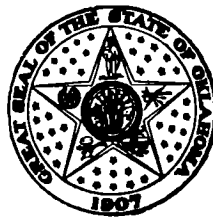


PUBLIC HEALTH STATISTICS

STATE OF

OKLAHOMA

1950



PART I

REPORTABLE DISEASES

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REPORTABLE DISEASES

Oklahoma State Health Department
Oklahoma City, Oklahoma

G. F. MATHEWS, M. D., Commissioner

FOREWORD

Although no longer so dramatic, perhaps, as in the first decades following the discovery of the basic principles of epidemiology and the control of communicable diseases, the fight against these diseases is a continuing one. The purpose of this book is to provide those who are interested or professionally concerned in the control of disease with a report on the effectiveness of the measures now in use and, it is hoped, with leads toward more effective measures in the future.

A report of this kind is necessary because of the limited experience which any individual can have with the total disease problem. The physician with the most varied practice sees only a tiny proportion of the population of the State, while even the records of a large hospital can hardly be expected to provide a true cross-section of that population. Hence, it is necessary that data be collected for an entire state and, in cooperation with other states, for the Nation, in order to provide the forces of health with the numerical basis for their plans.

The deficiencies of such data, due to the probably large numbers of undiagnosed or unreported cases of certain diseases, are well known.

The seeking of diagnosis and treatment is dependent on the patient and his family, and may perhaps be improved slowly by education. Nevertheless, the value of statistical reports to the research worker, the practicing physician and public health worker, and ultimately to the patient himself, can be enhanced at once by complete reporting of the cases which are diagnosed. That this fact is becoming more generally realized is implied by the heartening evidence presented in the body of this publication that reporting is becoming more complete. To those who are helping by such reporting to provide more effective tools for health, thanks are due from all who may thereby be spared illness and untimely death.



G. F. Mathews, M. D.
Commissioner of Health

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Public Health Statistics, Part I, 1950, is the seventh annual summary of the incidence of reportable diseases in the State of Oklahoma. The discussion covers, by disease, the more important aspects of the year's mortality experience, making comparisons with data accumulated during previous years and illustrating points of particular interest with tables and charts. Following the discussion are detailed tables of data which show the numbers of reported cases by race, with rates per 100,000 population, for the State and also numbers of reported cases by age, sex and race and by month of report. Additional tables give the numbers of cases reported for each of the counties and for Oklahoma City and Tulsa. Two tables of information not published in previous bulletins have been included for the first time. One of these is for data classified by race and by urban and rural residence, while the other shows reported cases of malignant neoplasms, by primary site, by race and sex. For purposes of the former table, urban residence is defined as residence in an incorporated area having 2,500 or more population.

Most of the case reports from which the data in this bulletin were obtained originated with physicians in private practice, local health departments, hospitals and clinics who make weekly reports of cases on report cards sent to them for that purpose by the State Department of Health. Additional sources were the State Laboratory's death records listing a reportable disease not previously reported, and interstate reciprocal notifications of disease contracted in Oklahoma but diagnosed or treated elsewhere.

Cases reported among military personnel stationed within the State have been included in tabulations for the State as a whole, but have been omitted from county tables. Cases in the civilian population have been allocated to the county of residence, which has been found to be the best approximation to allocation to the place where the disease was contracted.

The degree to which data published in this bulletin picture the true occurrence of reportable illness in the State depends upon the completeness of reporting of diagnosed cases. The most readily available information as to an unreported case comes from a death certificate which lists a reportable disease as a cause of death and it is found that the case was not reported before death. It has been found useful to relate the number of cases reported after death to the total number of reported cases for an indication as to the completeness of reporting. For diseases for which the case fatality rate has remained very nearly the same over a period of years, a decreasing proportion of cases reported by death certificate would indicate more complete reporting. Table I shows the proportions of cases of certain diseases reported by death certificate during the year 1950 and

the corresponding proportions for the two-year period 1946-1947. There seems to be some evidence that reporting during 1950 was more nearly complete than it has been in the past, although it still fell far short of 100 per cent.

Table 1
Cases of Communicable Diseases Reported by Death Certificate Only, Oklahoma, 1946-1947 and 1950

Disease	1946-1947		1950	
	Per Cent of Cases Reported by Death Certificate	Total Number Reported Cases	Cases Reported by Death Certificate	Per Cent Reported by Death Certificate
Diphtheria	4.9	131	3	2.3
Dysentery	15.3	152	14	9.2
Encephalitis, infectious	40.5	26	7	26.9
Influenza	0.2	11,768	10	0.1
Meningitis, meningococcal	12.5	56	4	7.1
Pneumonia, all forms	44.1	2,321	636	27.4
Poliomyelitis, acute	1.2	533	4	0.8
Rocky Mountain spotted fever	7.6	10	1	10.0
Scarlet fever	0.7	532	1	0.2
Septic sore throat	7.9	387	5	1.3
Tuberculosis, all forms	12.5	2,030	142	7.0
Typhoid and paratyphoid fevers	5.1	98	1	1.0
Typhus fever	10.0	1	0	0.0
Whooping cough	4.0	933	15	1.6

Population figures used in computing rates for this bulletin are the 1950 enumerated populations as released in preliminary and advance reports by the U. S. Bureau of the Census. The distribution of the enumerated non-white population between Negro and Indian groups has been estimated by the Statistics Division of the State Department of Health. Final death figures for the year 1950 were used in computing case fatality rates, expressed as the per cent of cases which resulted in death.

DIPHTHERIA

The 131 cases of diphtheria reported for 1950 gave a morbidity rate of 5.9 cases per 100,000 population which was the same rate as that established for the year 1949 when 132 cases were reported. Nine of these cases resulted in death, making the case fatality rate 6.9 per cent for 1950. This was lower than the five-year average annual case fatality rate of 11.1 shown in Table 2, below.

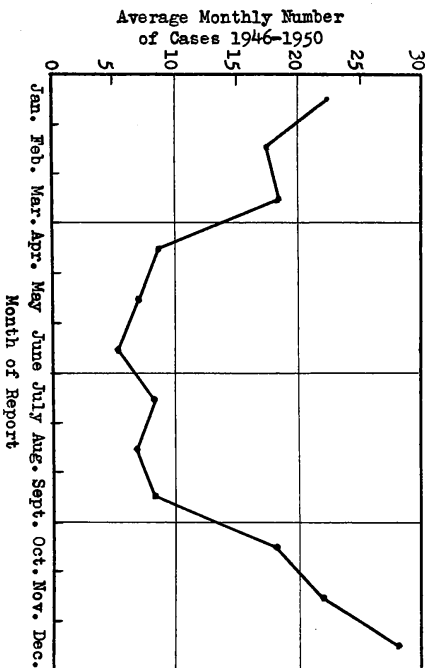
Table 2
Reported Cases and Deaths from Diphtheria, by Age Group, Oklahoma, 1950, and Case Fatality Rates, 1945-1949 and 1950

Age Group	1945-1949		1950	
	Case Fatality Rate	Reported Cases	Deaths	Case Fatality Rate
Total	11.1	131	9	6.9
Under 1 year	8.2	5	1	20.0
1-4 years	15.1	49	7	14.3
5-9 years	13.4	36	1	2.8
10 years and over	5.8	38	-	-
Unknown	-	3	-	-

From Table 2, it also may be seen that the highest incidence of diphtheria occurs in the age group one to four years. Furthermore, although the 1950 case fatality rate was higher in infants under one year, the five year case fatality rate also was highest in the one to four years age group.

