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ILLNESS FROM CANCER IN THE UNITED STATES [1]

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I. Introduction

The increase in the number of deaths attributed to cancer during recent decades has aroused widespread interest in this disease and has resulted in an intensification of the efforts to discover its cause. From eighth or ninth in rank among the leading causes of death in 1900, depending on how causes of death are classified, cancer had advanced to second place in 1940, being exceeded as a cause of death only by diseases of the circulatory system. This change in rank is due in part to a decrease in the importance of certain diseases, diarrhea and enteritis, tuberculosis, and pneumonia, which formerly were among the leading causes of death, but more especially to an actual increase in both the number of deaths and the crude death rate from cancer itself. Even after the effect of the increasing proportion of the population in the older age groups is eliminated, the death rate from cancer shows a marked increase during the past 40 years although there is some indication that the rate of increase of the death rate is slowing down. Since this and other aspects of the trend in the mortality from cancer have recently been described in a series of reports, no further reference will be made to this matter here (*1–4*).

USES OF MORBIDITY RECORDS

In spite of the widespread interest in the increase in the number of deaths attributed to cancer, almost no information is available concerning the number of living persons who are afflicted with the disease. Some analysis has been made of the records of individual clinics and hospitals, but, although such records may be very accurate and yield useful information concerning various problems related to the occurrence and treatment of cancer, they are of limited value in answering such questions as: How many people are known to have cancer? What parts of the body are most frequently attacked? Does climate affect the occurrence of cancer? Is cancer more com-

[1] This is the first of three sections of a paper on illness from cancer in the United States. The remaining two sections will appear in early issues of the PUBLIC HEALTH REPORTS.

mon among Negroes than among whites? Do persons living in the open country have less cancer than persons living in cities? The answers to such questions depend upon careful epidemiological investigations of cancer in representative groups of the population.

Moreover, these and many similar questions cannot be completely answered by the use of mortality statistics alone. Since cancer of certain sites is more likely to result in death than cancer of other sites, conclusions concerning the number of persons with the disease as well as the tissues or organs affected, when based upon mortality records, will differ from corresponding conclusions drawn from morbidity records. Furthermore, as methods of therapy become increasingly effective, the types of cancer most readily cured will appear less and less frequently in mortality records.

DIFFICULTIES IN COLLECTING ILLNESS RECORDS

It is not easy to obtain accurate information concerning the number of persons with cancer. Experience has demonstrated that inquiries made by means of a house-to-house canvass do not obtain reliable data since many people do not know that they have cancer, while others will not admit the fact even if they know it to be true.

Regardless of how the data are collected, it is impracticable, if not impossible, to obtain information for other than diagnosed cases of cancer. Obviously, the number of persons with undiagnosed cancer or with precancerous conditions must remain unknown. Because of these considerations, when it was decided to initiate collection of information concerning the number of living persons with cancer, it was considered sufficient to collect information from hospitals, clinics, and private physicians alone. A complete coverage of such agencies in a community yields information concerning each case of diagnosed cancer except the few which are diagnosed and treated in some other community.

The morbidity rate for cancer determined in this manner will be affected by the effectiveness of the methods of therapy, the stage of the disease at which diagnosis is made, and by the proportion of the persons with cancer who seek medical care prior to death. For example, if each case lives only one year after diagnosis of cancer is made, the illness rate in any year will be approximately equal to the death rate in the following year. But if each case lives five years after diagnosis, the illness rate will be about five times the mortality rate. While the effect of these factors cannot be entirely eliminated, an attempt was made to minimize their influence by undertaking studies only in areas with superior medical and hospital facilities which were reasonably accessible to all groups of the population. This necessarily restricted the communities studied to urban areas.

II. Scope of Survey

SOURCE OF DATA

Ten areas were selected for study—Atlanta, Pittsburgh, Detroit, Chicago, New Orleans, Dallas and Fort Worth, San Francisco and Alameda County, Birmingham, Philadelphia, and Denver. In each case the county in which the city is located was also included except that Cherokee, Clayton, Cobb, De Kalb, Douglas, Fayette, Forsythe, Fulton, and Gwinnett Counties were included in the Atlanta area. The population of these areas numbered slightly more than 13 million in 1940 or about 10 percent of the total and 18 percent of the urban population of the United States. Records were collected in the first five areas for the calendar year 1937, in the next four areas for 1938, and in Denver for 1939.

Reports concerning each patient treated for or under observation for any malignant growth during a given calendar year were solicited by means of a questionnaire mailed to every physician and hospital in the study areas. A personal visit was made to physicians or hospitals failing to respond; in this way, reports were obtained from every hospital and from all but about 2 percent of the physicians.

Since many persons with cancer are seen or treated by more than one physician or hospital and since many persons receiving treatment in an important medical center are nonresidents, it proved necessary to obtain the name and address of each case. With this information, it was possible to distinguish duplicate reports and nonresidents, an essential requirement for the computation of resident illness rates.

Preliminary reports of the results of the survey for each area have been published elsewhere (*5–14*). For the present analysis, the study areas have been grouped by regions. Atlanta, Birmingham, New Orleans, Dallas, and Fort Worth comprise the southern cities; Chicago, Detroit, Pittsburgh, and Philadelphia comprise the northern cities; while Denver, San Francisco and Alameda County comprise the western urban areas.

ACCURACY AND VALIDITY OF ILLNESS RECORDS

The validity of the data collected depends upon the correctness with which the diagnosis of cancer is made. The definition of cancer must perforce be that of the individual physician making the diagnosis. In addition to other items of information, each respondent was requested to report whether or not the diagnosis of cancer was confirmed by a microscopic examination of tissue. Table 1 shows the percentage of cases with a microscopically confirmed diagnosis classified by the primary site of the neoplasm.

TABLE 1.—*Percentage of the reported number of cases of cancer with diagnosis confirmed by a microscopic examination of tissue by primary site and region*

Primary site	North	West	South
Buccal cavity	71	62	43
Lip	66	53	32
Tongue	76	77	62
Other	75	76	63
Digestive organs	57	60	45
Esophagus	57	48	52
Stomach and duodenum	41	47	32
Intestines	62	65	52
Rectum, anus	76	79	60
Biliary passages, liver	48	42	35
Pancreas, mesentery, peritoneum	46	48	37
Other	70	71	74
Respiratory system	66	64	56
Larynx	85	73	74
Bronchus, lung	53	59	43
Other	57	62	45
Genital organs	79	80	70
Uterus	82	84	73
Ovary, fallopian tube	85	86	78
Prostate	57	63	51
Other	85	80	71
Breast	81	79	69
Urinary organs	67	78	66
Kidney	67	72	55
Bladder	66	79	70
Other	84	94	80
Skin	60	49	24
Brain	66	68	69
Bone	67	64	52
Other and unspecified	73	73	57
Total	69	67	50
Total except skin	71	71	60
Number of cases	26,357	10,591	11,885

In the northern and western cities nearly 70 percent of all diagnoses were confirmed by a microscopic examination of tissue, but in the southern cities this was true for only 50 percent of the cases. One of the reasons for the lower percentage of cases with a microscopically confirmed diagnosis in the South is the larger proportion of cases with skin cancer in that area. Examination of tissue is regarded by many physicians as unnecessary or even undesirable if a patient has skin cancer. In the South only 24 percent of the diagnoses of skin cancer were confirmed by biopsy as compared with 49 percent in the West and 60 percent in the North. For diagnoses other than skin cancer, the percentage confirmed by biopsy or autopsy was 60 in the South and 71 in the North and West.

After the diagnosis of cancer has been correctly made, it frequently is difficult to determine the primary site of the disease. It was found that when the same case was reported by two or more physicians or hospitals, disagreement as to the primary site existed in about one-fourth of the cases. In these instances, diagnoses confirmed by a microscopic examination of tissue were taken in preference to clinical diagnoses.

Some of this disagreement concerning the primary site undoubtedly arose from carelessness in entering the correct information on record forms. A detailed comparison of the primary site reported on case records and death certificates has been published elsewhere and will be cited only briefly here (*15*).

For 13,524 cases of cancer, information was available from both case records and death certificates. The percentage agreement in diagnosis for these cases is shown in table 2. In this table the specific primary sites have been grouped into broad classes; for example, buccal cavity includes lip, tongue, mouth, jaw, pharynx, etc. For all cases combined, 77 percent of the specific primary sites entered on the death certificates agreed with the specific primary site taken from case records; for another 7 percent the primary site on the death certificate differed from that in the case reports, but still fell in the same broad group; 11 percent of the primary sites on the death certificates were in a different broad site group than the primary site on the case records while 5 percent of the causes of death were nonmalignant.

TABLE 2.—*Percentage distribution of cases reported in survey by primary site on the case schedule and type of diagnosis on death certificate*

Primary site on case schedule	Percentage of death certificates with diagnosis				Number of cases
	Of same specific site	In same broad group but different specific site	In different group	Nonmalignant cause	
Buccal cavity	63	16	17	4	583
Digestive tract	83	10	4	3	5,609
Respiratory system	68	16	10	6	965
Genitourinary system	83	5	8	4	3,488
Breast	86	[1]—	11	3	1,359
Skin	42	—	47	11	338
Brain	46	—	5	49	194
Bones	51	—	44	5	196
All other	51	—	41	8	792
Total	77	7	11	5	13,524

[1] A dash indicates that there were no subdivisions of the primary site group.

The greatest disagreement arose from diagnoses of cancer of the brain. Nearly one-half of the deaths of such cases were attributed to a nonmalignant cause. This lack of agreement results, in many instances, from the entry of a vague diagnosis on the death certificate. Unless definite information that the tumor is malignant is entered on the death certificate, causes of death such as "brain tumor" are coded as nonmalignant. On the case schedule, the physician was requested to state whether or not the tumor was malignant, the method of diagnosis, and the primary site. It is apparent that an appreciable proportion of the deaths of persons with cancer of the brain are assigned to a nonmalignant cause because of the absence of the necessary spe-

cific information on the death certificates. Of course the diagnosis of brain cancer taken from case records may also be in error since this diagnosis is difficult to confirm prior to death.

