	18.7	2.2	4.0	**27.2**
Minneapolis, Minn	6.7	9.7	7.5	6.8	1.1	11.3
St. Paul, Minn	7.1	10.8	5.5	7.9	8.1	5.0
Kansas City, Mo	6.9	12.4	9.8	4.0	7.8	3.8
St. Joseph, Mo	2.7	6.5	.....	3.5	2.6	3.4
St. Louis, Mo	9.5	12.2	13.8	6.9	8.6	10.6
Omaha, Nebr	12.3	18.2	3.5	10.3	16.6	.....
Jersey City, N. J	12.2	18.4	10.4	12.8	9.9	14.7
Newark, N. J	13.9	15.8	18.8	4.8	15.5	**26.9**
Paterson, N. J	8.3	9.3	16.5	5.4	2.7	**21.3**
Buffalo, N. Y	12.0	7.5	15.0	3.0	16.7	9.7
New York, N. Y	9.0	15.8	8.4	5.4	9.3	8.1
Bronx borough	9.5	18.3	7.8	5.1	12.2	10.5
Brooklyn borough	9.9	17.1	9.7	5.8	9.4	8.9
Manhattan borough	8.3	14.2	7.2	5.2	8.5	7.1
Queens borough	10.6	15.8	12.2	5.3	13.6	9.7
Richmond borough	9.9	**24.5**	8.5	2.8	11.0	9.4
Rochester, N. Y	5.2	4.7	4.6	0.6	10.4	2.2
Syracuse, N. Y	8.8	10.7	**20.2**	0.9	4.3	16.0
Cincinnati, Ohio	7.8	6.7	6.9	2.0	16.6	5.5
Cleveland, Ohio	7.0	9.2	13.0	2.3	7.5	13.3
Columbus, Ohio	8.9	12.1	18.5	1.5	9.9	4.8
Toledo, Ohio	5.5	3.6	10.3	.....	3.9	6.9
Allegheny, Pa	**29.0**	19.2	**34.8**	**24.9**	**25.9**	12.4
Philadelphia, Pa	16.5	13.9	**31.7**	6.9	11.9	**27.5**
Pittsburg, Pa	**31.2**	**23.7**	**48.7**	19.6	**35.1**	18.1
Scranton, Pa	9.1	15.9	4.6	6.2	6.9	14.3
Providence, R. I	13.2	14.1	**39.1**	1.0	4.0	**23.6**
Memphis, Tenn	16.7	10.0	**47.5**	10.2	13.2	**20.0**
Milwaukee, Wis	9.2	8.7	17.1	3.6	12.8	16.7

[1] Nonregistration. [2] Population not estimated.

In the group of old registration states as a whole the death rate from whooping cough increased from 9 in 1905 to 14.6 in 1906. The rate of the cities in this group rose from 9.8 to 15.9, and of the rural districts from 7.9 to 12.7. The total mortality of registration cities, a group nearly identical in the two years, rose from 11.7 in 1905 to 15.4 in 1906.

Of the 36 greater cities, for which rates are given for 1906, 20 showed increased death rates from whooping cough over those of the preceding year. There were 8 cities in which the death rates from this disease in 1906 exceeded those of any previous years shown in the table, namely, Boston, Mass. (31.9); Baltimore, Md. (28.2); Detroit, Mich. (27.2); Newark, N. J. (26.9); Indianapolis, Ind. (21.9); Paterson, N. J. (21.3); Cleveland, Ohio (13.3); and Minneapolis, Minn. (11.3). Seven cities showed lower rates for 1906 than for any previous year given in the table, these being, in order of lowest mortality, Omaha, Nebr. (no deaths); Kansas City, Mo. (3.8); Denver, Colo. (4.6); St. Paul, Minn. (5); Worcester, Mass. (6.2); Allegheny, Pa. (12.4); and Pittsburg, Pa. (18.1). The entire absence of fatal cases of whooping cough in Omaha, Nebr., is worthy of note, as its death rate from this disease in 1905 (16.6) was above the average.

Whooping cough caused a considerably higher death rate among colored children than among white children for the rural population of Maryland and for all but 1 of the Southern cities shown in the following table:

AREA.	NUMBER OF DEATHS FROM WHOOPING COUGH PER 100,000 OF POPULATION: 1906.	
	White.	Colored.
Maryland rural	22.5	58.6
Washington, D. C	11.8	26.0
Louisville, Ky	9.8	23.1
New Orleans, La	6.1	4.7
Baltimore, Md	16.1	93.4
Kansas City, Mo	3.1	10.2
Memphis, Tenn	20.3	19.7

Death rates from whooping cough are shown for each of the minor cities having from 8,000 to 100,000 of population in 1900, in which the mortality from this disease reached or exceeded 20 per 100,000 of population in some one of the years 1902 to 1906. The cities are arranged in alphabetic order of states, and death rates exceeding the limit chosen, which is the same as that selected for the similar tables showing mortality from scarlet fever, are indicated by bold face type.

REGISTRATION CITY.	NUMBER OF DEATHS FROM WHOOPING COUGH PER 100,000 OF POPULATION.				
	1902	1903	1904	1905	1906
Alameda, Cal	.....	5.5	.....	**26.2**	**20.4**
Fresno, Cal	.....	.....	**45.7**	7.5	.....
Oakland, Cal	1.4	11.4	7.0	**23.4**	(1)
Sacramento, Cal	.....	**29.8**	13.1	6.5	6.4
San Jose, Cal	.....	4.4	**52.5**	.....	.....

[1] Population not estimated.

REGISTRATION CITY—continued.	NUMBER OF DEATHS FROM WHOOPING COUGH PER 100,000 OF POPULATION.				
	1902	1903	1904	1905	1906
Colorado Springs, Colo	[1]	[1]	[1]	[1]	20.5
Leadville, Colo	7.8	30.6		14.8	29.2
Pueblo, Colo	3.5	47.9	23.6	59.1	29.2
Ansonia, Conn	38.0				71.0
Bridgeport, Conn	25.2	34.8	7.5	7.3	15.4
Bristol town, Conn		29.1	9.5	9.3	27.3
Danbury town, Conn	30.8		10.3	10.3	35.9
Greenwich town, Conn	23.8	7.8	15.4	15.2	37.3
Hartford, Conn	12.9	23.9	7.7	3.2	27.1
Manchester town, Conn	9.0	17.7		33.9	16.6
Meriden town, Conn	10.2	57.3	3.3	26.4	16.3
Middletown town, Conn	11.1	49.5		10.7	
Naugatuck, Conn	8.8	50.7	8.2	7.9	15.2
New Britain town, Conn		54.9	3.1	3.0	56.3
New London, Conn	71.0	10.7	10.5		
Norwich town, Conn	16.0	47.8			15.6
Stamford town, Conn	15.4			34.3	29.0
Stonington town, Conn		22.3		21.7	21.4
Vernon town, Conn		35.8	23.9		
Wallingford town, Conn	10.5	20.6	20.1		
Waterbury, Conn	9.1	33.6	10.3	5.0	33.9
Wilmington, Del	29.1	17.2	7.3	19.1	9.4
Jacksonville, Fla		58.4	23.6	2.8	5.5
Key West, Fla		5.2			28.3
Atlanta, Ga	23.3	13.5	36.4	23.4	22.9
Savannah, Ga	1.6	30.9	15.1		4.4
Belleville, Ill	5.6	5.5	21.8	5.4	26.7
Decatur, Ill	9.3	9.2	22.6	12.3	20.2
Jacksonville, Ill	6.5	19.1			24.4
Columbus, Ind	11.9	23.4	11.5	22.6	33.4
Elkhart, Ind		12.2		23.4	5.7
Elwood, Ind	13.3			11.0	20.8
Hammond, Ind		7.0	33.6	51.5	
Huntington, Ind		69.3			18.1
Jeffersonville, Ind		46.3	9.2	18.5	36.9
Kokomo, Ind				25.5	33.3
Logansport, Ind	29.8		11.5	17.0	16.7
Muncie, Ind	21.7	8.2	11.9	3.8	18.3
South Bend, Ind	18.0	14.9	21.5	11.6	
Terre Haute, Ind	5.3	12.9	7.6	30.8	15.2
Vincennes, Ind	9.5		9.1	71.7	
Wabash, Ind		32.3			
Washington, Ind	22.1			10.2	29.9
Leavenworth, Kans	13.4		17.5	23.9	9.0
Covington, Ky	9.1	6.7	35.3	4.4	17.2
Newport, Ky	10.4		10.1	10.0	26.4
Paducah, Ky	9.8	47.7	4.7	45.5	13.4
Augusta, Me	33.6	16.6			16.2
Bangor, Me		13.2	13.1		21.3
Biddeford, Me		90.1	11.9	5.9	5.8
Portland, Me	1.9	22.8	20.6	9.2	12.7
Rockland, Me	24.5				
Annapolis, Md		79.5	11.2		77.1
Cumberland, Md	[1]	[1]	[1]	[1]	75.9
Frederick, Md	73.6	10.4		30.5	
Adams town, Mass	34.3	8.4		80.1	7.8
Amesbury town, Mass		11.0	22.3		23.0
Arlington town, Mass	11.1	21.6			10.1
Attleboro town, Mass	8.4	24.7		7.9	15.4
Beverly, Mass		20.4	6.7	6.6	38.7
Brockton, Mass	4.6	17.9		12.6	28.4
Brookline town, Mass	4.7	18.2	4.4		33.1
Cambridge, Mass	9.6	14.7	2.1	14.4	43.6
Chelsea, Mass	25.5	33.3		5.4	50.1
Chicopee, Mass	5.1	25.3	5.0	5.0	44.1
Clinton town, Mass	7.4			15.3	30.3
Danvers town, Mass				22.1	21.8
Everett, Mass	19.1	22.1	3.6	3.4	36.6
Fitchburg, Mass		80.2	12.2	6.1	24.0
Framingham town, Mass	8.8	52.4		17.3	8.6
Gardner town, Mass		43.4	17.0	8.3	16.3
Gloucester, Mass	26.8	15.4		26.9	26.9
Haverhill, Mass	13.4	21.3		10.6	7.9
Holyoke, Mass		24.9	10.2	10.0	67.0
Hyde Park town, Mass	36.4	28.6	21.0	6.9	33.9
Lawrence, Mass	27.5	17.9	8.8	1.4	46.1
Lynn, Mass		40.7	2.7	3.9	25.4
Malden, Mass	5.6	16.5	5.4	10.5	23.1
Marlboro, Mass		43.2			14.1
Melrose, Mass	14.8	43.6	21.4		6.9
Milford town, Mass	25.7		8.4		8.2
New Bedford, Mass	25.3	24.4	13.9	13.4	14.3
Newton, Mass	2.9	14.1	5.5	24.4	13.3
North Adams, Mass	8.6	21.8	4.4		4.6
Peabody town, Mass		40.1			14.9

[1] Nonregistration.

REGISTRATION CITY—continued.	NUMBER OF DEATHS FROM WHOOPING COUGH PER 100,000 OF POPULATION.				
	1902	1903	1904	1905	1906
Pittsfield, Mass		4.2		36.0	3.9
Plymouth town, Mass		47.6			17.5
Quincy, Mass	3.9	34.1	3.7	3.6	31.1
Revere town, Mass	26.5	42.5		7.9	38.1
Salem, Mass		37.9	13.4		58.0
Somerville, Mass	13.9	37.8		5.8	24.0
Southbridge town, Mass	9.6		27.8		
Springfield, Mass	10.5	36.3	5.6	2.7	25.1
Taunton, Mass	22.6	12.9		9.7	38.8
Wakefield town, Mass		30.4			9.6
Waltham Mass	16.3	23.8		7.6	7.5
Ware town, Mass					34.6
Webster town, Mass	32.3	31.5	10.2	39.9	9.7
Westfield town, Mass	15.6	45.8			
Weymouth town, Mass	26.3	17.4		8.6	8.6
Woburn, Mass	7.0	48.8			27.7
Alpena, Mich	[2]	[2]	[2]	[2]	23.6
Battle Creek, Mich		32.9	4.5	13.0	
Bay City, Mich	14.5	14.5		2.5	37.0
Escanaba, Mich		37.3	36.0		42.1
Flint, Mich	28.2	6.9		6.6	19.3
Iron Mountain, Mich	22.4	57.1			48.4
Ironwood, Mich		20.1			
Ishpeming, Mich		91.4	43.0	17.8	27.8
Jackson, Mich	27.7	19.8		7.9	3.9
Kalamazoo, Mich	3.7	14.1	3.4	12.9	30.8
Marquette, Mich	9.6	28.5	28.1		27.3
Menominee, Mich	8.4		9.0		29.3
Muskegon, Mich		14.4	28.7	4.8	4.8
Owosso, Mich		22.1		10.8	
Port Huron, Mich	30.6	5.0	5.0		24.4
Sault Ste. Marie, Mich	9.1	53.5			
Duluth, Minn	13.9	13.3		3.1	26.7
Mankato, Minn	55.8	9.2			
Winona, Minn	25.0	10.0	14.8	9.8	4.9
Berlin, N. H		9.6	54.8		
Concord, N. H	5.0	14.7	4.8		23.6
Dover, N. H	7.5	22.5		44.7	14.9
Keene, N. H		20.7	10.1		
Laconia, N. H		24.9			49.7
Manchester, N. H	10.1	29.6	11.3	9.5	32.5
Nashua, N. H	12.1	23.7	3.9		30.0
Portsmouth, N. H	27.8			9.1	9.0
Rochester, N. H		45.5	22.5	11.1	
Atlantic City, N. J	6.3	35.6		10.6	27.8
Bayonne, N. J	10.9	15.6	19.8	11.8	22.6
Camden, N. J	19.0	12.4	3.7	2.4	29.5
Elizabeth, N. J	5.4	24.5		8.3	27.3
Hoboken, N. J	21.0	15.9	10.9	12.2	7.5
Millville, N. J	27.0		17.2		32.9
Montclair, N. J	26.8	32.4		6.1	29.7
Morristown, N. J	51.6	17.0		16.5	
Orange, N. J	12.0	27.6	11.7	11.5	18.9
Passaic, N. J	15.6	32.4	5.6	2.6	7.9
Phillipsburg, N. J		31.7		7.5	
Trenton, N. J	7.7	21.3	7.3	13.1	20.8
Albany, N. Y	7.3	21.8	4.1	9.2	10.1
Amsterdam, N. Y		21.7	4.3		20.7
Cohoes, N. Y	50.1	33.3	4.2	4.2	20.8
Cortland, N. Y					43.4
Dunkirk, N. Y		43.6	6.9		81.7
Hornell, N. Y	[2]	[2]	[2]	[2]	29.9
Hudson, N. Y	20.3	19.9		9.6	28.5
Johnstown, N. Y		30.3			
Kingston, N. Y	8.0	16.0	27.7	35.4	
Little Falls, N. Y	[2]	[2]	[2]	[2]	35.8
Middletown, N. Y	6.7	13.1			31.4
New Rochelle, N. Y	41.2	5.5	5.2	14.7	46.5
Niagara Falls, N. Y	22.5	4.2	24.0	15.1	46.7
Oswego, N. Y	[2]	[2]	[2]	[2]	31.2
Peekskill, N. Y	43.5		7.9	53.0	21.8
Port Jervis, N. Y	10.5	20.9			51.2
Poughkeepsie, N. Y	12.3	4.0	8.0	23.9	15.8
Rome, N. Y		30.2			22.6
Saratoga Springs, N. Y	7.9	31.3		7.7	15.2
Utica, N. Y	5.1	13.2	16.1	6.3	26.1
Watervliet, N. Y	34.8	27.7		20.7	
Yonkers, N. Y	35.6	12.5	6.8	27.7	17.2
Raleigh, N. C		28.7	35.7	28.3	56.2
Wilmington, N. C	18.9	141.2	4.7	9.3	37.2
Ashtabula, Ohio	21.8	63.5	13.7		25.9
Bellaire, Ohio			80.7	10.1	
Canton, Ohio		31.2		5.3	2.6
Chillicothe, Ohio	22.5	7.4	29.3	14.5	
Dayton, Ohio	17.7	7.6	7.4	11.2	24.8

[2] Not reported separately.

REGISTRATION CITY—continued.	NUMBER OF DEATHS FROM WHOOPING COUGH PER 100,000 OF POPULATION—continued.				
	1902	1903	1904	1905	1906
Hamilton, Ohio	15.9	.....	11.3	25.9	25.3
Ironton, Ohio	.....	25.0	.....	57.7	16.4
Middletown, Ohio	75.7	43.2	.....	.....	21.5
Newark, Ohio	10.6	5.2	25.4	9.9	.....
Portsmouth, Ohio	15.9	51.8	.....	14.8	29.0
Tiffin, Ohio	27.3	9.1	18.1	.....	.....
Youngstown, Ohio	10.6	22.5	.....	21.4	15.2
Altoona, Pa	4.9	21.5	18.7	35.1	4.2
Beaver Falls, Pa	(1)	(1)	(1)	(1)	29.3
Braddock, Pa	(1)	(1)	(1)	(1)	41.6
Bradford, Pa	(1)	(1)	(1)	(1)	24.1
Carbondale, Pa	78.5	7.0	.....	6.8	20.0
Chambersburg, Pa	(1)	(1)	(1)	(1)	93.2
Chester, Pa	(1)	(1)	(1)	(1)	34.2
Columbia, Pa	.....	7.8	.....	.....	29.8
Dubois, Pa	10.0	29.0	46.9	.....	8.8
Dunmore, Pa	(1)	(1)	(1)	(1)	33.0
Erie, Pa	1.8	24.8	3.5	32.3	1.7
Harrisburg, Pa	7.7	37.8	1.8	5.5	41.3
Hazelton, Pa	20.2	19.9	.....	19.3	38.0
Lancaster, Pa	16.1	20.3	.....	8.7	46.7
Lebanon, Pa	(1)	(1)	(1)	(1)	20.6
McKeesport, Pa	13.5	52.3	.....	4.8	6.9
Mahanoy City, Pa	.....	63.5	.....	.....	60.7
Meadville, Pa	.....	28.5	.....	42.8	.....
Mt. Carmel, Pa	42.4	6.8	6.6	.....	37.2
Nanticoke, Pa	(1)	(1)	(1)	(1)	52.4
Newcastle, Pa	19.2	33.7	.....	8.5	13.6
Oil City, Pa	(1)	(1)	(1)	(1)	20.5
Phoenixville, Pa	(1)	(1)	(1)	(1)	52.1
Pittston, Pa	(1)	(1)	(1)	(1)	50.3
Plymouth, Pa	6.9	6.7	13.0	.....	49.3
Pottstown, Pa	7.2	21.7	.....	.....	7.2
Pottsville, Pa	18.7	6.2	6.1	.....	30.0
Shenandoah, Pa	(1)	(1)	(1)	(1)	78.4
South Bethlehem, Pa	.....	63.7	.....	.....	6.7
Steelton, Pa	7.9	7.7	7.5	7.3	93.5
Warren, Pa	(1)	(1)	(1)	(1)	56.4
Wilkesbarre, Pa	(1)	(1)	(1)	(1)	20.0
Williamsport, Pa	24.1	10.2	3.4	.....	3.4
Central Falls, R. I	.....	47.5	.....	20.6	25.4
Cranston town, R. I	(2)	(2)	(2)	(2)	21.7
East Providence town, R. I	(2)	(2)	(2)	(2)	49.7
Newport, R. I	42.6	.....	.....	16.0	19.6
Pawtucket, R. I	22.0	21.6	.....	13.8	11.3
Woonsocket, R. I	3.4	42.5	9.6	9.3	12.1
Charleston, S. C	1.8	33.9	.....	60.5	21.3
Sioux Falls, S. Dak	(1)	(1)	(1)	(1)	23.6
Nashville, Tenn	1.2	15.6	20.3	80.7	4.7
Salt Lake City, Utah	1.8	5.2	50.0	5.1	8.2
Barre, Vt	.....	.....	39.3	.....	18.1
Bennington town, Vt	.....	.....	11.5	.....	22.2
Alexandria, Va	20.6	27.4	6.8	6.8	13.7
Lynchburg, Va	.....	74.9	13.7	4.5	35.0
Norfolk, Va	16.7	43.4	14.1	17.2	26.9
Petersburg, Va	13.8	41.3	.....	18.3	105.5
Richmond, Va	24.5	87.1	5.8	1.2	64.2
Spokane, Wash	5.0	.....	2.3	4.4	29.8
Wheeling, W. Va	15.1	2.5	34.5	12.2	2.4
Appleton, Wis	.....	18.5	12.0	29.4	.....
Green Bay, Wis	.....	.....	27.2	4.4	8.4
Madison, Wis	4.8	41.6	.....	.....	19.9
Marinette, Wis	12.6	.....	6.4	6.5	26.3
Superior, Wis	15.0	17.5	.....	21.9	5.3

[1] Nonregistration. [2] Not reported separately.

The long list of minor cities in which high death rates have occurred from this disease is instructive as compared with the shorter lists of localities showing excessive mortality from measles and scarlet fever. Almost no effort is made to restrict whooping cough, comparatively little to prevent the occurrence of measles, while a serious but more or less intermittent attempt is made to prevent the occurrence of scarlet fever. From the point of view of mortality statistics and the wide distribution of high rates of mortality from whooping cough, it would seem that this disease demands especial attention on the part of sanitary authorities. The mortality from whooping cough appears to be somewhat more continuous and persistent than that from either scarlet fever or measles. Fewer cities showed entire disappearance of the disease as a cause of death for any of the years stated. In no case does any city of the table show a mortality in excess of the limit for each one of the years covered by the table, and only a few places, Pueblo, Colo., Atlanta, Ga., Hyde Park town, Mass., and Raleigh, N. C., showed higher rates for four out of the five years. Localities in this list showing the highest rates from whooping cough for the year 1906 are Petersburg, Va. (105.5); Steelton, Pa. (93.5); Chambersburg, Pa. (93.2); Dunkirk, N. Y. (81.7); and Shenandoah, Pa. (78.4).

DIPHTHERIA AND CROUP.

The total number of deaths registered from diphtheria and croup in the registration area for the year 1906 was 10,793, and the death rate was 26.3 per 100,000 of population. The increased number was largely due to the considerable additions to the registration area from which returns were received, and exceeded that for any previous year shown in Table III. The death rate, however, although somewhat larger than that for 1905 (23.8), was less than for any other of the last five years.

It should be understood that by the term "diphtheria and croup" not two diseases but only a single disease is meant. Practically all fatal cases of "croup" are in reality diphtheria. There would be no object in mentioning the so-called disease "croup" in this connection were it not for the fact that by its omission many deaths that should properly be compiled in conjunction with diphtheria would not be included. It is highly desirable that physicians and registration officials should entirely cease to use the word "croup." It has been dropped altogether from the Nomenclature of Diseases drawn up by the Royal College of Physicians of London, and its occurrence in the returns and statistical compilations only serves to confuse. Thus, in international tables, it is necessary to know, in relation to deaths from diphtheria, whether "croup" is or is not included. But even then the statistics of diphtheria not including croup may really include some cases of croup that have been investigated and properly classified as diphtheria, so that direct comparisons can not be made between the total number of deaths from diphtheria thus compiled alone and the deaths from diphtheria in statistical tables where croup is also reported in connection. Comparison of the relative death rates from "diphtheria" and from "croup" as separately stated in Table III, shows some tendency to decrease in the number of cases reported from croup.

In the following table comparison may be made of the death rates from diphtheria and croup for pre-

vious years in the registration area of the United States and in those countries in which the statistics are compiled in this form, namely, as "diphtheria and croup:"

COUNTRY.	NUMBER OF DEATHS FROM DIPHTHERIA AND CROUP PER 100,000 OF POPULATION.				
	Annual average: 1901 to 1905.	1902	1903	1904	1905
United States (registration area)	29.7	30.9	31.8	28.5	23.8
Australasia:					
South Australia	6.6	9.7	6.9	6.0	3.8
Austria	44.7	42.3	41.8	(1)	(1)
Belgium	22.5	26.3	19.9	18.2	(1)
Ceylon	0.3	0.3	0.5	0.4	0.2
Chile	(2)	(1)	25.9	(1)	14.1
German Empire	34.5	32.2	34.0	32.5	(1)
Prussia	40.1	40.1	41.5	38.8	32.4
Hungary	46.7	46.0	54.3	45.1	40.3
Italy	13.8	13.7	12.3	13.5	12.7
Japan	9.9	9.8	9.1	(1)	(1)
Norway	11.6	10.7	14.7	14.0	(1)
Servia	65.7	72.8	76.0	51.1	53.3
Spain	26.8	[3] 28.0	[3] 25.3	[3] 20.6	(1)
Sweden	37.0	33.8	26.5	(1)	(1)
Switzerland	21.7	22.0	16.0	17.7	(1)

[1] No figures available; average only for years shown.
[2] Annual average not shown for less than three years.
[3] Rates based on provisional figures.

In the following table a similar comparison to that in the preceding one is made for the registration area of the United States and those countries in which diphtheria alone is reported:

COUNTRY.	NUMBER OF DEATHS FROM DIPHTHERIA (EXCLUDING CROUP) PER 100,000 OF POPULATION.				
	Annual average: 1901 to 1905.	1902	1903	1904	1905
United States (registration area)	24.5	25.4	26.6	23.8	19.9
Australasia:					
New South Wales	8.4	5.3	9.4	10.8	6.9
Queensland	8.1	5.5	11.3	8.1	7.6
Tasmania	4.5	1.7	5.1	2.2	5.6
Victoria	10.3	8.6	8.3	15.7	6.6
Western Australia	9.5	3.9	8.1	14.8	14.0
New Zealand	4.5	6.8	2.8	3.2	4.0
Jamaica	0.8	0.3	0.4	0.5	1.5
Netherlands	9.6	10.2	9.0	8.9	8.0
Roumania	13.2	15.8	13.2	9.9	[1] 6.5
United Kingdom	19.4	21.2	16.7	15.8	(2)
England and Wales	20.4	23.6	18.2	17.1	16.0
Scotland	14.8	14.6	14.0	14.3	(2)
Ireland	8.1	9.5	8.5	7.2	6.9

[1] Rates based on provisional figures.
[2] No figures available; average only for years shown.