Like other diseases affecting the respiratory system, diphtheria has a fairly definite pattern of seasonal variation. Chart 1, which shows the average monthly incidence for the five-year period, 1946-1950, reveals that the greatest numbers of cases occur during the winter months.

Chart 1
Cases of Diphtheria by Month of Report, Oklahoma, 1946-1950



INTESTINAL DISEASES

There were 152 cases of dysentery reported in 1950. Amebic dysentery was diagnosed in 40 cases, bacillary dysentery in 26 cases and unspecified dysentery in 86 cases. The unusually high incidence rate among Indians, 91.9 cases per 100,000 estimated population, may be attributed to an outbreak in Osage County in the Indian population. This outbreak was incompletely reported and the source not determined because of the lapse of time between the onset of the epidemic and the notification to the health department. The rates for white and Negro groups were 3.9 (80 cases) and 4.4 (6 cases), respectively.

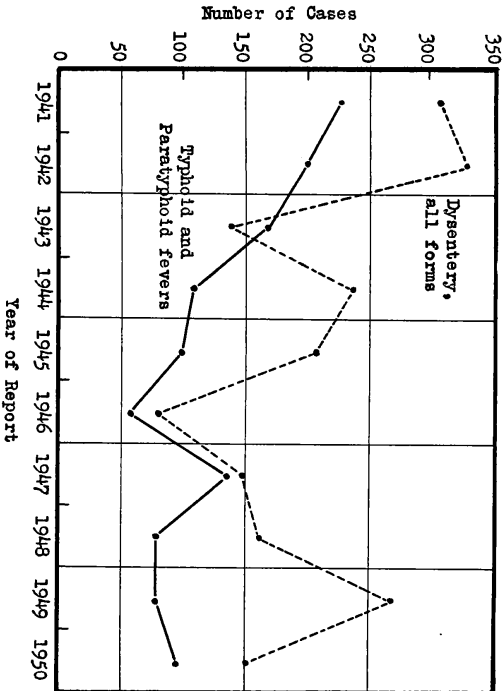
McIntosh, Quater and Pushmataha counties had the highest incidence with 16 cases for McIntosh County and 12 each for the other counties.

Typhoid fever in 1950 showed a slight increase with 84 cases as compared with 74 reported in 1949. Only one case was fatal. The number of cases occurring in the white population was 67, Negro, 5 and Indian, 6.

Chart 2 compares the ten-year incidence of typhoid and paratyphoid fevers and of dysentery, 1941-1950.

Chart 2

Reported Cases of Typhoid and Paratyphoid Fevers and Dysentery, Oklahoma, 1941-1950



There were 71 cases of food poisoning reported; 66 of these were unspecified as to type and five were reported as due to Salmonella infection. Ten cases were fatal.

Other enteric diseases reported were 14 cases of paratyphoid fever and 11 cases of infectious diarrhea of the newborn.

MALARIA

There were 91 cases of malaria reported as acquired in the United States in 1950, compared with 86 in 1949. In the breakdown by race, Indians predominated with 57 cases giving a rate of 90.3 per 100,000 estimated population. The rates for white and Negro populations were far lower with rates of 1.5 (30 cases) and 2.2 (3 cases), respectively. Only two cases were fatal.

McIntosh County reported malaria most frequently; over one-half, 50 cases, of the 91 cases resided in this county. Pushmataha County had 8 cases, Hughes County had 6, and the remainder of the cases were scattered in seventeen other counties in the State.

Almost one-fourth of the cases occurred in July, with more than two-thirds of the cases occurring July through October.

More of the cases resided in urban areas than in rural areas. There were 59 cases with urban residence, giving a rate of 5.3 as compared with 32 cases having rural residence, a rate of 2.8 cases per 100,000 estimated rural population.

Not included in the above number of cases were two cases reported as acquired outside of the United States.

MEASLES

The year 1950 was a low point in the cycle of incidence for measles. There were 648 cases and only one death reported compared with 7,538 cases and 30 deaths in 1949.

Over 85 per cent of the cases with age specified were under ten years of age.

December was the month of highest incidence with 185 cases reported and May was next to the highest with 110 cases reported.

In all racial groups, the number of males having the disease outnumbered the females.

MENINGOCOCCAL MENINGITIS

The 56 cases classified as meningococcal meningitis in 1950 include one case in which meningitis was unspecified as to type. When case reports of meningitis unspecified as to type were received, a query was sent to the reporting physician for information as to the causative organism. Thirteen such reports were queried. Twelve replies were received which reported six cases to be meningococcal meningitis and six to be non-meningococcal meningitis.

The numbers of cases reported for 1950 and 1949 were the same, but in 1950 there were 12 deaths, two more than in 1949, giving a case fatality rate of 21.4 per cent. The average annual case fatality rate for 1945 through 1949 was 19.5 per cent as shown in Table 3, below. The case fatality rate for the 10-19 year age group was lower than for any other group. Of the 56 cases reported in 1950, 87.5 per cent were under 20 years of age.

Table 3

Reported Cases and Deaths from Meningococcal Meningitis, by Age Groups, Oklahoma, 1950 and Case Fatality Rates 1945-1949 and 1950

Age Group	1945-1949		1950	
	Case Fatality Rate	Reported Cases	Deaths	Case Fatality Rate
Total	19.5	56	12	21.4
Under 1 year	17.1	3	1	33.3
1-4 years	22.0	15	6	40.0
5-9 years	21.3	14	4	28.6
10-19 years	11.4	17	-	-
20-29 years	25.0	-	1	-
30 years and over	30.9	7	-	14.3

PNEUMONIA AND INFLUENZA

The number of cases of pneumonia reported in 1950 was the highest in five years - 2,321 cases. Indians had the highest incidence rate, 310.5 cases per 100,000 estimated population, compared with 84.9 and 159.8 for the white and Negroes, respectively.

Of the reported cases with type specified, 554 (99.2 per cent) were diagnosed as bronchopneumonia, 446 (31.5 per cent) as primary atypical (virus) pneumonia and 415 (29.3 per cent) as lobar pneumonia. There were 906 cases unspecified as to type.

Case fatality rates for the above three types of pneumonia were 31.0, 16.1 and 41.4 per cent, respectively. The case fatality rate for unspecified types of pneumonia was 20.3. Pneumonia case fatality rates, as such, are difficult to interpret because the number of unreported cases is large. A comparison of the rates for the various types, however, may be used as an indication of the comparative severity of each type of pneumonia, assuming that each is equally well reported.