III. Illness From All Forms of Cancer

WAYS OF EXPRESSING ILLNESS RATES

There is no simple answer to the question, "How many persons have cancer?" Some forms of cancer, especially those on the surface of the body, are observable shortly after the malignant growth begins, but many forms of internal cancer remain undetected until late in the course of the disease. This fact, coupled with the failure of some persons to seek medical care even after the disease is noticeable, makes the number of persons with cancer larger than the number with diagnosed cancer.

By definition, the number of persons with undiagnosed cancer is unknown. In order to keep the relative number of such persons as small as possible the present study was undertaken in large metropolitan areas where it was believed that most of the persons with cancer would seek medical care. Even so, however, part of the difference in the case rates of illness from cancer among the surveyed cities is undoubtedly due to variation in the proportion of persons with undiagnosed cancer.

Practically, the number of persons regarded as having cancer must be synonymous with the number of persons with diagnosed cancer. But this number also is ambiguous until some decision is reached concerning persons who have been diagnosed as having cancer, who have been treated and who are now under observation. Shall such persons be included with those who are being treated for cancer or shall the number of persons with cancer be only those actually under treatment? There is no general agreement on the answer to this question.

During this study an attempt was made to distinguish four classes of cases.

1. Cases first diagnosed in the study year.
2. Cases diagnosed prior to, but treated during, the study year.
3. Cases under observation only.
4. Cases first diagnosed at death.

The proportion of cases in each of these classes is shown in table 3.

TABLE 3.—*Number and percentage of reported resident cases of cancer by type of case for the white population in three geographic regions*

Type of case	Number of cases			Percentage		
	South	West	North	South	West	North
First seen in study year	4,085	4,019	16,723	60.0	54.7	53.0
First seen prior to but under treatment during the study year	1,727	1,765	7,650	25.4	24.1	24.2
Under observation only	817	1,347	3,694	12.0	18.4	11.7
Reported only at time of death	176	205	3,500	2.6	2.8	11.1
Total	6,805	7,336	31,567	100.0	100.0	100.0

In the subsequent discussion three different illness rates will be used.

1. The incidence rate, that is, the relative number of cases first diagnosed in the study year. Only cases in class 1 above are included.
2. The prevalence rate, that is, the relative number of cases treated or diagnosed at any time during the year. This includes cases in classes 1, 2, and 4 above.
3. The total case rate, that is, the relative number of known cases of cancer including those under observation only. This includes cases in all four of the above classes.

The number of persons who have been treated for cancer and who, during the year of the survey, were under observation only has been excluded from most of the data which follows because of the wide variability in the percentage of discharged patients who are kept under observation after the treatment has been terminated. In the northern and southern cities about 12 percent of the total cases reported were under observation but in the western cities 18.4 percent of the cases were only being observed. The variability of this percentage is considerably greater when the records of individual cities are compared.

ILLNESS RATES FOR THE TOTAL POPULATION

About 430 out of every 100,000 white persons living in cities in the United States either are under treatment for cancer or are under observation because of a previously treated cancer. Of this number, 380 actually have malignant neoplasms.

About 230 new cases of cancer are diagnosed during the course of a year among each 100,000 white urban residents. Many of these malignant growths are of recent origin, but some are far advanced.

These statements apply particularly to residents of large metropolitan centers. In smaller cities and towns, a larger proportion of the

persons with cancer may never seek medical treatment so that the number of known cases is correspondingly smaller.[2]

ILLNESS RATES FOR THE WHITE AND COLORED POPULATIONS

The rates for the colored are considerably less than those for the white population (fig. 1). This is especially true for males, the rates for the colored being only slightly more than half as large as the rates for the whites. The difference between the rates for white and colored females is much smaller than the corresponding difference between the rates for males but even so from 10 to 20 percent fewer colored than white women, relative to the number in the population, have a diagnosed cancer.

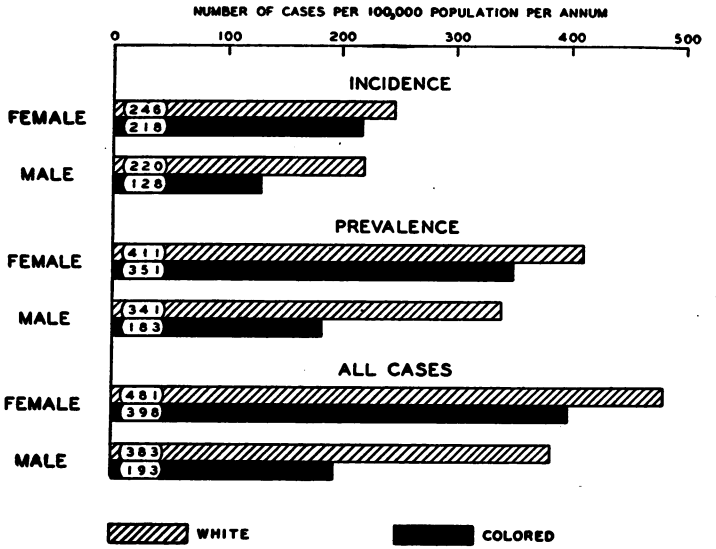

FIGURE 1.—Number of cases of cancer per 100,000 population by sex and color (standardized for age on the total urban population of the United States, 1940).

[2] The rates in this paper which are not for individual cities or regions were computed from cases obtained by adding the number of cases for the separate regions. The percentage distributions of the white and colored populations by regions for the cities surveyed and the 1940 population of all cities of 100,000 or more population are as follows:

Region	White		Colored	
	Census	Sample	Census	Sample
North	75	74	58	58
South	13	14	42	42
West	12	12	----	----
Total	100	100	100	100

The rates for the colored population include only the cases reported in the northern and southern cities. Almost all of these cases were from the Negro population.

Do these differences mean that Negroes actually are less susceptible to cancer? Probably not, at least until it can be demonstrated that the same proportion of the persons who have cancer in both races receives medical care. The illness rates of Negro males are so low relative to those of Negro females and to those of each sex in the white population that it seems almost certain that a large proportion of male Negroes with cancer never receives any medical care for that condition.

It is believed, however, that Negroes are less susceptible to skin cancer than are whites. For all cities combined, the incidence rates for skin cancer were 38 and 28 for white males and females as compared with 5 and 4 for colored males and females. If cases with skin cancer are excluded, the incidence rate per 100,000 population of the remaining cases is 181 and 218 for white males and females compared with 123 and 214 for colored males and females. The ratio of the colored to the white rate is .68 for males and .98 for females. Although the female case rates are approximately equal, the rate for Negro males still is only about two-thirds that for white males.

SEX DIFFERENCES IN ILLNESS RATES

In both the white and colored populations the case rates of illness from cancer are higher for females than for males (fig. 1). With respect to the incidence rate, that is, the relative number of new cases of cancer diagnosed each year, the excess for white females is 12 percent and that for colored females is 70 percent. The relative excesses for the prevalence and total case rates are even greater, showing that females are kept under treatment longer and that a larger proportion are kept under observation after termination of treatment than is true for males.

A part of the observed sex difference in illness rates may be spurious since it is possible that a larger proportion of females than of males with a malignant neoplasm come to the attention of physicians. This is especially true of Negro females.

AGE DIFFERENCES IN ILLNESS RATES

One of the most striking features of the illness rates from cancer is the very rapid increase during the latter half of the life span (figs. 2 and 3). For white males the incidence rate for the oldest age group, 75 years and over, is more than 100 times the rate for the age group 20–24 years and more than 200 times the rate during the first 5 years of life. The corresponding figures for white females are somewhat less, being 76 and 191, respectively.

In the white population the rates at and shortly after birth, up to 4 years of age, are slightly higher than the rates for children between 5 and 10 years of age. The higher rate at birth undoubtedly is due to neoplasms of a congenital origin.

The increase in the incidence rate of cancer from the beginning until the end of adult life is considerably less for Negroes than for whites. For Negro males the rate for the age group 65–69 years is about 38 times that for the age group 20–24 years; for Negro females the increase is about 31 times. It is quite possible that the smaller increase in the illness rates with increasing age in the colored population is due to the failure of many elderly Negroes to receive medical

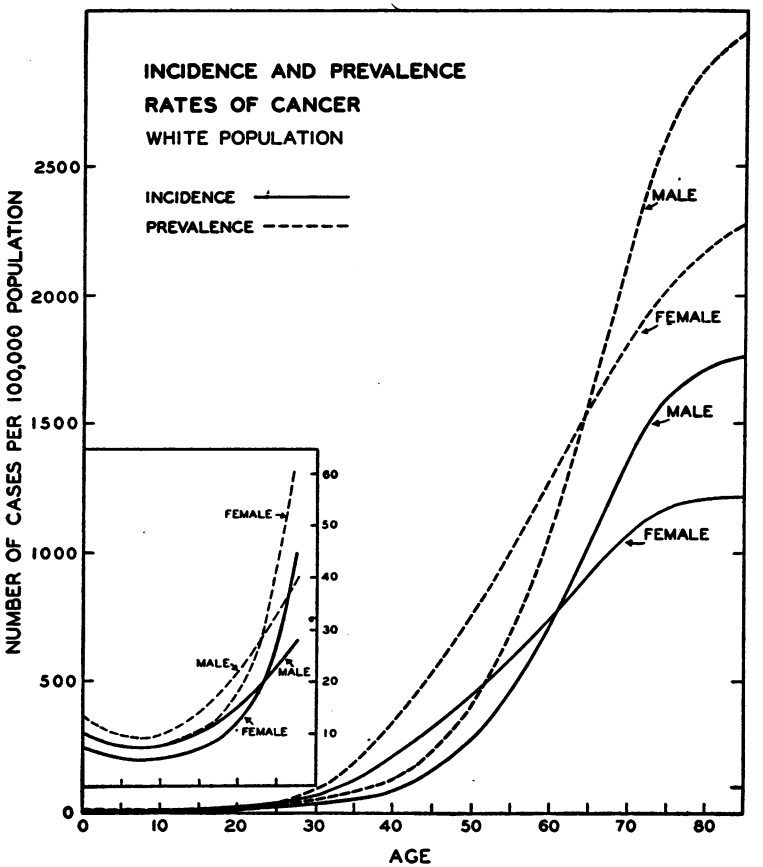

FIGURE 2.—Incidence and prevalence rates of cancer for the white population by age and sex.

care after a malignant tumor has developed. Some support for this belief is given by the fact that while the incidence rates for both white males and females continuously increase with age, the corresponding rates for colored males and females attain a maximum at about 70 years of age, after which a decrease occurs. It is uncertain whether this reported decrease is real, is the result of the failure of elderly Negroes to obtain medical care, or is due to the overstatement of age by Negroes in the census of population.