In the following table the variations in the death rates from diphtheria and croup may be seen for the registration area, its principal subdivisions, states, and larger cities. Rates of 50 or more per 100,000 of population are in bold face type and cities are arranged under their respective states.

Both for the aggregate registration area of 1906 and for its principal subdivisions there was a slight increase in the death rate from diphtheria and croup in the year 1906 over the year 1905. The only exception to this statement is in the group of registration cities in other states, from which it should be remembered that many cities have been transferred on account of the addition of new registration states.

AREA.	NUMBER OF DEATHS FROM DIPHTHERIA AND CROUP PER 100,000 OF POPULATION.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
The registration area	29.7	30.9	31.8	28.5	23.8	26.3
Registration cities	34.5	36.5	37.5	32.8	27.2	29.9
Registration states	29.3	29.7	31.0	29.3	23.6	26.9
Cities in registration states	38.5	39.8	41.5	38.5	30.1	32.7
Rural part of registration states	17.7	17.0	17.7	17.5	15.0	20.2
Registration cities in other states	30.5	33.2	33.4	27.1	24.2	23.8
Registration states:						
California	(1)	(1)	(1)	(1)	(1)	14.3
Colorado	(1)	(1)	(1)	(1)	(1)	15.1
Connecticut	26.6	27.7	26.4	22.2	24.0	27.4
Indiana	15.9	15.8	17.6	11.9	13.6	14.9
Maine	17.7	16.1	16.2	22.7	15.6	16.2
Maryland	(1)	(1)	(1)	(1)	(1)	25.7
Massachusetts	29.7	31.0	30.3	24.5	22.2	25.4
Michigan	21.2	19.8	27.3	19.8	18.3	18.1
New Hampshire	23.7	37.5	24.9	16.5	18.6	21.0
New Jersey	38.1	35.0	38.6	47.8	32.5	31.0
New York	36.3	37.7	38.1	38.1	27.9	32.7
Pennsylvania	(1)	(1)	(1)	(1)	(1)	35.2
Rhode Island	36.3	35.4	42.9	30.9	28.7	25.7
South Dakota	(1)	(1)	(1)	(1)	(1)	12.2
Vermont	15.0	11.0	16.4	16.7	16.3	19.7
Registration cities of 100,000 population or over in 1900:						
San Francisco, Cal	34.3	**67.7**	32.0	18.9	16.2	(2)
Denver, Colo	33.4	**51.1**	34.0	31.6	16.0	13.8
New Haven, Conn	15.7	8.9	16.6	14.6	13.4	37.9
Washington, D. C	19.1	17.3	8.5	17.4	16.2	13.6
Chicago, Ill	27.7	34.4	33.7	21.1	21.8	26.8
Indianapolis, Ind	14.3	16.1	17.7	9.3	9.9	12.3
Louisville, Ky	31.1	41.0	32.4	18.2	13.0	21.2
New Orleans, La	14.0	14.9	12.0	15.4	13.6	15.0
Baltimore, Md	24.7	24.1	29.0	20.8	17.2	20.2
Boston, Mass	39.5	38.3	38.2	37.9	23.9	27.9
Fall River, Mass	33.2	47.5	40.8	27.5	26.5	26.4
Worcester, Mass	9.7	7.4	8.9	7.1	10.9	36.9
Detroit, Mich	43.3	44.4	**71.7**	44.4	36.2	24.3
Minneapolis, Minn	36.5	32.7	24.7	23.2	21.0	24.8
St. Paul, Minn	27.3	34.5	11.4	26.3	32.5	25.0
Kansas City, Mo	20.2	11.2	13.3	27.8	25.7	26.3
St. Joseph, Mo	9.1	8.3	5.4	8.9	9.5	7.6
St. Louis, Mo	32.2	29.5	32.2	27.2	25.4	17.6
Omaha, Nebr	12.3	14.6	8.8	14.5	10.8	23.4
Jersey City, N. J	**54.0**	**56.2**	**53.1**	**67.3**	40.4	38.7
Newark, N. J	43.4	38.8	43.1	**54.2**	39.2	34.9
Paterson, N. J	39.5	45.5	46.8	42.6	36.8	23.9
Buffalo, N. Y	31.1	37.3	32.7	30.1	16.7	20.7
New York, N. Y	**51.0**	**54.7**	**55.1**	**52.7**	37.3	**45.0**
Bronx borough	**59.2**	**52.0**	**62.9**	**57.1**	**72.9**	**87.5**
Brooklyn borough	**55.2**	**58.8**	**62.2**	**52.9**	42.1	**54.5**
Manhattan borough	48.3	**53.6**	**50.0**	**53.5**	30.2	33.4
Queens borough	46.1	**52.1**	**58.9**	39.2	35.9	**45.9**
Richmond borough	36.8	28.8	34.0	44.6	24.7	37.8
Rochester, N. Y	39.1	8.2	**64.5**	**52.5**	**54.4**	**50.1**
Syracuse, N. Y	18.5	11.6	18.4	19.1	16.2	16.8
Cincinnati, Ohio	20.0	23.4	18.6	13.5	23.0	22.9
Cleveland, Ohio	40.3	**52.6**	48.4	33.4	25.2	36.3
Columbus, Ohio	12.5	9.1	5.2	17.3	24.6	13.8
Toledo, Ohio	44.6	**52.4**	**80.9**	29.2	13.5	**35.6**
Allegheny, Pa	44.9	32.4	**82.6**	**51.3**	19.6	**31.0**
Philadelphia, Pa	40.9	38.5	45.1	39.3	32.9	39.3
Pittsburg, Pa	46.3	48.6	**61.7**	46.2	27.5	35.5
Scranton, Pa	25.5	15.9	20.0	17.8	31.9	42.1
Providence, R. I	42.8	39.0	44.3	45.9	36.2	25.1
Memphis, Tenn	11.4	12.7	10.6	14.5	12.4	11.2
Milwaukee, Wis	21.8	23.8	20.8	17.5	13.4	20.8

[1] Nonregistration. [2] Population not estimated.

In the group of registration cities, which increased only slightly from 1905 to 1906 by the addition of new cities, the death rate from diphtheria and croup rose from 27.2 to 29.9 per 100,000 of population. In the old group of registration states there was likewise an increase from 23.6 in 1905 to 26 in 1906. The increase was greater in the cities of the old group of registra-

tion states than in their rural portions, rising from 30.1 in the cities during 1905 to 33.1 in 1906, and in the country only from 15 in 1905 to 16 in 1906.

Among the former registration states (1901 to 1905), 7 of the 10 showed increased death rates from diphtheria and croup in 1906 as compared with the previous years. Only 1 state, however—Vermont (19.7)—showed a rate higher than that for any of the individual years given in the table, while 3 states—Michigan (18.1), Rhode Island (25.7), and New Jersey (31)—showed minimum rates for the year. The comparatively narrow range of the mortality from diphtheria and croup, which was subject in the pre-antitoxin era to very wide variations, is well shown in this table. None of the main subdivisions of the registration area and none of the registration states showed death rates in excess of the low limit of 50 per 100,000 of population, which is less than twice that of the general death rate.

In the greater cities, however, one rate very slightly exceeding this limit is found, that of Rochester, N. Y. (50.1). This is the only one of the larger cities in which a high mortality from this disease has been present for the last two years, unless we should include Bronx borough, a subdivision of the city of Greater New York. This comparison would be unfair, however, as the deaths in the boroughs include deaths in hospitals not distributed to the borough of residence, so that comparisons are preferably made for the entire city. Out of the 36 cities in this table for which rates are given for 1906, 21 showed increased death rates from diphtheria and croup. In 4 cities the rates for 1906 were higher than those for any of the previous years shown: Scranton, Pa. (42.1); New Haven, Conn. (37.9); Worcester, Mass. (36.9); and Omaha, Nebr. (23.4). In 8 of these cities the mortality for 1906 was the lowest of the series of years given. These cities were Denver, Colo. (13.8); St. Louis, Mo. (17.6); Paterson, N. J. (23.9); Detroit, Mich. (24.3); Providence, R. I. (25.1); Fall River, Mass. (26.4); Newark, N. J. (34.9); and Jersey City, N. J. (38.7).

The relative death rates from diphtheria and croup of the white and colored populations are given in the following table for certain areas:

AREA.	NUMBER OF DEATHS FROM DIPHTHERIA AND CROUP PER 100,000 OF POPULATION: 1906.	
	White.	Colored.
Maryland rural	28.6	22.3
Washington, D. C.	13.7	13.5
Louisville, Ky.	23.0	13.9
New Orleans, La.	17.9	7.0
Baltimore, Md.	21.6	12.7
Kansas City, Mo.	27.7	15.3
Memphis, Tenn.	12.5	9.8

With the exception of Washington, D. C., in which only a very small amount of difference exists, the death rate of the white population from diphtheria and croup is usually markedly in excess of that of the colored population.

The occasional or continued occurrence of high prevalence of mortality from diphtheria and croup may be seen for the minor cities in the following table:

REGISTRATION CITY.	NUMBER OF DEATHS FROM DIPHTHERIA AND CROUP PER 100,000 OF POPULATION.				
	1902	1903	1904	1905	1906
Fresno, Cal.	70.3	23.1	.....	45.1	29.7
Oakland, Cal.	54.9	69.6	11.0	12.4	(1)
Sacramento, Cal.	46.9	23.2	19.7	58.6	12.9
San Jose, Cal.	54.1	35.5	30.6	17.2	4.2
Pueblo, Colo.	79.6	88.9	40.5	13.1	13.0
Ansonia, Conn.	76.1	37.4	.....	28.9	7.1
Danbury town, Conn.	66.8	30.8	25.7	71.9	15.4
Greenwich town, Conn.	55.7	15.6	30.8	45.5	7.5
Hartford, Conn.	18.8	37.6	30.9	69.8	18.8
Manchester town, Conn.	63.2	17.7	60.6	59.4	8.3
Naugatuck, Conn.	78.9	50.7	8.2	7.9	.....
New Britain town, Conn.	36.6	71.1	28.2	9.1	32.6
Stamford town, Conn.	61.7	60.7	64.7	24.5	29.0
Stonington town, Conn.	56.8	11.2	22.0	21.7	32.1
Torrington town, Conn.	21.8	62.6	6.7	31.9	24.5
Vernon town, Conn.	59.4	.....	.....	.....	12.1
Wilmington, Del.	10.1	61.5	41.2	28.6	49.3
Atlanta, Ga.	21.2	23.8	31.4	51.6	25.7
Aurora, Ill.	8.0	3.9	50.1	15.2	14.9
Belleville, Ill.	55.9	11.0	5.5	27.0	21.3
Springfield, Ill.	53.5	60.8	29.3	28.8	53.9
Columbus, Ind.	59.4	46.8	46.0	.....	11.1
Elwood, Ind.	.....	55.9	11.7	16.5	10.4
Hammond, Ind.	29.3	63.1	6.7	25.8	56.4
Marion, Ind.	5.2	42.6	13.6	4.3	70.7
Michigan City, Ind.	12.8	56.0	18.2	47.4	11.6
New Albany, Ind.	48.5	77.6	19.4	19.4	43.6
Richmond, Ind.	156.3	5.3	31.8	.....	5.1
South Bend, Ind.	33.4	57.0	19.1	18.5	40.4
Leavenworth, Kans.	4.4	34.8	39.5	66.9	27.1
Wichita, Kans.	7.1	12.7	53.4	35.4	19.7
Newport, Ky.	13.8	13.6	53.9	86.7	13.2
Bath, Me.	27.7	63.6	125.3	35.2	.....
Biddeford, Me.	30.3	42.0	35.7	53.0	5.8
Rockland, Me.	12.3	.....	.....	12.3	73.6
Frederick, Md.	84.1	72.7	.....	10.2	30.1
Hagerstown, Md.	(2)	(2)	(2)	(2)	146.7
Chicopee, Mass.	102.2	45.5	40.0	54.5	9.8
Danvers town, Mass.	.....	.....	.....	66.2	10.9
Everett, Mass.	22.9	22.1	24.9	58.4	43.2
Gardner town, Mass.	17.7	52.0	51.0	8.3	32.6
Gloucester, Mass.	99.7	157.4	42.3	42.3	73.1
Holyoke, Mass.	52.7	33.2	32.6	46.1	37.4
Hyde Park town, Mass.	29.1	.....	.....	13.8	54.2
Leominster town, Mass.	22.8	14.8	.....	21.0	81.8
Lowell, Mass.	79.0	34.8	36.9	21.1	42.0
Marlboro, Mass.	159.5	21.6	21.5	.....	7.1
Milford town, Mass.	17.1	50.8	8.4	16.5	16.3
Natick town, Mass.	.....	52.3	10.4	10.4	20.8
North Adams, Mass.	59.9	60.9	84.2	49.7	18.4
Quincy, Mass.	54.8	41.7	36.7	46.3	31.1
Salem, Mass.	54.6	70.4	29.5	53.2	52.7
Southbridge town, Mass.	19.2	9.4	203.6	227.3	35.7
Ware town, Mass.	.....	23.6	11.7	23.3	92.4
Webster town, Mass.	86.1	52.5	20.5	59.9	29.2
Westfield town, Mass.	70.1	61.1	37.5	7.3	28.8
Battle Creek, Mich.	147.2	42.3	36.0	13.0	4.2
Escanaba, Mich.	29.1	112.1	18.0	.....	8.4
Flint, Mich.	21.1	27.5	13.4	13.1	77.1
Grand Rapids, Mich.	9.8	20.3	12.5	34.8	55.1
Ironwood, Mich.	121.7	150.9	20.0	39.6	9.8
Ishpeming, Mich.	104.5	124.7	43.0	26.7	.....
Marquette, Mich.	.....	95.1	9.4	.....	27.3
Pontiac, Mich.	19.4	56.6	18.4	9.0	8.4
Port Huron, Mich.	5.1	25.2	10.0	59.3	58.6
Duluth, Minn.	53.7	48.2	12.8	18.5	28.2
Winona, Minn.	25.0	5.0	84.1	113.1	34.2
Lincoln, Nebr.	16.4	15.8	8.8	49.1	56.0
Manchester, N. H.	53.7	57.5	27.4	56.8	66.5
Nashua, N. H.	165.2	47.5	35.0	11.5	7.5
Portsmouth, N. H.	74.1	.....	.....	9.1	9.0
Bayonne, N. J.	73.9	83.2	59.5	33.1	27.2
Bridgeton, N. J.	.....	43.7	14.6	7.3	73.7
Camden, N. J.	36.8	31.1	87.9	40.8	71.9
Elizabeth, N. J.	18.0	26.2	81.6	56.2	61.1
Harrison, N. J.	130.6	25.1	40.4	62.4	37.7
Hoboken, N. J.	69.6	80.9	73.2	47.4	33.0
Millville, N. J.	.....	26.4	68.8	58.9	24.7
Morristown, N. J.	8.6	8.5	58.5	32.9	8.1
New Brunswick, N. J.	56.5	141.7	88.9	25.9	12.6

[1] Population not estimated.

[2] Nonregistration.

REGISTRATION CITY—continued.	NUMBER OF DEATHS FROM DIPHTHERIA AND CROUP PER 100,000 OF POPULATION.				
	1902	1903	1904	1905	1906
Orange, N. J.	28.1	19.7	**50.6**	46.0	**67.9**
Passaic, N. J.	40.7	**50.1**	30.7	34.4	10.6
Perth Amboy, N. J.	**71.5**	**101.7**	**66.0**	**73.4**	47.2
Phillipsburg, N. J.	46.4	**55.4**	30.8	22.5	21.9
Trenton, N. J.	15.5	28.8	**68.3**	28.5	24.3
West Hoboken, N. J.	(1)	(1)	(1)	(1)	**56.1**
Amsterdam, N. Y.	13.2	21.7	8.5	4.2	**53.8**
Auburn, N. Y.	19.2	**50.5**	43.6	24.6	15.2
Corning, N. Y.	41.6	8.0	**77.1**	**52.1**	14.4
Dunkirk, N. Y.	**84.3**	29.1	27.6	26.3	12.6
Lockport, N. Y.	17.7	**87.8**	**92.7**	34.4	**73.9**
Newburg, N. Y.	31.4	27.2	**73.0**	30.4	22.6
Niagara Falls, N. Y.	40.5	12.7	47.9	**56.7**	28.7
Oswego, N. Y.	(1)	(1)	(1)	(1)	**62.4**
Peekskill, N. Y.	**52.2**	16.6	23.8	**53.0**	7.3
Port Jervis, N. Y.	**63.1**	**52.2**	**176.5**	41.3	20.5
Poughkeepsie, N. Y.	**61.3**	20.2	8.0	19.9	39.4
Rome, N. Y.	18.6	12.1	5.9	**51.9**	33.8
Schenectady, N. Y.	**63.7**	43.3	31.2	18.9	29.1
Bellaire, Ohio	10.1	30.3	**60.5**	20.2	40.4
Hamilton, Ohio	**51.7**	31.0	15.1	22.2	14.5
Lima, Ohio	40.2	11.8	26.5	**51.8**	28.9
Marietta, Ohio	7.0	**53.8**	.....	.....	6.1
Massillon, Ohio	24.4	**64.0**	7.9	23.3	23.0
Tiffin, Ohio	45.4	**72.6**	18.1	18.1	.....
Youngstown, Ohio	29.6	26.6	47.9	**85.4**	**56.9**
Allentown, Pa.	**50.7**	36.4	**144.1**	**76.4**	**84.1**
Braddock, Pa.	(2)	(2)	(2)	(2)	**62.4**
Carbondale, Pa.	35.7	**133.3**	**62.1**	**95.0**	**60.1**
Chester, Pa.	(2)	(2)	(2)	(2)	**50.0**
Danville, Pa.	(2)	(2)	(2)	(2)	**99.2**
Dubois, Pa.	20.0	19.3	**65.6**	18.2	**70.7**
Duquesne, Pa.	(2)	(2)	(2)	(2)	**120.3**
Erie, Pa.	34.4	40.8	**62.5**	**51.0**	18.3
Hazelton, Pa.	33.8	39.9	**104.6**	**51.5**	19.0
Homestead, Pa.	(2)	(2)	(2)	(2)	**51.7**
Johnstown, Pa.	**54.0**	**85.0**	**53.6**	23.7	46.2
McKeesport, Pa.	**59.6**	**70.5**	**64.3**	**52.4**	**52.9**
Mahanoy City, Pa.	14.3	21.2	**90.3**	**130.0**	**87.6**
Mt. Carmel, Pa.	**84.7**	**54.6**	**92.4**	32.0	43.4
Nanticoke, Pa.	(2)	(2)	(2)	(2)	**67.4**
Norristown, Pa.	35.2	43.5	12.9	**59.6**	46.3
Plymouth, Pa.	**55.1**	**120.5**	**97.6**	38.0	**55.4**
Pottstown, Pa.	29.1	14.5	**72.2**	14.4	7.2
Pottsville, Pa.	**68.6**	43.2	**97.9**	18.2	12.0
Reading, Pa.	45.8	**69.4**	**70.1**	25.8	28.5
Shenandoah, Pa.	(2)	(2)	(2)	(2)	**174.3**
South Bethlehem, Pa.	14.5	7.1	13.9	47.6	**66.6**
Steelton, Pa.	31.6	46.0	15.0	**51.4**	14.4
Lincoln town, R. I.	(1)	(1)	(1)	(1)	**75.4**
Newport, R. I.	29.8	**54.2**	.....	8.0	19.6
Woonsocket, R. I.	**60.4**	**94.8**	28.7	43.5	**54.6**
San Antonio, Tex.	23.0	39.6	**58.7**	**62.1**	27.1
Salt Lake City, Utah	**81.4**	**91.0**	46.5	**76.4**	34.3
Burlington, Vt.	.....	10.1	24.7	**53.2**	33.2
Norfolk, Va.	**96.3**	27.1	22.9	8.6	14.9
Petersburg, Va.	.....	**73.4**	22.9	22.9	18.3
Richmond, Va.	44.3	**51.1**	11.6	13.8	11.5
Spokane, Wash.	34.8	19.1	**52.7**	33.1	10.6
Tacoma, Wash.	**50.1**	24.4	16.5	26.9	5.4
Appleton, Wis.	6.3	**92.4**	30.1	41.2	5.8
Eau Claire, Wis.	16.7	27.4	**59.5**	16.0	.....
Superior, Wis.	**69.1**	32.0	14.1	5.5	23.9

[1] Not reported separately. [2] Nonregistration.

In the above table only cities are given in which the death rate equaled or exceeded 50 per 100,000 of population for some one of the years 1902 to 1906. Rates above this limit are indicated by bold face type. In spite of the general use of antitoxin in recent years some serious and fatal epidemics of diphtheria are shown for the areas included. Among those having the highest death rates are Shenandoah, Pa. (174.3); Hagerstown, Md. (146.7); Duquesne, Pa. (120.3); Danville, Pa. (99.2); and Ware town, Mass. (92.4). In only 1 city—McKeesport, Pa.—did the mortality exceed the limit chosen for each one of the five years, but in several cities of the list high rates are indicated for four out of the five years given, namely, Salem, Mass.; Manchester, N. H.; Perth Amboy, N. J.; Allentown, Carbondale, and Plymouth, Pa.

INFLUENZA.

A marked decrease in the number of deaths from influenza is shown for 1906 as compared with the preceding three years. The number of deaths, even with the increased size of the registration territory, was only 4,320 as compared with 6,426 in 1905. The death rate fell from 19 in 1905 to 10.5 in 1906, the rate for the latter year being the lowest of any year shown in Table III, except that for 1902 (10.1).

Death rates are given in the following table showing the distribution of influenza in the registration area, its subdivisions, states, and principal cities, the cities being arranged in alphabetic order of states and all rates of 40 or more per 100,000 of population being indicated by bold face type:

AREA.	NUMBER OF DEATHS FROM INFLUENZA PER 100,000 OF POPULATION.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
The registration area	20.0	10.1	18.6	20.3	19.0	**10.5**
Registration cities	16.3	8.3	16.2	16.7	15.0	8.9
Registration states	21.5	10.4	19.1	21.7	20.5	10.4
Cities in registration states	15.5	7.0	14.7	15.7	13.7	8.0
Rural part of registration states	29.2	14.6	24.7	29.5	29.4	**13.3**
Registration cities in other states	17.2	9.6	17.7	17.7	16.4	11.0
Registration states:						
California	(1)	(1)	(1)	(1)	(1)	11.4
Colorado	(1)	(1)	(1)	(1)	(1)	9.4
Connecticut	33.6	13.1	32.8	36.4	26.5	18.6
Indiana	22.5	12.4	15.9	20.7	24.8	10.0
Maine	29.4	17.4	26.8	25.6	36.1	14.4
Maryland	(1)	(1)	(1)	(1)	(1)	11.0
Massachusetts	18.1	7.6	18.9	14.9	21.6	9.8
Michigan	24.2	12.3	18.0	25.0	22.5	10.1
New Hampshire	30.3	12.2	36.0	29.8	38.7	18.7
New Jersey	11.6	4.7	11.7	12.4	9.5	5.5
New York	19.9	9.4	17.4	22.1	15.8	9.0
Pennsylvania	(1)	(1)	(1)	(1)	(1)	11.6
Rhode Island	28.1	14.7	34.6	23.2	28.3	10.8
South Dakota	(1)	(1)	(1)	(1)	(1)	3.4
Vermont	39.2	21.1	34.3	**44.5**	**51.5**	**22.0**
Registration cities of 100,000 population or over in 1900:						
San Francisco, Cal.	11.0	10.2	15.7	4.7	8.2	(2)
Denver, Colo.	10.4	8.0	9.5	8.1	8.6	7.2
New Haven, Conn.	24.4	6.2	15.7	36.0	20.2	9.9
Washington, D. C.	34.1	20.8	29.0	33.9	28.4	12.0
Chicago, Ill.	11.8	8.4	14.0	10.9	10.0	5.9
Indianapolis, Ind.	16.9	10.7	11.1	13.2	15.6	8.7
Louisville, Ky.	15.8	3.8	7.4	24.2	18.0	9.7
New Orleans, La.	30.9	18.2	39.2	38.0	35.2	22.0
Baltimore, Md.	24.5	10.7	20.1	23.9	17.6	9.6
Boston, Mass.	12.9	4.4	13.4	10.0	11.9	7.6
Fall River, Mass.	11.4	7.6	16.1	10.4	15.1	7.6
Worcester, Mass.	10.5	6.5	9.7	2.4	7.0	5.4
Detroit, Mich.	12.6	4.6	11.6	9.4	8.9	4.2
Minneapolis, Minn.	5.9	2.6	10.9	4.0	5.0	2.9
St. Paul, Minn.	7.6	5.1	11.4	5.3	4.1	0.5
Kansas City, Mo.	17.9	5.3	12.7	34.6	22.3	14.3
St. Joseph, Mo.	10.9	4.6	19.9	4.4	12.1	4.2
St. Louis, Mo.	18.9	5.5	26.3	25.3	21.7	9.7
Omaha, Nebr.	15.0	6.4	15.0	12.8	19.1	12.1
Jersey City, N. J.	8.1	1.8	6.8	11.0	4.7	5.0
Newark, N. J.	10.5	5.4	15.8	11.4	6.7	4.8
Paterson, N. J.	5.5	2.8	2.8	3.6	9.0	2.7
Buffalo, N. Y.	9.3	4.1	9.3	7.5	6.6	6.8
New York, N. Y.	11.7	5.0	11.0	14.2	8.6	5.6
Bronx borough	9.0	3.1	6.2	9.7	7.7	6.6
Brooklyn borough	12.7	6.4	14.3	15.7	10.3	7.5
Manhattan borough	11.1	4.7	9.4	13.3	7.5	4.2
Queens borough	11.7	1.8	9.4	16.4	7.1	5.8
Richmond borough	15.6	2.9	18.4	22.3	16.5	5.4
Rochester, N. Y.	12.7	6.5	9.2	15.8	8.8	8.6
Syracuse, N. Y.	12.3	1.8	10.6	12.1	8.5	6.7
Cincinnati, Ohio	29.0	14.3	31.8	34.6	22.1	**25.2**
Cleveland, Ohio	8.0	4.5	7.7	5.2	6.6	4.6
Columbus, Ohio	14.8	12.1	10.3	13.0	15.5	2.8
Toledo, Ohio	17.1	6.4	17.1	12.6	20.6	8.8
Allegheny, Pa.	14.5	17.0	7.9	9.3	17.5	8.3
Philadelphia, Pa.	13.2	4.9	14.4	15.6	17.9	9.7
Pittsburg, Pa.	17.6	16.9	14.2	10.5	15.4	6.7
Scranton, Pa.	19.1	10.2	8.2	33.8	11.2	**23.6**
Providence, R. I.	26.4	16.8	38.5	18.0	18.6	10.8
Memphis, Tenn.	36.1	26.4	33.4	**42.6**	31.3	**28.0**
Milwaukee, Wis.	14.8	3.7	24.4	16.2	7.7	4.4

[1] Nonregistration. [2] Population not estimated.

