HEALTHY MAINE 2000

HEALTH STATUS INDICATORS FOR MAINE

1980-1992

August 1995

This report on the Health Status Indicators for Maine was prepared by the Bureau of Health's Year 2000 Assessment Project using data provided by:

Maine Bureau of Health
Office of Data, Research, and Vital Statistics
Division of Disease Control
Division of Health Promotion and Education

Maine State Census Data Center

Maine Department of Environmental Protection

Bureau of Air Quality Control

National Center for Health Statistics

Division of Health Promotion Statistics

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REPORT ON MAINE'S HEALTH STATUS INDICATORS

Introduction

Healthy Maine 2000 is a statewide public health initiative for disease prevention and health promotion, modeled after the national initiative called Healthy People 2000. Healthy Maine 2000 defines specific public health objectives for the people of Maine to achieve by the year 2000. Both Healthy Maine 2000 and Healthy People 2000 emphasize the importance of monitoring public health and assessing progress towards the year 2000 objectives.

In response to the national Healthy People 2000 Objective 22.1, the Centers for Disease Control and Prevention identified a set of 18 health status indicators. This set of indicators was developed through a consensus process to provide a measurable, understandable, and outcome-oriented assessment of community health at federal, state, and local levels.

This report provides information on the 18 health status indicators for Maine and compares Maine to the nation as a whole. For most indicators the report tracks data over recent years in order to assess state trends. For each indicator, the most recent state rate is compared to the national rate for that year. Because the racial

composition of Maine is 98% white, we use national data for whites for comparison, unless such data are not available. For some indicators the available national data is for non-Hispanic whites.

Minor changes in reporting or data recording procedures may influence yearly variation in rates. The rates and figures presented here are intended to provide a general overview of the health status of Maine citizens. They should be interpreted with due consideration to potential errors inherent in measuring any condition affecting the general population. Rates measuring any condition tend to be particularly unstable when the condition is rare and/or the population in which it is measured is small.

Most of the death rates presented here have been age-adjusted to the 1940 U.S. standard population. Since mortality rates change with age, age-adjustment improves the validity of direct comparison of mortality rates between years or populations that may have had different age distributions.

The technical notes at the end of the report provide further information on the statistical methods used for preparing and interpreting the health status indicator data presented here.

The 18 Health status indicators are:

Infant mortality rate

Total death rate

Motor vehicle crash death rate (ICD-9 E810-E825)

Work-related injury death rate (ICD-9 E800-E999)*

Suicide rate (ICD-9 E950-E959)

Homicide rate (ICD-9 E960-E978)

Lung cancer death rate (ICD-9 162)

Breast cancer death rate (ICD-9 174)

Cardiovascular disease death rate (ICD-9 390-448)

Incidence of AIDS

Incidence of measles

Incidence of tuberculosis

Incidence of primary and secondary syphilis

Prevalence of low birth weight among live-born infants

Percent of live born infants to adolescents

Percent of live born infants lacking early prenatal care

Percent of children living in poverty

Percent of persons living in counties that failed to meet EPA air quality standards during the previous year.

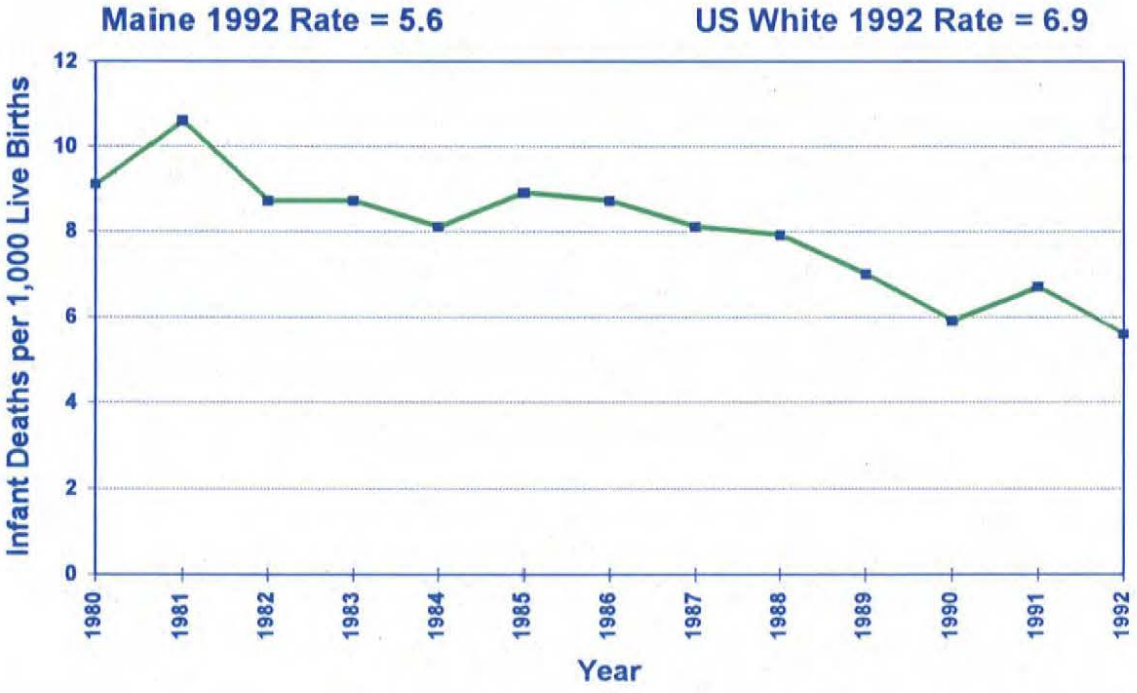
* Positive response to injury at work item on death certificate and age at least 16 years.