While the illness rate from cancer for all ages combined is higher for females than for males in both the white and colored populations

it is obvious from figures 2 and 3 that this is not true throughout the entire life span. The incidence rates are higher among females than among males from 25 to about 65 years of age, but during the first and the last years of life the male rates are higher than the female rates. This is true for both whites and Negroes and may be explained by the relatively larger number of malignant growths developing in the female genital organs, particularly in the uterus and the breast.

Cancer of the genital organs seems to develop at a younger age among Negro than among white women. The incidence rate of illness from all forms of cancer is higher among Negro women between 20

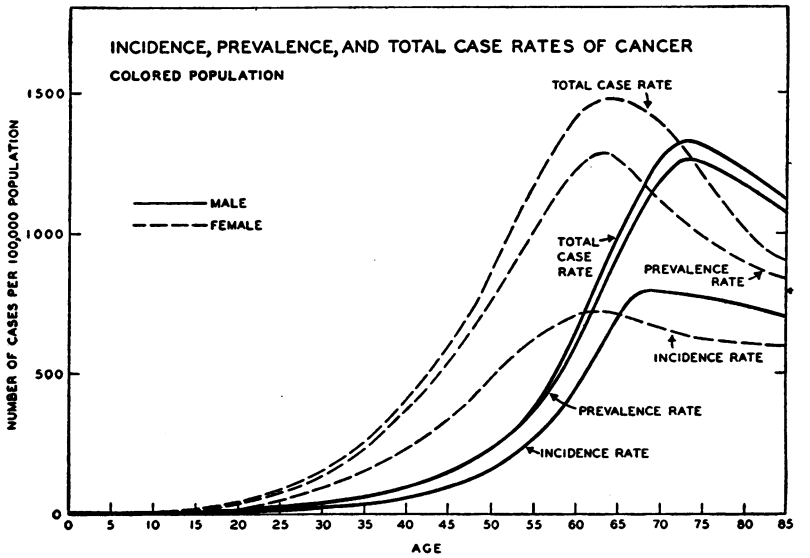

FIGURE 3.—Incidence, prevalence, and total case rates of cancer for the colored population by age and sex.

and 40 years of age; from 40 to 60 years of age the rates are practically equal. But after 60 years of age the rate for white females becomes increasingly greater until, in the oldest age group, 75 years and older, it is nearly double the rate for colored females.

The incidence rate for white males is higher than the rate for colored males at each age group.

Due to the large numerical increase in the illness rates from cancer during the latter half of adult life, it is difficult to visualize the relative amount of increase in the rates when they are plotted using an arithmetic scale as in figures 2 and 3. In figure 4 the incidence rates are plotted on semilogarithmic paper so that the relative change in the illness rate from one age to another may be more easily seen.

For females in both the white and colored populations, the most rapid increase in the proportion attacked by cancer occurs from about 20 to 30 or 35 years of age and is due, in large part, to the development

of cancer of the breast and uterus. Although numerically the proportion attacked by cancer continues to increase after age 35, the rate of increase becomes smaller and smaller with advancing age.

In the male population the situation is quite different. Between about 15 and 70 years of age, the incidence rates shown in figure 4 fall along a line which is approximately linear, indicating that the rate of increase in the proportion of males developing cancer remains roughly constant throughout this age range. Rather loosely, this may be interpreted as meaning that the susceptibility of males to

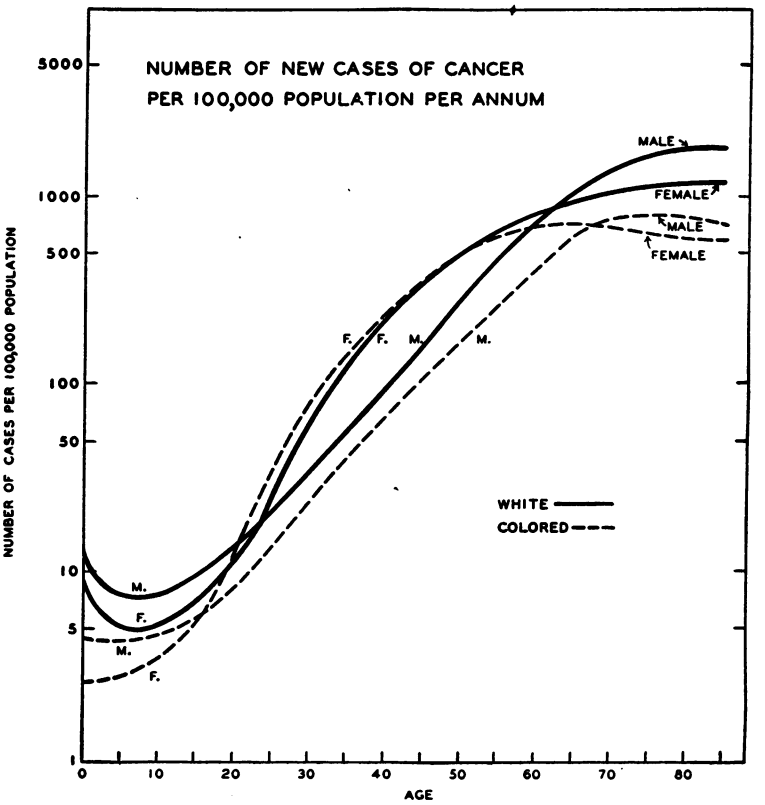

FIGURE 4.—Incidence rates of cancer by age, sex, and color of population (logarithmic vertical scale).

cancer increases uniformly as they grow older, if by susceptibility is meant the net result of the interaction of environmental and constitutional factors. The average increase in incidence rates from one 5-year age group to another is between 55 and 60 percent or between 11 and 12 percent per year of life. In other words, if 100 out of every 100,000 males have developed cancer by the time they are 40 years old, another 11 or 12 will develop cancer by the time they are 41 years old. These figures should not be taken too literally since the rate of increase does not remain strictly constant, but the deviation from

a straight line between about 15 and 70 years of age is not great enough to cause any appreciable error. The figures are cited merely to give an approximate idea of the rate of increase through most of the life span in the proportion of males who are attacked by cancer.

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Appendix

TABLE 1.—*Number of cases of cancer per 100,000 population by age, sex, and color for all regions combined*

Age	Incidence				Prevalence				Total			
	Male		Female		Male		Female		Male		Female	
	White	Colored	White	Colored	White	Colored	White	Colored	White	Colored	White	Colored
Under 4	9	5	6	2	11	7	9	2	12	7	9	4
5–9	7		5	4	9		8	5	10		8	5
10–14	8	5	8	5	12	6	10	9	13	6	11	10
15–19	13		8	5	19		12	7	22		15	8
20–24	16	21	16	24	25	26	20	34	30	26	25	37
25–29	28		45	71	40		62	102	44		71	109
30–34	43	33	92	120	61	43	131	165	69	50	152	186
35–39	60	56	170	190	93	77	270	295	106	82	317	332
40–44	126	76	282	269	185	115	439	456	203	124	515	505
45–49	214	119	418	384	321	175	686	645	366	177	818	719
50–54	368	202	514	574	528	284	844	894	590	316	1,017	1,012
55–59	582	350	664	660	864	500	1,132	1,057	958	520	1,331	1,241
60–64	872	554	853	735	1,327	755	1,424	1,340	1,449	823	1,680	1,492
65–69	1,164	799	973	690	1,852	1,071	1,699	1,093	2,058	1,100	1,983	1,270
70–74	1,507	800	1,137	635	2,420	1,266	1,930	1,064	2,730	1,340	2,193	1,286
75 and over	1,758	690	1,185	606	3,011	1,071	2,266	846	3,394	1,118	2,555	910
All ages:												
Crude	196	87	234	166	302	123	391	265	337	130	457	300
Standardized [1]	220	128	246	218	341	183	411	351	381	193	481	398
Number of cases	11,273	550	13,554	1,152	17,368	781	22,602	1,840	19,377	825	26,451	2,078

[1] Standardized for age using the total urban population of the United States, 1940.

TABLE 2.—*Rates of incidence of cancer per 100,000 white population by primary site groups, sex, and age for all regions combined*