The death rate from influenza for the entire registration area was but little more than one-half of that shown for the preceding year and for the quinquennial period 1901 to 1905. The year was the most favorable in this respect of any since 1902, and all of the old registration states showed decreased death rates. Minimum rates for the years included appear for New York (9), Indiana (10), Michigan (10.1), Rhode Island (10.8), and Maine (14.4). The highest death rate of any state for the year was that of Vermont (22), followed by New Hampshire (18.7) and Connecticut (18.6). Although the tentative limit of epidemic prevalence was placed low (40 per 100,000 of population) only 1 state (Vermont, 44.5 in 1904 and 51.5 in 1905) exceeds this rate for the period covered, and only 1 of the greater cities (Memphis, Tenn., 42.6 in 1904). Of the 36 cities in the list for 1906, 32 had lower death rates from influenza in 1906 than in 1905, and 13 cities showed lower rates for the year than for any of the preceding years in the table.

CAUSE OF DEATH.	NUMBER OF DEATHS FROM ALL OTHER EPIDEMIC DISEASES.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
All other epidemic diseases	4,925	5,188	4,174	4,756	5,076	5,829
Exanthematic typhus	3	7	1	2	3	.....
Relapsing fever	2	2	1	3	1	4
Miliary fever	3	9	3	2	.....	.....
Asiatic cholera	.....	.....	.....	.....	.....	.....
Cholera nostras	460	516	374	397	449	552
Dysentery	2,810	3,187	2,378	2,567	2,588	3,352
Plague	18	41	17	7	.....	.....
Yellow fever	92	1	17	.....	438	.....
Leprosy	5	5	4	4	8	3
Erysipelas	1,455	1,337	1,300	1,680	1,510	1,768
Other epidemic diseases	76	83	79	94	79	150
Total, exclusive of cholera nostras, dysentery, and erysipelas	199	148	122	112	529	157

CAUSE OF DEATH.	NUMBER OF DEATHS PER 100,000 OF POPULATION.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
All other epidemic diseases	15.1	16.3	12.8	14.4	15.0	14.2
Exanthematic typhus	(1)	(1)	(1)	(1)	(1)	.....
Relapsing fever	(1)	(1)	(1)	(1)	(1)	(1)
Miliary fever	(1)	(1)	(1)	(1)	.....	.....
Asiatic cholera	.....	.....	.....	.....	.....	.....
Cholera nostras	1.4	1.6	1.1	1.2	1.3	1.3
Dysentery	8.6	10.0	7.3	7.7	7.7	8.2
Plague	0.1	0.1	0.1	(1)	.....	.....
Yellow fever	0.3	(1)	0.1	.....	1.3	.....
Leprosy	(1)	(1)	(1)	(1)	(1)	(1)
Erysipelas	4.5	4.2	4.0	5.1	4.5	4.3
Other epidemic diseases	0.2	0.3	0.2	0.3	0.2	0.4
Total, exclusive of cholera nostras, dysentery, and erysipelas	0.6	0.5	0.4	0.3	1.6	0.4

[1] Less than one-tenth.

DYSENTERY.

The number of deaths (3,352) reported from dysentery was greater in 1906 than for any of the previous years of registration given in Table III. This increase, however, is dependent to some extent upon the additional registration territory, as the death rate for the year (8.2), although higher than for the years 1903 to 1905, was considerably less than the rate for 1902 (10). There is much uncertainty, however, attending the character of the deaths compiled under this head. It is doubtful in many cases whether true dysentery, either amebic or bacillary, is intended or whether a large proportion of the deaths may not be ordinary cases of diarrhea and enteritis. It would probably be better for many purposes, in view of the difficulty of making clear distinctions between these returns, to consider all forms of diarrhea and dysentery together. There is no reason why some of these deaths should be included under the head of epidemic diseases while deaths from infectious diarrhea of infants are included under diseases of the digestive system.

ALL OTHER EPIDEMIC DISEASES.

The diseases included under this head are shown in the following table, in which the deaths and death rates of each disease are given for the registration area for 1906 and the four years immediately preceding, together with the annual average for the period 1901 to 1905.

As shown by the table there were no deaths in the registration area during 1906 from exanthematic typhus, miliary fever, Asiatic cholera, plague, or yellow fever. Relapsing fever, formerly compiled under the name "recurrent fever," and leprosy show 4 and 3 deaths, respectively.

TUBERCULOSIS.

Tuberculosis in all of its forms, so far as reported in terms that can be identified for compilation under this head, caused 75,512 deaths in the registration area of the United States during the year 1906. As the extent of the registration area increased in 1906 as compared with any previous year, it is not remarkable that this number is larger than the number compiled for any preceding year of registration as shown in Table III. The death rate (184.2) was considerably lower than the rate for 1905 (193.6), and, in fact, lower than that of any other year shown in the table.

By far the greatest part of the mortality from tuberculosis is due to tuberculosis of the lungs, which caused 65,341 deaths in the registration area in 1906. The deaths and death rates from the various forms of tuberculosis are stated separately in Table III, and the proportional numbers of deaths from each form may be seen in the following table.

It appears from the table that over 86 per cent of all deaths from tuberculosis are assigned to tuberculosis of the lungs, and that, with the exception of tuberculous meningitis, to which about 5 per cent of the deaths from this disease are charged, the mortality from any one of the forms of tuberculosis affecting

other organs or parts of the body is comparatively unimportant, although the total deaths from these subordinate infections taken together account for about 10 per cent of the deaths from tuberculosis. Only in the case of pulmonary tuberculosis is the percentage distribution lower for 1906 than for each of the four preceding years and the annual average for the quinquennial period.

FORM OF DISEASE.	NUMBER OF DEATHS FROM TUBERCULOSIS.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
Aggregate	62,835	58,938	61,487	66,797	65,352	75,512
Tuberculosis of lungs	55,251	52,079	53,910	58,763	56,770	65,341
Tuberculosis of larynx	557	541	539	570	610	645
Tuberculous meningitis	2,905	2,674	2,905	3,025	3,264	3,938
Abdominal tuberculosis	1,946	1,817	1,854	2,098	2,193	2,663
Pott's disease	492	421	516	519	563	618
Tuberculous abscess	56	39	72	62	61	49
White swelling	234	237	224	241	261	315
Tuberculosis of other organs	467	391	465	545	539	685
General tuberculosis	926	739	1,002	974	1,091	1,258

FORM OF DISEASE.	PER CENT.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
Aggregate	100.0	100.0	100.0	100.0	100.0	100.0
Tuberculosis of lungs	87.9	88.4	87.7	88.0	86.9	86.5
Tuberculosis of larynx	0.9	0.9	0.9	0.9	0.9	0.9
Tuberculous meningitis	4.6	4.5	4.7	4.5	5.0	5.2
Abdominal tuberculosis	3.1	3.1	3.0	3.1	3.4	3.5
Pott's disease	0.8	0.7	0.8	0.8	0.9	0.8
Tuberculous abscess	0.1	0.1	0.1	0.1	0.1	0.1
White swelling	0.4	0.4	0.4	0.4	0.4	0.4
Tuberculosis of other organs	0.7	0.7	0.8	0.8	0.8	0.9
General tuberculosis	1.5	1.3	1.6	1.5	1.7	1.7

Tuberculosis of the lungs.—Reference has been made above to the number of deaths from tuberculosis of the lungs in comparison with the total number of deaths from various other forms of tuberculosis.

In the following table may be found a comparison of the death rates of the United States (registration area) and various foreign countries during recent years from this disease.

A remarkable range of mortality from pulmonary tuberculosis appears in the rates shown above for different countries. The Australasian statistics are of special interest as showing only about one-half of the death rate of the registration area of the United States from this disease for the five-year period 1901 to 1905, and even a smaller proportion for the last year compared. On the other hand, certain countries show much higher rates than the United States, as Austria, Servia, and Ireland; while the rates for the German Empire, Norway, and Switzerland are slightly higher. It will be noted that while the death rate in Ireland from tuberculosis of the lungs exceeds that of the registration area of the United States, the rates for England and Wales and for Scotland fall far below.

COUNTRY.	NUMBER OF DEATHS FROM TUBERCULOSIS OF LUNGS PER 100,000 OF POPULATION.				
	Annual average: 1901 to 1905.	1902	1903	1904	1905
United States (registration area)	169.9	163.2	165.7	177.3	168.2
Australasia	85.6	89.1	86.8	85.9	76.5
Australian Commonwealth	88.9	91.5	90.4	89.2	80.8
New South Wales	80.2	80.6	86.8	81.2	70.1
Queensland	81.3	89.2	78.4	79.0	75.5
South Australia	80.4	81.1	81.8	79.0	75.2
Tasmania	63.3	58.0	63.1	63.2	74.8
Victoria	111.6	116.6	110.9	111.1	101.9
Western Australia	72.6	71.0	65.1	83.7	64.7
New Zealand	69.9	77.3	69.5	70.8	57.0
Austria	336.0	337.4	336.2	(1)	(1)
Belgium	120.9	131.6	108.6	109.1	(1)
Ceylon	93.0	90.8	91.3	92.6	95.7
Chile	(2)	(1)	245.1	(1)	201.7
German Empire	187.6	187.7	187.3	182.6	.....
Italy [3]	114.9	108.8	111.6	117.4	118.2
Jamaica	153.7	147.7	155.2	163.0	152.2
Japan	141.6	143.4	144.9	(1)	(1)
Netherlands	133.4	132.0	132.0	129.4	135.7
Norway	194.6	188.5	198.2	197.4	(1)
Servia	279.7	265.6	277.5	277.0	332.5
Spain	149.5	[4] 186.0	[4] 143.6	[4] 150.8	(1)
Switzerland	187.7	187.0	188.0	188.2	(1)
United Kingdom	135.7	135.0	132.9	136.5	(1)
England and Wales	121.5	123.3	120.3	124.0	114.0
Scotland	146.6	145.0	144.8	145.6	(1)
Ireland	215.3	212.0	216.6	223.4	209.9

[1] No figures available; average only for years shown.
[2] Annual average not shown for less than three years.
[3] Includes general tuberculosis.
[4] Rates based on provisional figures.

The general distribution of the mortality from tuberculosis of the lungs throughout the registration area may be seen in the following table, in which the cities are arranged in alphabetic order of states, and rates of 200 or more per 100,000 of population are indicated by bold face type.

The change in the constitution of the registration area must be considered in comparing general results for 1906 with those of preceding years. The death rate from pulmonary tuberculosis declined in the group of registration cities, which was least affected by the additions of registration territory, from 184.4 per 100,000 of population in 1905 to 181.5 in 1906. In the old group of registration states, exclusive of those added in 1906, tuberculosis of the lungs showed a similar decline, namely, from 155.9 in 1905 to 153.8 in 1906. The mortality of the cities in those states during the same years fell from 178.5 to 177.3, and the rural mortality decreased somewhat more in proportion, namely, from 126.2 to 120.5.

AREA.	NUMBER OF DEATHS FROM TUBERCULOSIS OF LUNGS PER 100,000 OF POPULATION.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
The registration area	169.9	163.2	165.7	177.3	168.2	159.4
Registration cities	187.2	180.4	183.6	195.5	184.4	181.5
Registration states	158.5	152.2	153.7	163.9	155.9	155.4
Cities in registration states	183.9	177.4	179.7	189.4	178.5	184.0
Rural part of registration states	126.5	120.7	120.7	131.1	126.2	121.9
Registration cities in other states	190.5	183.4	187.6	**201.7**	190.4	176.0
Registration states:						
California	(1)	(1)	(1)	(1)	(1)	**231.5**
Colorado	(1)	(1)	(1)	(1)	(1)	**252.9**
Connecticut	149.4	147.1	145.5	144.0	147.8	136.5
Indiana	156.9	152.4	151.3	169.4	148.5	141.2
Maine	139.3	139.5	129.2	147.5	124.6	131,8
Maryland	(1)	(1)	(1)	(1)	(1)	180.6
Massachusetts	168.0	166.4	158.3	173.6	163.1	155.6
Michigan	87.5	84.1	85.3	91.3	88.4	90.1
New Hampshire	136.7	134.5	128.2	140.1	134.9	129.2
New Jersey	170.2	157.1	169.3	181.6	170.7	171.1
New York	175.5	166.8	170.7	179.7	173.7	175.3
Pennsylvania	(1)	(1)	(1)	(1)	(1)	133.6
Rhode Island	181.1	178.8	189.6	170.5	175.6	166.2
South Dakota	(1)	(1)	(1)	(1)	(1)	83.9
Vermont	121.0	119.7	115.0	114.6	122.3	113.6
Registration cities of 100,000 population or over in 1900:						
San Francisco, Cal	**283.2**	**284.2**	**289.4**	**274.8**	**275.9**	(2)
Denver, Colo	**427.1**	**406.5**	**409.9**	**457.9**	**460.4**	**454.2**
New Haven, Conn	172.7	187.7	164.9	163.5	157.1	163.3
Washington, D. C	**272.5**	**246.2**	**266.4**	**279.5**	**274.7**	**254.1**
Chicago, Ill	156.1	147.0	158.1	163.9	162.8	158.4
Indianapolis, Ind	181.2	167.9	185.6	**206.2**	165.4	166.5
Louisville, Ky	**212.8**	183.3	**214.2**	**239.5**	**228.2**	**201.2**
New Orleans, La	**321.0**	**325.9**	**317.7**	**338.9**	**316.5**	**280.8**
Baltimore, Md	**232.1**	**220.3**	**222.7**	**251.1**	**228.7**	**235.7**
Boston, Mass	**213.7**	**212.3**	**205.1**	**215 8**	**201.6**	199.1
Fall River, Mass	174.6	173.9	184.1	**212.2**	147.5	138.8
Worcester, Mass	173.0	165.2	170.6	168.0	171.7	156.8
Detroit, Mich	111.8	115.7	107.6	118.7	106.6	115.7
Minneapolis, Minn	107.9	106.4	118.7	103.5	93.1	100.4
St. Paul, Minn	107.4	104.7	94.3	105.7	112.7	98.6
Kansas City, Mo	**201.7**	177.7	**203.4**	**235.6**	**201.4**	170.0
St. Joseph, Mo	71.5	87.1	59.7	62 8	68.4	85.6
St. Louis, Mo	**202.7**	181.0	186.5	**230.5**	**221.0**	193.6
Omaha, Nebr	99.7	100.2	118.2	106.0	83.8	87.0
Jersey City, N. J	**223.7**	**208.4**	**228.2**	**259.4**	**203.3**	**230.7**
Newark, N. J	**237.7**	**225.9**	**244.2**	**248.0**	**241.1**	**254.5**
Paterson, N. J	182.6	176.4	169.7	**208.6**	176.6	**207.4**
Buffalo, N. Y	126.4	117.6	122.0	135.7	130.0	127.0
New York, N. Y	**215.8**	**207.8**	**211.6**	**220.4**	**211.1**	**217.0**
Bronx borough	**529.3**	**506.7**	**528.9**	**549.0**	**532.0**	**503.1**
Brooklyn borough	192.8	189.0	189.0	**202.2**	178.8	185.4
Manhattan borough	**200.1**	191.8	195.8	**200.6**	197.4	**205.3**
Queens borough	143.4	135.7	130.1	141.9	137.0	143.1
Richmond borough	185.6	185.9	188.5	149.1	**212.5**	**255.0**
Rochester, N. Y	134.6	110.6	125.6	140.5	147.8	145.4
Syracuse, N. Y	134.7	118.0	131.1	146.5	120.4	122.8
Cincinnati, Ohio	**240.6**	**206.9**	**237.9**	**268.9**	**251.9**	**271.1**
Cleveland, Ohio	126.1	117.4	131.8	143.8	127.7	127.5
Columbus, Ohio	**206.7**	196.0	**217.0**	**214.0**	199.1	**211.1**
Toledo, Ohio	134.3	121.1	120.6	161.4	139.1	133.1
Allegheny, Pa	135.4	148.2	126.8	146.7	123.2	159.7
Philadelphia, Pa	**212.8**	199.1	**217.2**	**231.6**	**204.6**	**226.5**
Pittsburg, Pa	143.2	135.2	140.9	153.3	151.0	126.4
Scranton, Pa	94.5	86.7	100.2	104.2	90.4	72.5
Providence, R. I	**200.1**	**213.2**	**214.3**	187.6	170.2	164.3
Memphis, Tenn	**219.1**	**249.4**	179.5	**218.0**	**229.3**	194.4
Milwaukee, Wis	127.9	102.1	127.6	141.4	133.9	133.4

(1) Nonregistration. (2) Population not estimated.

On the whole a lower death rate from consumption is indicated, and 6 of the 10 older registration states showed decreased rates as compared with the preceding year. Five states present minimum rates for 1906 in the series of years shown, namely, Vermont (113.6), Connecticut (136.5), Indiana (141.2), Massachusetts (155.6), and Rhode Island (166.2). The lowest death rate from pulmonary tuberculosis is that for South Dakota (83.9), followed by Michigan (90.1), while the highest rates are for the states of Colorado (252.9), California (231.5), Maryland (180.6), New York (175.3), New Jersey (171.1), and Rhode Island (166.2). It must be remembered in comparing the rates for tuberculosis that the deaths returned include all those that occur in the state or city without regard to duration of residence. As the states of California and Colorado are well-known resorts for persons affected with pulmonary tuberculosis, the apparent death rates from this disease are much higher on this account, and should not be taken as representing the natural occurrence of pulmonary tuberculosis among the native population.[1] This remark also applies to several of the greater cities which showed exceptionally high death rates from this disease for the year 1906.

Of the older registration states, 4 showed increased mortality from tuberculosis in 1906 as compared with 1905, and 6 showed decreased mortality. Of the 36 greater cities, 16 showed an increased death rate in 1906 over 1905, and 3 of these cities had a higher rate in 1906 than during any of the previous years shown: Cincinnati, Ohio (271.1); Newark, N. J. (254.5); and Allegheny, Pa. (159.7). Eight cities showed, for the five-year period 1902 to 1906, the lowest death rate in the last year, namely, Scranton, Pa. (72.5); Pittsburg, Pa. (126.4); Fall River, Mass. (138.8); Worcester, Mass. (156.8); Providence, R. I. (164.3); Kansas City, Mo. (170); Boston, Mass. (199.1); and New Orleans, La. (280.8).

The death rates of the white and colored inhabitants are given for the rural districts of Maryland, and

[1] Some very valuable information on this point, and the first available for an entire registration state, is presented for California in the Report of the State Board of Health for the fiscal years from July 1, 1904, to June 30, 1906. The standard certificate of death as employed in California has additional questions calling for statement of the length of residence at place of death and in California. A table is given in the report (page 95) showing in detail for the fiscal year ending June 30, 1906, the numbers and per cents of deaths from tuberculosis, by geographic divisions of the state, classified according to length of residence in California. Of the 4,183 decedents from tuberculosis during the fiscal year, 557 (13.3 per cent) had resided in California less than one year; 831 (19.9 per cent) from one to nine years; 1,188 (28.4 per cent) ten years and over; 1,187 (28.4 per cent) for life; and concerning 420 cases (10 per cent) no information as to length of residence was available. The compiler states the following conclusions: "In southern California altogether 58.2 per cent of all tuberculosis victims had lived in the state less than ten years, in northern and central California together only 18.2 per cent had lived here this length of time, the per cent for the whole state being 33.2. Native Californians form a considerable proportion of all who succumb to tuberculosis in northern and central California. Thus the per cent of native Californians among all who died of tuberculosis is 37.3 for northern California, and 36.9 for central California, as compared with 28.4 for the entire state, and only 14.1 for southern California. Similarly, deaths of old-time residents from tuberculosis are relatively more numerous north than south of Tehachapi. The per cent of tuberculosis victims who had lived here at least ten years is 33.7 for both northern and central California, against 19.5 for southern California and an average of 28.4 for the whole state."

for 6 cities having a considerable proportion of colored population, in the following table:

AREA.	NUMBER OF DEATHS FROM TUBERCULOSIS OF LUNGS PER 100,000 OF POPULATION: 1906.	
	White.	Colored.
Maryland rural	106.2	235.8
Washington, D. C.	158.9	463.3
Louisville, Ky.	165.1	353.9
New Orleans, La.	197.7	502.8
Baltimore, Md.	190.8	477.3
Kansas City, Mo.	120.5	579.5
Memphis, Tenn.	151.6	239.3

For each one of the areas given above the death rate from pulmonary tuberculosis of the colored population is much greater than that of the white population. The colored death rate frequently ranges from 100 to 150 per cent higher, or even more, than that of the white.

In the comment on death rates from pulmonary tuberculosis in the registration states and the greater cities attention was called to the fact that due allowance must be made for abnormally high rates in localities to which invalids resort for the cure of this disease; this precaution is equally applicable to the minor cities. The following table shows the death rates in cities having from 8,000 to 100,000 of population in 1900 for each of the years 1902 to 1906, only those cities being included in which the death rate from tuberculosis of the lungs reached 200 per 100,000 of population in one or more years of this period. Rates equaling or exceeding this limit are in bold face type.