Aside from Oklahoma and Tulsa counties, Osage County had the largest number of resident cases of bronchial and lobar pneumonia.

A graph of the percentage distribution by age of the three types of pneumonia showed the largest number of cases of the disease to be under one year of age for all types though bronchopneumonia showed the largest percentage at this age. See Chart 3.

Chart 3

Percentage Distribution by Age of Reported Cases of Pneumonia by Type of Infection, Oklahoma, 1950

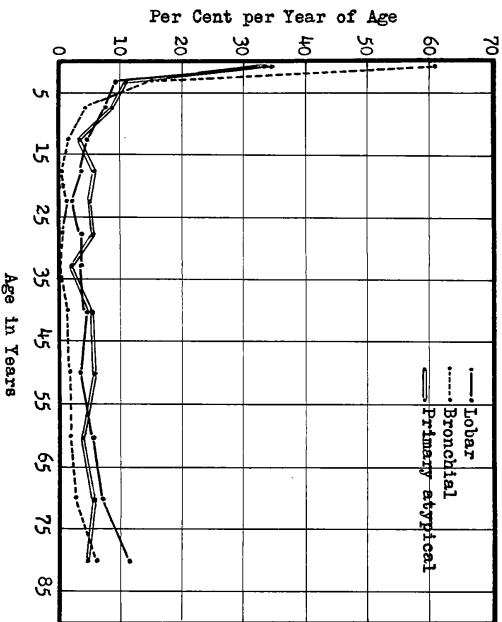


Table 4, below, shows pneumonia by type of infection, by urban and rural residence. Bronchial and primary atypical (virus) pneumonia seemed to have a higher urban incidence than lobar and unspecified pneumonia. For all forms, there were only 90 more rural cases than urban cases.

Table 4

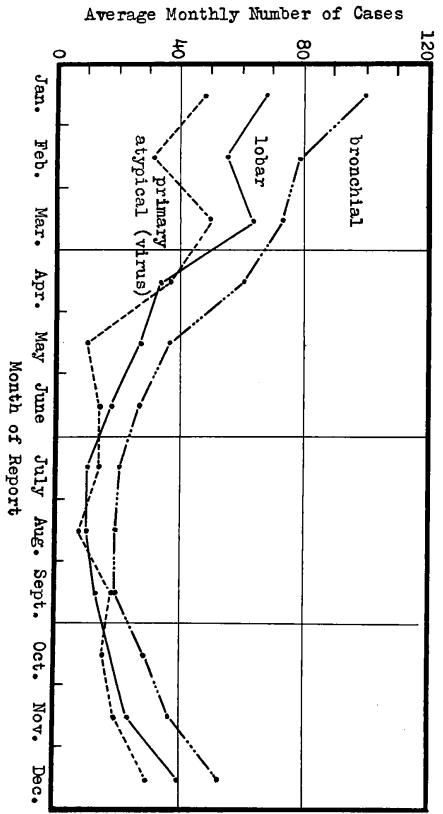
Reported Cases of Pneumonia, by Type, by Urban and Rural Residence, Number and Rate, Oklahoma, 1950

Types of Pneumonia	Total Oklahoma		Urban		Rural	
	Number	Rate	Number	Rate	Number	Rate
All forms	2,308	100.3	1,109	100.3	1,199	106.3
Bronchial	554	26.3	291	26.3	263	23.3
Lobar	475	16.5	182	16.5	233	20.7
Primary atypical (virus)	441	21.6	239	21.6	202	17.9
Unspecified	898	35.9	397	35.9	501	44.4

Chart 4, below, shows the seasonal incidence of the various forms of pneumonia. Five-year averages are used for all forms except primary atypical pneumonia for which only a two-year average was available.

Chart 4

Reported Cases of Pneumonia, by Type of Infection and Month of Report, 5-year Average, Oklahoma, 1946-1950



The number of influenza cases reported in 1950, 11,768, was almost six times larger than the number reported for 1949, 2,037. Over one-half, 6,046, of these cases occurred in March and 81.2 per cent occurred in February, March and April.

POLIOMYELITIS

The 533 poliomyelitis cases reported in 1950 were less than one-half of the number of cases reported in the epidemic year of 1949. However, the number was higher than the average annual number of cases, 476.8, reported 1945-1949.

Because of the almost daily publicity this disease has received during the poliomyelitis seasons of the last three or four years, it has become perhaps more completely reported than any other disease as far as diagnosed cases are concerned.

Of the 533 cases, 16 were specified as bulbar, 9 as other paralytic, 13 as non-paralytic and 495 were unspecified. None of the cases which were specified as non-paralytic were under 5 years of age.

Table 5, below, shows the case fatality rates, by age group, for the period 1945-1949. This five-year case fatality rate for all ages was 8.1 per cent. The rate for 1950 was slightly less, 7.1 per cent.

Table 5

Reported Cases and Deaths from Poliomyelitis, by Age Group, Oklahoma, 1950 and Case Fatality Rates, 1945-1949 and 1950

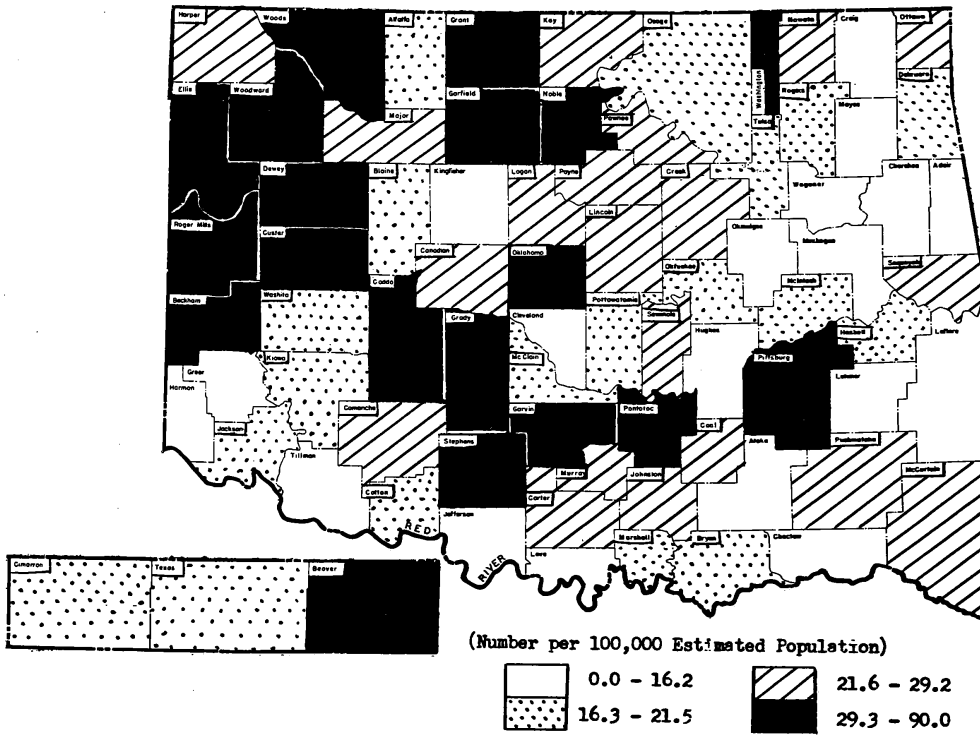
Age Group	1945-1949		1950	
	Case Fatality Rate	Reported Cases	Deaths	Case Fatality Rate
Total	8.1	533	38	7.1
Under 1 year	9.9	15	6	40.0
1-4 years	3.7	166	11	6.6
5-9 years	8.7	128	8	6.3
10-14 years	10.9	102	3	2.9
15 years and over	12.8	122	10	8.2

The distribution of cases by race was as follows: white, 512; Negro, 10; Indian, 1; unknown, 1. The attack rates, respectively, were 25.2, 7.3, and 15.8 cases per 100,000 population.