Infant Mortality Rate

The infant mortality rate is one measure of the overall health status of the community. High infant mortality rates have been associated with poor maternal health, inadequate prenatal care, infant malnutrition, and limited access to adequate health care. The three leading causes of infant death in Maine from 1985 - 1991 were congenital anomalies, sudden infant death syndrome, and respiratory distress syndrome.

From 1980 through 1992, Maine's infant mortality rate has shown a downward trend. In 1992 Maine's rate was significantly lower than the national rate for whites.

Infant Mortality Rate



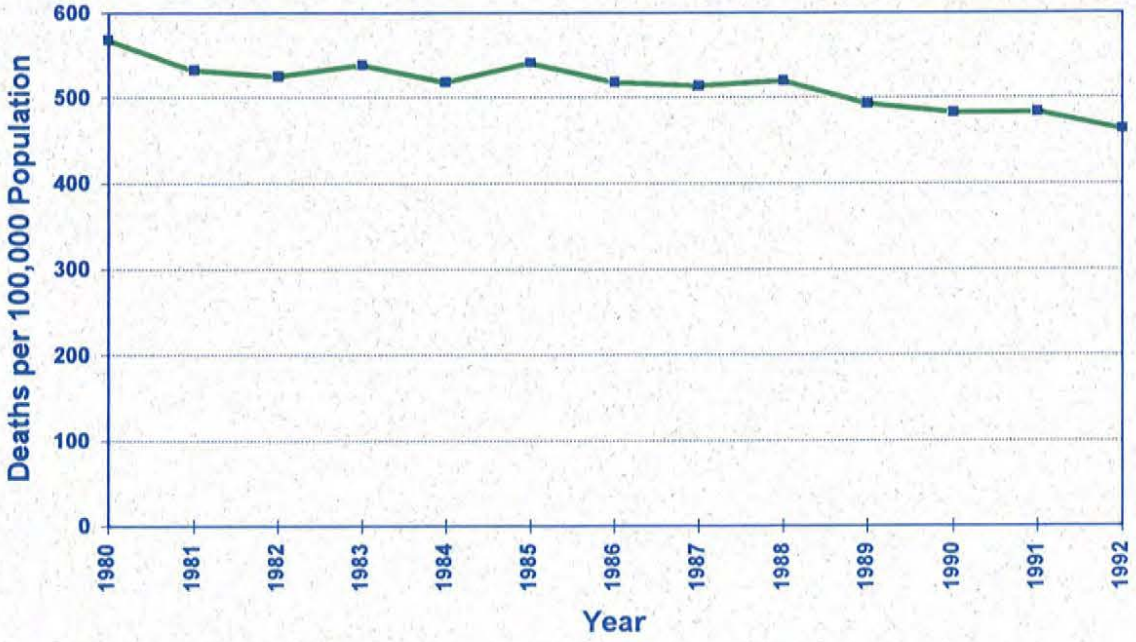
Total Death Rate

Death rates are age-adjusted to allow comparisons across years and geographic areas with populations of different age distribution. In general, lower age-adjusted death rates imply healthier lifestyles and longer life spans.

From 1980 through 1992, Maine's total death rate has declined. In 1992, Maine's death rate was significantly lower than the national death rate for whites. The leading causes of death in Maine in 1992 were heart disease, cancer, stroke, chronic obstructive lung disease, and injuries.