REGISTRATION CITY.	NUMBER OF DEATHS FROM TUBERCULOSIS OF LUNGS PER 100,000 OF POPULATION.				
	1902	1903	1904	1905	1906
Mobile, Ala.	**335.5**	**385.9**	**393.5**	**410.3**	**403.2**
Fresno, Cal.	**218.8**	**231.4**	**243.7**	**240.7**	**267.5**
Sacramento, Cal.	**247.8**	**252.1**	**285.8**	**286.3**	**216.0**
San Diego, Cal.	**445.6**	**401.7**	**434.1**	**455.0**	(1)
San Jose, Cal.	**279.5**	**204.2**	**279.8**	**254.1**	**246.1**
Colorado Springs, Colo.	(2)	(2)	(2)	(2)	**596.5**
Pueblo, Colo.	**432.9**	**311.2**	**290.6**	**338.2**	**298.5**
Bridgeport, Conn.	167.1	171.3	191.6	**203.5**	172.1
Middletown town, Conn.	**256.4**	**280.7**	**277.2**	**300.7**	**270.5**
Naugatuck, Conn.	149.1	169.0	**203 8**	196.8	167.5
New London, Conn.	**240.3**	182.0	**215.1**	154.3	136.2
Windham town, Conn.	157.5	177.0	**255.4**	**225.7**	**245.0**
Wilmington, Del.	194.9	199.3	181.7	189.6	**210.2**
Jacksonville, Fla.	**426.6**	**285.7**	**406.8**	**447.6**	**370.8**
Key West, Fla.	**330.3**	**224.6**	**267.4**	**346.4**	**273.9**
Atlanta, Ga.	**283.1**	**229.9**	**262.2**	**265.8**	**263.8**
Savannah, Ga.	**324.6**	**319.7**	**345.3**	**280.8**	**282.8**
Jacksonville, Ill.	**264.4**	**267.2**	**219.7**	**235.3**	**275.0**
Springfield, Ill.	**239.3**	**204.3**	**242.7**	198.8	141.3
Columbus, Ind.	178.3	**233.8**	**287.6**	**271.6**	144.8
Evansville, Ind.	176.4	**240.7**	171.7	177.4	136.0
Jeffersonville, Ind.	**352.0**	**231.3**	184.9	**212.4**	184.5
Kokomo, Ind.	189.6	167.9	**242.4**	169.7	166.4
Lafayette, Ind.	189.3	**230.2**	**243.9**	194.2	187.1
Logansport, Ind.	**226.5**	134.8	**207.4**	130.4	167.3
Muncie, Ind.	130.2	148.1	**201.5**	186.3	128.2
New Albany, Ind.	**218.1**	**227.8**	**237.6**	**213.3**	155.1
Richmond, Ind.	**221.0**	**213.8**	164.2	133.8	**224.5**
Terre Haute, Ind.	179.1	155.4	**208.9**	142.6	162.9
Vincennes, Ind.	180.4	119.6	**281.5**	197.2	184.3
Wabash, Ind.	143.5	107.7	**210.5**	174.8	100.6
Washington, Ind.	**309.4**	150.6	199.0	194.0	189.1
Covington, Ky.	**236.1**	198.9	**233.9**	**226.7**	**241.2**
Newport, Ky.	162.2	160.3	**215.8**	183.4	**207.7**
Paducah, Ky.	**371.6**	**305.4**	**307.5**	**337.0**	**293.8**
Augusta, Me.	117.5	124.7	**222.3**	154.9	121.2
Bangor, Me.	178.6	141.1	**204.8**	163.6	161.7
Biddeford, Me.	**212.3**	186.1	196.1	117.7	180.6
Rockland, Me.	196.3	**245.4**	**208.5**	**220.9**	122.7
Annapolis, Md.	**367.5**	**250.0**	**348.6**	**289.4**	154.2
Frederick, Md.	**378.3**	**280.5**	**287.6**	193.0	140.6
Adams town, Mass.	145.6	150.7	131.0	**240.3**	156.8
Amesbury town, Mass.	**216.9**	99.0	189.6	**203.6**	103.3
Chelsea, Mass.	175.3	**205.5**	**223.8**	177.0	166.1
Danvers town, Mass.	**240.0**	**271.1**	**245.6**	**386.2**	**316.4**
New Bedford, Mass.	181.5	181.1	**209.8**	158.7	169.4
Newburyport, Mass.	144.3	171.3	157.2	149.9	**203.9**
Taunton, Mass.	**212.8**	167.8	196.9	**239.0**	**206.8**
Wakefield town, Mass.	**237.6**	192.3	168.8	185.0	143.3
Ware town, Mass.	**250.1**	118.2	187.6	174.5	138.6
Woburn, Mass.	**237.6**	167.3	104.4	159.7	**221.7**
Escanaba, Mich.	155.0	140.1	198.3	**200.3**	151.6
Traverse City, Mich.	116.3	120.6	186.9	**213.8**	**213.9**
Dover, N. H.	112.9	142.5	**239.3**	156.5	156.0
Laconia, N. H.	161.6	**211.4**	174.1	99.5	**236.3**
Portsmouth, N. H.	101.9	165.4	**246.3**	172.1	152.8
Rochester, N. H.	**299.5**	182.1	**213.6**	**200.0**	65.9
Bridgeton, N. J.	130.5	152.8	**277.7**	110.1	147.4
Camden, N. J.	157.2	185.3	**200.3**	176.3	180.3
Harrison, N. J.	165.4	184.4	153.5	**218.4**	**203.5**
Hoboken, N. J.	**223.3**	**241.2**	**286.4**	**258.1**	**250.4**
Orange, N. J.	**292.9**	**308.1**	**287.8**	**329.5**	**241.6**
Plainfield, N. J.	**204.7**	174.1	**252.1**	178.7	125.7
Trenton, N. J.	135.2	**216.7**	197.5	**210.3**	181.8
Albany, N. Y.	199.8	**209.7**	**223.5**	**211.6**	**207.0**
Binghamton, N. Y.	**219.4**	141.4	193.4	164.7	178.1
Cohoes, N. Y.	191.9	**220.8**	**241.3**	174.5	**249.0**
Glens Falls, N. Y.	**201.1**	94.0	119.4	122.9	139.5
Kingston, N. Y.	176.8	171.6	190.2	**220.4**	191.5
Middletown, N. Y.	166.8	177.4	**265.4**	165.8	182.2
Newburg, N. Y.	**219.7**	**240.6**	**238.1**	**247.0**	**218.1**
Ogdensburg, N. Y.	**278.3**	**284.5**	**324.6**	**310.5**	**384.0**
Peekskill, N. Y.	**243.6**	140.9	126.7	151.5	174.3
Rome, N. Y.	173.5	133.1	**248.1**	196.2	158.0
Saratoga Springs, N. Y.	**205.6**	**203.7**	**201.8**	**200.0**	190.6
Troy, N. Y.	**255 5**	**271.8**	**288.1**	**262.2**	**284.9**
Watervliet, N. Y.	104.3	194.2	193.8	**221.0**	**206.7**
Yonkers, N. Y.	161.3	**203.5**	195.9	175.9	166.9
Raleigh, N. C.	**361.4**	**373.2**	**349.2**	**325.6**	**253.1**
Wilmington, N. C.	**269.4**	**202.3**	**257.7**	191.3	**255.5**
Bellaire, Ohio	131.2	90.8	141.3	**201.8**	131.2
Chillicothe, Ohio	187.8	148.3	**212.4**	123.0	135.8
Findlay, Ohio	147.6	102.2	153.3	**215.7**	159.0
Ironton, Ohio	**309.0**	**224.5**	149.0	**255.5**	**287.2**
Middletown, Ohio	**216.4**	129.5	194.1	118.4	96.7
Newark, Ohio	142.6	129.4	142.0	**208.9**	141.5
Portsmouth, Ohio	191.3	**269.5**	**217.6**	182.8	**226.9**
Carlisle, Pa.	149.6	195.5	**201.3**	141.1	92.3
Norristown, Pa.	**329.5**	**247.8**	**240.9**	170.2	**273.7**
Warwick town, R. I.	(3)	(3)	(3)	(3)	**263.1**
Woonsocket, R. I.	**214.8**	199.4	197.5	177.0	181.9
Charleston, S. C.	**382.3**	**387.1**	**363.3**	**353.9**	**330.3**
Nashville, Tenn.	**314.2**	**249.8**	**353.4**	**332.4**	**291.6**
San Antonio, Tex.	**669.6**	**444.7**	**619.3**	**632.9**	**567.7**
Barre, Vt.	**257.8**	174.6	196.7	**245.3**	163.2
Alexandria, Va.	**247.2**	**205.7**	**321.8**	177.8	**232.2**
Lynchburg, Va.	**249.4**	**295.1**	**315.8**	**205.8**	**323.9**
Norfolk, Va.	**250.1**	**289.2**	**285.9**	**315.5**	**282.4**
Petersburg, Va.	**311.8**	**376.0**	**463.1**	**275.1**	**311.8**
Richmond, Va.	**260.0**	**269.3**	**276.3**	**236.0**	**285.4**

[1] Population not estimated.

[2] Nonregistration.

[3] Not reported separately.

The highest death rate in the above table is that of Colorado Springs, Colo. (596.5), a noted resort for those ill of tuberculosis, as is also the second city in order of highest mortality, San Antonio, Tex. (567.7). The death rate of Mobile, Ala., was 403.2; of Ogdensburg, N. Y., 384; and of Jacksonville, Fla., 370.8. Many cities showed death rates for each of the years in excess of the limit of high prevalence employed,

namely, Mobile, Ala.; Fresno, Sacramento, and San Jose, Cal.; Pueblo, Colo.; Middletown town, Conn.; Jacksonville and Key West, Fla.; Atlanta and Savannah, Ga.; Jacksonville, Ill.; Paducah, Ky.; Danvers town, Mass.; Hoboken and Orange, N. J.; Newburg, Ogdensburg, and Troy, N. Y.; Raleigh, N. C.; Charleston, S. C.; Nashville, Tenn.; San Antonio, Tex.; and Lynchburg, Norfolk, Petersburg, and Richmond, Va.

CANCER.

In Table III may be seen the number of deaths and death rates from cancer according to seat of occurrence as specified by the International Classification. There were 29,020 deaths from cancer recorded in the registration area for the year 1906, the great numerical increase over the four preceding years being due in part to the inclusion of five new registration states in the registration area. The following table gives the number of deaths from cancer of each specified organ and of other or unspecified organs in the registration area for the year 1906, the four preceding years, and the annual average for the period 1901 to 1905, together with the percentage distribution:

SEAT OF DISEASE.	NUMBER OF DEATHS FROM CANCER.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
Aggregate	22,214	20,847	22,325	23,395	24,330	29,020
Cancer of mouth	677	583	661	737	792	941
Cancer of stomach and liver	8,091	7,483	8,193	8,744	8,939	10,946
Cancer of intestines	2,332	2,239	2,134	2,399	2,732	3,273
Cancer of female genital organs	3,263	3,033	3,289	3,436	3,637	4,090
Cancer of breast	1,845	1,750	1,787	2,030	2,010	2,421
Cancer of skin	740	688	752	758	818	984
Cancer of other or unspecified organs	5,266	5,071	5,509	5,291	5,402	6,365

SEAT OF DISEASE.	PER CENT.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
Aggregate	100.0	100.0	100.0	100.0	100.0	100.0
Cancer of mouth	3.0	2.8	3.0	3.2	3.3	3.2
Cancer of stomach and liver	36.4	35.9	36.7	37.4	36.7	37.7
Cancer of intestines	10.5	10.7	9.6	10.3	11.2	11.3
Cancer of female genital organs	14.7	14.5	14.7	14.7	14.9	14.1
Cancer of breast	8.3	8.4	8.0	8.7	8.3	8.3
Cancer of skin	3.3	3.3	3.4	3.2	3.4	3.4
Cancer of other or unspecified organs	23.7	24.3	24.7	22.6	22.2	21.9

The above table shows that there were slight increases in 1906 in the ratio of deaths from cancer of stomach and liver and cancer of intestines to the aggregate number of deaths from cancer, while decreases are shown for cancer of mouth, cancer of female genital organs, and cancer of other or unspecified organs. No change is shown for cancer of breast and cancer of skin. The practically constant decrease shown from year to year in the percentage distribution of cancer of other or unspecified organs is due in part to increasing precision in the statement of causes of death by physicians, which permits the classification under more definite titles of many cases formerly so assigned. Cancer of stomach and liver shows the highest mortality in each year shown in the above table, and it is noticeable that the same order in degree of mortality of cancer in its various seats is preserved for each of the five years and for the quinquennial period.

In the following table may be found the comparative death rates from cancer in the registration area and in certain foreign countries for recent years:

COUNTRY.	NUMBER OF DEATHS FROM CANCER PER 100,000 OF POPULATION.				
	Annual average: 1901 to 1905.	1902	1903	1904	1905
United States (registration area)	68.3	65.3	68.6	70.6	72.1
Australasia	65.6	64.5	66.4	65.4	67.7
Australian Commonwealth	65.2	63.9	65.4	64.9	68.3
New South Wales	64.2	62.4	65.4	66.0	65.3
Queensland	56.9	55.5	49.2	57.2	66.8
South Australia	67.2	74.2	72.2	61.8	67.2
Tasmania	55.9	62.0	56.3	52.0	54.1
Victoria	74.5	70.3	76.1	74.0	78.6
Western Australia	44.5	41.3	41.6	44.4	50.8
New Zealand	67.4	67.2	71.0	67.6	65.1
Austria	73.5	74.1	73.5	(1)	(1)
Belgium	(2)	(3)	58.5	56.1	(1)
Ceylon	5.6	6.0	5.7	5.0	5.3
Chile	(2)	(1)	27.9	(1)	28.6
German Empire	76.8	74.9	77.4	80.0	(1)
Prussia	65.4	61.9	65.2	68.6	69.4
Hungary	38.8	38.0	39.1	40.6	40.2
Italy	54.9	53.7	53.8	56.6	57.6
Jamaica	16.1	14.0	15.7	15.9	18.8
Japan	52.3	53.4	54.7	(1)	(1)
Netherlands	97.4	95.0	99.0	97.9	101.2
Norway	92.9	87.1	93.2	96.0	(1)
Servia	9.7	9.6	9.1	10.3	10.4
Spain	44.3	[4] 43.0	[4] 44.2	[4] 46.6	(1)
Switzerland	129.1	127.0	131.0	130.3	(1)
United Kingdom	83.6	82.1	84.8	85.7	(1)
England and Wales	86.5	84.4	87.2	87.9	88.5
Scotland	82.8	81.9	82.9	84.7	(1)
Ireland	68.6	65.0	69.1	69.4	74.9

[1] No figures available; average only for years shown.
[2] Annual average not shown for less than three years.
[3] Not tabulated separately prior to 1903.
[4] Rates based on provisional figures.

The generally increasing mortality from cancer throughout the world is indicated by the fact that in the majority of the countries shown the death rate for the last year of registration given in the table exceeds the average for the quinquennial period. Age constitution of the population is an important determining factor in the mortality from this disease, as is also the precision of diagnosis. Cancer of internal organs and parts of the body is obviously less likely to be reported as the cause of death in some of the countries than in others.

Death rates per 100,000 of population are given in the following table showing the distribution of cancer in the registration area, its principal subdivisions, states, and larger cities, the latter being arranged in alphabetic order of the states in which they are situated. Rates of 80 or more are indicated by bold face type:

AREA.	NUMBER OF DEATHS FROM CANCER PER 100,000 OF POPULATION.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
The registration area	68.3	65.3	68.6	70.6	72.1	70.8
Registration cities	69.1	66.2	69.5	71.6	72.5	75.6
Registration states	69.5	66.1	69.7	71.4	73.6	70.9
Cities in registration states	72.0	68.4	72.3	74.0	75.7	78.0
Rural part of registration states	66.3	63.2	66.4	68.0	70.9	62.6
Registration cities in other states	66.2	64.0	66.6	69.2	69.3	70.3
Registration states:						
California	(1)	(1)	(1)	(1)	(1)	**92.0**
Colorado	(1)	(1)	(1)	(1)	(1)	51.3
Connecticut	72.0	68.3	76.4	68.8	75.9	**80.6**
Indiana	49.5	47.9	49.3	50.4	55.3	53.7
Maine	**86.7**	**86.7**	**85.0**	**86.3**	**92.9**	**86.2**
Maryland	(1)	(1)	(1)	(1)	(1)	60.1
Massachusetts	**82.5**	77.4	**80.9**	**88.0**	**89.3**	**90.3**
Michigan	63.8	59.6	67.5	67.4	64.2	67.6
New Hampshire	**82.0**	**81.2**	77.5	**80.4**	**83.7**	**89.2**
New Jersey	58.2	53.5	58.3	57.6	63.2	66.1
New York	72.1	68.9	71.7	73.8	76.1	76.2
Pennsylvania	(1)	(1)	(1)	(1)	(1)	60.7
Rhode Island	79.9	**82.4**	77.3	**86.6**	**80.4**	78.3
South Dakota	(1)	(1)	(1)	(1)	(1)	35.4
Vermont	**81.0**	69.1	**93.7**	**87.0**	**84.2**	**85.3**
Registration cities of 100,000 population or over in 1900:						
San Francisco, Cal	**125.6**	**128.3**	**125.3**	**134.3**	**125.0**	(2)
Denver, Colo	71.7	65.7	63.2	72.0	**86.5**	**94.8**
New Haven, Conn	**82.9**	**82.7**	79.4	71.9	**92.4**	**83.3**
Washington, D. C	74.7	74.9	75.4	76.5	75.9	**82.5**
Chicago, Ill	64.5	64.7	64.4	64.0	65.6	69.9
Indianapolis, Ind	55.8	61.2	55.6	59.6	51.4	56.6
Louisville, Ky	58.0	62.2	55.6	61.6	56.6	57.0
New Orleans, La	78.2	71.9	79.8	**82.9**	**84.9**	79.3
Baltimore, Md	79.0	77.9	73.0	**86.5**	**81.1**	**84.3**
Boston, Mass	**94.2**	**87.5**	**93.2**	**95.7**	**105.6**	**100.1**
Fall River, Mass	63.6	51.3	66.4	63.5	69.0	58.5
Worcester, Mass	76.5	64.6	69.2	**101.4**	**80.4**	**89.2**
Detroit, Mich	69.8	64.0	78.2	74.6	68.5	76.7
Minneapolis, Minn	60.0	52.6	67.9	57.6	62.6	61.0
St. Paul, Minn	55.1	51.5	58.9	60.5	57.9	60.3
Kansas City, Mo	59.5	59.4	55.5	72.7	61.4	**81.2**
St. Joseph, Mo	30.8	23.1	26.3	43.4	27.7	41.5
St. Louis, Mo	65.5	55.0	73.2	69.5	73.5	72.8
Omaha, Nebr	57.3	46.5	47.6	62.4	72.2	74.9
Jersey City, N. J	55.4	46.6	56.7	54.1	66.2	58.4
Newark, N. J	70.0	63.8	71.6	70.3	69.9	77.0
Paterson, N. J	66.1	54.8	64.2	63.5	73.5	**85.1**
Buffalo, N. Y	75.2	66.5	75.2	72.3	**88.1**	**85.1**
New York, N. Y	69.8	66.6	69.5	71.4	72.3	74.0
Bronx borough	64.2	58.5	67.0	61.0	70.7	**81.5**
Brooklyn borough	64.4	63.9	63.0	64.9	67.6	71.7
Manhattan borough	75.6	71.0	75.1	78.3	77.7	75.4
Queens borough	47.8	47.4	51.1	47.7	50.5	61.9
Richmond borough	79.4	66.3	**83.6**	**89.2**	67.2	79.6
Rochester, N. Y	**86.9**	**88.9**	78.9	**86.9**	**93.9**	**93.7**
Syracuse, N. Y	75.7	76.9	**81.8**	69.3	**81.1**	**96.7**
Cincinnati, Ohio	78.5	78.0	**83.5**	**80.0**	73.7	**89.5**
Cleveland, Ohio	60.3	54.3	62.2	61.1	64.3	66.5
Columbus, Ohio	66.4	65.1	67.2	72.8	73.2	69.5
Toledo, Ohio	60.3	57.4	54.8	62.4	67.6	61.3
Allegheny, Pa	45.6	49.4	37.7	44.9	49.7	45.4
Philadelphia, Pa	71.5	67.0	71.9	78.7	77.0	79.8
Pittsburg, Pa	52.6	54.9	57.1	50.7	54.9	65.1
Scranton, Pa	41.8	51.3	44.6	35.6	33.6	49.7
Providence, R. I	**89.2**	**87.7**	**80.8**	**96.9**	**97.2**	**93.5**
Memphis, Tenn	35.2	36.4	44.9	29.8	34.6	48.8
Milwaukee, Wis	67.6	60.9	70.9	74.3	64.9	72.0

[1] Nonregistration. [2] Population not estimated.

Direct comparisons can not be made between the registration area and its subdivisions for 1906 and the corresponding areas for 1901 to 1905 on account of the addition of considerable registration territory. As the population added contained a lower proportion of persons at the ages most favorable to cancer, a slight diminution in the death rate from this disease might be expected from this reason alone. The slightest relative amount of increase of population took place in the group of registration cities. For this group a marked increase in the mortality for the year 1906 over the preceding year is shown, the rate rising from 72.5 to 75.6. In the group of former registration states, as it existed in 1905, the mortality from cancer rose from 73.6 in that year to 74.4 in 1906. The death rate of the cities rose from 75.7 to 77.7, but the rural death rate in the same area fell from 70.9 to 69.8.

In the old registration states 7 out of the 10 showed an increased death rate from cancer in 1906 as compared with the preceding year, and in 6 the death rates for 1906 were higher than for any of the preceding individual years given in the table, as follows: Massachusetts (90.3), New Hampshire (89.2), Connecticut (80.6), New York (76.2), Michigan (67.6), and New Jersey (66.1). The highest death rate of any state was shown by the new registration state of California (92), for which no comparisons are available with preceding years.

Twenty-three of the 36 greater cities showed an increased mortality for 1906 over 1905, and in 14 of these the rates for the last year of registration were higher than for any previous year shown in the table. The list is as follows: Syracuse, N. Y. (96.7); Denver, Colo. (94.8); Cincinnati, Ohio (89.5); Paterson, N. J. (85.1); Washington, D. C. (82.5); Kansas City, Mo. (81.2); Philadelphia, Pa. (79.8); Newark, N. J. (77); Omaha, Nebr. (74.9); New York, N. Y. (74); Chicago, Ill. (69.9); Cleveland, Ohio (66.5); Pittsburg, Pa. (65.1); and Memphis, Tenn. (48.8). The death rate from cancer in cities is raised by the inclusion of deaths of persons from the surrounding country who come to city hospitals for the purpose of having operations performed. The death rate from this disease is also largely dependent upon age distribution of the population, which should always be taken into consideration in comparing the death rates of different cities. For any given city, however, the variations from year to year should be significant, and the large proportion of cities in which the maximum rate obtained for the last year of registration lends strength to the generally accepted view concerning the increase in the mortality from this disease.

Comparative death rates, by color, for cancer are given in the following table:

AREA.	NUMBER OF DEATHS FROM CANCER PER 100,000 OF POPULATION: 1906.	
	White.	Colored.
Maryland rural	30.2	10.2
Washington, D. C	89.4	67.5
Louisville, Ky	58.0	53.2
New Orleans, La	79.2	79.5
Baltimore, Md	86.5	72.6
Kansas City, Mo	85.4	45.8
Memphis, Tenn	73.4	22.9

With the exception of New Orleans, La., the registered white death rate from this disease considerably

exceeds the colored death rate. The inclusion of deaths in hospitals drawing chiefly from the white population must be considered, and perhaps the less careful diagnosis of cancer among the deaths of colored persons as returned.

DIABETES.

Diabetes is the only individual disease showing a death rate of 10 or upward per 100,000 of population for the five-year period 1901 to 1905 of which the mortality has been increasing during the past five years. In the last two years, however, the death rate was the same (13), although the number of deaths in 1906 (5,331) exceeded the number returned for any previous year. The numerical increase, however, was entirely due to the extension of the registration area.

The following table gives the death rates per 100,000 of population from diabetes in the registration area, its subdivisions, states, and principal cities, rates of 20 and over being shown by bold face type.

No very marked variation is shown in the mortality from diabetes for the principal subdivisions of the registration area in the years 1905 and 1906, although the change in the constitution of the area renders exact comparisons difficult. Among the old registration states there appears to be a decided tendency to an increase in mortality from this cause, 8 out of 10 showing increased death rates for 1906 over 1905, and in 7 of the states the death rates for 1906 were higher than for any of the preceding individual years shown in the table. These were, in order of highest death rate, Connecticut (18.8), Maine (16.8), Massachusetts (16.1), New York (16), Michigan (13.7), New Jersey (12.8), and Indiana (11). The highest death rate of any state for the year 1906 was that of Connecticut (18.8), followed by that of Vermont (18.3), the former being the highest death rate recorded in the table except that of Vermont in 1904 (21.3).

In the greater cities 25 out of 36 showed higher rates for 1906 than for the preceding year, and 19 cities reported a greater mortality from diabetes in 1906. than for any year of the quinquennial period. These cities are, in order of highest death rates, Worcester, Mass. (20.8); Syracuse, N. Y. (18.5); Fall River, Mass. (17.9); New York, N. Y. (17); Newark, N. J. (16.6); Denver, Colo. (16.5); Detroit, Mich. (14.7); Indianapolis, Ind., and Baltimore, Md. (14.1); Cincinnati, Ohio (12.7); Paterson, N. J. (12.4); St. Paul, Minn. (11.3); Columbus, Ohio (11); Kansas City, Mo. (10.4); Allegheny, Pa. (9.6); Omaha, Nebr., and Cleveland, Ohio (8.9); New Orleans, La. (8.6); and Pittsburg, Pa. (6.7). Buffalo, N. Y., also showed a high death rate for 1906 (19.4), which, however, was the same as that for the year 1904. While the mortality from this disease is not great, its general increase throughout the country is significant and may be compared with the similar increase shown for cancer, a disease whose age incidence resembles that of diabetes.

AREA.	NUMBER OF DEATHS FROM DIABETES PER 100,000 OF POPULATION.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
The registration area	11.6	10.4	11.3	12.9	13.0	13.0
Registration cities	11.4	9.9	11.0	12.7	13.0	13.4
Registration states	12.8	11.7	12.6	14.2	14.1	13.7
Cities in registration states	13.4	11.8	13.0	14.9	14.8	14.9
Rural part of registration states	12.2	11.5	12.1	13.3	13.2	12.4
Registration cities in other states	9.3	8.0	8.9	10.4	11.1	10.1
Registration states:						
California	(1)	(1)	(1)	(1)	(1)	16.1
Colorado	(1)	(1)	(1)	(1)	(1)	8.4
Connecticut	14.2	12.9	13.3	17.1	14.9	18.8
Indiana	9.0	8.8	8.6	9.7	10.0	11.0
Maine	13.9	12.6	13.1	14.7	16.5	16.8
Maryland	(1)	(1)	(1)	(1)	(1)	9.6
Massachusetts	14.3	13.6	14.4	15.8	15.9	16.1
Michigan	11.6	12.1	11.3	13.4	11.0	13.7
New Hampshire	14.9	12.2	18.9	14.3	17.9	16.9
New Jersey	10.2	8.9	10.3	11.1	11.8	12.8
New York	14.0	12.2	13.6	15.5	15.5	16.0
Pennsylvania	(1)	(1)	(1)	(1)	(1)	10.8
Rhode Island	15.9	11.8	15.7	15.8	17.1	16.3
South Dakota	(1)	(1)	(1)	(1)	(1)	8.8
Vermont	16.4	12.4	14.1	**21.3**	18.0	18.3
Registration cities of 100,000 population or over in 1900:						
San Francisco, Cal	18.8	16.8	18.5	**20.3**	**20.0**	(2)
Denver, Colo	12.5	13.9	9.5	12.8	14.6	16.5
New Haven, Conn	15.7	7.1	**20.1**	14.6	17.6	19.0
Washington, D. C	12.3	10.7	12.3	12.4	15.5	9.7
Chicago, Ill	9.4	8.4	9.2	10.0	11.2	9.7
Indianapolis, Ind	9.7	7.0	10.6	8.8	11.3	14.1
Louisville, Ky	8.3	10.8	6.9	8.2	10.3	8.0
New Orleans, La	6.7	5.7	6.0	7.5	6.5	8.6
Baltimore, Md	10.5	8.8	10.4	11.9	11.4	14.1
Boston, Mass	15.6	13.9	14.1	18.5	17.3	17.4
Fall River, Mass	12.3	14.3	16.1	12.3	13.2	17.9
Worcester, Mass	12.9	9.0	10.5	19.8	14.8	**20.8**
Detroit, Mich	11.6	11.9	10.3	11.7	11.1	14.7
Minneapolis, Minn	10.1	6.6	7.9	8.8	15.3	8.8
St. Paul, Minn	8.2	5.1	7.6	10.5	10.7	11.3
Kansas City, Mo	7.5	6.5	5.2	10.2	10.0	10.4
St. Joseph, Mo	3.6	4.6	1.8	4.4	1.7	4.2
St. Louis, Mo	7.7	4.7	7.7	8.6	10.4	9.2
Omaha, Nebr	7.1	3.6	6.2	7.7	7.5	8.9
Jersey City, N. J	9.0	7.4	11.3	8.8	9.9	9.7
Newark, N. J	11.2	10.4	12.4	11.0	12.7	16.6
Paterson, N. J	10.1	8.4	7.3	11.8	11.7	12.4
Buffalo, N. Y	15.3	13.3	16.1	19.4	16.7	19.4
New York, N. Y	14.7	12.9	13.7	16.4	16.4	17.0
Bronx borough	15.6	13.1	15.6	**22.9**	14.0	14.7
Brooklyn borough	12.8	12.0	12.3	13.8	15.3	14.9
Manhattan borough	16.1	13.9	14.4	17.8	17.6	18.9
Queens borough	10.6	8.2	11.1	11.6	11.6	17.4
Richmond borough	15.6	10.1	19.8	12.5	**23.3**	10.8
Rochester, N. Y	16.1	11.8	10.3	18.6	**25.3**	16.7
Syracuse, N. Y	13.2	15.2	14.1	12.1	15.4	18.5
Cincinnati, Ohio	9.6	6.7	9.0	10.3	11.4	12.7
Cleveland, Ohio	6.8	5.2	7.2	7.3	8.2	8.9
Columbus, Ohio	8.9	9.8	9.6	10.1	10.6	11.0
Toledo, Ohio	10.3	11.3	9.6	12.0	7.1	10.0
Allegheny, Pa	5.1	3.7	7.2	7.1	3.5	9.6
Philadelphia, Pa	11.0	7.8	11.3	12.6	14.0	12.1
Pittsburg, Pa	4.9	6.2	4.1	4.8	5.5	6.7
Scranton, Pa	9.1	9.3	8.2	9.8	10.3	10.1
Providence, R. I	16.4	10.8	18.5	18.0	14.6	14.3
Memphis, Tenn	4.4	3.6	2.6	9.4	1.6	8.8
Milwaukee, Wis	10.5	9.4	10.6	11.4	12.8	11.3

[1] Nonregistration. [2] Population not estimated.

