

Annual Summary of Vital Statistics: Trends in the Health of Americans During the 20th Century

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Note to the Reader: This year's "Annual Summary of Vital Statistics" article represents a major departure from all previous versions. There are 2 reasons for this. First, we wanted to acknowledge the end of the century by taking advantage of the available long-term trend data to reflect on the major improvements that have occurred in the health of Americans over the century. This year's article could be called a "Centennial Summary of Vital Statistics." Second, the introduction of the new 10th revision of the International Classification of Diseases for mortality has delayed the availability of the 1999 mortality data. This article, in its standard annual format, will return in 2001.

ABSTRACT. The overall improvement in the health of Americans over the 20th century is best exemplified by dramatic changes in 2 trends: 1) the age-adjusted death rate declined by about 74%, while 2) life expectancy increased 56%. Leading causes of death shifted from infectious to chronic diseases. In 1900, infectious respiratory diseases accounted for nearly a quarter of all deaths. In 1998, the 10 leading causes of death in the United States were, respectively, heart disease and cancer followed by stroke, chronic obstructive pulmonary disease, accidents (unintentional injuries), pneumonia and influenza, diabetes, suicide, kidney diseases, and chronic liver disease and cirrhosis. Together these leading causes accounted for 84% of all deaths.

The size and composition of the American population is fundamentally affected by the fertility rate and the number of births. From the beginning of the century

there was a steady decline in the fertility rate to a low point in 1936. The postwar baby boom peaked in 1957, when 123 of every 1000 women aged 15 to 44 years gave birth. Thereafter, fertility rates began a steady decline. Trends in the number of births parallel the trends in the fertility rate.

Beginning in 1936 and continuing to 1956, there was precipitous decline in maternal mortality from 582 deaths per 100 000 live births in 1935 to 40 in 1956. Since 1950 the maternal mortality ratio dropped by 90% to 7.1 in 1998.

The infant mortality rate has shown an exponential decline during the 20th century. In 1915, approximately 100 white infants per 1000 live births died in the first year of life; the rate for black infants was almost twice as high. In 1998, the infant mortality rate was 7.2 overall, 6.0 for white infants, and 14.3 for black infants.

For children older than 1 year of age, the overall decline in mortality during the 20th century has been spectacular. In 1900, >3 in 100 children died between their first and 20th birthday; today, <2 in 1000 die. At the beginning of the 20th century, the leading causes of child mortality were infectious diseases, including diarrheal diseases, diphtheria, measles, pneumonia and influenza, scarlet fever, tuberculosis, typhoid and paratyphoid fevers, and whooping cough. Between 1900 and 1998, the percentage of child deaths attributable to infectious diseases declined from 61.6% to 2%. Accidents accounted for 6.3% of child deaths in 1900, but 43.9% in 1998. Between 1900 and 1998, the death rate from accidents, now usually called unintentional injuries, declined two-thirds, from 47.5 to 15.9 deaths per 100 000.

The child dependency ratio far exceeded the elderly dependency ratio during most of the 20th century, particularly during the first 70 years. The elderly ratio has gained incrementally since then and the large increase expected beginning in 2010 indicates that the difference in the 2 ratios will become considerably less by 2030. The challenge for the 21st century is how to balance the needs of children with the growing demands for a large aging population of elderly persons. *Pediatrics* 2000;106:1307-1317; *birth, child mortality, death, dependency ratio, fertility, infant mortality, life expectancy, low birth weight, maternal mortality, natality, vital statistics.*

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