Total Death Rate

Maine 1992 Rate = 463.1 **US White 1992 Rate = 477.5**



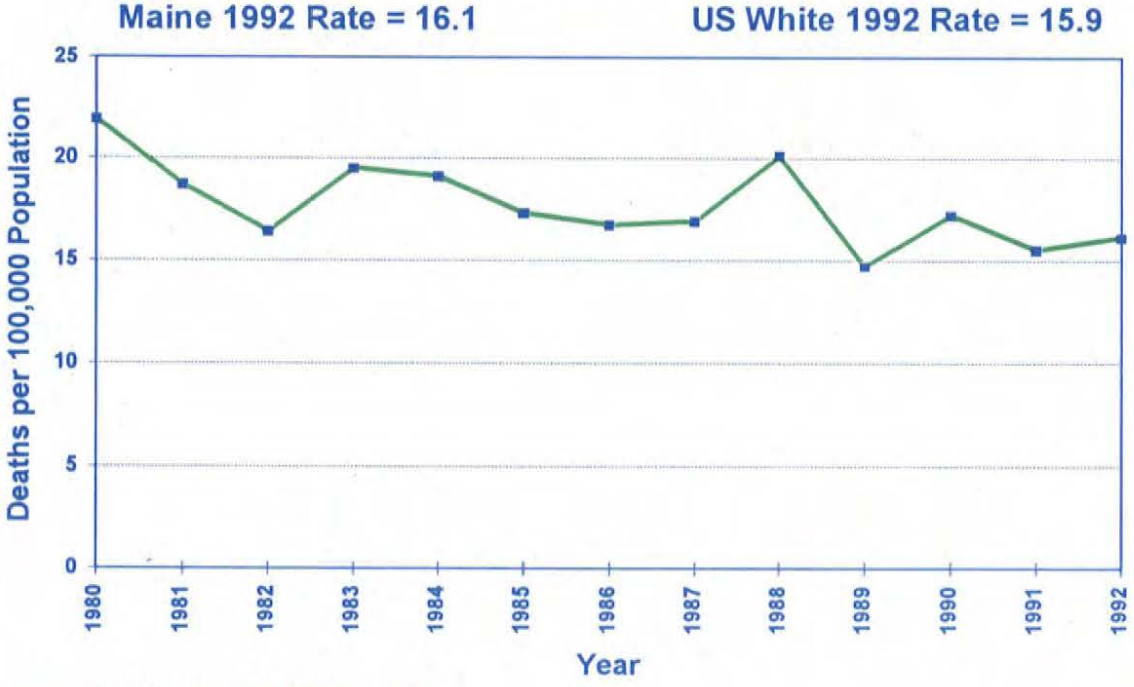
Age-adjusted to the U.S. 1940 Population

Motor Vehicle Crash Deaths

Motor vehicle crashes are a leading source of injury-related deaths and are highly preventable.

Despite annual fluctuations, Maine's motor vehicle crash death rate has shown a slight overall decline from 1980 through 1992. In 1992, it was not significantly different from the national rate for whites.