Site group and sex	Under 10	10–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75 and over	All ages		Number of cases
															Crude	Standardized [1]	
Buccal cavity:																	
Male	0.3	0.1	1.7	3.4	4.0	7.1	15.2	20.8	39.0	58.9	84.1	114.6	142.3	177.6	19.6	21.9	1,126
Female	0.1	0.1	0.2	0.6	1.6	2.7	4.9	6.1	6.9	14.5	17.0	25.9	21.8	43.9	4.7	5.0	274
Digestive organs:																	
Male	0.4	0.4	1.8	6.2	9.1	17.4	42.1	80.8	137.3	234.6	354.6	459.9	574.6	560.2	71.6	80.1	4,117
Female	1.1	0.9	2.8	6.7	13.5	20.3	35.9	63.4	96.6	164.8	234.1	270.2	359.3	418.2	52.9	56.3	3,057
Respiratory organs:																	
Male	0.5	0.1	0.4	0.6	4.0	5.5	16.3	25.9	45.5	62.7	77.6	79.8	75.0	56.7	16.6	17.5	952
Female	0.8	0.2	[2]	0.6	1.2	1.3	1.9	5.6	8.6	13.0	15.4	17.7	16.0	13.1	3.5	3.6	200
Uterus: Female	[2]	0.1	1.9	11.2	24.5	55.4	83.8	121.3	139.7	144.4	162.1	164.7	155.4	121.2	51.6	53.5	2,984
Breast: Female	[2]	0.5	1.9	8.5	25.1	50.7	91.1	122.9	129.0	169.6	190.4	193.3	205.5	184.5	56.0	58.4	3,237
Other genital: Female	0.3	0.3	1.9	4.0	7.0	11.1	19.4	28.4	28.5	35.0	47.8	49.8	61.2	36.9	13.4	14.0	776
Genital organs:																	
Male	0.4	0.3	2.0	4.2	5.7	3.7	5.2	7.7	16.4	34.9	79.1	161.0	287.9	359.1	20.9	25.5	1,204
Female [3]	0.3	0.9	5.7	23.7	56.6	117.2	194.3	272.6	297.2	349.0	400.3	407.8	422.1	342.6	121.0	125.9	6,997
Urinary organs:																	
Male	1.3	[2]	0.4	1.2	2.3	3.9	7.7	15.8	34.5	45.9	64.5	75.4	104.4	125.0	14.2	15.8	818
Female	1.0	[2]	[2]	0.9	1.8	1.3	4.7	9.4	15.8	19.9	30.9	47.8	70.2	51.3	7.8	8.3	450
Skin:																	
Male	0.9	0.6	3.4	5.2	8.9	11.0	22.6	34.4	63.1	96.2	139.0	200.9	222.0	395.7	33.7	38.2	1,940
Female	0.8	1.0	3.2	4.6	8.1	13.0	23.3	32.8	48.3	54.3	94.0	135.4	176.8	254.0	26.5	28.1	1,530
All sites:																	
Male	7.9	10.4	16.2	27.9	42.5	60.4	126.4	213.9	367.8	581.5	872.4	1,164.2	1,507.3	1,757.7	196.1	219.6	11,273
Female	5.6	7.9	15.6	45.0	92.1	170.2	281.7	417.8	514.1	663.9	852.5	973.3	1,137.2	1,185.2	234.4	246.2	13,554

[1] Standardized for age using the total urban population of the United States, 1940.
[2] Rate less than 0.1.
[3] Includes cancer of the breast, uterus, and other genital organs.

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TABLE 3.—*Prevalence rates of cancer per 100,000 white population by sex, age, and groups of primary sites, all regions combined*

Age	Buccal cavity		Digestive organs		Respiratory organs		Uterus	Breast	Genital organs		Urinary organs		Skin		All sites	
	Male	Female	Male	Female	Male	Female	Female	Female	Male	Female[1]	Male	Female	Male	Female	Male	Female
Under 10	0.4	0.1	0.7	0.4	0.5	0.3	[2]—	—	0.4	0.4	1.7	1.3	1.1	1.1	10.3	8.1
10–19	0.3	0.4	1.2	1.1	1.0	0.5	0.1	0.9	0.3	1.4	0.1	0.2	1.1	1.0	15.3	11.2
20–24	2.1	0.4	3.2	3.2	0.6	—	1.9	2.5	3.0	6.6	0.4	—	4.0	3.5	25.4	20.2
25–29	3.8	1.2	9.4	9.1	1.2	1.1	15.8	12.3	5.4	32.7	1.8	1.5	6.3	6.0	39.5	62.2
30–34	5.7	2.0	13.8	18.3	4.4	2.5	38.0	35.3	9.0	82.5	2.9	2.4	10.2	10.1	60.5	131.2
35–39	11.9	2.9	27.8	30.4	8.7	2.7	91.8	85.0	5.8	195.5	6.1	2.8	15.8	16.0	93.0	270.4
40–44	21.7	6.7	60.3	54.5	22.1	3.3	131.1	146.5	7.4	309.2	13.0	7.0	31.8	30.9	185.4	439.0
45–49	33.4	7.5	119.3	97.2	37.8	9.0	206.7	226.5	10.1	473.5	24.3	12.3	50.3	44.9	321.4	685.6
50–54	55.4	10.5	196.8	149.4	65.1	14.8	235.3	240.8	23.4	522.0	49.3	22.8	86.6	64.7	528.2	844.1
55–59	91.4	17.8	334.9	259.7	92.9	18.6	274.5	318.4	55.2	653.1	74.6	29.2	139.1	79.4	863.5	1,132.3
60–64	150.1	27.2	527.8	355.4	120.4	22.6	294.8	362.4	123.9	729.8	103.8	48.5	200.0	148.6	1,327.2	1,423.7
65–69	196.6	40.8	728.3	460.3	111.7	29.0	313.8	388.6	259.0	779.2	140.0	86.6	305.4	192.7	1,851.9	1,698.5
70–74	236.5	37.4	909.3	615.4	126.1	29.6	275.2	398.5	441.8	759.2	189.7	106.1	372.7	267.6	2,420.0	1,930.4
75 and over	323.9	72.3	985.9	830.7	96.5	23.0	239.6	416.3	592.9	714.5	207.6	104.3	658.2	413.4	3,011.3	2,266.1
All ages:																
Crude	31.9	7.0	109.3	86.5	24.5	5.7	89.5	102.9	32.8	213.0	23.3	12.5	50.3	38.4	302.1	390.9
Standardized [3]	36.0	7.5	123.4	92.5	26.0	6.0	93.1	107.8	40.1	222.3	26.1	13.4	57.7	40.9	341.3	411.4

[1] Includes uterus and breast.
[2] A dash indicates a rate of less than 0.1.
[3] Standardized for age using the total urban population of the United States, 1940.

LESIONS IN RATS GIVEN SULFATHIAZOLE, SULFADIAZINE, SULFANILAMIDE, SULFAMERAZINE, SULFAPYRAZINE, OR ACETYLSULFADIAZINE IN PURIFIED DIETS[1]

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In a previous report from this laboratory (*1*), the lesions found in rats fed sulfaguanidine in purified diets were described. These lesions were calcification and hyalinization of arteries, necrosis and scarring of myocardium, hyaline necrosis and calcification of skeletal muscle, hydropic degeneration and necrosis of liver, granulocytic aplasia of bone marrow, and hemorrhages into subcutaneous tissues and various organs. Similar lesions were seen in rats given succinylsulfathiazole.

During the past year studies have been made with sulfathiazole, sulfadiazine, sulfanilamide, sulfapyrazine,[2] sulfamerazine,[3] and acetylsulfadiazine.[4] This report enumerates the various lesions which occurred and describes briefly those lesions not encountered in the previous study. The incidence of certain lesions is expressed in terms of percentage, but the authors wish to emphasize that experimental conditions were not necessarily parallel with the different drugs and that the figures are only very crude approximations.

EXPERIMENTAL METHODS

Albino rats of Wistar and Osborne and Mendel strains at or shortly after weaning were placed on purified diets in which the particular sulfonamide under study was incorporated at a 1 percent level. These diets varied to some extent but generally consisted of purified casein, about 18 percent; sucrose or glucose ("Cerelose"), about 70 percent; and salt mixture, 4 percent. The fat of the diet was either cod liver oil, 2 percent, and cottonseed (Wesson) oil, 3 percent, or Crisco, 8 percent, with a separate supplement of α-tocopherol and a vitamin A and D concentrate (Natola). Thiamine, riboflavin, pyridoxine, pantothenic acid, niacin and choline were given in generous dosage either by inclusion in the diet or by separate supplement.

Tissues were fixed in 4 percent solution of formaldehyde and embedded in paraffin. Bones were decalcified in 5 percent formic acid. Heart, lungs, liver, pancreas, spleen, adrenals, kidneys, tibia, femur, dorsal vertebrae, and thigh muscles were examined routinely. Urinary bladder, testicles, thyroid, thymus, skin, brain, and eyes were

[1] From the Divisions of Pathology and Chemotherapy, National Institute of Health.

[2] Furnished through the courtesy of Dr. Warren Cox, Mead Johnson Co.

[3] Furnished through the courtesy of Dr. J. M. Sprague, Sharpe and Dohme, Inc.

[4] Furnished through the courtesy of Dr. E. H. Northey and Mr. W. O. Brewer, Calco Chemical Division, American Cyanamid Co.

studied in some rats. Six hundred and sixty rats were examined, of which 300 were given sulfadiazine, 170 sulfathiazole, 70 sulfanilamide, 60 acetylsulfadiazine, 19 sulfapyrazine, and 18 sulfamerazine; 23 were litter mate control rats given one of the purified diets without sulfonamides. Control studies of many rats have been made previously with most of the diets.

LESIONS

Bone marrow.—In the marrow of rats fed sulfanilamide, sulfathiazole, sulfadiazine, sulfamerazine, or sulfapyrazine, depletion of polymorphonuclear neutrophils, stab cells, and metamyelocytes was frequently encountered. The more immature cells of the granulocytic series were numerous and there was usually no diminution in cellularity of the marrow. A marked increase in the number of nucleated red cells was noted frequently, often in combination with a depletion of granulocytes. A few rats given sulfadiazine were killed after 5 days and in several of these rats the marrow contained many mature granulocytes. Aplasia was not seen with any of these drugs. Many of the marrows appeared normal.

Some rats were used for testing the potency of liver concentrate in correcting granulocytopenia and anemia. These rats were given sulfonamide-containing diets and when they developed anemia or granulocytopenia, were given doses of a concentrate. When a concentrate was active, it produced a prompt correction of the blood dyscrasia; some of these rats were killed. In such rats, a densely cellular marrow containing large numbers of polymorphonuclear neutrophils, stab cells, and metamyelocytes was usually found.

Most rats given acetylsulfadiazine died within 3 weeks and showed densely cellular marrow with extremely large numbers of polymorphonuclear neutrophils. Some rats survived and were killed after one month; in these, the marrow appeared normal.

Skeletal muscle.—Necrosis and calcification of skeletal muscle with histiocyte proliferation occurred rather infrequently. It was more common with sulfathiazole (5 percent) and with sulfanilamide (4 percent) than with sulfadiazine (0.3 percent), and was not encountered in the smaller series of animals given acetylsulfadiazine, sulfapyrazine, or sulfamerazine.

Cardiovascular system.—Calcification or hyalinization of one or more arteries (pulmonary, coronary, renal) was encountered in 10 percent of the rats given sulfathiazole, 3 percent of those given sulfanilamide, 0.3 percent of those given sulfadiazine, and in none of the other rats. Myocardial necrosis with loose scar formation (a striking lesion occasionally seen in rats given sulfaguanidine) was not seen in the present study.