ALCOHOLISM.

According to Table III the number of deaths from alcoholism in 1906 (2,707) exceeded the number of deaths from this cause during any of the recent years or the five-year period. Part of the increase over the preceding year is due to the addition to the registration area. The death rate in 1906 was 6.6 per 100,000 of population, the same as the rate for the year 1903. It is not at all likely that there should be very definite returns of deaths due to this cause,

especially those due to the indirect effects of alcohol. Many chronic degenerative diseases, such as cirrhosis of the liver, must be considered in estimating the total effect of alcoholism, and as the certificates of death from the secondary effects of alcohol frequently make no reference to alcoholism as a primary cause, it is impossible to make a complete statement in this respect.

The same amount of increase in the death rate from alcoholism was shown in the group of former registration states as for the entire registration area. The death rate from alcoholism increased in these states from 6 in 1905 to 6.4 in 1906, the increase in the cities being from 7.6 to 8.2, and in the rural part of these states from 3.8 to 4 per 100,000 of population.

DISEASES OF THE NERVOUS SYSTEM.

This general group, to which 70,322 deaths were ascribed in 1906, or over 10 per cent of the total deaths returned for the year, contains some most incongruous elements. As shown in Table III, which presents the detailed classification of causes of death, there are here included various acute and chronic diseases of the nervous system, such as meningitis and locomotor ataxia; apoplexy, usually the result of disease of the circulatory system and not a disease of the nervous system at all; softening of brain and paralysis, extremely indefinite terms; convulsions, usually due to diarrheal diseases of infants; and tetanus, a specific infectious disease. The largest number of deaths of any of the individual titles here included was from apoplexy (29,434), next to which came meningitis (10,502), of which number 7,244 deaths were compiled from simple or unqualified meningitis and 3,258 were compiled under the head of epidemic cerebro-spinal meningitis or cerebro-spinal fever. The total number of deaths from diseases of the nervous system was larger than that shown in the table for any preceding year, but this was due to the increase in the registration area, as the death rate (171.5 per 100,000 of population) was the least for the series of years and for the five-year period. In the group of old registration states the death rate from diseases of the nervous system fell from 192 in 1905 to 179.1 in 1906.

The relative death rates from diseases of the nervous system are shown for the white and colored populations of certain areas in the following table:

AREA.	NUMBER OF DEATHS FROM DISEASES OF NERVOUS SYSTEM PER 100,000 OF POPULATION: 1906.	
	White.	Colored.
Maryland rural	156.4	160.6
Washington, D. C.	209.5	285.7
Louisville, Ky.	169.5	303.0
New Orleans, La.	193.8	314.5
Baltimore, Md.	173.0	247.8
Kansas City, Mo.	142.0	188.1
Memphis, Tenn.	118.8	173.8

In each of the above areas the colored mortality from diseases of the nervous system, which class includes many deaths from "convulsions," exceeds that of the white population. The smallest amount of difference is, as may be expected, in the rural districts of Maryland.

Meningitis.—In the following table the reported number of deaths in the registration area from simple meningitis and epidemic cerebro-spinal meningitis, and also the percentage distribution, are given for the year 1906 and the four preceding years, together with the annual average for the period 1901 to 1905:

FORM OF DISEASE.	NUMBER OF DEATHS FROM MENINGITIS.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
Aggregate	10,366	9,981	9,213	10,553	11,654	10,502
Meningitis (simple or unqualified)	7,601	8,259	7,295	7,269	6,540	7,244
Epidemic cerebro-spinal meningitis	2,765	1,722	1,918	3,284	5,114	3,258

FORM OF DISEASE.	PER CENT.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
Aggregate	100.0	100.0	100.0	100.0	100.0	100.0
Meningitis (simple or unqualified)	73.3	82.7	79.2	68.9	56.1	69.0
Epidemic cerebro-spinal meningitis	26.7	17.3	20.8	31.1	43.9	31.0

Many deaths returned simply as meningitis are undoubtedly due to tuberculous meningitis, traumatism, and other causes, and are tabulated here on account of the lack of accurate distinction in the certificates of death. This is also in evidence as applied to the separation of deaths from simple meningitis and from the specific infectious disease known as epidemic cerebro-spinal meningitis or cerebro-spinal fever. All deaths from meningitis, exclusive of those definitely stated to be due to tuberculosis, traumatism, etc., may be taken together as showing the general movement of affections of this sort. It will be noted that the number of deaths from meningitis in the aggregate was lower in 1906 than in 1905, despite the addition of 5 new states to the registration area.

The following table shows the number of deaths from meningitis per 100,000 of population in the registration area, its various subdivisions, states, and principal cities. Rates of 50 or over are in bold face type.

Bearing in mind the change in the composition of the registration area and the transference of population from the group of registration cities in other states to cities in registration states, the general decrease in the mortality from meningitis in 1906 from that of 1905 is noteworthy. The registration area and each of its subdivisions, except registration cities in other states, showed lower death rates for the last

year of registration than for any preceding year given in the table. Seven of the 10 older registration states showed decreased death rates for 1906 as compared with 1905, and in 3 states the mortality for the last year was less than for any of the preceding years shown. These states were Indiana (20.3), Connecticut (30.9), and New Jersey (32). The highest death rate for the year was that of New Hampshire (50.4), a decrease from the still higher mortality in 1905, for which year the death rate from this disease was 70.8.

AREA.	NUMBER OF DEATHS FROM MENINGITIS PER 100,000 OF POPULATION.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
The registration area	31.9	31.3	28.3	31.8	34.5	25.6
Registration cities	35.5	35.2	31.0	35.6	38.9	29.9
Registration states	32.7	29.7	27.8	34.1	39.0	25.0
Cities in registration states	40.6	36.2	32.8	43.3	**51.1**	30.7
Rural part of registration states	22.8	21.6	21.5	22.2	23.1	18.3
Registration cities in other states	30.3	34.2	29.2	27.8	26.5	28.2
Registration states:						
California	(1)	(1)	(1)	(1)	(1)	23.1
Colorado	(1)	(1)	(1)	(1)	(1)	30.5
Connecticut	39.3	34.6	34.4	42.7	**50.7**	30.9
Indiana	24.7	23.9	21.4	26.7	22.4	20.3
Maine	33.4	34.9	33.8	29.4	27.8	29.7
Maryland	(1)	(1)	(1)	(1)	(1)	23.0
Massachusetts	38.2	38.0	37.6	32.8	42.6	33.9
Michigan	16.6	15.6	15.3	15.5	18.5	17.7
New Hampshire	45.0	45.1	37.7	30.8	**70.8**	**50.4**
New Jersey	42.4	40.2	40.6	40.4	46.7	32.0
New York	35.0	27.6	25.8	41.8	47.4	27.8
Pennsylvania	(1)	(1)	(1)	(1)	(1)	18.2
Rhode Island	32.6	42.1	24.4	24.5	26.7	27.3
South Dakota	(1)	(1)	(1)	(1)	(1)	9.9
Vermont	32.9	35.3	27.1	32.7	28.9	29.4
Registration cities of 100,000 population or over in 1900:						
San Francisco, Cal	28.1	34.1	23.6	23.9	22.8	(2)
Denver, Colo	34.8	30.6	35.3	26.9	25.9	**59.2**
New Haven, Conn	**58.5**	41.8	47.1	46.2	**119.3**	46.2
Washington, D. C	21.8	26.4	17.1	22.8	19.1	25.3
Chicago, Ill	28.3	32.8	30.3	24.2	23.4	21.0
Indianapolis, Ind	34.8	25.7	32.4	42.5	33.5	17.3
Louisville, Ky	44.5	35.3	**53.3**	42.0	48.5	33.6
New Orleans, La	36.3	40.9	28.3	36.7	36.5	30.9
Baltimore, Md	27.5	29.9	25.4	26.4	27.6	28.9
Boston, Mass	38.7	38.6	35.4	33.6	46.9	37.9
Fall River, Mass	**55.0**	**60.8**	**57.9**	47.4	49.2	48.1
Worcester, Mass	34.6	36.8	46.7	20.6	35.9	38.4
Detroit, Mich	27.8	26.9	26.5	27.1	28.0	42.4
Minneapolis, Minn	19.3	23.8	18.0	17.2	15.3	20.5
St. Paul, Minn	20.7	19.2	16.9	27.3	17.8	27.0
Kansas City, Mo	34.7	41.8	38.7	34.1	29.6	27.4
St. Joseph, Mo	14.5	13.9	12.7	8.0	13.0	11.9
St. Louis, Mo	23.5	24.5	23.5	20.0	18.8	13.9
Omaha, Nebr	19.4	22.8	15.0	13.7	7.5	14.5
Jersey City, N. J	**71.6**	**70.5**	**55.8**	**74.7**	**92.4**	48.7
Newark, N. J	**56.9**	**57.3**	**53.6**	**56.4**	**56.8**	34.5
Paterson, N. J	**59.6**	**60.3**	**63.3**	**50.8**	**53.8**	**67.4**
Buffalo, N. Y	31.3	33.7	32.4	27.4	30.2	28.3
New York, N. Y	42.5	30.1	26.7	**56.8**	**63.3**	29.5
Bronx borough	37.8	32.8	26.7	**52.5**	43.4	31.5
Brooklyn borough	30.3	20.6	18.6	36.0	44.8	21.2
Manhattan borough	**52.7**	35.4	32.5	**74.7**	**81.5**	35.4
Queens borough	30.0	35.7	25.0	26.5	37.9	19.3
Richmond borough	22.7	28.8	11.3	23.7	23.3	35.1
Rochester, N. Y	33.9	35.9	27.7	32.2	30.2	42.0
Syracuse, N. Y	32.6	39.3	27.3	27.7	35.0	37.0
Cincinnati, Ohio	49.8	**54.0**	44.2	**50.4**	43.1	46.9
Cleveland, Ohio	34.7	39.7	32.3	30.1	32.5	25.6
Columbus, Ohio	37.6	49.2	36.2	34.6	32.4	39.2
Toledo, Ohio	27.4	26.2	29.5	29.2	23.8	20.6
Allegheny, Pa	36.9	32.4	39.8	38.4	32.9	20.0
Philadelphia, Pa	21.6	30.7	15.9	15.6	15.7	12.8
Pittsburg, Pa	34.1	35.0	35.9	35.1	31.0	27.7
Scranton, Pa	38.2	48.5	33.7	40.1	22.4	20.2
Providence, R. I	28.5	32.5	22.7	20.6	28.7	32.5
Memphis, Tenn	28.2	27.3	23.8	31.5	27.2	25.6
Milwaukee, Wis	25.4	28.8	26.4	20.4	22.7	26.1

[1] Nonregistration. [2] Population not estimated.

In the group of registration cities, whose aggregate population was not so markedly increased over that of 1905 as those of the other main subdivisions, the death rate in 1906 (29.9) showed a marked decline from the death rate of the preceding year (38.9), and was lower than that of any of the individual years or the five-year period given in the table. The group of old registration states as employed in these reports prior to the present year showed a decrease in the death rate from meningitis from 39 in 1905 to 27.6 in 1906, of which the larger amount was due to the decrease in the death rate of the urban population from 51.1 in 1905 to 33.4 in 1906; the death rate in the rural districts fell only from 23.1 to 19.2. Meningitis, which includes a more or less uncertain percentage of epidemic cerebro-spinal meningitis, seems to have been much more fatal, or at least to have been much more frequently diagnosed as the cause of death, in the cities than in the country.

Among the greater cities included in the table the variations were more evenly divided, 15 showing an increased mortality for 1906 and 21 a decrease as compared with the preceding year. Only 4 cities showed higher rates for 1906 than for any of the previous years stated in the table, namely, Paterson, N. J. (67.4); Denver, Colo. (59.2); Detroit, Mich. (42.4); and Rochester, N. Y. (42). The death rate of Providence, R. I. (32.5), was the same as that for the year 1902 and higher than for any intervening year Thirteen cities, however, showed lower rates for 1906 than for any previous year given, namely, Philadelphia, Pa. (12.8); St. Louis, Mo. (13.9); Indianapolis, Ind. (17.3); Allegheny, Pa. (20); Scranton, Pa. (20.2); Toledo, Ohio (20.6); Chicago, Ill. (21); Cleveland, Ohio (25.6); Kansas City, Mo. (27.4); Pittsburg, Pa. (27.7); Louisville, Ky. (33.6); Newark, N. J. (34.5); and Jersey City, N. J. (48.7).

The minor cities having a death rate of 50 or over per 100,000 of population from meningitis in one or more of the years 1902 to 1906 are shown in the following table, arranged in alphabetic order of states:

REGISTRATION CITY.	NUMBER OF DEATHS FROM MENINGITIS PER 100,000 OF POPULATION.				
	1902	1903	1904	1905	1906
Mobile, Ala	22.5	27.0	29.0	9.5	**62.9**
Fresno, Cal	**62.5**	23.1	30.5	**52.7**	**52.0**
San Jose, Cal	13.5	26.6	**52.5**	34.5	21.2
Pueblo, Colo	**51.9**	34.2	37.2	32.8	26.0
Ansonia, Conn	38.0	**119.6**	**80.8**	**93.9**	**106.5**
Bridgeport, Conn	33.1	38.6	41.3	**50.0**	33.2
Bristol town, Conn	29.7	29.1	**208.6**	**83.5**	18.2
Danbury town, Conn	**56.5**	41.1	25.7	46.2	41.1
Hartford, Conn	37.6	33.0	**100.6**	39.7	26.1
Manchester town, Conn	27.1	26.5	.....	33.9	**66.5**
Meriden town, Conn	27.3	23.6	26.7	23.1	**75.0**
Middletown town, Conn	27.9	27.5	21.7	**80.5**	21.2
Naugatuck, Conn	**61.4**	16.9	16.3	23.6	**61.9**
New Britain town, Conn	**66.6**	**58.1**	**53.3**	48.8	26.7
New London, Conn	**65.6**	26.8	47.2	20.6	10.1
Norwalk town, Conn	29.5	29.1	19.2	**76.1**	.....
Stamford town, Conn	46.2	**55.6**	49.8	**68.6**	19.3
Stonington town, Conn	11.3	44.7	**55.1**	10.8	10.7
Wallingford town, Conn	**52.8**	30.8	40.1	29.4	38.3
Wilmington, Del	**81.0**	**50.4**	**56.9**	**60.8**	47.0

REGISTRATION CITY—continued.	NUMBER OF DEATHS FROM MENINGITIS PER 100,000 OF POPULATION.				
	1902	1903	1904	1905	1906
Key West, Fla	**97.5**	41.8	**70.6**	39.0	**122.8**
Atlanta, Ga	32.9	24.9	29.4	32.1	**142.9**
Aurora, Ill	35.9	43.2	**57.8**	34.1	37.3
Anderson, Ind	**58.9**	30.4	37.6	36.1	15.5
Columbus, Ind	**59.4**	46.8	**57.5**	**67.9**	11.1
Hammond, Ind	14.7	**63.1**	20.1	12.9	18.8
Jeffersonville, Ind	**88.4**	27.8	46.2	36.9	27.7
Kokomo, Ind	9.0	**53.0**	17.3	25.4	33.3
Logansport, Ind	**53.6**	17.6	**51.9**	11.3	27.9
Michigan City, Ind	38.3	37.3	30.3	47.4	**63.6**
Peru, Ind	**83.4**	.....	.....	44.1	34.3
Terre Haute, Ind	34.2	38.7	**53.5**	27.0	13.3
Vincennes, Ind	28.5	36.8	**72.6**	**53.8**	35.1
Wabash, Ind	**110.4**	32.3	42.1	30.9	30.2
Washington, Ind	**55.2**	21.5	**62.8**	40.8	39.8
Covington, Ky	52.2	**82.7**	**68.4**	**76.3**	**68.9**
Newport, Ky	**62.1**	44.4	33.7	**60.0**	33.0
Paducah, Ky	**53.8**	47.7	41.9	**50.1**	17.8
Auburn, Me	(1)	(1)	(1)	(1)	**64.4**
Augusta, Me	33.6	**58.2**	16.5	**57.1**	16.2
Biddeford, Me	**133.5**	**102.1**	**83.2**	**70.6**	**134.0**
Lewiston, Me	(1)	(1)	(1)	(1)	**64.0**
Portland, Me	**50.2**	43.7	**63.5**	47.9	30.8
Rockland, Me	.....	**73.6**	.....	36.8	.....
Waterville, Me	(1)	(1)	(1)	(1)	**82.6**
Annapolis, Md	.....	**56.8**	33.7	44.5	**110.2**
Adams town, Mass	**51.4**	41.9	**57.3**	16.0	15.7
Amesbury town, Mass	**54.2**	**55.0**	44.6	33.9	34.4
Arlington town, Mass	**55.4**	43.3	21.2	10.3	10.1
Attleboro town, Mass	**58.9**	**65.8**	**72.4**	**78.7**	**23.1**
Chicopee, Mass	**127.7**	**80.9**	**100.1**	**59.4**	**93.2**
Clinton town, Mass	**52.1**	30.0	15.1	22.9	22.7
Everett, Mass	**61.0**	36.8	28.4	30.9	43.2
Fitchburg, Mass	40.5	**55.5**	12.2	45.4	12.0
Gardner town, Mass	**79.7**	**121.4**	**93.4**	**108.2**	**97.9**
Gloucester, Mass	**53.7**	**57.6**	34.6	**53.8**	42.3
Holyoke, Mass	**54.9**	**58.0**	**59.1**	**100.1**	**67.0**
Lawrence, Mass	**65.6**	**52.2**	49.6	**112.8**	**82.5**
Lowell, Mass	**79.0**	**66.4**	**58.0**	**99.1**	**72.5**
Lynn, Mass	33.4	31.2	34.5	**72.7**	21.6
Marlboro, Mass	**72.5**	**79.2**	**78.7**	28.4	42.4
Milford town, Mass	8.6	42.3	25.1	**66.1**	**73.5**
New Bedford, Mass	**69.9**	**71.8**	44.5	33.6	**54.7**
Newburyport, Mass	27.5	6.9	13.7	**61.3**	27.2
Northampton, Mass	31.3	30.9	**55.9**	20.0	9.9
Plymouth town, Mass	9.8	.....	18.5	**54.0**	.....
Southbridge town, Mass	38.4	37.7	**83.3**	**90.9**	44.7
Taunton, Mass	29.0	**54.8**	45.2	**64.6**	**71.1**
Wakefield town, Mass	31.0	**60.8**	19.9	**68.2**	.....
Ware town, Mass	47.6	23.6	23.5	**81.5**	23.1
Watertown town, Mass	**58.1**	37.6	27.4	35.5	34.6
Webster town, Mass	43.1	31.5	20.5	**50.0**	29.2
Weymouth town, Mass	17.5	26.1	**52.0**	25.9	34.4
Woburn, Mass	21.0	13.9	13.9	20.8	**83.1**
Escanaba, Mich	**58.1**	28.0	36.0	34.8	16.8
Ishpeming, Mich	40.2	8.3	**60.2**	**53.5**	46.3
Sault Ste. Marie, Mich	27.3	**62.4**	.....	42.9	8.4
Duluth, Minn	27.7	38.2	33.6	**60.1**	49.0
Berlin, N. H	**60.5**	**115.0**	**109.6**	**69.8**	**166.9**
Concord, N. H	**54.6**	49.0	29.0	**52.5**	37.7
Dover, N. H	15.0	30.0	29.9	**52.2**	**59.4**
Keene, N. H	21.0	31.0	10.1	29.9	**78.5**
Manchester, N. H	**85.6**	**52.6**	**53.1**	**242.8**	**111.3**
Nashua, N. H	**60.5**	**63.3**	**50.5**	**91.6**	48.8
Portsmouth, N. H	**55.6**	27.6	36.5	27.2	36.0
Rochester, N. H	23.1	45.5	11.2	11.1	**109.8**
Bayonne, N. J	38.3	**52.0**	47.1	47.3	24.9
Bridgeton, N. J	**58.0**	29.1	14.6	7.3	7.4
Harrison, N. J	**52.2**	**109.0**	**72.7**	**148.2**	**60.3**
Hoboken, N. J	**82.5**	**84.1**	**88.7**	**122.2**	**52.5**
Morristown, N. J	17.2	25.4	**58.5**	16.5	40.6
New Brunswick, N. J	37.6	32.0	**62.2**	**56.2**	**50.5**
Orange, N. J	**68.2**	**71.1**	42.8	**61.3**	49.1
Passaic, N. J	**56.3**	**61.9**	39.0	**50.2**	45.0
Plainfield, N. J	36.1	40.6	33.6	**54.1**	10.5
Union, N. J	25.1	30.7	**66.1**	**58.8**	46.1
Amsterdam, N. Y	48.4	39.0	**64.0**	25.2	45.5
Cohoes, N. Y	**66.8**	**79.2**	**58.3**	**91.4**	**70.3**
Glens Falls, N. Y	**67.0**	21.7	14.0	34.1	33.2
Gloversville, N. Y	**70.5**	32.5	27.0	10.8	37.6
Hudson, N. Y	20.3	29.9	49.0	**57.9**	19.0
Johnstown, N. Y	10.0	40.4	40.7	**51.2**	31.0
Kingston, N. Y	32.1	27.9	31.7	**66.9**	31.3
Middletown, N. Y	20.0	**52.6**	19.4	**76.5**	31.4
Mt. Vernon, N. Y	17.6	21.3	33.1	20.1	**58.4**

[1] Not reported separately.

REGISTRATION CITY—continued.	NUMBER OF DEATHS FROM MENINGITIS PER 100,000 OF POPULATION.				
	1902	1903	1904	1905	1906
New Rochelle, N. Y	35.3	33.1	31.2	39.2	**51.1**
Newburg, N. Y	35.3	38.8	**65.3**	**53.2**	**56.4**
North Tonawanda, N. Y	(1)	(1)	(1)	(1)	**58.0**
Ogdensburg, N. Y	40.7	40.6	27.0	40.5	**60.6**
Olean, N. Y	**51.5**	20.3	**60.3**	**69.5**	**58.8**
Port Jervis, N. Y	31.5	31.3	**62.3**	30.9	**71.7**
Schenectady, N. Y	38.2	**53.1**	**64.2**	**68.7**	29.1
Troy, N. Y	**50.3**	40.9	26.3	**53.8**	36.6
Yonkers, N. Y	43.1	41.1	**59.6**	**169.3**	35.9
Raleigh, N. C	**72.3**	35.9	42.8	**56.6**	35.1
Wilmington, N. C	18.9	28.2	**51.5**	14.0	27.9
Bellaire, Ohio	**100.9**	40.4	**100.9**	**60.5**	**50.4**
Chillicothe, Ohio	**52.6**	44.5	29.3	43.4	28.6
Middletown, Ohio	21.6	**64.8**	32.3	**53.8**	.....
Newark, Ohio	31.7	25.9	**60.9**	19.9	39.0
Portsmouth, Ohio	**69.1**	46.7	15.2	14.8	38.6
Portland, Oreg	36.5	**56.8**	47.3	27.8	16.4
Allentown, Pa	**53.4**	36.4	43.0	27.1	14.4
Altoona, Pa	30.3	**62.2**	32.8	39.5	27.1
Butler, Pa	(2)	(2)	(2)	(2)	**90.7**
Carbondale, Pa	**78.5**	35.1	41.4	**67.9**	20.0
Hazelton, Pa	**67.5**	19.9	**71.9**	32.2	6.3
McKeesport, Pa	**65.0**	36.6	34.6	47.6	48.3
Mahanoy City, Pa	**100.4**	**56.5**	**76.5**	41.1	6.7
Mt. Carmel, Pa	**70.6**	34.1	33.0	19.2	18.6
Norristown, Pa	30.8	30.4	**51.6**	42.6	16.8
Phoenixville, Pa	(2)	(2)	(2)	(2)	**72.9**
Plymouth, Pa	34.5	40.1	**91.1**	**75.9**	12.3
Steelton, Pa	39.5	**53.7**	37.5	**110.1**	**71.9**
Williamsport, Pa	48.1	13.7	**51.0**	33.8	40.4
Central Falls, R. I	**80.3**	31.7	46.9	**66.9**	15.2
Newport, R. I	**76.7**	25.0	12.2	**51.9**	**62.6**
Pawtucket, R. I	**75.8**	**52.7**	28.2	18.4	38.5
Salt Lake City, Utah	**76.0**	**57.7**	44.8	23.8	**53.9**
Barre, Vt	**75.2**	**82.2**	**78.7**	47.2	18.1
Bennington town, Vt	**59.8**	.....	11.5	22.6	11.1
Burlington, Vt	**108.0**	**65.5**	**103.7**	**62.9**	**52.2**
Rutland, Vt	25.7	34.1	**67.8**	33.7	41.8
Norfolk, Va	31.5	16.3	17.7	20.7	**88.2**
Petersburg, Va	22.9	22.9	**68.8**	36.7	22.9
Tacoma, Wash	**65.1**	37.7	22.7	26.9	28.9
Wheeling, W. Va	**83.0**	**62.2**	**78.8**	**60.9**	48.2
Green Bay, Wis	29.5	42.5	27.2	**56.9**	46.4

[2] Nonregistration.