More cases were reported in males than in females, 305 and 228 cases, respectively. Also, urban attack rates exceeded rural attack rates. There were 331 cases reported as residing in urban areas and 201 cases in rural areas, with attack rates of 29.9 and 17.8, respectively.

The map on the opposite page shows the incidence rates of poliomyelitis in the counties of the state over a period of the last five years. Noble and Washington counties had the highest average rates during this period and Mayes and Wagoner counties had the lowest rates.

Poliomyelitis Annual Average Attack Rates, by County of Residence, Oklahoma, 1946-1950



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RESPIRATORY STREPTOCOCCAL INFECTIONS

There were 919 cases of respiratory streptococcal infections reported in 1950 of which 532 cases were diagnosed as scarlet fever and 387 cases were diagnosed as septic sore throat. The number of cases of scarlet fever was lower than the five-year (1945-1949) average of 579 cases, but the number of cases of septic sore throat was considerably higher than the corresponding five-year average of 227 cases.

Up to 15 years of age, the cases of scarlet fever outnumbered the cases of septic sore throat, but in older age groups, septic sore throat had the higher incidence. The percentage of cases dying was greater for septic sore throat than for scarlet fever which caused no deaths in 1950. Six persons, five of them ten years of age and over, died from septic sore throat. It is probable that, for the most part, only the more advanced cases of septic sore throat were diagnosed and reported thus causing the disease to appear to be more severe than scarlet fever, symptoms of which are more pronounced. The average annual case fatality rate (1945-1949) was highest in infants under one year of age for both diseases. See Table 6.

Table 6

Reported Cases and Deaths from Respiratory Streptococcal Infections, by Age Group, Oklahoma, 1950 and Case Fatality Rates, 1945-1949 and 1950

Age Group	1945-1949		1950		Case Fatality Rate	
	Case Fatality Rate	Reported Cases	Deaths	Case Fatality Rate	Scarlet Fever	Septic Sore Throat
Total	0.5	532	387	6	-	1.6
Under 1 year	2.5	3	3	-	-	-
1-4 years	0.6	160	41	1	-	2.4
5-9 years	4.5	253	43	-	-	-
10 years and over	0.5	85	214	5	-	2.3
UNKNOWN	-	31	86	-	-	-

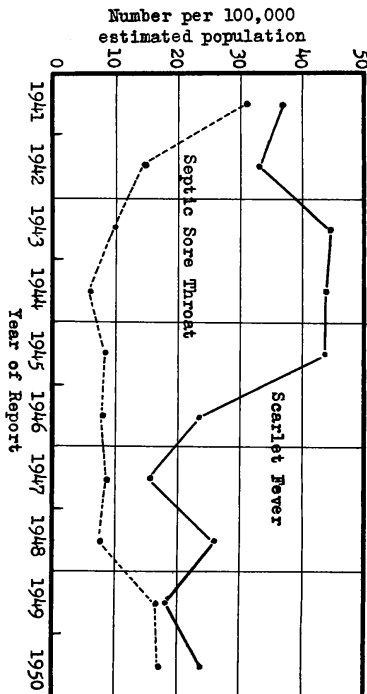
The seasonal peak for septic sore throat lagged two months behind that for scarlet fever, with the largest number of cases, 78, reported in April compared with 89 cases of scarlet fever reported in February. The lowest months of report were October and July, respectively.

The diseases were reported more often in urban residents than in rural, especially scarlet fever with 330 urban cases and only 202 rural cases. This coincides with the fact that over one-third of the scarlet fever cases were residents of Oklahoma or Tulsa counties, counties with

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High urbanization. Slightly less than one-third of the cases of septic sore throat were concentrated in Cleveland, Washington and Oeage counties. The attack rates for the above two diseases for the past ten years are shown in Chart 5.

Chart 5
Attack Rates from Scarlet Fever and Septic Sore Throat,
Oklahoma, 1941-1950



WHOOPIING COUGH

Reports of whooping cough cases during 1950 totaled 933 with a rate of 41.8 per 100,000 estimated population. The Indian rate of 88.7 was high in comparison with 36.3 for the white population and 19.6 for the Negroes. About 20 per cent of the cases with age specified were under one year of age. The case fatality for this group was also high with 9.0 per cent of the 1950 cases dying. Table 7 gives case fatality rates for 1945-1949 and for 1950 by age groups.

Table 7
Reported Cases and Deaths from Whooping Cough, by Age Group,
Oklahoma, 1950 and Case Fatality Rates, 1950 and 1945-1949

Age Group	1945-1949		1950	
	Case Fatality Rate	Reported Cases	Deaths	Case Fatality Rate
Total	4.7	933	20	2.1
Under 1 year	18.2	167	15	9.0
1-4 years	2.8	347	4	1.2
5-9 years	0.2	262	-	-
10 years and over	1.3	41	1	2.4
Unknown	-	116	-	-

Although the number of cases of whooping cough has not shown a definite decrease during the past ten years, the case fatality rate does appear to have become lower as demonstrated by the two five-year averages, 1940-1944 and 1945-1949. In the first period the average case fatality rate was 9.4 per cent and in the second period it was 4.7 per cent. This difference was significant, statistically.

The two summer months of June and July had the largest number of cases reported, 295 or 31.6 per cent of the year's total.

OTHER ACUTE COMMUNICABLE DISEASES

There were 10 cases of Rocky Mountain spotted fever reported in nine scattered counties in the State. This was less than one-half of the 25 cases reported in 1949.

Carter County reported three cases of smallpox and Ouster and Pushmataha counties one each. The five cases were between the ages of 15 and 29 years.

The 95 cases of undulant fever reported were lower in number than in 1949 when 144 cases were reported. All but one of the cases were over ten years of age, 55 per cent of the cases with age specified occurring in the 35-54 year age group. Kiowa County again reported the largest number of cases; however, these ten cases represented a considerable drop from the 28 reported in 1949.

There were five cases of gonorrhoidosis in the State, two each residing in McClain and Pontotoc counties and one in Oklahoma County. Canadian and Tulsa counties each reported one case of infectious hepatitis.