Gross hemorrhage was noted in the following locations: subcutaneous tissues, chiefly the lower extremities, retroperitoneal connective tissue, peritoneal, pleural, and cranial cavities, thymus, epididymis, testicle, gastrointestinal tract, kidneys, eye, and nose. Hemorrhage occurred with sulfadiazine, sulfathiazole, sulfamerazine, or sulfapyrazine. Histologic study revealed simple extravasation of blood with no apparent lesions in adjacent vessels.

Liver.—Hydropic degeneration of liver cells was seen in 2.5 percent of the rats given sulfathiazole, 2 percent of those given sulfadiazine, and in 2 of 18 rats (11 percent) given sulfapyrazine. Focal, predominantly centrolobular hyaline necrosis of liver cells was seen in 9 percent of the rats given sulfathiazole, 5 percent of those given sulfadiazine, and 3 percent of those given sulfanilamide. Small to large amounts of granular hemosiderin were seen rather frequently in the Kupffer cells of livers of rats given sulfanilamide.

Spleen.—Hemosiderosis of the spleen was relatively slight and infrequent except in those rats fed sulfanilamide, most of which showed numerous hemosiderin-laden phagocytes especially in the red pulp surrounding the lymphoid follicles. Hemopoietic activity in the spleen was variable.

Kidney.—Intratubular deposits of sulfonamides with more or less severe damage of collecting tubules were encountered in rats given sulfadiazine, sulfathiazole, sulfapyrazine, sulfamerazine, or acetylsulfadiazine. The lesions were essentially similar with all these drugs. Further description of the renal lesions will be given in a subsequent report dealing with the prevention of renal lesions. Sulfonamide crystals were not seen in rats given sulfanilamide; a few of these rats showed accumulations of granular hemosiderin in the epithelium of the convoluted tubules.

Adrenal.—Hyaline necrosis of cortical cells with or without hemorrhage occurred in about 3 percent of the rats given sulfathiazole, sulfadiazine, or sulfanilamide, and in none of the rats given the other drugs.

Thyroid.—Hypertrophy, hyperemia, and hyperplasia of the thyroid gland were seen in rats given sulfadiazine, sulfanilamide, sulfapyrazine, sulfamerazine, or sulfathiazole. No statement as to relative incidence can be given since this organ has been examined only occasionally. One series of 50 rats (10 litters of 5 each) was given sulfadiazine for 30 days and then sacrificed. The thyroid glands of all of these rats showed gross enlargement and hyperemia. Microscopically, the acini were small, usually contained no colloid, and were lined by high cuboidal or columnar epithelium with indistinct cell margins and basally placed nuclei often showing mitotic figures. Capillaries were filled with blood. Frontal sections of the head through both eyes were made in 30 of these rats. No retrobulbar lesions were found. In a

series of 30 rats fed acetylsulfadiazine definite hyperplasia was not encountered; most of these rats died before the end of 30 days.

Miscellaneous.—Bronchitis, bronchiectasis, and pneumonia occurred occasionally. In a few rats there was bacteremia with colonies of coccobacilli in spleen, liver, kidney, and occasionally elsewhere. In several rats the spleen alone was involved. Bronchitis, bronchiectasis, pneumonia, bacteremia, splenic myelosis and hemosiderosis, and calcification of renal tubules were encountered singly or in combination in one or more control rats.

DISCUSSION

The earliest marrow lesion encountered in this laboratory was an increase in the number of mature granulocytes. The most common lesion occurring later was a decrease in the number of segmenters, band forms, and metamyelocytes, with or without an increase in nucleated red cells. The relationship of marrow lesions to peripheral blood changes is not definitely known since marrow was studied only after death of the rat. The production and treatment of granulocytopenia and anemia in rats fed sulfathiazole, sulfanilamide, or sulfadiazine has been reported from this laboratory (*2*). The rats used in that study were examined and are included in this report. Most of the rats showing granulocytopenia also showed a depletion of mature neutrophils, stab cells, and metamyelocytes in the marrow, but in a few the marrow appeared normal. In some of the anemic rats an increase of nucleated red cells in the marrow was noted, but in others the marrow appeared normal. On the other hand, rats with normal peripheral blood occasionally showed depletion of granulocytes and increase of nucleated red cells in the marrow. In a previous study with sulfaguanidine (*1*), granulocytic aplasia was encountered while in the present study the marrow was never aplastic. The significance of this difference is not known. Hyperplasia of the marrow was found regularly in rats recovering from granulocytopenia; the recovery followed treatment with certain liver concentrates. A growth factor for *L. casei* has been isolated in crystalline form from liver (*3*, *4*), and from yeast (*3*). The factor from liver has been called vitamin B_c by some investigators (*4*). Crystalline material active for *L. casei* produced immediate and striking improvement in the peripheral blood of rats developing granulocytopenia and anemia on sulfaguanidine or succinylsulfathiazole regimens (*5*). Studies of the marrow following administration of this crystalline material have not been completed.

Necrosis and calcification of skeletal muscle which occur in rats given succinylsulfathiazole have been prevented by administration of vitamin E (*6*). The muscle lesions seen in the present study were indistinguishable from those seen with succinylsulfathiazole.

Spontaneous calcification and hyalinization of arteries in old rats have been reported (*7*, *8*). Wilens and Sproul (*9*) report such lesions in coronary, pulmonary, and spermatic arteries of rats 2 to 3 years old. Ham and Lewis (*10*) produced calcification of coronary arteries, myocardium, and aorta in rats by large injections of irradiated ergosterol. Lehr and Antopol (*11*) reported necrosis and calcification of the media of the aorta in rats given a single fatal intraperitoneal injection of sodium sulfadiazine which survived 5 to 7 days. Lehr, Antopol, Churg, and Sprinz (*12*) noted similar lesions in rats following single and repeated intraperitoneal injections of the sodium salts of sulfathiazole, sulfamethylthiazole, or sulfapyradine. The etiology of the arterial hyalinization and calcification encountered in the present study is not known. The lesions are evidently not the result of old age since the age of the oldest rat was less than 6 months.

Hyperplasia of the thyroid gland in rats fed sulfonamide drugs or thiourea has been reported from two laboratories (*13*, *14*). The hyperplasia was accompanied by a lowered basal metabolic rate and was prevented by administration of thyroxin but not by administration of para-aminobenzoic acid, vitamin C, liver, or iodine. Their results appear to support the hypothesis that the sulfonamides interfere directly with the synthesis of thyroid hormone. In this laboratory, rats given sulfadiazine, sulfamerazine, sulfapyrazine, sulfanilamide, or sulfathiazole have shown striking hyperplasia of the thyroid gland. Sluggish behaviour, cold extremities, and exophthalmos were frequent clinical observations in such rats.

Retrobulbar lesions were not encountered in a series of 30 rats with definite thyroid hyperplasia.

Rats fed acetylsulfadiazine, sulfaguanidine, or succinylsulfathiazole as 1 percent of the diet in this laboratory have not shown frank hyperplasia of the thyroid gland. In a previous study (*1*) with sulfaguanidine, many thyroid glands showed a depletion of acinar colloid but the epithelium was not hyperplastic and the empty acini appeared about normal in diameter. This may represent a mild response to the drug. The work of MacKenzie and MacKenzie (*13*) suggests that a larger dose of sulfaguanidine might have produced more striking lesions.

Hemorrhages into subcutaneous tissue, body cavities, and various organs with no demonstrable vascular lesions occurred in rats given sulfadiazine, sulfathiazole, sulfamerazine, or sulfapyrazine. They showed a very prolonged prothrombin time. Vitamin K prevented the hemorrhages and reduced the prothrombin time to normal levels. A detailed report will be made at another time.

SUMMARY

Rats given sulfadiazine, sulfathiazole, sulfanilamide, sulfamerazine, sulfapyrazine, or acetylsulfadiazine in purified diets were studied histologically. The following lesions occurred with some or all of the drugs: depletion of mature granulocytes in the bone marrow with or without an increase in nucleated red cells, necrosis and calcification of skeletal muscle, calcification and hyalinization of pulmonary, coronary, and renal arteries, hydropic degeneration and hyaline necrosis of the liver, necrosis and hemorrhage of the adrenal cortex, hyperplasia of the thyroid, hemorrhage into subcutaneous tissue, body cavities, and various organs, hemosiderosis of spleen, liver, and renal tubules, and renal intratubular sulfonamide deposits with varying degrees of tubular damage. The etiology of some of these lesions is discussed.

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PREVALENCE OF DISEASE

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

UNITED STATES

REPORTS FROM STATES FOR WEEK ENDED JANUARY 8, 1944

Summary

The reported number of cases of influenza was practically the same as for the preceding week, namely 126,610 currently as compared with 126,481 for the prior week. In view of the decline in the total mortality in 86 cities (from 13,925 to 12,950) and also in the reported deaths from influenza and pneumonia combined in 36 cities (from 1,211 to 997), about the only significance that can be attached to the comparison of the reported cases for the 2 weeks is an indication that the epidemic has stimulated the reporting of cases in some localities, that some of the current cases may be delayed reports, and that the epidemic is on the wane.

For the current week the number of reported cases declined in 27 States, and increased in 18 and the District of Columbia. (Three States, Massachusetts, Delaware, and Mississippi have reported no cases.) A decrease was recorded in all geographic areas except the West South Central, which area recorded only a slight decline in urban mortality. Both the excess urban death rate and the actual death rate (annual basis) for 90 cities declined in all geographic areas except the Pacific.

Deaths from influenza and pneumonia combined in 38 scattered cities, as reported to the Public Health Service in recent weeks, are as follows:

	1943					1944	
	Nov. 27	Dec. 4	Dec. 11	Dec. 18	Dec. 25	Jan. 1	Jan. 8
1943-44	254	381	459	833	1,063	1,215	997
1942-43	299	294	332	378	387	479	409
3-year average	281	290	296	328	334	374	438

Following the record high year of 1943, in which nearly 18,000 cases were reported, meningococcus meningitis continues at a high level. Continuing a sharp upward trend for the third successive week, the reported incidence increased to a total of 580 cases for the week, as compared with 463 last week, 278 for the corresponding week last year, and a 5-year (1939–43) median of 45. Ten States reporting 64 percent of the total are as follows (last week's figures in parentheses): Massachusetts 24 (18), New York 75 (65), New Jersey 31 (23), Pennsylvania 48 (45), Ohio 50 (21), Indiana 25 (8), Illinois 35 (36), Virginia 20 (7), Tennessee 29 (5), and California 36 (35). Seven other States reported 10 or more cases each.