Death rates of 50 or more per 100,000 of population are indicated in the above list by bold face type. The extensive prevalence of meningitis throughout the country is shown by the long list of localities affected and by the continued high mortality in many cities during the past few years. The following cities showed a mortality above the limit employed for each of the five years: Covington, Ky.; Biddeford, Me.; Attleboro town, Chicopee, Gardner town, Holyoke, and Lowell, Mass.; Berlin and Manchester, N. H.; Harrison and Hoboken, N. J.; Cohoes, N. Y.; and Burlington, Vt. Cities having the highest death rate from meningitis during the year 1906, are Berlin, N. H. (166.9); Atlanta, Ga. (142.9); Biddeford, Me. (134); Key West, Fla. (122.8); and Manchester, N. H. (111.3). There were no deaths from this cause reported for 1906 from Norwalk town, Conn.; Rockland, Me.; Plymouth town and Wakefield town, Mass.; or Middletown, Ohio, which is of peculiar interest from the fact that with one exception the rate in 1905 for each of these cities exceeded 50 per 100,000 of population.

Apoplexy and paralysis.—According to Table III there were 29,434 deaths from apoplexy in 1906, cor-

responding to a death rate of 71.8 per 100,000 of population, and 6,933 deaths from "paralysis," or 16.9 per 100,000 of population. These two "diseases" may be considered together, for many of the cases of paralysis result from previous attacks of apoplexy, although some are probably of an entirely different character. Many of the deaths from "softening of the brain" belong to the same class, and an indeterminate number of those classed under "general paralysis of insane." It is practically impossible in the compilation of registration returns under present conditions to make entirely definite distinctions, as the reporting physicians fail to specify the exact nature of the disease. Probably returns of apoplexy are somewhat more significant as indicating a special character of affection (of the circulatory system and not of the nervous system) than those from "paralysis," for which reason the following table showing the progressive decrease in the relative number of deaths returned from the latter cause is of interest:

CAUSE OF DEATH.	NUMBER OF DEATHS FROM APOPLEXY AND PARALYSIS.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
Aggregate	29,339	28,536	28,920	30,259	30,371	36,367
Apoplexy	22,756	21,862	22,311	23,828	24,390	29,434
Paralysis	6,583	6,674	6,609	6,431	5,981	6,933
CAUSE OF DEATH.	PER CENT.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
Aggregate	100.0	100.0	100.0	100.0	100.0	100.0
Apoplexy	77.6	76.6	77.1	78.7	80.3	80.9
Paralysis	22.4	23.4	22.9	21.3	19.7	19.1

DISEASES OF THE CIRCULATORY SYSTEM.

Diseases of the circulatory system were responsible for 70,666 deaths in 1906, the death rate being 172.4 per 100,000 of population. A considerable increase in the number of deaths from this class is shown over the number returned from the previous year (58,503), but this is due to the additions to the registration area, as the death rate in 1905 (173.3) was slightly higher than that shown for 1906. The list of diseases included under this class may be seen in Table III. Probably the great majority of deaths due to apoplexy and a considerable proportion of those reported from "paralysis," both of which titles are included under diseases of the nervous system, are in reality due to deteriorative changes and breaking down of the arterial system, so that they are truly circulatory diseases. Deaths reported from arteriosclerosis alone are included under the diseases of the arteries, but this condition is very frequently assigned as a cause of death in connection with other chronic degenerative diseases and especially with Bright's disease or chronic nephritis. It is difficult to present a clear-cut, distinctive statement of deaths from diseases of the circulatory system because the functions of this system are so intimately associated with all of the other so-called "systems" of the body.

Death rates from diseases of the circulatory system are higher among the colored population than among the white, according to the comparative data given for certain areas in the following table:

AREA.	NUMBER OF DEATHS FROM DISEASES OF THE CIRCULATORY SYSTEM PER 100,000 OF POPULATION: 1906.	
	White.	Colored.
Maryland rural	105.0	120.4
Washington, D. C	227.9	313.7
Louisville, Ky	136.7	224.4
New Orleans, La	207.8	416.3
Baltimore, Md	161.3	327.4
Kansas City, Mo	137.1	264.3
Memphis, Tenn	96.9	127.8

Heart disease.—By far the largest number of deaths from any individual title found under diseases of the circulatory system is included under the somewhat indefinite term "heart disease." According to the compilation for 1906 there were 53,581 deaths from this general cause, an increase over the number for 1905 (44,723), but showing a slight decrease in the death rate when the total estimated population of the registration area in each year is considered. The rates for the years 1905 and 1906 were, respectively, 132.5 and 130.7 per 100,000 of population. This title includes many deaths in which the return is simply "heart disease," without specification of the definite form of valvular or other cardiac affection. It is probable that in many of these cases the term is significant of little more than of sudden death. Whether a sudden death shall be ascribed to "apoplexy" or "heart disease" or "heart failure" may depend entirely upon the caprice of the coroner or reporting physician in the absence of a post-mortem examination.

DISEASES OF THE RESPIRATORY SYSTEM.

The largest number of deaths of adults from any of the classes of diseases affecting certain organs or systems of organs of the body is due to diseases of the respiratory system, even though the most important disease formerly included under this class—pulmonary tuberculosis—has been removed from its association with these diseases and is now included under general diseases. By reference to Table III the number of deaths from diseases of the respiratory system in the registration area of 1906 (82,174) may be compared with the number returned for recent years and for the five-year period 1901 to 1905. While the number exceeds those reported for the years 1902 to 1905, this fact is due chiefly to the increase in the registra-

tion area, as the death rate for the year 1906 (200.4) is lower than that shown for the preceding year (205.7) and for the quinquennial period (221.6).

Bronchitis.—Next to pneumonia bronchitis is the most important individual cause of death included under diseases of the respiratory system. There were 12,425 deaths thus compiled for 1906, showing a death rate of 30.3 per 100,000 of population, being considerably lower than the rates for any of the recent years or for the five-year period 1901 to 1905. The deaths included under this general title are of somewhat indefinite character. An attempt is made to separate them into the two distinct forms of acute bronchitis and chronic bronchitis, but the results are to some extent vitiated by the fact that chronic bronchitis, under the rules of the International Classification, includes deaths reported simply as "bronchitis;" that is to say, when no proper classification is given by the reporting physician. In such cases the death is compiled as acute bronchitis, however, when the decedent is under 5 years of age.

The following table shows for the registration area the number of deaths from bronchitis in the aggregate, and for the acute and chronic forms, by sex, for 1906, the four preceding years, and the annual average for the period 1901 to 1905, as well as the per cent distribution:

FORM OF DISEASE AND SEX.	NUMBER OF DEATHS FROM BRONCHITIS.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
Bronchitis:						
Aggregate	12,027	12,581	11,847	11,931	11,309	12,425
Male	5,781	6,120	5,622	5,728	5,509	5,994
Female	6,246	6,461	6,225	6,203	5,800	6,431
Acute bronchitis:						
Total	6,996	7,588	6,842	6,910	6,598	7,410
Male	3,566	3,890	3,447	3,517	3,399	3,791
Female	3,430	3,698	3,395	3,393	3,199	3,619
Chronic bronchitis:						
Total	5,031	4,993	5,005	5,021	4,711	5,015
Male	2,215	2,230	2,175	2,211	2,110	2,203
Female	2,816	2,763	2,830	2,810	2,601	2,812

FORM OF DISEASE AND SEX.	PER CENT.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
Bronchitis:						
Aggregate	100.0	100.0	100.0	100.0	100.0	100.0
Male	48.1	48.6	47.5	48.0	48.7	48.2
Female	51.9	51.4	52.5	52.0	51.3	51.8
Acute bronchitis:						
Total	58.2	60.3	57.8	57.9	58.3	59.6
Male	61.7	63.6	61.3	61.4	61.7	63.2
Female	54.9	57.2	54.5	54.7	55.2	56.3
Chronic bronchitis:						
Total	41.8	39.7	42.2	42.1	41.7	40.4
Male	38.3	36.4	38.7	38.6	38.3	36.8
Female	45.1	42.8	45.5	45.3	44.8	43.7

The above table shows that in the aggregate and for chronic bronchitis deaths of females are in excess of those of males for each year shown, while for acute bronchitis deaths of males invariably exceed those of females. No pronounced variations in per cent distribution are in evidence from year to year as applied either to sex, or form of disease.

Pneumonia.—Next to pulmonary tuberculosis, which caused 65,341 deaths in the registration area in 1906, pneumonia, with 61,077 deaths, had the largest number of deaths of any individual cause. Deaths and death rates from this and other forms of diseases of the respiratory system are shown in Table III and the distinction is there made between bronchopneumonia and pneumonia proper, or the lobar or croupous form. Unfortunately deaths returned solely from pneumonia without special qualification are included under the latter term, so that the data are not as precise as could be wished in this respect. Bronchopneumonia, on the other hand, includes many deaths from terminal conditions, passive congestions of the lungs occurring in the last stages of chronic disease and which should properly be compiled elsewhere. It probably also includes many deaths due to true influenzal pneumonia, which when thus definitely specified are included under influenza.

Making allowance for the increased population of the registration area of 1906 as compared with that of the previous year, the death rate from pneumonia in all of its forms decreased from 150.1 to 149 per 100,000 of population. The death rate from bronchopneumonia rose from 34.4 to 38.2, while the death rate from pneumonia (lobar and unqualified) fell from 115.7 to 110.8. The latter rate was the least of any for the series of years given in the table and considerably below the quinquennial average for the period 1901 to 1905, which was 126.2.

Death rates are given in the following table showing the distribution of pneumonia (lobar and unqualified) *in the registration area, its subdivisions, states, and* larger cities, rates of 175 or more per 100,000 of population being distinguished by bold face type.

The registration area of 1906 showed a lower death rate from pneumonia than the registration area for any of the preceding years given in the table. Among the older registration states 3 showed an increased mortality for 1906 over 1905 from this disease, and 7 showed a decreased mortality. The death rate of Connecticut for 1906 (113.1) was higher than that of the state for any previous year given in the table. Minimum rates were shown for New Hampshire (104.2), Maine (106.4), and New York (123.4) as compared with prior years. Massachusetts also had a lower rate for the year (121.6), which, however, was the same as that for 1904. The highest death rate for the year was for the new registration state of Colorado (147.7), and the lowest was for South Dakota (50.9), also a new registration state, followed by Michigan (74) and Indiana (76.8).

Variations in mortality from 1905 to 1906 from pneumonia were nearly equally divided among the greater

registration cities shown, 17 having increased rates and 19 decreased rates. Only 3 cities, however, showed maximum rates in 1906 for the series of years—New Haven, Conn. (180.7); Detroit, Mich. (114.6); and Buffalo, N. Y. (98)—while 12 cities showed minimum rates in 1906, namely, St. Paul, Minn. (56.4); Indianapolis, Ind. (82.6); St. Louis, Mo. (96.6); Cincinnati, Ohio (112.7); Scranton, Pa. (118); New Orleans, La. (118.7); Washington, D. C. (122.5); Baltimore, Md. (123.7); Kansas City, Mo. (136.5); Boston, Mass. (150.3); Pittsburg, Pa. (165.6); and Allegheny, Pa. (173.5).

AREA.	NUMBER OF DEATHS FROM PNEUMONIA (LOBAR AND UNQUALIFIED) PER 100,000 OF POPULATION.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
The registration area	126.2	124.5	122.2	135.7	115.7	110.8
Registration cities	138.6	138.2	136.6	150.7	124.6	124.2
Registration states	120.2	116.2	113.1	130.2	112.5	109.5
Cities in registration states	140.1	136.6	134.4	155.7	127.7	127.8
Rural part of registration states	95.0	90.6	86.1	97.3	92.7	88.2
Registration cities in other states	137.1	139.7	138.8	145.7	121.5	116.1
Registration states:						
California	(1)	(1)	(1)	(1)	(1)	106.9
Colorado	(1)	(1)	(1)	(1)	(1)	147.7
Connecticut	107.2	99.1	107.9	111.2	110.0	113.1
Indiana	84.4	78.0	68.8	92.2	81.1	76.8
Maine	121.8	120.5	121.2	124.9	118.8	106.4
Maryland	(1)	(1)	(1)	(1)	(1)	95.6
Massachusetts	125.2	123.2	127.9	121.6	125.8	121.6
Michigan	83.4	85.9	80.1	80.0	72.5	74.0
New Hampshire	121.1	128.8	124.4	110.4	110.9	104.2
New Jersey	126.3	116.5	117.9	154.8	116.2	132.3
New York	140.2	135.8	128.6	158.7	124.9	123.4
Pennsylvania	(1)	(1)	(1)	(1)	(1)	106.9
Rhode Island	135.6	119.1	138.4	136.9	152.7	141.5
South Dakota	(1)	(1)	(1)	(1)	(1)	50.9
Vermont	132.3	136.2	116.1	124.7	142.6	126.4
Registration cities of 100,000 population or over in 1900:						
San Francisco, Cal.	116.9	107.2	124.2	107.7	125.3	(2)
Denver, Colo.	**176.7**	161.3	139.4	**214.5**	147.6	149.4
New Haven, Conn.	122.1	100.6	132.6	120.7	147.9	**180.7**
Washington, D. C.	134.0	126.9	137.4	146.3	139.0	122.5
Chicago, Ill.	148.2	143.8	**180.4**	154.7	123.5	138.4
Indianapolis, Ind.	106.0	83.7	99.6	126.0	102.7	82.6
Louisville, Ky.	160.9	138.5	140.0	**203.5**	150.9	156.5
New Orleans, La.	146.4	148.6	135.7	166.2	134.7	118.7
Baltimore, Md.	146.8	148.3	140.2	155.7	140.4	123.7
Boston, Mass.	155.1	154.5	159.9	154.1	160.4	150.3
Fall River, Mass.	150.9	143.5	**190.7**	134.5	**183.4**	149.1
Worcester, Mass.	135.2	125.1	146.5	131.5	131.1	137.6
Detroit, Mich.	100.8	106.4	109.8	94.8	82.9	114.6
Minneapolis, Minn.	69.7	75.1	70.0	58.0	69.1	66.8
St. Paul, Minn.	66.5	74.7	71.4	68.3	58.9	56.4
Kansas City, Mo.	**201.7**	172.4	**182.6**	**321.8**	171.8	136.5
St. Joseph, Mo.	86.9	98.2	51.6	108.9	98.7	64.4
St. Louis, Mo.	152.2	160.7	139.3	172.3	130.9	96.6
Omaha, Nebr.	82.0	85.6	80.3	85.5	65.5	73.3
Jersey City, N. J.	172.4	157.6	**179.6**	**222.5**	147.0	**183.7**
Newark, N. J.	140.4	129.1	133.9	**178.4**	118.3	156.4
Paterson, N. J.	147.7	144.8	150.6	**176.9**	120.1	153.4
Buffalo, N. Y.	88.5	83.9	86.4	94.9	87.0	98.0
New York, N. Y.	**181.3**	**180.5**	164.1	**215.4**	148.6	149.0
Bronx borough	144.8	156.8	128.7	168.2	121.1	162.0
Brooklyn borough	173.7	**175.4**	150.7	**193.0**	148.8	148.0
Manhattan borough	**194.6**	**188.0**	**182.0**	**241.4**	154.1	150.2
Queens borough	154.5	**181.9**	131.2	165.7	129.4	134.9
Richmond borough	138.9	132.6	103.4	**182.6**	141.2	122.8
Rochester, N. Y.	91.5	61.8	93.9	102.1	96.1	70.0
Syracuse, N. Y.	90.6	63.5	104.7	105.7	101.6	89.2
Cincinnati, Ohio	132.8	118.9	120.2	164.0	128.4	112.7
Cleveland, Ohio	127.3	137.5	130.1	129.7	111.6	129.7
Columbus, Ohio	123.3	118.0	150.6	118.9	129.5	123.1
Toledo, Ohio	72.7	80.0	74.0	61.8	68.9	72.5
Allegheny, Pa.	**224.5**	**276.4**	**227.4**	**181.6**	**217.7**	173.5
Philadelphia, Pa.	137.8	154.8	143.2	137.8	97.9	105.4
Pittsburg, Pa.	**216.9**	**255.0**	**227.2**	**195.0**	**211.4**	165.6
Scranton, Pa.	161.8	126.9	136.7	**187.9**	160.2	118.0
Providence, R. I.	142.0	126.1	156.3	144.8	158.6	152.5
Memphis, Tenn.	139.9	101.9	132.9	**212.8**	135.3	140.0
Milwaukee, Wis.	89.0	89.7	98.6	103.1	63.9	97.8

(1) Nonregistration. (2) Population not estimated.

According to the returns from the following areas having a considerable proportion of colored population pneumonia is immensely more fatal to the black than to the white population:

AREA.	NUMBER OF DEATHS FROM PNEUMONIA PER 100,000 OF POPULATION: 1906.	
	White.	Colored.
Maryland rural	65.1	102.6
Washington, D. C.	68.1	242.1
Louisville, Ky.	100.6	393.2
New Orleans, La.	79.2	224.5
Baltimore, Md.	93.4	287.1
Kansas City, Mo.	115.5	310.1
Memphis, Tenn.	96.9	185.2

The death rates in the minor cities from pneumonia are shown in the following table. Only cities in which the rate equaled or exceeded 175 per 100,000 of population during one of the past five years are included. The arrangement is in alphabetic order of states, and rates above the limit are shown in bold face type.

REGISTRATION CITY.	NUMBER OF DEATHS FROM PNEUMONIA (LOBAR AND UNQUALIFIED) PER 100,000 OF POPULATION.				
	1902	1903	1904	1905	1906
Leadville, Colo.	**442.9**	**328.9**	**474.3**	**400.3**	**452.7**
Pueblo, Colo.	**419.0**	**318.1**	**260.2**	**213.4**	**210.9**
Bristol town, Conn.	128.8	174.4	**189.6**	167.1	154.6
Middletown town, Conn.	128.2	159.6	**179.4**	75.2	84.9
Stamford town, Conn.	113.0	151.7	**214.0**	147.0	139.9
Wilmington, Del.	164.6	**184.5**	129.6	119.2	**213.8**
Jacksonville, Fla.	118.7	144.4	**200.4**	130.3	106.3
Atlanta, Ga.	**267.2**	**224.8**	**292.6**	**261.9**	**197.2**
Savannah, Ga.	163.9	146.7	156.0	**258.5**	109.3
Jacksonville, Ill.	161.2	108.1	**194.6**	142.4	91.7
Springfield, Ill.	104.1	127.0	**208.0**	112.5	125.9
New Albany, Ind.	63.0	111.5	**179.4**	58.2	67.9
Vincennes, Ind.	114.0	64.4	**217.9**	116.5	131.7
Leavenworth, Kans.	124.8	130.5	**215.0**	138.5	85.7
Covington, Ky.	133.9	134.1	**198.6**	152.6	105.5
Paducah, Ky.	**180.9**	**176.6**	**256.3**	**214.0**	**182.5**
Augusta, Me.	**176.2**	116.4	123.5	97.9	105.0
Bangor, Me.	160.7	**220.5**	**213.5**	137.8	140.4
Biddeford, Me.	**206.3**	144.1	160.5	158.9	**233.0**
Frederick, Md.	84.1	**176.6**	30.8	60.9	30.1
Amesbury town, Mass.	65.1	88.0	**223.0**	169.7	160.7
Clinton town, Mass.	141.3	**240.0**	**181.6**	91.6	138.5
Danvers town, Mass.	**182.9**	**361.4**	**368.4**	165.5	**218.2**
Framingham town, Mass.	70.2	**192.2**	95.7	103.9	155.2
Lawrence, Mass.	**178.5**	122.3	159.0	**184.2**	159.3
Lowell, Mass.	168.5	150.7	145.4	140.2	**184.9**
Milford town, Mass.	128.6	93.1	125.4	148.7	**269.4**
Natick town, Mass.	**199.2**	125.5	93.9	72.8	83.0
Taunton, Mass.	109.6	171.0	**200.1**	**180.8**	171.2
Webster town, Mass.	**193.8**	167.9	**214.8**	109.8	68.2
Weymouth town, Mass.	78.8	**217.8**	138.7	69.1	120.3
Ironwood, Mich.	142.0	**181.1**	29.9	59.4	9.8
Sault Ste. Marie, Mich.	**182.0**	115.9	61.2	120.0	67.3
Berlin, N. H.	**181.5**	**201.3**	**191.8**	165.7	108.5
Laconia, N. H.	111.9	99.5	149.2	174.1	**211.4**
Manchester, N. H.	**178.0**	147.9	117.5	119.8	129.8
Rochester, N. H.	69.1	113.8	146.2	**188.9**	32.9
Elizabeth, N. J.	113.6	145.2	**198.9**	130.6	151.2
Harrison, N. J.	174.1	117.3	**210.1**	85.8	158.3
Hoboken, N. J.	144.0	158.7	**249.0**	**209.3**	**217.4**
Morristown, N. J.	129.1	**203.5**	**192.1**	82.3	105.5
New Brunswick, N. J.	**178.8**	114.3	146.6	**185.9**	**181.0**
Orange, N. J.	**180.5**	165.9	**241.2**	137.9	**185.0**
Trenton, N. J.	118.5	136.5	**178.0**	136.6	99.6
Union, N. J.	144.5	**184.3**	**186.3**	123.5	143.9
Auburn, N. Y.	137.7	151.6	124.6	147.6	**176.0**
Dunkirk, N. Y.	115.0	145.3	**179.6**	144.8	144.5
Ogdensburg, N. Y.	122.2	**237.1**	**182.6**	141.7	161.7
Saratoga Springs, N. Y.	158.2	94.0	124.2	146.2	**183.0**
Troy, N. Y.	**207.8**	161.0	159.2	145.5	163.4
Utica, N. Y.	161.9	154.8	**188.1**	149.3	122.9
Watertown, N. Y.	82.2	71.3	89.6	79.1	**200.1**
Watervliet, N. Y.	152.9	111.0	166.1	**193.4**	117.1
Raleigh, N. C.	130.1	107.7	85.5	162.8	**260.1**
Wilmington, N. C.	**193.8**	131.8	121.8	93.3	171.9

REGISTRATION CITY—continued.	NUMBER OF DEATHS FROM PNEUMONIA (LOBAR AND UNQUALIFIED) PER 100,000 OF POPULATION.				
	1902	1903	1904	1905	1906
Ashtabula, Ohio	**217.9**	**176.3**	**315.2**	**213.3**	**363.3**
Bellaire, Ohio	**272.4**	121.1	**262.3**	**262.3**	161.4
Youngstown, Ohio	156.7	159.6	169.7	**205.8**	142.3
Altoona, Pa	93.4	**181.8**	**185.1**	142.7	116.9
Carbondale, Pa	171.2	105.2	**200.0**	156.1	146.9
Dunmore, Pa	(1)	(1)	(1)	(1)	**250.9**
Duquesne, Pa	(1)	(1)	(1)	(1)	**214.9**
Johnstown, Pa	**192.9**	**215.1**	136.4	128.1	**212.7**
McKeesport, Pa	**243.7**	167.2	168.2	**202.3**	145.0
Mahanoy City, Pa	143.4	**218.8**	145.9	136.9	148.3
Mt. Carmel, Pa	**296.5**	163.7	**204.6**	102.3	68.2
Nanticoke, Pa	(1)	(1)	(1)	(1)	**187.2**
Norristown, Pa	149.4	**208.7**	**193.5**	**191.5**	96.9
Phoenixville, Pa	(1)	(1)	(1)	(1)	**187.4**
Plymouth, Pa	**206.8**	**368.1**	**182.2**	170.8	98.6
Pottstown, Pa	145.2	166.4	**194.8**	57.5	100.4
Shenandoah, Pa	(1)	(1)	(1)	(1)	**213.5**
South Bethlehem, Pa	159.1	**226.6**	**242.8**	**197.1**	**193.3**
Steelton, Pa	110.6	107.4	**180.1**	154.1	**222.8**
Central Falls, R. I	112.4	**184.9**	125.1	**185.1**	**182.7**
Woonsocket, R. I	144.3	143.8	**191.1**	121.1	160.6
Charleston, S. C	**198.3**	126.6	124.7	108.5	150.9
Nashville, Tenn	**231.0**	136.9	167.2	162.7	147.6
Salt Lake City, Utah	137.5	**182.0**	**194.8**	**185.0**	111.1
Barre, Vt	75.2	113.0	137.7	**179.3**	36.3
Rutland, Vt	137.3	**230.2**	152.4	134.6	**217.4**
Alexandria, Va	**212.8**	**192.0**	**205.4**	**191.5**	143.4
Wheeling, W. Va	113.2	114.5	**194.5**	107.2	135.0

[1] Nonregistration.

A continued high mortality appears for the cities of Leadville and Pueblo, Colo.; Atlanta, Ga.; Paducah, Ky.; and Ashtabula, Ohio, their rates being above the limit of 175 per 100,000 of population for each of the years shown. The highest mortality shown in the above table from this cause for 1906 was that of Leadville, Colo. (452.7), followed by Ashtabula, Ohio (363.3); Milford town, Mass. (269.4); Raleigh, N. C. (260.1); and Dunmore, Pa. (250.9).

DISEASES OF THE DIGESTIVE SYSTEM.

Diseases of the digestive system as shown in Table III caused 86,278 deaths in the registration area for the year 1906, or 210.5 per 100,000 of population. The number of deaths is larger than for previous years because of the additional territory included in the registration area, but apart from this the death rate shows a considerable increase over the rates for the years 1902 to 1905. This class of diseases caused more deaths in 1906 than any other of the classes affecting particular organs of the body. For the previous years the supremacy in this respect was held by diseases of the respiratory system. As nearly one-half of the deaths from diseases of the digestive system are those of infants under 2 years of age the increased proportion of population of this class added in 1906 would affect the relative incidence of the two classes of causes.