Other diseases reported were infectious mononucleosis, 10 cases; pellagra, 13 cases; and inworm of the scalp, 44 cases.

MALIGNANT NEOPLASMS

1950 was the third complete year of report of cancer which was made reportable August 15, 1947, on a special cancer report form. The number of cases reported for the year, 1,649, was only slightly less than the 1,706 cases reported for 1949.

The most common primary site reported was the skin (except vulva, scrotum and anus), 21.6 per cent of all cases. Other primary sites most often reported were the digestive organs and peritoneum, 15.9 per cent; the uterus, 14.7 per cent; and the breast, 9.9 per cent.

Of the 1,649 reports, 357 or 21.6 per cent reported metastasis of the neoplasm to other parts of the body; 462 or 28.0 per cent reported no metastasis and 830 or 50.3 per cent either did not specify or stated that metastasis was unknown. A breakdown by primary site of the 357 cases which metastasized showed that of the number that indicated whether or not metastasis had occurred, certain parts of the respiratory system showed the highest percentage of metastasis, 83.9 per cent. These included the nose, nasal cavities, middle ear and accessory sinuses, which showed a much lower metastasis rate, 5.7 per cent. Female genital organs, other than the uterus, were next with 32.4 per cent; the breast, 79.0 per cent; and urinary organs, 70.6 per cent. The smallest per cents of metastases were from the nose, nasal cavities, middle ear and accessory sinuses, 5.7 per cent, and from the skin, 10.6 per cent of the number of neoplasms of each site for which metastasis was specified. Although the percentage of reports specifying whether metastasis occurred was 63 per cent larger in 1950 than in 1949, 49.7 per cent compared with 30.4 per cent, this item still was not sufficiently reported to be of value for strict interpretation.

Biopsy information was furnished on 1,222 of the 1,649 reports of malignant neoplasm. Of the number furnishing this information, 936 or 76.6 per cent specified that a biopsy was performed. When only the reports for which biopsy information was given were considered, it was found that 100.0 per cent of the lympho and reticulosarcomas and of the neoplasms of the brain were biopsied, 89.8 per cent of the neoplasms of the uterus, and 89.3 per cent of the urinary organs.

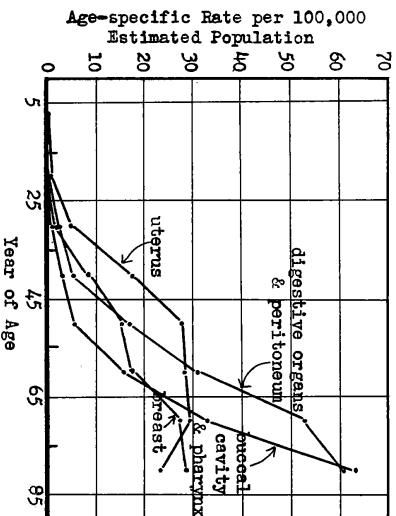
For the white racial group, 1,486 cases were reported, a rate of 73.1 cases per 100,000 estimated population. The Negro incidence of 102 cases (rate 74.1) was approximately the same but the Indian attack rate was apparently much lower. Only 11 cases were reported during the year giving an attack rate of 17.4. The most frequent site reported for the Negro group was the genital organs, male and female, differing from that of the skin for the white group. Although there were more malignancies reported for the white male group than the female, this was reversed in the Negro and Indian groups. See Table VII in the appendix.

The total number of malignant neoplasms in males was slightly higher than that in females, 834 and 815 cases, respectively. The largest deviation between the sexes for common anatomical sites was observed in neoplasms of the buccal cavity and pharynx of which 77.4 per cent were in males. The skin was the most common site in males, whereas the uterus and other female genital organs were the most often reported for females.

When this disease was tabulated by age groups, it was found that the 65-74 year age group had the largest number of cases. Chart 6 and Table 8, below, show the age-specific rates for 1949-1950 for four leading primary sites. Most rates increased with each increase in age, though cancer of the uterus declined after 75 years of age. The skin, the leading site for cancer, showed a graph picture similar to that for the digestive organs and peritoneum, but was excluded from the chart, below, because the excessive rates of 101.2 and 198.9 for the age group, 65-74 years and 75 years and over, respectively, were inconvenient for graphing with the other sites.

Chart 6

Age-Specific Rates of Malignant Neoplasms, by Certain Primary Sites and Age Groups, Oklahoma, 1949-1950



Average Annual Age-Specific Attack Rates for Malignant Neoplasms,
by Certain Primary Sites, Oklahoma, 1949-1950

Table 8

Age Groups	Primary Site				
	Skin	Uterus	Breast	Dig. Orgs. & Periton.	Buccal Cav. and Pharynx
All Ages	19.2	11.1	7.1	10.4	6.1
Under 14 years	0.4	-	-	0.1	-
15-24 years	0.9	0.6	0.4	0.3	0.1
25-34 years	3.1	4.8	2.0	2.6	0.9
35-44 years	6.9	17.2	8.6	5.1	3.1
45-54 years	17.7	27.5	15.5	16.5	5.5
55-64 years	49.2	28.1	17.0	30.5	15.4
65-74 years	101.2	29.0	27.2	52.6	32.5
75 years and over	198.9	23.1	28.7	61.1	62.9

Cancer Cases Reported by Death Certificate Only

An accumulative case file was set up August 15, 1947, when physicians, hospitals, clinics and local health departments were asked to list all known existing cases of cancer. All new cases reported since then have been first checked with this file so that duplicates might be eliminated. In 1950, there were 2,172 cases of cancer reported for the first time by death certificate. Since the date of onset of these cases was unknown, they were not included with the cancer morbidity for the year. Table 9, below, shows the number and per cent of cases reported through regular channels and by death certificate only, by the primary site of the malignancy. It may be seen that the primary site most often reported differs between the two groups of cases. Where the skin was the most common site of cases reported through regular channels, the digestive organs and peritonsium were reported most often by death certificate.

Cases of Cancer Reported Through Regular Channels and by Death Certificate Only, Number and Per Cent, by Primary Site of Lesion, Oklahoma, 1950

Table 9

Primary Site	Cases Reported Through Regular Channels		Cases Reported by Death Certificate Only	
	Number	Per Cent	Number	Per Cent
Total	1,649	99.9	2,172	100.1
Hodgkin's Disease	8	0.5	22	1.0
Buccal cavity and pharynx	133	8.1	51	2.3
Digestive organs and peritonsium	263	15.9	755	34.8
Respiratory system	136	8.2	91	4.2
Uterus	243	14.7	155	7.1
Other female genital organs	38	2.3	56	2.6
Breast	164	9.9	132	6.1
Male genital organs	52	3.2	179	8.2
Urinary organs	43	2.6	88	4.1
Skin (except nail, scrotum, and anus)	357	21.6	45	2.1
Brain and other parts of central nervous system	19	1.2	49	2.3
Other and unspecified organs	167	10.1	450	20.7
Leukemia	26	1.5	99	4.6

The most common primary sites for the males were the stomach, 183 cases, and the prostate, 147 cases. For the females, the breast with 123 cases and the large intestine with 110 cases were the primary sites most often reported by death certificates.