Below are given the cumulative numbers of cases of certain diseases reported by the State health officers weekly by telegraph for 52-week periods of 1943 and 1942, and median numbers for comparable periods of the years 1938–42. Although these figures are preliminary and therefore more or less incomplete, in most instances they approximate closely the final figures and, when compared with similar figures for prior years, serve as an index to current trends.

52 weeks	Anthrax	Diphtheria	Dysentery			Encephalitis, infectious	Influenza	Leprosy	Measles
			Amebic	Bacillary	Unspecified				
1943	65	13,744	2,129	18,182	4,558	692	421,155	30	602,085
1942	89	15,559	2,492	24,056	12,820	564	109,167	45	505,871
Median, 1938–42	75	16,923	2,991	20,950	1,461	911	189,352	49	505,871

52 weeks	Meningitis, meningococcus	Poliomyelitis	Rocky Mountain spotted fever	Scarlet fever	Smallpox	Tularemia	Typhoid and paratyphoid fever	Typhus fever	Whooping cough
1943	17,922	12,401	437	140,475	733	801	5,546	4,533	176,415
1942	3,774	4,193	413	126,853	863	900	6,703	3,725	177,916
Median, 1938–42	2,023	7,288	417	155,064	2,462	1,641	9,585	2,780	177,916

Telegraphic morbidity reports from State health officers for the week ended January 8, 1944, and comparison with corresponding week of 1943 and 5-year median

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

Division and State	Diphtheria			Influenza			Measles			Meningitis, meningococcus		
	Week ended—		Median 1939–43	Week ended—		Median 1939–43	Week ended—		Median 1939–43	Week ended—		Median 1939–43
	Jan. 8, 1944	Jan. 9, 1943		Jan. 8, 1944	Jan. 9, 1943		Jan. 8, 1944	Jan. 9, 1943		Jan. 8, 1944	Jan. 9, 1943	
NEW ENGLAND												
Maine	0	0	1	73	------	1	184	25	37	10	16	1
New Hampshire	0	0	0	3	3	------	6	44	11	1	0	0
Vermont	0	0	0	100	24	------	1	328	24	0	0	0
Massachusetts	13	2	5	------	------	------	424	515	354	24	15	3
Rhode Island	0	2	0	77	25	------	104	7	7	6	4	0
Connecticut	0	1	0	307	11	10	32	376	143	9	0	0
MIDDLE ATLANTIC												
New York	6	24	16	[1] 70	[1] 17	[1] 17	779	670	670	75	23	6
New Jersey	3	3	9	126	27	18	529	346	134	31	11	1
Pennsylvania	13	16	23	29	7	-----	801	2, 238	1, 121	48	20	2
EAST NORTH CENTRAL												
Ohio	11	18	18	5, 365	16	16	2, 059	40	40	50	8	4
Indiana	27	5	13	194	31	46	156	149	33	25	1	1
Illinois	10	16	32	211	13	18	280	169	89	35	6	2
Michigan [2]	0	4	4	27	1	1	500	45	83	11	5	0
Wisconsin	2	4	1	3, 162	62	62	742	303	303	4	1	0
WEST NORTH CENTRAL												
Minnesota	4	2	2	------	2	1	298	6	109	5	0	0
Iowa	3	5	9	3, 860	2	2	44	50	90	3	2	1
Missouri	3	3	8	132	6	10	67	24	24	18	7	1
North Dakota	8	0	2	421	49	46	263	1	10	5	0	0
South Dakota	4	21	3	9	------	------	102	103	2	0	2	0
Nebraska	4	4	3	171	60	9	12	130	39	7	6	0
Kansas	4	4	6	1, 156	6	16	46	64	112	6	2	2
SOUTH ATLANTIC												
Delaware	0	1	1	------	------	------	19	6	3	0	0	0
Maryland [2]	5	10	4	2, 354	9	11	93	13	13	11	16	1
District of Columbia	0	0	1	1, 138	5	5	29	9	3	5	2	0
Virginia	5	15	22	8, 335	659	557	208	53	60	20	30	1
West Virginia	2	8	8	10, 536	38	21	175	15	15	5	2	0
North Carolina	13	24	27	419	12	12	341	9	69	8	3	2
South Carolina	5	4	11	6, 702	651	909	95	5	11	8	11	1
Georgia	4	18	16	3, 054	181	181	153	4	27	14	1	1
Florida	0	13	7	97	6	15	32	8	11	6	0	1
EAST SOUTH CENTRAL												
Kentucky	3	5	6	22, 785	2	13	66	93	60	16	2	1
Tennessee	4	4	10	2, 276	89	89	134	39	39	29	9	2
Alabama	5	1	12	3, 884	106	177	281	7	25	4	4	1
Mississippi [2]	4	3	6	------	------	------	------	------	------	3	0	1
WEST SOUTH CENTRAL												
Arkansas	7	15	14	5, 462	179	192	71	39	39	0	3	0
Louisiana	9	7	11	4, 106	9	9	4	11	11	2	4	1
Oklahoma	4	5	13	3, 310	74	222	7	6	6	6	4	1
Texas	37	48	34	24, 454	1, 157	1, 157	274	22	50	10	3	1
MOUNTAIN												
Montana	4	0	1	1, 665	14	14	246	38	38	4	0	0
Idaho	0	1	1	17	2	2	24	220	53	1	2	0
Wyoming	1	3	0	804	54	21	19	10	10	0	2	0
Colorado	6	13	12	847	45	62	127	87	87	1	5	0
New Mexico	3	1	1	9	------	6	3	10	10	0	1	1
Arizona	1	0	2	589	115	178	20	7	47	2	3	1
Utah [2]	0	1	0	2, 030	32	32	6	551	48	2	3	0
Nevada	0	0	0	1, 208	------	------	0	33	0	0	2	0
PACIFIC												
Washington	11	7	0	453	------	------	23	695	182	6	5	0
Oregon	6	1	1	1, 325	16	71	55	412	66	8	19	0
California	14	30	21	3, 258	35	108	225	147	147	36	13	3
Total	268	372	405	126, 610	3, 852	3, 852	10, 159	8, 182	7, 816	580	278	45

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended January 8, 1944, and comparison with corresponding week of 1943 and 5-year median—Con.

Division and State	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever [3]		
	Week ended—		Median 1939–43	Week ended—		Median 1939–43	Week ended—		Median 1939–43	Week ended—		Median 1939–43
	Jan. 8, 1944	Jan. 9, 1943		Jan. 8, 1944	Jan. 9, 1943		Jan. 8, 1944	Jan. 9, 1943		Jan. 8, 1944	Jan. 9. 1943	
NEW ENGLAND												
Maine	0	0	0	14	16	11	0	0	0	0	0	0
New Hampshire	0	0	0	3	6	6	0	0	0	0	0	0
Vermont	0	0	0	9	5	5	0	0	0	0	0	0
Massachusetts	0	1	1	262	331	142	0	0	0	1	2	1
Rhode Island	0	1	0	10	21	6	0	0	0	0	0	0
Connecticut	0	0	0	91	75	39	0	0	0	0	1	0
MIDDLE ATLANTIC												
New York	3	1	1	329	373	361	0	0	0	2	2	4
New Jersey	0	0	0	71	76	130	0	1	0	0	0	0
Pennsylvania	1	0	0	197	226	281	0	6	0	1	5	9
EAST NORTH CENTRAL												
Ohio	0	1	1	250	327	327	0	3	3	4	3	3
Indiana	1	1	1	113	92	103	0	15	11	1	1	1
Illinois	4	0	0	213	219	309	0	0	2	1	2	3
Michigan [3]	0	1	0	66	72	116	0	0	0	0	0	0
Wisconsin	0	1	1	176	273	145	0	0	4	0	0	0
WEST NORTH CENTRAL												
Minnesota	0	0	1	90	66	69	0	0	3	0	2	0
Iowa	0	1	1	69	53	53	0	0	1	1	1	1
Missouri	0	1	0	52	71	57	0	0	1	0	0	1
North Dakota	0	0	0	26	21	21	1	0	0	0	0	0
South Dakota	0	1	1	53	38	29	0	1	2	1	0	0
Nebraska	0	0	0	33	40	35	0	0	1	0	0	0
Kansas	0	1	1	0	80	84	2	0	0	1	0	0
SOUTH ATLANTIC												
Delaware	0	0	0	3	12	12	0	0	0	0	0	0
Maryland [3]	0	0	0	40	43	43	0	0	0	1	2	2
District of Columbia	0	1	0	34	15	11	0	0	0	0	0	0
Virginia	1	1	0	43	71	54	0	0	0	2	1	3
West Virginia	0	0	0	40	49	60	0	0	0	0	4	2
North Carolina	1	0	0	81	78	72	0	0	0	0	0	1
South Carolina	0	1	1	17	12	13	0	0	0	1	1	2
Georgia	0	0	0	14	23	23	0	0	0	1	4	3
Florida	0	0	0	8	13	7	0	0	0	1	0	1
EAST SOUTH CENTRAL												
Kentucky	0	1	1	48	58	58	1	0	0	18	1	1
Tennessee	0	1	0	145	49	38	0	0	0	1	0	0
Alabama	0	0	0	12	22	27	0	2	0	2	0	0
Mississippi [3]	0	0	0	11	13	13	0	0	0	4	0	0
WEST SOUTH CENTRAL												
Arkansas	0	2	0	6	6	11	0	1	1	0	6	1
Louisiana	0	0	0	6	10	10	0	0	0	2	2	3
Oklahoma	2	0	0	25	18	18	0	0	1	1	3	1
Texas	5	4	1	83	52	52	2	8	1	7	5	5
MOUNTAIN												
Montana	2	0	0	57	17	26	0	1	1	0	0	0
Idaho	1	0	0	22	8	8	1	3	0	1	0	0
Wyoming	0	1	0	7	59	7	0	0	0	0	0	0
Colorado	0	0	0	30	60	33	1	0	5	0	1	1
New Mexico	0	0	0	6	6	6	0	0	0	0	1	2
Arizona	0	1	0	10	5	5	0	0	0	0	0	0
Utah [3]	1	0	0	162	76	21	0	0	0	0	1	0
Nevada	1	0	0	4	7	0	0	0	0	2	0	0
PACIFIC												
Washington	3	0	0	145	30	39	0	0	0	1	0	1
Oregon	0	0	1	75	14	14	0	1	0	0	0	0
California	8	10	2	203	150	111	0	0	1	0	2	2
Total	34	34	34	3,464	3,457	3,457	8	42	42	58	53	81

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended January 8, 1944, and comparison with corresponding week of 1943 and 5-year median—Con.