Diarrhea and enteritis.—The number of deaths from diarrhea and enteritis in the registration area during 1906 was 50,385, of which 42,581, or 84.5 per cent, were those of children under 2 years of age. This period constitutes a separate division of the International Classification as shown in Table III. The following table shows the number of deaths in the registration area for diarrhea and enteritis in the aggregate and for the two age periods for 1906, the four preceding years, and the annual average for the period 1901 to 1905, together with the per cent distribution as applied to deaths of those under and over 2 years of age:

AGE.	NUMBER OF DEATHS FROM DIARRHEA AND ENTERITIS.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
Aggregate	35,704	33,627	33,035	36,804	39,399	50,385
Under 2 years	29,094	26,903	26,697	30,315	33,032	42,581
2 years and over	6,610	6,724	6,338	6,549	6,367	7,804

AGE.	PER CENT.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
Aggregate	100.0	100.0	100.0	100.0	100.0	100.0
Under 2 years	81.5	80.0	80.8	82.2	83.8	84.5
2 years and over	18.5	20.0	19.2	17.8	16.2	15.5

The above table shows a progressive increase in the proportion dying under 2 years of age, and a corresponding decrease for deaths from these diseases of those of more mature years.

The following table exhibits the mortality from diarrhea and enteritis (all ages) for the registration area, its subdivisions, states, and larger cities. Rates of 150 or more per 100,000 of population are shown by bold face type. A general increase in the mortality from diarrheal diseases is indicated by this table, the registration area and nearly all of its principal subdivisions showing higher death rates for 1906 than for the previous years. The only exception is for registration cities in other states, which is explained by the fact that many cities with high mortality from diarrheal diseases have been detached from this group and are now included in the group of cities in registration states. Among the cities so transferred are some with high death rates from these causes. Of the 10 registration states whose rates are available for comparison for the five years 1902 to 1906, 8 showed increased death rates for the last year of registration over the preceding one, and 6 showed higher death rates for the last year of registration than for any of the previous years given in the table. These are in order of highest mortality: New York (130.1), New Hampshire (117.2), Michigan (116.5), Maine (112.2), Vermont (99.6), and Indiana (80.2). The highest death rates for the year were those of Pennsylvania (162.4) and Rhode Island (157.6), while the lowest rates were those of South Dakota (54.3), California (71.9), and Indiana (80.2).

The group of registration cities as constituted in 1905 and previous years was less changed by the addition of new registration territory in 1906 than any other of the main subdivisions, so that the increase in the mortality from 1905 (128.5) to 1906 (135.6) is of

interest. In the old registration states taken as a whole the mortality from diarrhea and enteritis rose from 117.3 in 1905 to 120.7 in 1906. The cities in these states showed only a slight increase, namely, from 141.1 to 142.2, while the rural mortality rose from 86.1 to 90.1.

AREA.	NUMBER OF DEATHS FROM DIARRHEA AND ENTERITIS (ALL AGES) PER 100,000 OF POPULATION.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
The registration area	109.8	105.4	101.5	111.3	116.7	122.9
Registration cities	123.3	119.7	114.6	125.8	128.5	135.6
Registration states	109.2	103.1	98.8	110.2	117.3	125.1
Cities in registration states	135.4	129.6	122.6	138.2	141.1	145.3
Rural part of registration states	75.8	70.0	68.6	74.1	86.1	101.4
Registration cities in other states	110.9	109.6	106.6	113.2	115.6	114.0
Registration states:						
California	(1)	(1)	(1)	(1)	(1)	71.9
Colorado	(1)	(1)	(1)	(1)	(1)	90.5
Connecticut	116.2	114.7	106.3	119.5	132.7	132.1
Indiana	79.2	78.5	73.2	78.1	79.0	80.2
Maine	80.2	64.8	75.4	68.8	96.2	112.2
Maryland	(1)	(1)	(1)	(1)	(1)	109.3
Massachusetts	118.8	115.1	117.2	114.4	129.1	121.8
Michigan	86.2	74.9	86.1	80.4	97.8	116.5
New Hampshire	100.2	84.6	99.7	95.9	112.3	117.2
New Jersey	117.4	112.1	95.7	131.5	123.5	129.9
New York	120.2	113.1	101.7	125.1	129.1	130.1
Pennsylvania	(1)	(1)	(1)	(1)	(1)	**162.4**
Rhode Island	**165.4**	**175.2**	**175.2**	149.0	148.1	**157.6**
South Dakota	(1)	(1)	(1)	(1)	(1)	54.3
Vermont	67.4	45.7	73.5	65.8	84.5	99.6
Registration cities of 100,000 population or over in 1900:						
San Francisco, Cal	75.6	76.8	73.6	76.9	68.0	(2)
Denver, Colo	67.5	77.3	76.8	52.4	63.9	78.3
New Haven, Conn	128.2	147.7	116.9	114.7	136.1	132.8
Washington, D. C	148.0	**159.9**	135.4	139.6	141.6	135.2
Chicago, Ill	121.0	120.5	119.2	111.5	128.9	130.6
Indianapolis, Ind	74.7	75.1	90.0	79.1	60.8	95.4
Louisville, Ky	70.9	68.3	71.9	79.8	70.1	75.2
New Orleans, La	**155.7**	**154.7**	**157.7**	**155.7**	**164.4**	**177.0**
Baltimore, Md	149.3	**151.0**	126.5	143.1	**158.2**	130.9
Boston, Mass	122.6	123.9	120.0	112.5	122.3	106.1
Fall River, Mass	**321.6**	**314.6**	**334.0**	**301.2**	**352.7**	**343.6**
Worcester, Mass	110.3	94.8	126.4	77.7	131.9	147.6
Detroit Mich	118.2	116.7	122.4	113.0	105.0	149.1
Minneapolis, Minn	52.0	42.0	48.6	45.2	55.7	67.9
St. Paul, Minn	52.9	41.3	44.1	65.2	52.3	68.7
Kansas City, Mo	68.8	65.9	78.0	61.3	66.4	56.5
St. Joseph, Mo	39.8	43.5	33.5	32.7	44.2	33.9
St. Louis, Mo	89.0	85.7	98.1	87.1	81.3	89.6
Omaha, Nebr	46.8	68.3	26.4	58.1	34.8	41.1
Jersey City, N. J	**150.8**	144.3	126.5	**160.0**	**155.6**	**180.7**
Newark, N. J	127.7	127.9	94.5	142.5	132.7	138.1
Paterson, N. J	134.0	129.0	100.0	**156.9**	148.8	133.9
Buffalo, N. Y	129.7	116.2	126.4	140.6	126.3	**159.8**
New York, N. Y	**164.7**	**156.3**	136.7	**172.8**	**168.0**	**162.7**
Bronx borough	126.7	148.5	100.8	133.3	125.9	**153.9**
Brooklyn borough	**174.5**	**165.5**	136.8	**180.7**	**175.3**	**169.9**
Manhattan borough	**160.2**	149.2	138.5	**169.4**	**164.3**	**151.8**
Queens borough	**175.1**	**150.9**	144.0	**199.1**	**191.6**	**212.3**
Richmond borough	**221.1**	**227.7**	**189.9**	**199.3**	**230.3**	**240.1**
Rochester, N. Y	67.3	62.4	56.5	55.3	94.5	98.5
Syracuse, N. Y	81.0	82.2	80.1	62.4	100.7	99.3
Cincinnati, Ohio	112.2	110.5	104.2	135.6	104.0	145.7
Cleveland, Ohio	124.4	118.3	127.0	136.3	137.0	142.1
Columbus, Ohio	66.4	67.3	66.4	80.7	61.9	65.3
Toledo, Ohio	96.0	103.4	97.3	80.4	100.5	102.5
Allegheny, Pa	**166.6**	**165.1**	**152.1**	**205.0**	**182.0**	**175.6**
Philadelphia, Pa	118.9	96.5	113.1	133.6	144.5	**173.1**
Pittsburg, Pa	**208.0**	**228.6**	**198.2**	**203.5**	**193.6**	**230.3**
Scranton, Pa	131.8	110.1	123.0	**162.9**	**167.9**	**187.0**
Providence, R. I	**161.0**	**165.0**	**182.1**	**152.6**	118.8	**156.0**
Memphis, Tenn	124.0	145.6	132.8	109.0	108.1	93.6
Milwaukee, Wis	108.5	98.1	106.5	115.1	114.7	145.6

[1] Nonregistration. [2] Population not estimated.

The evidence is also clear as to the wide distribution of increased mortality from intestinal diseases in the examination of the death rates of the 36 greater cities shown. Of these, 24 showed higher rates for 1906 than for 1905, and the rates of no less than 17 out of the 24 were higher in 1906 than for any of the preceding four years. These cities are, in order of highest mortality: Pittsburg, Pa. (230.3); Scranton, Pa. (187); Jersey City, N. J. (180.7); New Orleans, La. (177); Philadelphia, Pa. (173.1); Buffalo, N. Y. (159.8); Detroit, Mich. (149.1); Worcester, Mass. (147.6); Cincinnati, Ohio (145.7); Milwaukee, Wis. (145.6); Cleveland, Ohio (142.1); Chicago, Ill. (130.6); Rochester, N. Y. (98.5); Indianapolis, Ind. (95.4); Denver, Colo. (78.3); St. Paul, Minn. (68.7); and Minneapolis, Minn. (67.9). Age distribution of the population is an important factor, because most of the deaths from diarrheal diseases are those of infants.

The relative death rates from diarrhea and enteritis are given, by color, for certain areas in the following table:

AREA.	NUMBER OF DEATHS FROM DIARRHEA AND ENTERITIS PER 100,000 OF POPULATION: 1906.	
	White.	Colored.
Maryland rural	92.3	89.9
Washington, D. C	98.4	216.1
Louisville, Ky	66.2	113.3
New Orleans, La	161.4	218.7
Baltimore, Md	123.1	172.9
Kansas City, Mo	53.5	81.3
Memphis, Tenn	87.5	100.0

In the rural part of Maryland it would seem that the white mortality from this disease is slightly less favorable than the colored mortality. For all of the cities given in the above table, however, the colored death rate is much higher than the white death rate from this class of diseases.

Deaths from diarrhea and enteritis (all ages) in the minor cities having populations of 8,000 but less than 100,000 in 1900 are shown in the following table, arranged alphabetically in order of states and with all rates of 150 and over per 100,000 of population in bold face type:

REGISTRATION CITY.	NUMBER OF DEATHS FROM DIARRHEA AND ENTERITIS (ALL AGES) PER 100,000 OF POPULATION.				
	1902	1903	1904	1905	1906
Mobile, Ala	92.6	83.6	135.2	123.3	**153.8**
Fresno, Cal	117.2	138.8	**182.8**	**150.4**	141.2
San Diego, Cal	60.5	76.0	**150.0**	95.2	(1)
Pueblo, Colo	**245.9**	**236.0**	131.8	141.2	129.8
Ansonia, Conn	**167.3**	134.5	139.6	**187.7**	**198 8**
Bridgeport, Conn	**164.4**	119.8	**155.3**	**169.4**	124.6
Bristol town, Conn	128.8	135.6	**161.2**	**259.9**	**154 6**
Greenwich town, Conn	135.2	54.8	**184.8**	121.3	**186.6**
Manchester town, Conn	36.1	35.4	121.2	**161.1**	66.5
Middletown town, Conn	111.5	**170.6**	**152.2**	145.0	**180.3**
Naugatuck, Conn	131.5	109.8	**260.8**	**189.0**	99.0
New Britain town, Conn	**216.4**	**206.7**	**169.4**	**204.3**	**296.5**
New London, Conn	**153.0**	**165.9**	141.6	128.6	**151.3**
Stamford town, Conn	71.9	131.4	**169.2**	132.3	130.3
Stonington town, Conn	**215.6**	111.8	132.1	130.2	**181.7**
Torrington town, Conn	123.8	**160.0**	99.9	**191.6**	135.0
Vernon town, Conn	118.8	83.5	**155.7**	**180.3**	132.8
Wallingford town, Conn	84.4	**154.2**	**150.5**	97.9	76.5
Waterbury, Conn	**224.8**	**159.2**	**214.4**	**232.9**	**235.9**
Windham town, Conn	39.4	**186.9**	147.3	**255.1**	**225.4**
Jacksonville, Fla	144.3	101.4	**150.3**	124.6	125.4
Key West, Fla	**395.3**	**350.0**	**338.0**	**336.6**	**396.7**
Atlanta, Ga	**181.3**	**169.9**	**198.4**	143.1	**176.2**
Savannah, Ga	**163.9**	125.1	104.5	118.9	107.9
Hammond, Ind	44.0	**182.3**	107.4	115.9	119.1

[1] Population not estimated.

REGISTRATION CITY—continued.	NUMBER OF DEATHS FROM DIARRHEA AND ENTERITIS (ALL AGES) PER 100,000 OF POPULATION.				
	1902	1903	1904	1905	1906
Kokomo, Ind	126.4	168.0	60.6	50.9	83.2
South Bend, Ind	102.9	76.9	114.9	155.1	100.9
Terre Haute, Ind	150.1	82.9	112.1	77.1	81.4
Vincennes, Ind	114.0	64.4	154.4	89.6	149.2
Paducah, Ky	200.5	200.4	139.8	77.4	89.0
Augusta, Me	134.3	149.6	148.2	163.1	137.3
Biddeford, Me	266.9	120.1	124.8	135.3	209.7
Lewiston, Me	(1)	(1)	(1)	(1)	212.0
Waterville, Me	(1)	(1)	(1)	(1)	174.3
Annapolis, Md	252.6	79.5	247.4	133.6	132.2
Frederick, Md	73.6	83.1	51.4	152.3	100.4
Adams town, Mass	291.2	209.3	237.4	208.2	219.5
Chelsea, Mass	124.4	105.6	133.7	152.9	108.1
Chicopee, Mass	275.8	217.4	200.1	237.7	250.0
Clinton town, Mass	89.3	157.5	136.2	183.1	53.9
Fitchburg, Mass	108.9	83.3	113.1	124.2	228.1
Holyoke, Mass	219.4	252.9	242.4	166.2	195.0
Hyde Park town, Mass	130.9	28.6	140.3	172.3	81.3
Lawrence, Mass	201.4	228.2	201.3	291.2	267.0
Lowell, Mass	223.3	279.2	249.7	285.6	273.2
Milford town, Mass	162.9	67.7	75.3	82.6	114.3
New Bedford, Mass	264.8	278.8	252.9	212.5	256.7
North Adams, Mass	154.0	126.3	141.8	140.0	128.8
Quincy, Mass	172.1	79.5	95.4	110.4	100.3
Salem, Mass	111.9	157.0	195.8	236.5	129.1
Southbridge town, Mass	153.6	188.5	120.3	336.4	107.2
Taunton, Mass	135.4	148.4	161.4	206.7	151.8
Ware town, Mass	381.2	94.6	152.5	197.8	334.9
Webster town, Mass	183.0	157.4	143.2	149.7	214.4
Westfield town, Mass	54.6	206.3	112.4	73.5	100.9
Woburn, Mass	111.8	104.6	111.3	41.7	173.2
Alpena, Mich	(1)	(1)	(1)	(1)	212.3
Escanaba, Mich	174.4	140.1	225.3	417.9	261.1
Iron Mountain, Mich	246.8	137.1	198.0	403.8	96.9
Ironwood, Mich	172.4	201.2	49.9	128.7	98.3
Ishpeming, Mich	136.7	241.1	137.7	142.7	148.1
Marquette, Mich	106.2	76.1	112.5	184.9	173.2
Menominee, Mich	75.3	138.8	72.1	103.1	195.4
Owosso, Mich	67.3	33.2	98.3	64.8	181.4
Port Huron, Mich	168.5	70.7	64.9	118.5	112.4
Sault Ste. Marie, Mich	263.8	222.9	148.7	205.7	109.3
Traverse City, Mich	77.5	148.4	195.8	94.1	49.4
Berlin, N. H	100.8	306.7	228.3	218.0	300.5
Dover, N. H	112.9	37.5	89.7	223.6	126.3
Manchester, N. H	220.0	248.2	186.7	249.1	170.0
Nashua, N. H	108.8	166.2	163.2	99.3	198.9
Bayonne, N. J	120.4	171.7	237.9	184.6	253.6
Elizabeth, N. J	156.8	124.2	221.0	140.5	207.4
Harrison, N. J	139.3	100.6	80.8	109.2	150.7
Millville, N. J	117.1	70.4	172.1	109.4	74.1
Montclair, N. J	154.1	162.3	251.8	317.7	124.6
Morristown, N. J	43.0	110.2	125.3	321.1	324.6
New Brunswick, N. J	122.3	169.1	191.1	190.2	281.5
Orange, N. J	172.5	126.4	217.8	180.1	139.7
Passaic, N. J	241.0	203.5	326.1	224.6	172.0
Perth Amboy, N. J	214.5	168.0	148.4	220.1	265.1
Plainfield, N. J	72.3	162.5	145.7	140.8	157.2
Union, N. J	106.8	110.6	180.3	141.1	86.4
Amsterdam, N. Y	118.9	121.3	110.9	105.0	173.8
Auburn, N. Y	124.9	94.8	90.4	132.2	160.8
Buffalo, N. Y	116.2	126.4	140.6	126.3	159.8
Cohoes, N. Y	108.5	158.3	116.5	211.9	166.0
Dunkirk, N. Y	138.0	196.2	103.6	92.1	201.1
Kingston, N. Y	76.4	71.8	111.0	94.5	187.6
Mt. Vernon, N. Y	123.3	55.4	107.5	84.2	171.4
New Rochelle, N. Y	64.8	55.1	93.5	176.6	130.1
Newburg, N. Y	94.1	97.0	88.3	212.8	124.1
Niagara Falls, N. Y	134.8	169.2	179.7	158.9	161.7
Ogdensburg, N. Y	115.4	108.4	81.1	94.5	242.6
Peekskill, N. Y	234.9	99.5	205.8	113.6	159.8
Schenectady, N. Y	148.6	175.2	172.5	149.5	171.2
Utica, N. Y	86.0	98.8	99.7	99.0	153.6
Yonkers, N. Y	189.4	167.8	187.3	223.1	176.3
Raleigh, N. C	310.8	93.3	249.5	254.8	282 0
Wilmington, N. C	236.3	174.1	229.6	237.9	241.5
Ashtabula, Ohio	36.3	119.9	116.5	73.3	168.7
Bellaire, Ohio	221.9	111.0	262.3	100.9	50.4
Ironton, Ohio	167.0	91.5	82.8	115.4	98.5
Youngstown, Ohio	103.8	171.8	153.7	182.5	210.6
Braddock, Pa	(2)	(2)	(2)	(2)	478.7
Butler, Pa	(2)	(2)	(2)	(2)	263.9
Carbondale, Pa	128.4	70.1	110.4	169.7	300.5
Dubois, Pa	169.7	183.7	131.3	81.9	70.7
Dunmore, Pa	(2)	(2)	(2)	(2)	270.7
Duquesne, Pa	(2)	(2)	(2)	(2)	438.4
Hazelton, Pa	155.2	119.6	117.7	128.8	145.8
Homestead, Pa	(2)	(2)	(2)	(2)	419.7
McKeesport, Pa	154.4	128.0	183.1	133.3	195.7
Mahanoy City, Pa	236.6	218.8	340.5	246.3	303.3
Mt. Carmel, Pa	310.6	197.9	158.4	147.0	247.9

[1] Not reported separately.

REGISTRATION CITY—continued.	NUMBER OF DEATHS FROM DIARRHEA AND ENTERITIS (ALL AGES) PER 100,000 OF POPULATION.				
	1902	1903	1904	1905	1906
Nanticoke, Pa	(2)	(2)	(2)	(2)	321.9
Norristown, Pa	74.7	69.5	90.3	97.9	155.8
Phoenixville, Pa	(2)	(2)	(2)	(2)	239.5
Pittston, Pa	(2)	(2)	(2)	(2)	251.7
Plymouth, Pa	137.8	207.5	169.1	113.9	357.3
Pottsville, Pa	74.9	61.8	146.8	230.2	144.0
Reading, Pa	95.2	87.0	98.8	115.6	160.2
Shenandoah, Pa	(2)	(2)	(2)	(2)	675.4
South Bethlehem, Pa	166.3	198.2	256.6	74.8	226.6
Steelton, Pa	205.5	214.8	127.6	227.5	215.7
Wilkinsburg, Pa	(2)	(2)	(2)	(2)	153.4
Central Falls, R. I	240.9	322.2	172.0	282.8	274.1
Lincoln town, R. I	(1)	(1)	(1)	(1)	226.3
Pawtucket, R. I	156.5	179.8	117.5	154.4	142.5
Warwick town, R. I	(1)	(1)	(1)	(1)	153 2
Woonsocket, R. I	271.8	202.6	149.7	285.7	269.7
Charleston, S. C	380.5	305.0	377.6	391.2	335.6
Nashville, Tenn	143.0	136.9	214.9	146.0	152.3
San Antonio, Tex	320.6	217.2	236.7	220.8	264.7
Burlington, Vt	133.7	146.1	172.8	242.0	289.5
Rutland, Vt	120.1	162.0	76.2	67.3	100.3
Alexandria, Va	192.2	123.4	184.9	82.1	157.1
Norfolk, Va	211.2	159.1	171.2	168.9	168.8
Petersburg, Va	288.9	210.9	270.5	210.9	256.8
Richmond, Va	205.2	154.4	184.9	179.6	159.3
Marinette, Wis	37.8	76.5	58.0	91.2	151.5

[2] Nonregistration.

Only places in which the death rate from diarrhea and enteritis amounted to 150 or over per 100,000 of population during one or more of the years given are included in the above table. Among these the highest death rate in 1906 was that of Shenandoah, Pa. (675.4 per 100,000 of population, or over one-half of 1 per cent of the total estimated population). The specific death rate with reference to the class chiefly affected—those under 2 years of age—was, of course, even greater. High rates are also shown for Braddock, Pa. (478.7); Duquesne, Pa. (438.4); Homestead, Pa. (419.7); and Key West, Fla. (396.7). The following municipalities showed death rates from diarrheal diseases in excess of the limit mentioned—150 per 100,000 of total population—for each of the years given in the table: New Britain town and Waterbury, Conn.; Key West, Fla.; Adams town, Chicopee, Holyoke, Lawrence, Lowell, and New Bedford, Mass.; Manchester, N. H.; Passaic, N. J.; Yonkers, N. Y.; Wilmington, N. C.; Mahanoy City, Pa.; Central Falls, R. I.; Charleston, S. C.; San Antonio, Tex.; Norfolk, Petersburg, and Richmond, Virginia.

Cirrhosis of the liver.—The mortality from cirrhosis of the liver was stationary as shown for the registration area in Table III, the death rate for 1906 (14.8) being the same as for the preceding year. The number of deaths increased from 4,994 in 1905 to 6,079 in 1906. Many of the deaths from cirrhosis of the liver are caused primarily by the use of alcohol; about two-thirds of them are deaths of males, and nearly one-half are between the ages of 45 and 64 as shown by the following table in which the ratios by sex and age periods are stated in reference to total deaths for the past five years and the quinquennial period 1901 to 1905:

SEX AND AGE.	PROPORTION PER 1,000 DEATHS FROM CIRRHOSIS OF THE LIVER.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
Aggregate	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0
Sex:						
Male	660.0	660.1	665.0	652.6	663.4	663.9
Female	340.0	339.9	335.0	347.4	336.6	336.1
Age:						
Under 1 year	3.0	2.7	3.4	3.2	1.6	2.6
Under 5 years	6.0	6.1	5.7	6.2	5.6	4.9
5 to 14 years	4.8	6.1	4.7	4.6	4.4	5.9
15 to 24 years	12.6	14.6	11.4	10.8	12.2	12.4
25 to 34 years	70.4	75.1	69.1	67.1	69.4	60.5
35 to 44 years	181.9	171.9	187.3	191.8	173.3	177.2
45 to 64 years	478.7	476.2	476.9	478.4	485.3	493.5
65 years and over	245.6	250.1	244.9	241.1	249.8	245.6

Peritonitis.—There were 3,357 deaths from peritonitis, so stated without further qualification by which the assignments could be made to the proper cause, in the registration area during the year 1906. The death rate from this cause for the year (8.2) is the lowest of any year given in Table III, probably showing that there has been a progressive transfer of deaths from this somewhat indefinite title to appendicitis, puerperal septicemia, salpingitis, violence, and other causes of peritonitis. Nearly two-thirds of the deaths from this cause (61.2 per cent in 1906) are deaths of females, and over one-half of the total number of deaths occurred at the ages from 15 to 44 years.

Appendicitis.—Appendicitis was reported as the cause of 4,673 deaths in the registration area for the year 1906, a number exceeding that for any of the previous years given in Table III. The death rate, however, diminished from 12 in 1905 to 11.4 in 1906. This may be due to the somewhat less degree of precision in the returns from the new registration areas. In the group of old registration states constituted as it was in 1905 the death rate from appendicitis rose from 10.4 per 100,000 of population in 1905 to 10.5 in 1906.

DISEASES OF THE GENITO-URINARY SYSTEM.

Although the number of deaths from the general class of diseases of the genito-urinary system as returned from the registration area in 1906 (48,038) considerably exceeds the number of deaths from this class in any previous year as shown in Table III, the death rate in 1906 (117.2) was slightly less than that for 1905 (122.5). The increased number of deaths is due to the fact that the registration area of 1906 is considerably larger than that for preceding years. All of the individual titles included under this group are of minor importance, with the exception of Bright's disease and nephritis.