Of the 2,172 cases, 2,015 were white, 110 were Negro, 43 were Indian and 4 were of unspecified race. The rates per 100,000 estimated population were 99.1, 79.9 and 68.1, respectively.

TUBERCULOSIS

During 1950, 2,030 new cases of tuberculosis were reported in Oklahoma. This was the smallest number, as may be seen in Table I, since the beginning of intensive case-finding in 1945. The attack rate was 90.9 per 100,000 estimated population. As is usually the case, the rate was higher in the non-white than in the white population group; the white rate was 84.0, as compared to 106.8 for the Negro population, and 247.1 for the Indian racial group.

Table 10, below, shows the number of reported cases of tuberculosis, by stage and activity for respiratory tuberculosis, and by site for non-respiratory infections, together with the distribution of each type by race. Only 37 cases of non-respiratory tuberculosis were reported during the year. Thirteen of these cases were of the meninges and central nervous system, and twelve of the disseminated miliary type. Twelve cases of non-respiratory tuberculosis were reported in persons less than 15 years of age, of which infections eight were of the meninges or central nervous system.

Table 10
Reported Cases of Tuberculosis, by Type, Stage and Activity, by Race, Oklahoma, 1950

Type, Stage and Activity	Race				Un-known
	Total	White	Negro	Indian	
Tuberculosis of respiratory system:	1,993	1,679	144	150	20
Minimal, active	243	202	17	22	2
Moderately advanced, active	333	270	21	38	4
Far advanced, active	318	238	36	40	4
Arrested (including inactive)	724	679	21	19	5
Apparently cured (any stage)	1	1	-	-	-
Unqualified	374	289	49	31	5
Tuberculosis of other sites:					
Meninges and central nervous system	37	28	3	6	-
Intestines, peritoneum, mesentery	13	10	1	2	-
Vertebral column	2	1	-	-	-
Other bones and joints	3	3	-	-	-
Skin	3	2	-	1	-
Lymphatic system	-	-	-	-	-
Genito-urinary system	2	2	-	-	-
Other organs	2	1	-	1	-
Miliary (disseminated)	12	9	1	2	-

More detailed data about the age at the time of report are included in Table 11, below, for cases of respiratory tuberculosis for which information was available as to race, sex, and age. Excluded from this table are 79 cases for which one or more of these items of information were not available. It will be seen that 33 cases were reported at ages under 15, which was slightly less than three times the number reported at these young ages for non-respiratory sites, despite the fact that the total number of respiratory cases was more than 50 times the non-respiratory number.

Table 11
Reported Cases of Respiratory Tuberculosis, by Age, Race and Sex and Age-Specific Rates by Age, Oklahoma, 1950

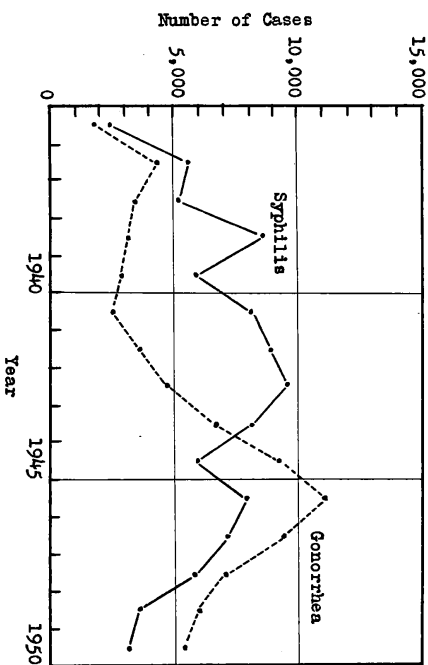
Age Groups	Total	Age-Specific Rates	White		Non-White	
			Male	Female	Male	Female
Total with age, sex and race specified	1,914	...	944	682	144	144
Under 15 years	33	5.2	5	14	4	10
15-24 years	222	64.3	59	97	24	42
25-34 years	280	87.1	101	122	23	34
35-44 years	334	110.4	162	120	31	21
45-54 years	334	136.0	181	107	29	17
55-64 years	310	167.4	190	99	11	10
65-74 years	276	197.3	164	86	19	7
75 years and over	125	231.5	82	37	3	3

The death rate from tuberculosis in 1950 was the lowest ever reported in Oklahoma, 22.4 per 100,000 estimated population, based on the 500 deaths assigned to this cause. Corresponding rates for 1949 and 1948 were 23.6 and 27.6, respectively.

VENEREAL DISEASES

The downward trend in the yearly number of reported cases of syphilis, which began in 1947, continued in 1950, with 3,169 cases, as compared with 3,657 in 1949. The number of reported cases of gonorrhea showed a slightly larger decline, with 5,309 cases in 1950, compared with 5,987 in 1949. The number of reported cases for each year from 1936 through 1950 is shown on Chart 7.

Chart 2
Reported Cases of Syphilis and Gonorrhoea,
Oklahoma, 1936-1950



The racial distribution of the two diseases was quite different, as shown by Table II, in the appendix. About 56 per cent of the reported cases of syphilis were in the white group, 33 per cent in the Negro group, and 10 per cent in the Indian population, whereas 36 per cent of those having gonorrhoea were white, 58 per cent Negro, and 5 per cent Indian. Table 12, below, shows the occurrence, by sex, of each venereal disease, syphilis being broken down by type or stage.

More cases of each of the diseases were reported in males than in females, except for syphilis and granuloma inguinale (only eight cases of the latter having been reported). The excess in syphilis cases in females was in the early latent and congenital categories.

Table 12
Reported Cases of Venereal Diseases,
by Disease, Stage and Sex, 1950

Disease and Stage	Total	Male	Female	Unknown
Total venereal diseases	8,578	5,047	3,522	9
Gonorrhoea	5,309	3,439	1,866	4
Syphilis, all stages	3,169	1,536	1,628	5
Primary and secondary	370	208	162	-
Early latent	722	265	456	1
Late and late latent	1,867	961	902	4
Congenital	159	59	100	-
Not stated	51	43	8	-
Ophthalmia neonatorum	3	3	-	-
Other venereal diseases	97	69	28	-
Chancroid	80	62	18	-
Granuloma inguinale	8	2	6	-
Lymphogranuloma	9	5	4	-

Table 13 includes a breakdown by age of cases of syphilis for which stage was specified together with the rates per 100,000 population in each age group. The largest number of cases of primary and secondary and early latent syphilis were in the age group 15-24 years; on the other hand, more than one-half of the cases of late and late latent syphilis were in persons 45 years of age or older, a group which comprises approximately 28 per cent of the total population.