Division and State	Whooping cough			Week ended Jan. 8, 1944								
	Week ended—		Median 1939–43	Anthrax	Dysentery			Encephalitis, infectious	Leprosy	Rocky Mt. spotted fever	Tularemia	Typhus fever
	Jan. 8, 1944	Jan. 9, 1943			Amebic	Bacillary	Unspecified					
NEW ENGLAND												
Maine	8	131	41	0	0	0	0	0	0	0	0	0
New Hampshire	0	0	4	0	0	0	0	0	0	0	0	0
Vermont	17	64	54	0	0	0	0	0	0	0	0	0
Massachusetts	75	247	248	0	0	20	0	0	0	0	0	0
Rhode Island	4	30	30	0	0	0	0	0	0	0	0	0
Connecticut	7	85	78	0	0	3	0	0	0	0	0	0
MIDDLE ATLANTIC												
New York	151	416	416	1	0	2	0	1	0	0	1	1
New Jersey	55	204	204	0	0	0	0	0	0	0	0	0
Pennsylvania	69	410	283	0	0	0	0	0	0	0	0	0
EAST NORTH CENTRAL												
Ohio	77	144	227	0	0	0	0	0	0	0	0	0
Indiana	18	26	29	0	0	0	0	0	0	0	1	0
Illinois	47	199	174	0	0	0	0	0	0	0	1	0
Michigan [2]	43	97	100	0	0	0	0	0	0	0	0	0
Wisconsin	86	192	192	0	0	0	0	0	0	0	0	0
WEST SOUTH CENTRAL												
Minnesota	28	84	35	0	0	0	0	0	0	0	0	0
Iowa	21	14	9	0	0	0	0	1	0	0	0	0
Missouri	7	29	17	0	0	0	0	0	0	0	0	0
North Dakota	1	21	16	0	0	0	0	1	0	0	1	0
South Dakota	0	8	3	0	0	0	0	0	0	0	0	0
Nebraska	11	2	10	0	0	0	0	0	0	0	0	0
Kansas	22	46	46	0	1	0	0	0	0	0	0	0
SOUTH ATLANTIC												
Delaware	0	8	8	0	0	0	0	0	0	0	0	0
Maryland [2]	23	77	46	0	0	0	2	0	0	0	0	0
District of Columbia	6	20	20	0	0	0	0	0	0	0	0	0
Virginia	111	61	61	0	0	0	20	0	0	0	3	0
West Virginia	28	22	22	0	0	0	0	0	0	0	0	0
North Carolina	82	115	179	0	0	0	0	0	0	0	0	5
South Carolina	86	36	36	0	0	6	0	0	0	0	4	1
Georgia	11	30	19	0	0	1	0	0	0	0	1	17
Florida	24	15	9	0		0	0	0	0	0	0	3
EAST SOUTH CENTRAL												
Kentucky	20	23	22	0	0	1	0	0	0	0	1	0
Tennessee	45	25	19	0	0	0	1	0	0	0	2	1
Alabama	5	31	14	0	0	0	0	0	0	0	1	11
Mississippi [2]	----	----	----	0	0	0	0	0	0	0	1	2
WEST SOUTH CENTRAL												
Arkansas	7	33	10	0	0	3	0	0	0	0	0	0
Louisiana	1	12	4	0	1	3	0	0	0	0	0	2
Oklahoma	5	13	13	0	0	0	0	0	0	0	0	0
Texas	145	230	81	0	10	240	0	2	0	0	0	16
MOUNTAIN												
Montana	7	34	13	0	0	0	0	0	0	0	0	0
Idaho	2	3	3	0	0	0	0	0	0	0	0	0
Wyoming	8	5	8	0	0	0	0	0	0	0	1	0
Colorado	17	12	27	0	0	1	0	0	0	0	0	0
New Mexico	3	9	9	0	0	0	0	0	0	0	0	
Arizona	22	37	20	0	1	4	24	0	0	0	0	0
Utah [2]	19	20	32	0	0	0	0	0	0	0	0	0
Nevada	3	10	0	0	0	0	0	0	0	0	1	0
PACIFIC												
Washington	51	16	30	0	0	0	0	0	0	0	0	0
Oregon	13	5	8	0	0	0	0	0	0	0	0	0
California	47	297	154	0	1	12	0	2	0	0	0	0
Total	1,538	3,648	3,648	1	14	296	47	7	0	0	19	59
1 week, 1943	----	----	----	1	22	134	32	6	0	1	40	87

[1] New York City only.
[2] Period ended earlier than Saturday.
[3] Including paratyphoid fever cases reported separately as follows: Georgia, 1; Texas, 1; Washington, 1.

WEEKLY REPORTS FROM CITIES

City reports for week ended December 25, 1943

This table lists the reports from 87 cities of more than 10,000 population distributed throughout the United States, and represents a cross section of the current urban incidence of the diseases included in the table.

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
NEW ENGLAND												
Maine:												
Portland	0	0	1	0	7	0	7	0	3	0	0	0
New Hampshire:												
Concord	0	0	15	1	0	0	1	0	0	0	0	0
Vermont:												
Barre	0	0	------	0	0	0	0	0	0	0	0	0
Massachusetts:												
Boston	3	0	------	2	25	10	48	1	58	0	1	23
Fall River	0	0	------	0	0	0	0	0	4	0	0	0
Springfield	0	2	------	0	34	0	1	0	6	0	0	2
Worcester	0	0	------	0	12	0	12	0	36	0	0	3
Rhode Island:												
Providence	0	0	8	3	70	0	10	0	6	0	0	5
Connecticut:												
Bridgeport	0	0	53	3	0	0	6	0	5	0	0	0
Hartford	0	0	2	1	0	0	5	0	4	0	1	0
New Haven	0	0	9	2	0	1	6	0	1	0	0	0
MIDDLE ATLANTIC												
New York:												
Buffalo	0	0	------	9	4	5	22	0	2	0	0	4
New York	11	3	475	23	416	28	235	0	138	0	0	48
Rochester	0	0	------	1	0	3	17	0	2	0	0	2
Syracuse	0	0	------	4	0	0	9	0	5	0	0	10
New Jersey:												
Camden	0	0	10	6	0	2	4	0	7	0	0	0
Newark	0	0	30	5	4	3	28	0	5	0	0	7
Trenton	0	0	18	4	1	1	2	0	10	0	0	0
Pennsylvania:												
Philadelphia	2	0	62	29	3	14	73	0	27	0	0	12
Pittsburgh	0	0	46	22	205	8	48	0	16	0	0	4
Reading	0	0	------	4	2	1	3	0	0	0	0	0
EAST NORTH CENTRAL												
Ohio:												
Cincinnati	3	0	15	8	3	10	14	0	11	0	0	0
Cleveland	0	0	192	13	168	2	25	0	45	0	0	4
Columbus	0	0	929	10	4	2	7	0	3	0	0	2
Indiana:												
Fort Wayne	0	0	------	0	3	0	9	0	2	0	0	0
Indianapolis	2	0	------	9	0	2	25	0	16	0	0	5
South Bend	0	0	------	0	27	0	0	0	0	0	0	0
Illinois:												
Chicago	1	0	28	15	6	26	68	0	45	0	0	20
Springfield	0	0	15	0	3	0	4	0	1	0	0	0
Michigan:												
Detroit	2	0	81	11	4	13	40	0	35	0	0	14
Flint	0	0	------	2	3	0	3	0	1	0	3	2
Grand Rapids	0	0	8	3	56	0	0	0	8	0	0	1
Wisconsin:												
Kenosha	0	0	------	0	0	0	0	0	2	0	0	0
Milwaukee	0	0	9	9	9	6	15	0	30	0	0	28
Racine	0	0	------	4	0	0	1	0	5	0	0	3
Superior	0	0	------	0	76	0	0	0	0	0	0	1
WEST NORTH CENTRAL												
Minnesota:												
Duluth	0	0	------	1	3	0	6	0	11	0	0	8
Minneapolis	3	0	------	6	42	1	12	0	26	0	0	2
St. Paul	0	0	------	4	14	1	12	0	17	0	0	0
Missouri:												
Kansas City	0	0	5	12	4	2	13	0	14	0	0	1
St. Joseph	0	0	------	0	0	1	0	0	0	0	0	0
St. Louis	0	0	51	10	17	18	42	0	15	0	0	3
North Dakota:												
Fargo	0	0	------	0	19	0	2	0	0	0	0	0
Nebraska:												
Omaha	1	0	------	0	0	0	15	0	13	0	0	0
Kansas:												
Topeka	1	0	------	0	0	1	0	0	0	0	0	1
Wichita	0	0	3	0	3	0	3	0	4	0	0	0

