

Causes of Death Among Indians and Natives of Alaska Compared with Historical Trends in Continental U.S. Death Rates

Mortality rates on a scale greater than single States became available for the United States in 1900 with the establishment of the Death Registration Area. In 1900 the Area included only ten States, the District of Columbia and a few cities in non-registration States. Inclusion of all 48 States was not accomplished until 1933.

During the period 1900-1950 definite trends can be noted in mortality rates for many causes of death. Rates for most of the infectious diseases show large decreases, which resulted in larger numbers of persons living to older ages. As a result deaths from degenerative causes most frequent in the older age groups show increases in rates over the period.

It must be noted that States with a larger proportion of rural and non-white populations, which tend to have comparatively higher proportions of deaths from disease and lower proportions of deaths from degenerative causes were the slowest to enter the registration area. This results in an understatement of trends, that is, if all data were available for all 48 States in 1900 death rates for infectious diseases would be higher than those reported for the 10 States in the Registration Area, and would be lower for the degenerative causes.

The attached table compares cause-specific death rates for Indians within continental United States and Natives of Alaska for the three-year period 1949-1951 inclusive with rates for the U. S. Death Registration Area for 17 causes for which fairly definite trends can be noted. Changes in the method of selecting underlying cause of death inaugurated in 1949 with the Sixth Revision of the International List of Diseases, Injuries and Causes of Death have been compensated for in the rates as quoted to allow for comparability of data between years before and after the change.

Three causes listed on the attached table are ones for which the U. S. rate has increased during the past 50 years. They are heart diseases, malignant neoplasms, and diseases of the circulatory system, such as hypertension without mention of heart disease and general arteriosclerosis. For the first two this increase has been sufficient to make the 1950 rate more than double the rate for 1900, while for the third the rate has increased 60 per cent. For all three causes the current Indian rate, although higher than in previous years, had not yet reached the level of 1900 U.S. rate.

The accidental death rate has decreased for the U. S. Registration Area with some variation. The highest rate recorded was 90.1 in 1907. The current rate for Indians and Natives of Alaska was 130.9, more than twice the U. S. rate for 1950 (60.6) and nearly 50 per cent higher than the 1907 high rate.

There were two causes of death where the current Indian rate was above those reported for the United States during the last 40 years. They were tuberculosis and ill-defined and unknown causes. The current death rate for tuberculosis among Indians and Natives of Alaska (157.3)

is higher than the U. S. rate in any year since 1907. The highest recorded rate for the United States (186.6 in 1900) was less than 20 per cent above this, while the lowest (22.5 in 1950) was nearly 90 per cent lower. The death rate for ill-defined and unknown causes which reflects to a larger degree the proportion of deaths without medical attendance was higher currently among Indians (102.2) than the U. S. rate in any year of record except 1900. The high 1900 rate (116.3) was less than 15 per cent above the current Indian rate, while the low (14.9) in 1950) was 85 per cent lower.

There were three causes of death where the current Indian rate was higher than the U. S. rate for the past thirty years or more. They were diseases of infancy, gastro-enteric conditions, and whooping cough. The current Indian rate for diseases of infancy (79.1) was higher than the U. S. rate in any year since 1918. The trend for the United States Registration Area has varied somewhat, partly due to variations in the States included in the Registration Area. The highest reported rate (87.4) was in 1913 when 23 States were included in the Registration Area, and was about 10 per cent higher than the current Indian rate. The U. S. rate has decreased since 1913 to a low of 40.5 in 1950, about 50 per cent lower than the Indian. The gastro-enteric death rate for Indians (52.9) exceeds the U. S. for each year since 1920. The highest U. S. rate (144.1 in 1900) was more than two and a half times this, but the lowest (5.1 in 1950) was only about one-tenth as great. The death rate for whooping cough in the U. S. fluctuates with epidemic outbreaks of the disease, but the trend has been definitely downward, from rates usually more than 10 per 100,000 at the beginning of the century to rates of less than 1 per 100,000 population currently. The current Indian rate (9.9) is higher than any recorded for the U. S. since 1920 and in six additional years during the preceding period (1900-1919 inclusive) the rate for the U. S. Registration Area was lower than the current Indian rate. The highest U. S. rate (16.8 in 1918, a phenomenal year for respiratory diseases) was 70 per cent higher than the current Indian rate, but the lowest (0.5 in 1949) was one-twentieth of the Indian.