Table 13
Reported Cases of Syphilis by Certain Specified Stages,
by Age Group, Oklahoma, 1950

Age Group	Primary and Secondary		Early Latent		Late Latent	
	Number	Age-Specific Rates	Number	Age-Specific Rates	Number	Age-Specific Rates
Total cases with age specified	360	...	684	...	1,738	...
Under 15 years	8	1.3	9	1.4	3	0.5
15-24 years	172	49.8	267	77.3	81	23.5
25-34 years	120	37.3	221	68.7	275	85.5
35-44 years	34	11.2	117	38.7	482	159.4
45 years and over	26	4.2	70	11.2	897	143.6

TABLE 1. REPORTED CASES OF SELECTED COMMUNICABLE DISEASES, NUMBER AND RATE, (NUMBER PER 100,000 ESTIMATED POPULATION), OREGON, 1941-1950

Disease	1941		1942		1943		1944		1945	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Arthritis in man	1	0.0	1	0.0	1	0.0	1	0.0	2	0.1
Diphtheria	734	31.1	1,059	44.5	841	36.5	621	35.8	682	29.9
Scarlet fever	473	20.4	399	17.2	239	10.4	334	14.6	300	13.1
Whooping cough	380	13.3	329	14.2	139	6.0	202	10.5	211	9.2
Measles	314	13.1	3,656	156.7	4,696	203.8	5,956	287.7	9,216	403.4
Polio-myelitis, acute	14,327	616.6	3,701	160.0	6,041	297.1	11,778	513.7	6,924	303.4
Scarlet fever	2,628	87.3	1,516	64.5	1,453	61.7	1,868	81.4	1,011	46.2
Whooping cough	2,429	104.4	6,321	277.1	2,375	103.2	1,915	88.4	1,011	46.2
Measles	29	1.2	39	1.7	124	5.4	117	5.1	84	3.7
Whooping cough	1,093	46.6	1,480	64.4	621	28.3	1,460	64.0	729	32.3
Polio-myelitis, acute	41	1.7	28	1.2	1,461	64.4	1,461	64.4	1,200	51.9
Whooping cough	58	2.5	28	1.2	294	12.8	24	1.1	20	0.9
Scarlet fever	12	0.1	2	0.1	1	0.0	3	0.1	1	0.0
Whooping cough	89	37.5	722	31.4	497	22.2	1,031	47.7	632	28.1
Scarlet fever	716	30.8	342	14.8	342	14.8	342	14.8	342	14.8
Whooping cough	51	2.2	40	1.7	33	1.4	10	0.4	23	1.0
Scarlet fever	8,132	350.0	8,919	392.9	9,431	417.8	8,132	350.0	8,132	350.0
Whooping cough	1,538	66.2	1,461	64.4	1,721	76.0	1,461	64.4	1,461	64.4
Whooping cough	51	2.2	40	1.7	33	1.4	10	0.4	23	1.0
Scarlet fever	227	9.8	200	8.6	168	7.3	109	4.8	100	4.4
Whooping cough	117	5.0	69	3.0	30	1.3	30	1.3	37	1.6
Whooping cough	1,206	51.9	475	20.5	885	38.4	486	18.6	713	31.2
Arthritis in man	632	27.8	1	0.0	1,417	62.7	1,791	78.1	2,512	112.5
Diphtheria	222	9.8	209	9.2	165	7.3	132	5.9	131	5.9
Scarlet fever	80	3.5	149	6.6	163	7.2	272	12.2	152	6.8
Whooping cough	11,050	486.4	9,335	422.7	7,082	314.6	5,987	267.7	5,289	232.1
Measles	6,955	289.8	25,095	1109.6	3,972	176.4	2,037	90.9	11,768	526.9
Polio-myelitis, acute	388	16.6	526	23.7	403	17.8	86	3.8	91	4.1
Measles	4,297	182.2	1,888	83.1	1,693	75.5	7,538	336.4	648	28.0
Whooping cough	482	19.9	660	29.2	887	39.4	2,764	123.2	2,927	131.5
Polio-myelitis, acute	4	0.2	43	1.9	5	0.2	1,648	73.2	82.6	3.6
Whooping cough	1,709	75.2	2,002	88.5	369	16.4	1,322	59.0	2,221	103.9
Whooping cough	19,111	811.1	59	2.6	1,084	48.1	1,322	59.0	533	23.9
Whooping cough	2	0.1	-	-	-	-	-	-	-	-
Whooping cough	36	1.5	36	1.6	30	1.3	25	1.1	10	0.4
Whooping cough	246	10.4	353	15.6	301	13.3	25	1.1	532	23.8
Whooping cough	180	7.9	198	8.8	176	7.8	387	17.3	387	17.3
Whooping cough	2	0.1	-	-	-	-	-	-	-	-
Whooping cough	16	0.7	4	0.2	1	0.0	2	0.1	5	0.2
Whooping cough	7,093	307.8	7,177	317.3	5,727	254.4	3,657	163.2	3,169	141.9
Whooping cough	2,664	117.3	2,435	107.7	1,390	61.3	2,109	93.2	2,090	93.9
Whooping cough	86	3.8	130	5.7	84	3.7	71	3.2	61	2.7
Whooping cough	36	1.6	96	4.2	74	3.3	34	1.5	84	3.8
Whooping cough	36	1.6	89	3.9	1	0.0	3	0.1	1	0.0
Whooping cough	479	21.1	1,035	46.6	1,084	48.1	228	10.2	935	41.8

Deaths occurring during the year from venereal diseases included 108 from syphilis and one from gonorrhoea (a chronic gonococcal infection in a female). Of the deaths assigned to syphilis, 42 were due to aortic aneurysm, and 25 to other cardiovascular syphilis.

RHEUMATIC FEVER

1950 was the second year of report of rheumatic fever with 73 cases recorded, giving a rate of 3.3 per 100,000 estimated population. In 1949 104 cases were reported, a rate of 4.6.

The disease was reported to have occurred more frequently among Negroes and Indians than in the white population, the rates being 5.1 (7 cases), 4.8 (3 cases) and 2.6 (50 cases), respectively.

In a breakdown by age, it may be seen that the largest number of cases, 18, occurred in the 10-14 year age group, whereas there were only two cases under 5 years of age.

February and March were the high months of report with 22 or 28.8 per cent of the cases.

There were 19 deaths from rheumatic fever in 1950, 26 per cent of the cases reported, compared with 21.2 per cent in 1949. The disease took its greatest toll, however, in the form of chronic rheumatic heart disease of which there were 216 deaths.