City reports for week ended December 25, 1943—Continued

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
SOUTH ATLANTIC												
Delaware:												
Wilmington	0	0	------	1	11	0	9	0	0	0	0	1
Maryland:												
Baltimore	2	0	134	14	19	6	53	0	24	0	0	15
Cumberland	0	0	1	0	0	0	2	0	0	0	0	0
Frederick	0	0	20	0	0	0	0	0	0	0	0	0
District of Columbia:												
Washington	0	0	845	5	25	2	22	0	16	0	0	3
Virginia:												
Lynchburg	0	0	164	0	122	0	2	0	4	0	0	1
Richmond	0	0	26	0	5	1	4	0	5	0	0	0
Roanoke	0	0	------	0	2	0	1	0	0	0	0	5
West Virginia:												
Charleston	0	0	8	0	0	0	0	0	6	0	0	0
Wheeling	0	0	------	0	0	0	4	0	1	0	0	0
North Carolina:												
Raleigh	0	0	------	0	2	0	0	0	0	0	0	0
Winston-Salem	0	0	126	0	63	0	3	0	0	0	0	1
South Carolina:												
Charleston	0	0	246	1	5	1	5	0	0	0	0	0
Georgia:												
Atlanta	0	0	277	3	0	0	7	0	3	0	0	0
Brunswick	0	0	------	0	9	0	2	0	1	0	0	0
Savannah	0	0	1,292	3	0	0	2	0	1	0	0	0
Florida:												
Tampa	0	0	1	1	0	1	2	0	0	0	0	0
EAST SOUTH CENTRAL												
Tennessee:												
Memphis	0	0	14	6	2	2	9	0	3	0	0	3
Nashville	0	0	------	1	0	0	7	0	2	0	0	1
Alabama:												
Birmingham	0	0	227	5	10	0	11	0	1	1	0	0
Mobile	0	0	46	2	1	2	7	0	0	0	0	0
WEST SOUTH CENTRAL												
Arkansas:												
Little Rock	1	0	------	0	3	0	2	0	0	0	0	0
Louisiana:												
New Orleans	1	0	54	8	4	2	24	1	2	0	0	1
Shreveport	0	0	------	1	0	0	7	0	1	0	0	0
Texas:												
Dallas	0	0	3	3	0	0	7	0	0	0	0	0
Galveston	0	0	------	0	0	0	2	0	0	0	0	0
Houston	3	0	------	1	2	0	7	0	2	0	0	0
San Antonio	1	0	5	6	3	0	7	0	1	0	0	1
MOUNTAIN												
Montana:												
Billings	0	0	------	0	0	0	2	0	2	0	0	0
Great Falls	0	0	592	0	11	1	1	0	4	0	0	4
Helena	0	0	------	0	0	0	0	0	1	0	0	0
Idaho:												
Boise	0	0	116	0	0	0	0	0	1	0	0	0
Colorado:												
Denver	1	0	42	12	4	0	13	0	6	0	0	15
Pueblo	0	0	------	0	88	0	2	0	1	0	0	0
Utah:												
Salt Lake City	0	0	1	4	3	0	5	1	26	0	0	1
PACIFIC												
Washington:												
Seattle	2	0	------	5	2	1	8	0	10	0	0	6
Spokane	0	0	3	2	8	1	3	0	19	0	0	0
Tacoma	0	0	------	0	4	0	1	0	16	0	0	0
California:												
Los Angeles	3	0	739	7	25	3	12	1	22	0	0	1
Sacramento	0	0	------	0	0	0	0	0	2	0	0	1
San Francisco	1	0	548	1	0	1	14	0	22	0	0	1
Total	44	5	7,595	328	1,680	185	1,122	4	844	1	5	276
Corresponding week, 1942	62	2	108	36	1,185	33	485	13	807	0	12	637
Average, 1938–42	103	------	1,398	[1] 52	[2] 1,336	------	[1] 466	------	948	8	16	1,060

Dysentery, amebic.—Cases: Boston, 2; New York, 1; Los Angeles, 2.
Dysentery, bacillary.—Cases: Worcester, 1; Bridgeport, 1; Buffalo, 1; New York, 1; Detroit, 1.
Dysentery, unspecified.—Cases: San Antonio, 9.
Leprosy.—Cases: New York, 1.
Tularemia.—Cases: Frederick, 1; Richmond, 2.
Typhus fever.—Cases: Savannah, 2; Tampa, 3; New Orleans, 1; Shreveport, 1; Houston, 4; San Antonio, 1.

[1] 3-year average, 1940–42. [2] 5-year median.

Rates (annual basis) per 100,000 population, by geographic groups, for the 87 cities in the preceding table (estimated population, 1942, 34,647,200)

	Diphtheria case rates	Encephalitis, infectious, case rates	Influenza		Measles case rates	Meningitis, meningococcus, case rates	Pneumonia death rates	Poliomyelitis case rates	Scarlet fever case rates	Smallpox case rates	Typhoid and paratyphoid fever case rates	Whooping cough case rates
			Case rates	Death rates								
New England	7.5	5.0	218.6	29.8	368	27.3	238.5	2.5	306	0.0	5.0	82
Middle Atlantic	5.8	1.3	285.9	47.7	283	29.0	196.7	0.0	95	0.0	0.0	39
East North Central	4.7	0.0	751.0	49.4	213	35.9	124.1	0.0	120	0.0	1.8	47
West North Central	9.8	0.0	115.3	64.5	199	46.9	205.2	0.0	195	0.0	0.0	29
South Atlantic	3.4	0.0	5,365.7	47.8	449	18.8	201.6	0.0	104	0.0	0.0	44
East South Central	0.0	0.0	1,704.6	83.2	77	23.8	201.9	0.0	36	5.9	0.0	24
West South Central	17.6	0.0	181.9	55.7	35	5.9	164.3	2.9	18	0.0	0.0	6
Mountain	8.3	0.0	6,201.0	132.1	875	8.3	189.9	8.3	339	0.0	0.0	165
Pacific	10.5	0.0	2,254.5	26.2	68	10.5	66.4	1.7	159	0.0	0.0	16
Total	6.6	0.8	1,143.0	49.4	253	27.8	168.9	0.6	127	0.2	0.8	42

DEATHS DURING WEEK ENDED JANUARY 1, 1944

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

	Week ended Jan. 1, 1944	Corresponding week, 1943
Data for 89 large cities of the United States:		
Total deaths	14,262	10,175
Average for 3 prior years	9,481	
Total deaths, 52 weeks of year	481,270	441,832
Deaths under 1 year of age	736	687
Average for 3 prior years	608	
Deaths under 1 year of age, 52 weeks of year	33,650	30,603
Data from industrial insurance companies:		
Policies in force	66,110,955	65,282,186
Number of death claims	14,594	11,164
Death claims per 1,000 policies in force, annual rate	11.5	8.9
Death claims per 1,000 policies, 52 weeks of year, annual rate	9.7	9.1

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended December 11, 1943.—During the week ended December 11, 1943, cases of certain communicable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Chickenpox		58		435	490	107	197	125	176	1,588
Diphtheria		23	1	25	2	3	3		1	58
Dysentery (bacillary)				2			2			4
German measles		1		9	17		40	4	3	74
Influenza	7	1,186	203		679	44			324	2,443
Measles		13	2	259	296	7	63	40	11	691
Meningitis, meningococcus		2		3	4		1			10
Mumps		8		27	152	58	33	43	40	361
Poliomyelitis					1		10			11
Scarlet fever		10	7	91	111	48	56	30	37	390
Tuberculosis (all forms)		5	2	81	51	11	2	12	27	191
Typhoid and paratyphoid fever		1	9	16		1			3	30
Undulant fever				4					1	5
Whooping cough		4		151	123	13	45	2	20	358

FINLAND

Notifiable diseases—October 1943.—During the month of October 1943, cases of certain diseases were reported in Finland as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis	14	Mumps	110
Chickenpox	462	Paratyphoid fever	112
Conjunctivitis	24	Pneumonia (all forms)	933
Diphtheria	2,691	Poliomyelitis	45
Dysentery	6	Puerperal fever	74
Gastroenteritis	2,261	Rheumatic fever	322
Gonorrhea	403	Scabies	3,447
Hepatitis, epidemic	945	Scarlet fever	814
Influenza	714	Syphilis	301
Laryngitis	60	Typhoid fever	27
Malaria	1	Vincent's angina	12
Measles	3,438	Whooping cough	603

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

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

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

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

Plague

Belgian Congo.—During the week ended November 27, 1943, plague was reported in Belgian Congo as follows: Butakonda—2 cases with 2 deaths from pulmonary plague and 1 case with 1 death from bubonic plague; Blukwa—5 cases with 4 deaths.

Ecuador—Loja Province.—For the period November 1–15, 1943, 1 fatal case of plague was reported in Loja Province, Ecuador.

Egypt—Suez.—Bubonic plague has been reported in Suez, Egypt, as follows: Weeks ended—November 20, 1943, 12 cases, 4 deaths; November 27, 7 cases, 3 deaths; December 4, 10 cases, 8 deaths; December 11, 15 cases, 12 deaths; December 18, 39 cases, 27 deaths. For the period December 19–22, 1943, 11 cases were reported, making a total of 94 cases reported.

Smallpox

Algeria.—For the period November 1–10, 1943, 102 cases of smallpox were reported in Algeria.

Morocco (French).—For the month of October 1943, 58 cases of smallpox were reported in French Morocco.

Typhus Fever

Ecuador.—For the period November 1–15, 1943, 9 cases of typhus fever were reported in Ecuador.

Hungary.—For the week ended December 11, 1943, 19 cases of typhus fever were reported in Hungary.

Morocco (French).—For the month of October. 1943, 53 cases of typhus fever were reported in French Morocco.

Rumania.—For the period December 8–15, 1943, 152 cases of typhus fever were reported in Rumania.

Slovakia.—For the week ended November 27, 1943, 15 cases of typhus fever were reported in Slovakia, and for the week ended December 4, 1943, 15 cases were also reported.

Spain.—For the week ended November 6, 1943, 9 cases of typhus fever were reported in Spain.

Trinidad—Port-of-Spain.—For the period September 16–30, 1943, 1 case of typhus fever was reported in Port-of-Spain, Trinidad.

Yellow Fever

Colombia.—For the period November 21–December 11, 1943, deaths from yellow fever have been reported in Colombia by Departments as follows: Boyaca, 7; Cundinamarca, 1; Intendencia of Meta, 5.

Gold Coast—Tamale.—On November 23, 1943, 1 case of suspected yellow fever was reported in Tamale, Gold Coast.

Senegal.—On November 13, 1943, 1 case of yellow fever was reported in Tambacounda and for the period November 11–20, 1943, 1 fatal case of yellow fever was reported in Velingara Casamance, Senegal.