There were three causes of death for which current Indian rates exceed U. S. rates for more than 20 years past. They are influenza and pneumonia, measles and dysentery. The trend in the death rate for influenza and pneumonia has been generally downward from about 200 in 1900 to about 30 per 100,000 in 1950, with the exception of the major epidemic year of 1918 when the rate rose to 523.8, or nearly five times the current Indian rate (111.5). U. S. rates since 1929 have always been below the current Indian rate. They were about the same as the current Indian rate from 1921-1928 and were higher during the period 1900-1920. The lowest U. S. rate (30.0 in 1949) is less than one-third the current Indian rate. Deaths from measles vary in a biennial cycle from a year with a high rate to one with a low rate and back again. However the long term trend for the United States has been downward from high-year figures of about 13 per 100,000 to 0.6 and low-year figures from about 7 to 0.3 over the 50 years. The current Indian average for 1949-1951 includes two high-incidence years and one low-incidence year.

The resulting figure (7.3) is above any single-year figure for the U. S. Registration Area since 1926. The highest recorded U. S. rate (13.5 in 1917) is about 85 per cent higher. Indian deaths from dysentery account for a current rate of 4.1, higher than any U. S. rate since 1921. The U. S. rate has decreased fairly regularly from a high of 13.1 in 1900, three times as high as the current Indian rate, to a low of 0.6 in 1950, about one-seventh the Indian rate.

There were three causes of death for which current Indian rates exceed U. S. rates of the past 10 years or more: maternal causes, diphtheria and typhoid fever. Deaths due to complications of delivery, child birth and the puerperium among Indians account for a current rate of 7.7, higher than any U. S. rate since 1936. The rate for the U. S. Registration Area increased from 1900 to 1918 (by which time the Area included 30 States) and has decreased since then. The 1918 high rate (20.3) was more than two and a half times as high as the current Indian rate, but the low point (2.0 in 1950) was about one-fourth as high. Diphtheria deaths account for a higher current rate than the U. S. rate since 1938. The highest U. S. rate (40.3 in 1900) was more than 25 times as high as the current Indian rate (1.5), but the lowest U. S. rate (0.3 in 1950) was one-fifth the Indian rate. The comparison for typhoid fever is very similar to that for diphtheria.

Two causes for which the general U. S. trend has been downward had U. S. rates higher than current Indian rates within the last 10 years. They were syphilis where the U. S. rate in 1941 was higher than the current Indian, and rheumatic fever where the current Indian parallels the 1946 U. S. rate. In both instances current U. S. rates are lower than current Indian rates.

In summary, 17 causes of death where 50-year trends in U. S. rates are clearly marked show varying comparisons with Indian rates, from a parallel to some unknown rate before the establishment of the Registration Area to a parallel with a rate only four years earlier. If all 17 causes were ranked from earliest date to latest the midpoint in the ranking would be 1920. However such a measurement assumes that all 17 causes are of equal importance in measuring Indian health conditions. Tuberculosis, accounting for one-seventh of all deaths, should be given more weight than such causes as diphtheria and typhoid fever, each contributing about one death in a thousand. It happens that the last half of the cause listings show considerably later dates of parallel U. S. ratings than the first half. The five leading causes have as their midpoint the year 1900:

Cause	Latest year comparable to U. S. rate
Heart diseases	*
Accidental deaths	*
Ill-defined & unknown	1900
Tuberculosis	1907
Influenza & pneumonia	1929

* Not available, before 1900

Somewhat fortuitously a similar ranking of the first nine causes gives exactly the same midpoint. These nine causes account for over three-fourths of all deaths among Indians and Alaska natives. Under these circumstances it may be said the Indian is 50 years behind the U. S. in health conditions.

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