Symbols Used in Tables

- Number or rate is zero
- ... Item not applicable
- 0.0 Rate is more than 0 but less than 0.05

TABLE VI. REPORTED CASES OF SELECTED COMMUNICABLE DISEASES BY SEX AND RACE, OKLAHOMA, 1950

DISEASE	TOTAL			WHITE			NEGRO			INDIAN			UNKNOWN		
	Male	Female	Unknown	Male	Female	Unknown	Male	Female	Unknown	Male	Female	Unknown	Male	Female	Unknown
Anthrax in man	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chickenpox	600	608	1,304	553	562	126	14	20	-	22	15	1	11	11	1,177
Diphtheria	64	66	1	54	51	-	4	11	-	4	4	-	2	-	1
Dysentery	87	57	8	53	24	3	5	1	-	27	31	-	2	1	5
Encephalitis, infectious	14	12	-	13	9	-	-	3	-	1	-	-	-	-	-
German measles	58	55	10	57	51	4	1	-	-	3	-	-	-	1	6
Gonorrhoea	3,439	1,866	4	1,219	701	-	2,097	986	-	113	177	-	10	2	4
Hookworm	17	14	13	17	14	13	-	-	-	-	-	-	-	-	-
Influenza	2,426	2,421	6,921	1,856	1,866	402	121	144	-	294	302	47	155	109	6,472
Malaria, acquired in U. S.	43	48	-	21	9	-	1	2	-	20	37	-	1	-	-
Malaria, acquired outside U. S.	2	-	-	2	-	-	-	-	-	-	-	-	-	-	-
Measles	301	246	101	276	229	64	8	6	-	11	10	-	6	1	37
Meningitis, meningococcal	34	22	-	30	20	-	4	2	-	-	-	-	-	-	-
Mumps	897	741	1,299	830	677	142	24	23	-	8	12	1	35	29	1,156
Ophthalmia neonatorum	3	-	-	-	-	-	3	-	-	-	-	-	-	-	-
Paratyphoid fever	11	3	-	10	3	-	-	-	-	-	-	-	1	-	-
Pneumonia, all forms	1,177	978	166	963	763	-	117	103	-	93	103	-	4	9	166
Polioomyelitis, acute	305	228	-	292	220	-	6	4	-	7	3	-	-	-	-
Rocky Mountain spotted fever	6	4	-	5	4	-	-	-	-	1	-	-	-	-	-
Scarlet fever	256	259	17	251	250	8	2	3	-	3	3	-	-	3	9
Septic sore throat	148	166	73	135	155	18	3	6	-	9	5	-	1	-	55
Smallpox	5	-	-	2	-	-	3	-	-	-	-	-	-	-	-
Syphilis	1,536	1,628	5	914	849	-	471	575	-	126	180	-	25	24	5
Tetanus	6	2	-	2	2	-	3	-	-	1	-	-	-	-	-
Trachoma	35	19	-	10	8	-	-	1	-	25	10	-	-	-	-
Tuberculosis, respiratory	1,144	847	2	982	696	1	78	66	-	70	80	-	14	5	1
Tuberculosis, other forms	12	25	-	10	18	-	-	3	-	2	4	-	-	-	-
Tularemia	35	23	3	16	6	-	3	-	-	-	-	-	16	17	3
Typhoid fever	41	39	4	35	32	-	2	3	-	4	2	-	-	2	4
Typhus fever	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-
Undulant fever	64	29	2	59	27	-	2	-	-	1	-	-	2	2	2
Veneral diseases, other	69	28	-	26	7	-	11	20	-	2	1	-	-	-	-
Vincent's angina	61	27	12	60	24	12	-	-	-	1	3	-	-	-	-
Whooping cough	410	409	114	359	371	8	17	10	-	31	25	-	3	3	106

TABLE VII. REPORTED CASES OF SELECTED COMMUNICABLE DISEASES BY AGE, OKLAHOMA, 1950

Disease	All Ages	Age in Years														75 and Over	Unknown		
		Under 1 Year	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35-44	45-54	55-64			65-74	
Anthrax in man	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chickenpox	2,512	54	50	65	96	82	682	67	12	3	10	5	10	-	-	1	-	-	1,375
Diphtheria	131	5	12	14	16	7	36	17	5	6	4	3	2	1	-	-	-	-	3
Dysentery	152	19	18	8	4	4	19	5	4	5	3	11	14	11	8	5	3	11	-
Encephalitis, infectious	26	1	1	1	1	-	4	2	6	-	1	6	-	1	1	1	-	-	-
German measles	123	13	19	10	9	4	32	13	5	3	1	1	-	-	-	-	-	-	13
Gonorrhoea	5,309	4	7	5	5	8	12	56	1,223	2,073	1,016	404	396	71	29	9	1	30	-
Hookworm	44	-	-	-	4	1	3	11	4	1	1	1	2	-	-	1	-	15	-
Influenza	11,768	82	98	150	109	83	427	269	285	301	297	276	541	532	375	320	169	7,454	-
Malaria, acquired in U. S.	91	1	1	4	6	2	8	8	6	2	4	1	15	12	7	7	5	2	-
Malaria, acquired outside U.S.	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Measles	648	42	47	47	51	45	204	45	13	5	-	2	1	1	-	-	-	145	-
Meningitis, meningococcal	56	3	2	2	3	3	14	12	5	-	-	3	3	1	-	-	-	-	-
Mumps	2,937	12	29	53	59	59	605	231	114	77	67	82	59	18	4	9	1	1,458	-
Ophthalmia neonatorum	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Paratyphoid fever	14	-	-	-	2	-	-	-	-	2	2	2	2	2	-	-	-	2	-
Pneumonia, all forms	2,321	305	126	82	50	46	155	72	59	55	63	46	144	149	156	223	383	207	-
Polioomyelitis, acute	533	15	35	38	49	44	128	102	41	25	29	13	9	5	-	-	-	-	-
Rocky Mountain spotted fever	10	-	-	-	2	2	1	1	-	1	-	1	-	2	-	-	-	-	-
Scarlet fever	532	3	19	32	48	61	253	63	6	3	4	5	2	2	-	-	-	31	-
Septic sore throat	387	3	8	16	6	11	43	32	37	34	28	22	30	12	10	6	3	86	-
Smallpox	5	-	-	-	-	-	-	-	2	2	1	-	-	-	-	-	-	-	-
Syphilis	3,169	16	3	3	4	2	14	46	234	375	313	328	644	487	327	146	46	181	-
Tetanus	8	-	-	-	1	-	1	2	-	1	-	-	-	2	1	-	-	-	-
Trachoma	54	-	1	1	1	3	17	9	2	1	1	-	4	3	7	3	-	1	-
Tuberculosis, respiratory	1,993	5	2	4	-	1	4	17	74	151	154	130	336	337	312	276	126	64	-
Tuberculosis, other	37	2	2	2	1	-	3	2	2	2	1	1	1	4	4	5	3	3	-
Tularemia	61	1	-	-	-	1	1	-	3	1	3	1	5	5	2	1	-	33	-
Typhoid fever	84	2	2	3	1	2	18	12	7	7	2	2	9	8	1	-	-	7	-
Typhus fever	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Undulant fever	95	-	-	-	-	-	1	2	1	6	6	9	27	19	10	4	2	8	-
Veneral diseases, other	97	-	-	-	-	-	-	1	20	39	17	5	9	3	3	1	-	-	-
Vincent's angina	100	1	1	-	3	-	5	1	17	37	6	5	1	-	-	-	-	22	-
Whooping cough	933	167	81	107	83	76	262	34	1	-	-	3	-	-	1	2	-	116	-