Bright's disease and nephritis.—There were 4,035 deaths compiled from acute nephritis as shown in Table III for the year 1906, and 36,898 compiled from Bright's disease, making a total of 40,933 deaths from the group—Bright's disease and nephritis—or 99.8 per 100,000 of estimated population. The number exceeds that compiled for recent years, as may be expected from the additions of registration territory, but the death rate is lower than those for the years 1904 and 1905 and but slightly exceeds that for the five-year period 1901 to 1905 (97.5). It is difficult to make any clear-cut distinctions in the deaths returned from this class of causes. Some idea may be obtained as to the forms of returns by means of the following table, which shows the number of deaths reported and the per cent distribution for recent years:

CAUSE OF DEATH.	NUMBER OF DEATHS FROM BRIGHT'S DISEASE AND NEPHRITIS.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
Aggregate	31,703	29,119	31,814	34,381	35,196	40,933
Acute nephritis	3,138	2,983	3,173	3,470	3,565	4,035
Acute Bright's disease	558	546	580	608	558	678
Acute nephritis	2,580	2,437	2,593	2,862	3,007	3,357
Bright's disease	28,565	26,136	28,641	30,911	31,631	36,898
Bright's disease (unqualified)	5,871	6,064	5,775	5,717	5,381	6,272
Chronic Bright's disease	1,738	1,534	1,843	2,018	1,895	2,444
Nephritis (unqualified)	5,948	5,672	6,175	6,074	5,999	6,968
Chronic nephritis	12,145	9,836	12,124	14,402	15,430	18,023
Uremia (unqualified)	2,863	3,030	2,724	2,700	2,926	3,191

CAUSE OF DEATH.	PER CENT.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
Aggregate	100.0	100.0	100.0	100.0	100.0	100.0
Acute nephritis	9.9	10.2	10.0	10.1	10.1	9.9
Acute Bright's disease	1.8	1.9	1.8	1.8	1.6	1.7
Acute nephritis	8.1	8.4	8.2	8.3	8.5	8.2
Bright's disease	90.1	89.8	90.0	89.9	89.9	90.1
Bright's disease (unqualified)	18.5	20.8	18.2	16.6	15.3	15.3
Chronic Bright's disease	5.5	5.3	5.8	5.9	5.4	6.0
Nephritis (unqualified)	18.8	19.5	19.4	17.7	17.0	17.0
Chronic nephritis	38.3	33.8	38.1	41.9	43.8	44.0
Uremia (unqualified)	9.0	10.4	8.6	7.9	8.3	7.8

The above table shows a constant increase in the aggregate number of deaths from this group, and also in the number assigned to each of the two subdivisions, acute nephritis and Bright's disease, and further analysis of the table demonstrates that the increase is in the more definite or qualified forms, showing increasing precision in statement of cause of death by physicians. It may be noted that in each of the five years and for the quinquennial period 1901 to 1905 the number of deaths compiled under Bright's disease and acute nephritis approximated 90 per cent and 10 per cent of the total, respectively.

Death rates are given in the following table showing the distribution of Bright's disease and nephritis in the registration area, its main subdivisions, states, and largest cities. Death rates of 150 or more per 100,000 of population are indicated by bold face type.

AREA.	NUMBER OF DEATHS FROM BRIGHT'S DISEASE AND NEPHRITIS PER 100,000 OF POPULATION.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
The registration area	97.5	91.3	97.8	103.8	104.3	99.8
Registration cities	107.5	100.8	107.7	114.3	114.4	116.7
Registration states	96.0	90.2	95.9	102.3	101.5	98.2
Cities in registration states	114.8	108.4	114.2	122.0	119.4	121.3
Rural part of registration states	72.3	67.6	72.8	76.9	78.1	71.2
Registration cities in other states	100.1	93.2	101.1	106.4	109.2	106.6
Registration states:						
California	(1)	(1)	(1)	(1)	(1)	87.2
Colorado	(1)	(1)	(1)	(1)	(1)	74.7
Connecticut	95.2	92.0	93.1	105.7	99.3	98.3
Indiana	54.9	52.1	53.9	59.5	59.0	65.6
Maine	86.2	80.7	90.3	89.9	89.6	99.1
Maryland	(1)	(1)	(1)	(1)	(1)	114.2
Massachusetts	80.8	74.3	81.2	85.0	86.5	84.6
Michigan	55.3	52.5	55.1	59.6	62.2	64.2
New Hampshire	87.2	79.1	87.4	92.8	101.8	108.2
New Jersey	100.2	96.5	101.1	100.6	108.1	107.2
New York	126.1	119.1	125.5	135.0	129.1	132.8
Pennsylvania	(1)	(1)	(1)	(1)	(1)	80.9
Rhode Island	130.6	116.9	138.2	137.9	140.6	128.7
South Dakota	(1)	(1)	(1)	(1)	(1)	33.5
Vermont	85.3	80.9	85.6	92.5	92.8	91.6
Registration cities of 100,000 population or over in 1900:						
San Francisco, Cal	115.5	102.4	128.4	123.2	123.1	(2)
Denver, Colo	107.1	102.2	99.3	114.3	121.7	126.4
New Haven, Conn	101.2	96.1	82.0	125.8	108.4	113.0
Washington, D. C	136.1	115.5	131.3	147.3	**159.1**	**151.1**
Chicago, Ill	94.1	85.4	99.2	99.9	111.4	117.2
Indianapolis, Ind	64.0	55.3	63.2	76.7	66.4	79.9
Louisville, Ky	101.5	96.6	103.4	103.1	111.8	106.1
New Orleans, La	**189.3**	**168.5**	**214.6**	**196.6**	**200.9**	**200.9**
Baltimore, Md	144.0	127.1	141.2	**163.4**	**163.3**	**169.8**
Boston, Mass	82.4	79.0	85.5	81.9	82.6	91.7
Fall River, Mass	90.1	77.9	91.1	87.1	92.7	99.1
Worcester, Mass	70.8	60.5	67.6	78.5	74.1	76.9
Detroit, Mich	69.1	65.6	75.3	69.3	76.5	73.3
Minneapolis, Minn	60.4	57.4	60.4	61.6	66.8	67.6
St. Paul, Minn	53.4	56.6	52.9	51.5	52.8	55.9
Kansas City, Mo	87.8	84.7	91.9	101.0	84.8	78.4
St. Joseph, Mo	34.4	34.3	38.0	32.7	37.2	57.7
St. Louis, Mo	115.6	117.4	111.7	123.6	114.4	116.3
Omaha, Nebr	51.2	52.8	41.5	64.1	53.1	58.8
Jersey City, N. J	117.5	110.6	120.2	117.4	133.2	115.6
Newark, N. J	135.9	131.8	145.2	139.2	131.3	139.8
Paterson, N. J	87.2	84.5	82.6	101.6	102.2	118.8
Buffalo, N. Y	86.9	78.1	88.3	94.6	92.1	89.0
New York, N. Y	**161.7**	**155.4**	**159.4**	**171.0**	**160.5**	**165.9**
Bronx borough	139.8	132.8	129.1	**160.9**	137.7	**174.2**
Brooklyn borough	149.6	**152.1**	144.3	**151.7**	145.1	**156.9**
Manhattan borough	**175.3**	**163.5**	**177.1**	**187.4**	**175.9**	**172.4**
Queens borough	122.8	121.7	111.2	126.0	125.4	**150.9**
Richmond borough	**171.5**	141.2	**163.0**	**210.4**	**181.0**	**155.1**
Rochester, N. Y	90.9	91.8	89.3	101.6	101.1	121.2
Syracuse, N. Y	90.6	79.6	99.5	101.4	100.7	106.0
Cincinnati, Ohio	123.6	117.4	124.1	131.8	122.9	145.7
Cleveland, Ohio	75.0	66.5	79.3	78.2	82.8	91.5
Columbus, Ohio	64.2	64.3	76.8	54.1	64.0	79.8
Toledo, Ohio	60.3	57.4	56.9	67.7	63.1	63.8
Allegheny, Pa	50.7	48.6	44.9	51.3	61.6	63.3
Philadelphia, Pa	**150.3**	136.3	**150.0**	**160.0**	**165.7**	**168.7**
Pittsburg, Pa	59.3	65.8	58.8	55.5	60.4	62.4
Scranton, Pa	70.9	57.8	72.9	83.7	84.4	75.8
Providence, R. I	140.4	126.1	**151.0**	**152.0**	148.0	143.7
Memphis, Tenn	105.6	83.7	90.6	123.4	114.7	105.6
Milwaukee, Wis	54.7	46.9	55.4	61.0	61.4	59.8

[1] Nonregistration. [2] Population not estimated.

A somewhat decreased death rate from the group of diseases included under the title "Bright's disease and nephritis" is indicated for the registration area of 1906 as a whole as compared with the rate shown for the registration area as constituted for the preceding year. Of the 10 registration states for which records are available for past years 5 showed increased death rates for 1906 over 1905, and 4 of these had their maximum death rates in the latest year of registration, namely, New Hampshire (108.2), Maine (99.1), Indiana (65.6), and Michigan (64.2).

The group of registration cities for 1906, which corresponds quite closely to the group of registration cities in previous years, showed an increase in the mortality from Bright's disease and nephritis from 114.4 in 1905 to 116.7 in 1906. In the unchanged group of registration states as constituted in 1905 the death rate from Bright's disease and nephritis rose from 101.5 in that year to 103.7 in 1906, the increase being somewhat greater in the cities than in the country.

New Orleans, La., which shows the highest death rate from Bright's disease and nephritis of any of the greater cities for the last year given in the table, had the same rate for 1906 as for 1905 (200.9). Of the remaining cities, 25 showed an increased death rate for 1906, and 10 showed a decreased death rate as compared with the preceding year. A general tendency to increase in city rates from this cause in recent years, however, may be noted from the fact that no less than 16 cities had their highest rates for the series of years given in the table in the last year of registration, namely, Baltimore, Md. (169.8); Philadelphia, Pa. (168.7); Cincinnati, Ohio (145.7); Denver, Colo. (126.4); Rochester, N. Y. (121.2); Paterson, N. J. (118.8); Chicago, Ill. (117.2); Syracuse, N. Y. (106); Fall River, Mass. (99.1); Boston, Mass. (91.7); Cleveland, Ohio (91.5); Indianapolis, Ind. (79.9); Columbus, Ohio (79.8); Minneapolis, Minn. (67.6); Allegheny, Pa. (63.3); and St. Joseph, Mo. (57.7). Only a single city—Kansas City, Mo.—showed a lower rate (78.4) for 1906 than for any of the years since 1902.

VIOLENCE.

The total number of deaths in the entire registration area of 1906 from all forms of violence was 49,552, corresponding to a death rate of 120.9 per 100,000 of estimated population. The number is much larger than that for the preceding year (37,778), due in part to the considerable addition to the registration area, but the death rate from violence greatly exceeds that of 1905 (111.9) or that of any recent year. Following is a statement of the ratio of deaths from disease and deaths from violence to the total number of deaths returned for each of the past five years and for the five-year period 1901 to 1905:

CAUSE OF DEATH.	NUMBER OF DEATHS.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
All causes	529,630	508,640	524,415	551,354	545,533	658,105
Disease	493,126	475,752	487,402	513,117	506,521	606,341
Violence	34,886	31,135	35,542	36,644	37,778	49,552
Unknown	1,618	1,753	1,471	1,593	1,234	2,212

CAUSE OF DEATH.	PER CENT.					
	Annual average: 1901 to 1905.	1902	1903	1904	1905	1906
All causes	100.0	100.0	100.0	100.0	100.0	100.0
Disease	93.1	93.5	92.9	93.1	92.8	92.1
Violence	6.6	6.1	6.8	6.6	6.9	7.5
Unknown	0.3	0.3	0.3	0.3	0.2	0.3

The ratio of deaths from violence is higher for 1906 than for any of the years preceding. This may be due to some extent to a more careful statement of cause of death, which is probably responsible for a portion, at least, of the progressive increase shown for the years 1902 to 1905. The addition of new registration territory in 1906 makes the data for the registration area no longer strictly comparable with previous years.

The details in regard to modes of injury, with an attempt at a general separation of suicidal, accidental, and homicidal deaths, may be found in Table III for the years 1902 to 1906 and for the quinquennial period 1901 to 1905. Unfortunately the original returns are defective in many instances, so that classification is difficult, and by the very fact of their progressive improvement from year to year the number of deaths and the death rates from certain forms of violence may be so affected as to give more or less misleading impressions as to their variations. This condition will exist until a higher and practically fixed standard of reporting deaths from violence is attained. Thus the death rate from suicide apparently showed a considerable amount of increase for each year of the period 1902 to 1905. Part of this increase may have been due to an actual increase of the death rate from this cause, but part of it was certainly due to the exercise of greater care in specifying "suicide" in deaths from various forms of violence and to investigating doubtful cases. It should be remembered that a death is never compiled under the heading of suicide unless an explicit statement to that effect is given in the return. Very probably it may be suicidal, as are certain deaths from "carbolic acid," "pistol shot," etc., but the benefit of the doubt is always cast against suicide, and the death is compiled as accidental. The latter term should really be understood to include accidental, doubtful, and unspecified cases; perhaps it might be well, in the revision of the classification, to provide for four distinct classes: (1) Accidental deaths, (2) suicidal deaths, (3) homicidal deaths, and (4) deaths of unknown or uncertain character. The efficiency of a registration office would be shown by the reduction of the last class so far as possible, while the statistics of the definitely specified classes would not be vitiated by the inclusion of uncertain cases.

The whole subject of reporting and classifying deaths from violence is in a most unsatisfactory state, and requires the earnest efforts of registration officials, the medical profession, and especially of coroners, for its improvement. The root of the whole difficulty lies in the fact that the forms of certificates of death employed are most imperfect, and do not clearly provide for the statement of the essential items concerning the cause of a death from violence even as well as they provide for the statement of the cause of a death resulting from disease. An effort is being made to remedy this condition by providing a clear and definite form for the statement of exactly what a registration office needs to know concerning a violent death in connection with the new form proposed for the standard certificate. This is shown on a preceding page (page 15), and the reasons for the modification of the blank as there suggested may be stated, so far as the registration of deaths from violent causes are concerned, in the following extract from the Census pamphlet[1] in which they were originally presented:

> The facts required on a certificate of death from violence are of quite a different character from those required on a certificate of death from disease, and a complete statement can not well be expected unless special provision is made in the arrangement of the blank or special instructions be given to the physician, health officer, or coroner making the report. The transcripts received by the Bureau of the Census are especially unsatisfactory in this respect,[2] and although efforts have been made to secure more complete statements by correspondence with the local registrars sending indefinite returns the improvement is comparatively slight. Success can not be obtained in this way, but only by seeing that the certificates contain all of the data required when originally filed with the local registrar.
>
> The kind of facts desired may be seen from the general classification of violent deaths, whether from (1) accident and negligence, (2) suicide, (3) murder, or (4) manslaughter, as employed by the registrar-general of England and Wales:
>
> *Cause or character of accident; method of suicide, murder, or manslaughter.*
>
> 1. Mines, quarries, etc.
> 2. Vehicles and horses.
> 3. Ships, boats, docks, etc. (excluding drowning).
> 4. Building operations.
> 5. Machinery.
> 6. Weapons and implements.
> 7. Conflagrations, burns, scalds, explosions (not in mines, ships, etc.).
> 8. Poisons and poisonous vapors.
> 9. Drowning.
> 10. Suffocation.
> 11. Falls.
> 12. Weather agencies.
> 13. Otherwise or not stated.
>
> And more minutely, under 2 (a), for example, injuries on railways, there is an exact specification of the mode in which the injury occurred, as, "run over on line," "collision," "locomotive machinery," "striking against bridge," etc. The kinds of mines are specified and always the special means of injury or agent by which the casualty occurred.
>
> The International Classification of Causes of Death does not make clear-cut distinctions in this respect, but admits such a title as "Fractures," a term merely expressive of the nature of the injury (lesion) and not of the nature of the violence, and one which the registrar-general considers indefinite and places, in the absence of other information, under "13. Otherwise or not stated."

[1] Census pamphlet No. 107, Modes of Statement of Cause of Death and Duration of Illness upon Certificates of Death.

[2] See Mortality Statistics, 1900 to 1904, page lv: "In the statistical treatment of this class of deaths they naturally fall into four primary groups—(1) suicide, (2) homicide, (3) accidental violence, (4) other external causes; but the information upon which the classification must be made is too incomplete to permit the accurate separation of the deaths even by these general groups, and all general statistics of deaths from suicide, homicide, and various special forms of accident, derived from registration records, are incorrect and absolutely misleading. It would seem that in this class of deaths more than any other there should be no difficulty whatever in securing a proper classification, to the extent specified at least, since it is the only class in which there are practically universal provisions for an official inquiry into the circumstances attending each death, by a coroner, medical examiner, or other official, for the precise purpose of determining whether the death was due to homicide or suicide or to purely accidental causes; but instead of this being true the returns in this class of cases are the most unsatisfactory."

As an example of the factors to be considered in violent deaths, the following illustrative cases may be presented:

CLASS OF FACT.	Case 1.	Case 2.	Case 3.
1. CHARACTER OF VIOLENCE	Accidental	Suicidal	Homicidal.
2. MEANS OF VIOLENCE	Toy pistol	River	Revolver.
3. Nature of injury (lesion); immediate cause of death.	Wound of hand.	Drowning (asphyxia).	Wound of abdomen, perforation of intestine.
4. Secondary effects of injury, including infection of wound (sepsis, tetanus).	Tetanus		Peritonitis.
5. Contributory disease or condition.		Acute mania.	Alcoholism.

In the above cases, and, in fact, in all deaths from violent causes, there are two items that are absolutely essential for statistical purposes; these are, (1) the *character of the violence*, and (2) the *means of violence*.

The character of the violence, as accidental, suicidal, homicidal,[1] forms the primary basis of classification. A place should be provided for its statement on every certificate of death, and no case of violent death should be left unqualified in this respect. "Probably accidental" may be written in a doubtful case, or "Unknown" if absolutely impossible to determine; but in many cases the character is left unstated when it is perfectly easy to give it. In case of a railway collision it is not necessary to await the verdict of the coroner's jury before reporting any death resulting therefrom as *accidental;* a verdict to the effect that the collision resulted from criminal negligence would not change the statistical character of the death return, however it might alter its legal aspect. No fine distinctions as to murder, manslaughter, or justifiable homicide apply to a statement of *homicidal* violence; it is sufficient that one person kills another and not by accident.

The second essential feature of a return of a death from violence is the means or agency causing the death. A specific statement should be made of the special cause of the injury, as by fall of elevator, struck by trolley car, fell from building, carbolic acid (names of poisons should always be stated), etc.

Frequently a satisfactory statement of both items 1 and 2 can be given in a single expression; as, lightning, sunstroke, boiler explosion, collision on railway, etc. But if there be any shadow of doubt as to the event being entirely free from possibility of interpretation as suicidal or homicidal, its accidental character should be stated.

The remaining items, 3 to 5, are not essential for statistical purposes, but may be very important otherwise, and should be specified as completely as possible. Tetanus resulting from a wound should always be mentioned. It may be noted that while the injury itself—that is, the lesion resulting from the violence, as a fractured skull, a wound inflicted by a firearm, or the burn resulting from a conflagration—may be considered the primary cause of death in the same sense that the disease itself (e. g., typhoid fever) is considered the primary cause of death in a death from disease, in the first case the statement of the primary cause is *not* necessary and in the second case it *is* necessary for statistical purposes. Fractures, wounds, and burns are indefinite terms, and we desire to know, for the purposes of statistical classification, what caused the fracture, whether the wound was caused by a firearm, or the burn by a conflagration. In other words, we wish to know the proximate cause of the injury, corresponding to the Bacillus typhosus as a cause of typhoid fever, together with the directive influence determining that cause (suicide, homicide), or a statement that there was no directive or purposive element (accident, negligence, effect of weather agencies). The element of purpose is entirely absent, as a rule, from deaths from disease.[2] The dissimilar character of the information required in deaths from disease and in deaths from violence is chiefly responsible for the imperfect returns of the latter and for the absence of proper forms of statement on nearly all of the forms employed for certificates of death.

In the detailed list of forms of violence as shown in Table III it appears that of the 5,853 deaths from suicide, 1,834 were from poison. This number is about the same as that compiled for the previous year (1,820), although the total number of suicides increased from 5,438 for the registration area of 1905 to 5,853 for the registration area of 1906. But "other accidental poisonings" increased from 1,269 in 1905 to 1,734 in 1906; it is probable that a considerable number of deaths here included were in reality suicidal in character, but could not be so compiled on account of lack of proper specification in the returns. Similar comparisons might be made in regard to other definitely specified forms of violence, which are unduly diminished by the increase of indefinite forms.

The total amount of increase in the death rate from violence for the year 1906 as compared with the previous year is largely due to the increased death rate from "accidental traumatisms," under which head the death rate from injuries in mines and quarries rose from 1.5 to 3.7, and railroad accidents and injuries, including injuries by street cars (3.6) first stated separately in this report, rose from 17 to 20.9. The addition to the registration area of Pennsylvania, with its large mining population, is evidently responsible for the increased number of deaths due to mining accidents, and also affects the death rates from other forms of violence.

The number of deaths and the death rates from railroad accidents and injuries showed a marked increase over any previous year, even with the deduction in 1906 of the deaths from street car accidents, previously included under this head. It should be understood that the returns are frequently of the most indefinite character, and include all classes of deaths caused by railroad accidents, or resulting from injuries upon railroads. No distinctions of value can be drawn from the registration returns in regard to the exact mode of injury, as a rule, nor with respect to the relation of the persons killed to the railroads, whether as employees, passengers, or others. Many of the deaths are simply reported as "run over," "killed by cars," etc. In this connection some inter-

[1] Legal execution, war, and catastrophes such as earthquakes, volcanic eruptions, tidal waves, etc., should be made special subdivisions when necessary, the latter group because it includes various modes of violent death, as ordinarily classified, but all due to one common cause.

[2] A case of self-infection by typhoid fever with suicidal intent, cited by Schultze in his article on "Autopsies," Reference Handbook of the Medical Sciences, might be considered suicide by disease, and wilful persistence in providing a contaminated water supply verges on homicide, but practically all deaths from disease are considered "accidental" in the sense of absence of purpose in their incidence.

esting data of railroads engaged in interstate commerce are summarized from the quarterly Accident Bulletins for the calendar year 1906, prepared by the Interstate Commerce Commission, and which cover the entire United States instead of the limited registration area of the mortality statistics.

KIND OF ACCIDENT OR INJURY.	PASSENGERS AND EMPLOYEES.		PASSENGERS AND PERSONS CARRIED UNDER AGREEMENT OR CONTRACT.						EMPLOYEES.									
			Total.		Passengers.		Persons carried under agreement or contract.[1]		Total.		Trainmen.		Trainmen in yards.		Yard trainmen (switching crews).		Other employees.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Aggregate (all classes)	4,671	71,356	539	12,112	480	10,957	59	1,155	4,132	59,244	1,391	20,794	446	7,755	624	9,702	1,671	20,993
Total (train accidents)	1,209	15,831	321	7,681	280	6,831	41	850	888	8,150	591	5,208	97	1,218	91	831	109	893
Collisions	720	8,870	213	4,487	189	4,033	24	454	507	4,383	329	2,610	69	768	55	482	54	523
Derailments	415	5,356	107	3,114	91	2,733	16	381	308	2,242	221	1,545	22	220	19	215	46	262
Miscellaneous train accidents, including locomotive-boiler explosions	74	1,605	1	80	.....	65	1	15	73	1,525	41	1,053	6	230	17	134	9	108
Total (other than train accidents)	3,462	55,525	218	4,431	200	4,126	18	305	3,244	51,094	800	15,586	349	6,537	533	8,871	1,562	20,100
Coupling or uncoupling	317	3,821	.....	.....	.....	.....	.....	.....	317	3,821	94	1,175	65	681	140	1,857	18	108
While doing other work about trains or while attending switches	311	16,802	.....	.....	.....	.....	.....	.....	311	16,802	93	8,061	44	2,886	71	2,844	103	3,011
Coming in contact with overhead bridges, structures at side of track, etc	146	1,593	11	49	9	38	2	11	135	1,544	93	779	19	270	17	440	6	55
Falling from cars or engines or while getting on or off	914	13,984	145	1,991	137	1,929	8	62	769	11,993	322	4,883	108	2,307	195	3,341	144	1,462
Other causes	1,774	19,325	62	2,391	54	2,159	8	232	1,712	16,934	198	688	113	393	110	389	1,291	15,464

[1] Includes persons who are customarily carried on trains under special arrangements, such as postal clerks and express messengers, employees on Pullman cars, newsboys, live stock tenders, and men in charge of freight.

Comparison of the total number of deaths of passengers and employees alone (4,671) as reported by the railroad companies to the Interstate Commerce Commission for the entire country in 1906 with the number of deaths of all classes (7,090) in the registration area, which comprises about one-half of the population of the entire United States, during the same year, is suggestive of the considerable importance of the amount of mortality of persons other than passengers and employees who are yearly killed by the operation of railroads. Such deaths would include grade-crossing accidents, as well as deaths of persons trespassing upon railroad lines.[1] It would seem desirable that certificates of death should clearly specify the general nature of the accident or mode of injury, with the details required for the above table, and that some attempt at distinction between the classes of decedents should be made. Of course it is understood that general mortality statistics can not enter into the minute details possible in a special report.

Earthquake.—For the first time since the commencement of this series of reports a great national calamity has befallen a portion of the United States, and has caused a large number of deaths in the new registration state of California. As a result of the earthquake of April 18, 1906, there were returned to the Bureau of the Census 687 deaths from that state for which this cause was assigned. Of this number, 452 were reported from the city of San Francisco and 1 from Los Angeles. Only deaths in which the earthquake was assigned as the sole or primary cause were so compiled. As would very naturally be expected, the number differs slightly from that resulting from an independent compilation made by the California State Board of Health:[2]

> Altogether, 709 deaths, or 2.6 per cent of all for the year 1905–6, are charged against the earthquake and fire of April, 1906. The number given includes only the deaths known to have resulted from this public calamity, and may perhaps understate the loss of life resulting from this seismic disturbance. However, the total does include several deaths resulting only indirectly from earthquake and fire, as deaths of aged persons from fright or heart disease and deaths of infants from exposure.
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> The 709 deaths resulting directly or indirectly from earthquake and fire occurred in the following counties: San Francisco, 463; Santa Clara, 141; Sonoma, 72; Alameda, 12; Santa Cruz, 6; San Benito and Sacramento, 3 each; Mendocino, Napa, and Solano, 2 each; and Glenn, Nevada, and Los Angeles, 1 each. The bulk of the deaths in Santa Clara county were at the State Hospital at Agnew, and nearly all in Sonoma county were in Santa Rosa city. Most of the deaths in the other counties named occurred among refugees from San Francisco suffering from fright or exposure.

[1] For the year ending June 30, 1906, according to the nineteenth annual report of the Interstate Commerce Commission, out of a total of 10,618 deaths in the entire United States from railway accidents, 3,929 were of employees, 359 were of passengers, and 6,330 were deaths of other persons.

[2] Nineteenth Biennial Report of the State Board of Health of California for the fiscal years from July 1, 1904, to June 30, 1906, page 90.