Motor Vehicle Crash Death Rate



Age-adjusted to the U.S. 1940 Population

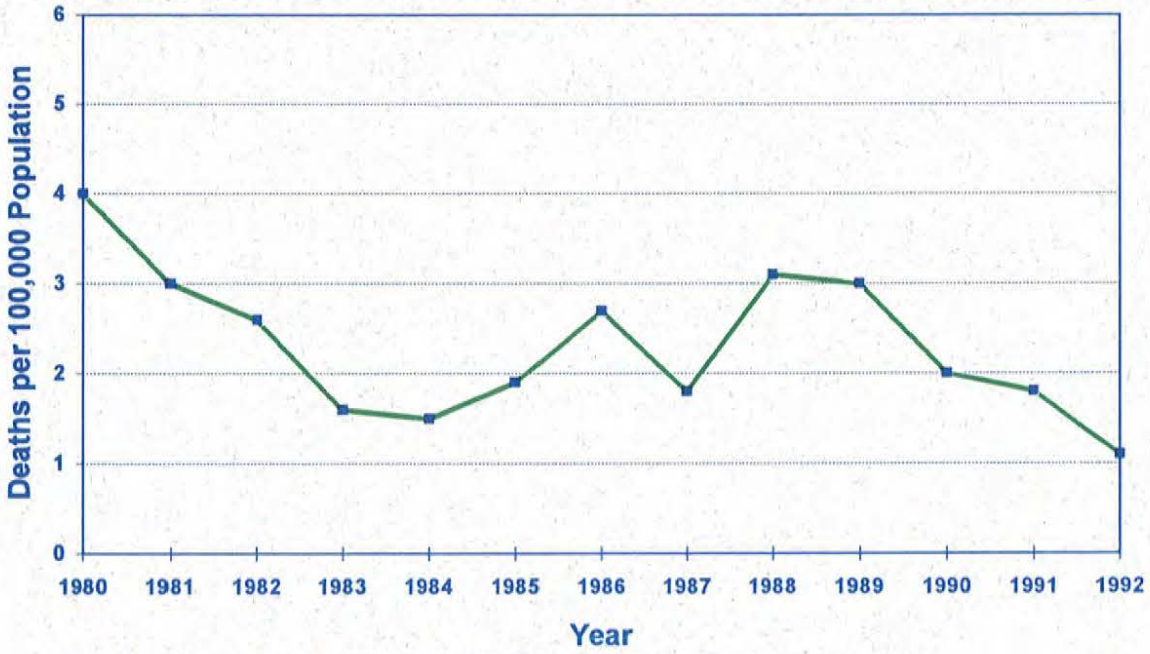
Work-related Injury Deaths

Most occupational injuries are preventable. The work-related injury death rate provides one measure of safety in the work place. Various methods have been used to measure work-related deaths. In this report the indicator is tracked using death certificates only. It is believed that death certificates capture, on average, about 81% of fatal occupational injuries (see technical note).

The crude work-related injury death rate per 100,000 population based on death certificates of Maine residents has decreased from 1980 to 1992. A separate measure, Maine's work-related death rate per 100,000 *workers*, also based on death certificates, was similar in 1990 to the national rate (see technical note). State rates presented here are *not* directly comparable to data on occupational fatalities collected through the recently established Census of Fatal Occupational Injuries (see technical note).

Work-related Injury Death Rate

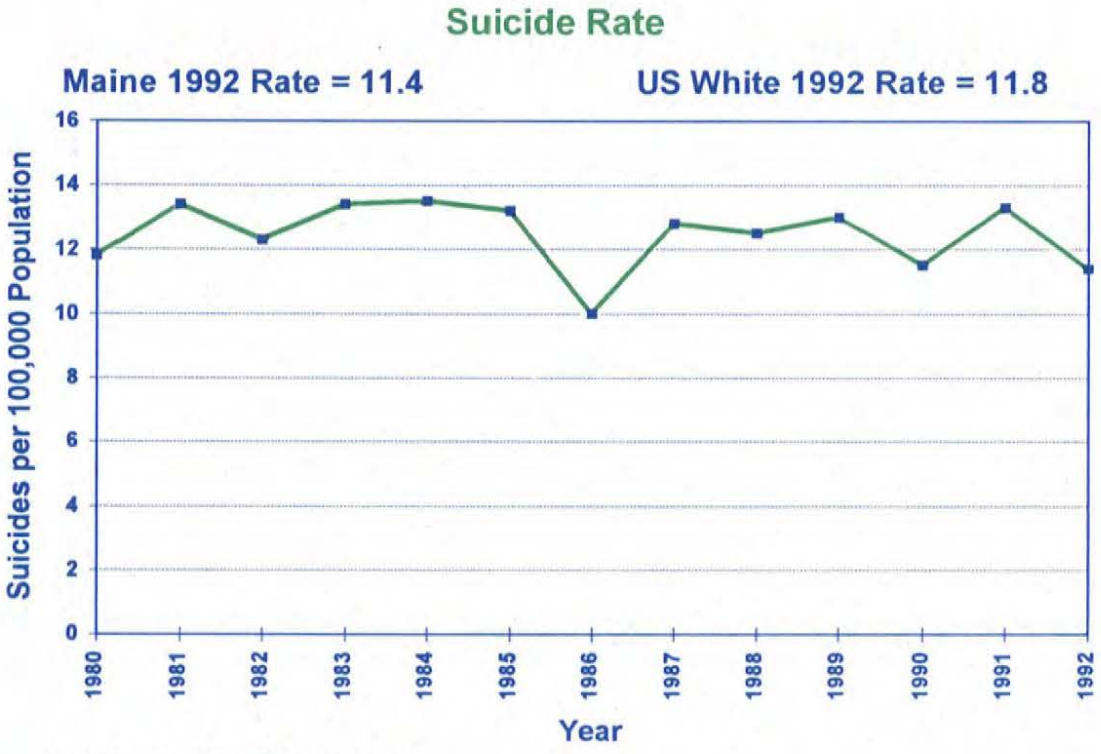
Maine 1992 Rate* = 1.1 Comparable US White 1992 Rate = NA**



* Crude rates (not age-adjusted), multiple cause ** Not available. See technical note

Suicide Rate

Suicides are preventable. The suicide rate is an indirect measure of the mental health of the population. From 1980 through 1992, Maine's suicide rate has not shown any decline. In 1992, Maine's overall rate was not significantly different from the national rate for whites. Age-specific rates have fluctuated widely over the 12-year period, but Maine's 12-year average suicide rates for individuals aged 10-14, 15-19, 20-24, and 25-34 years were higher than the corresponding national rates for whites.



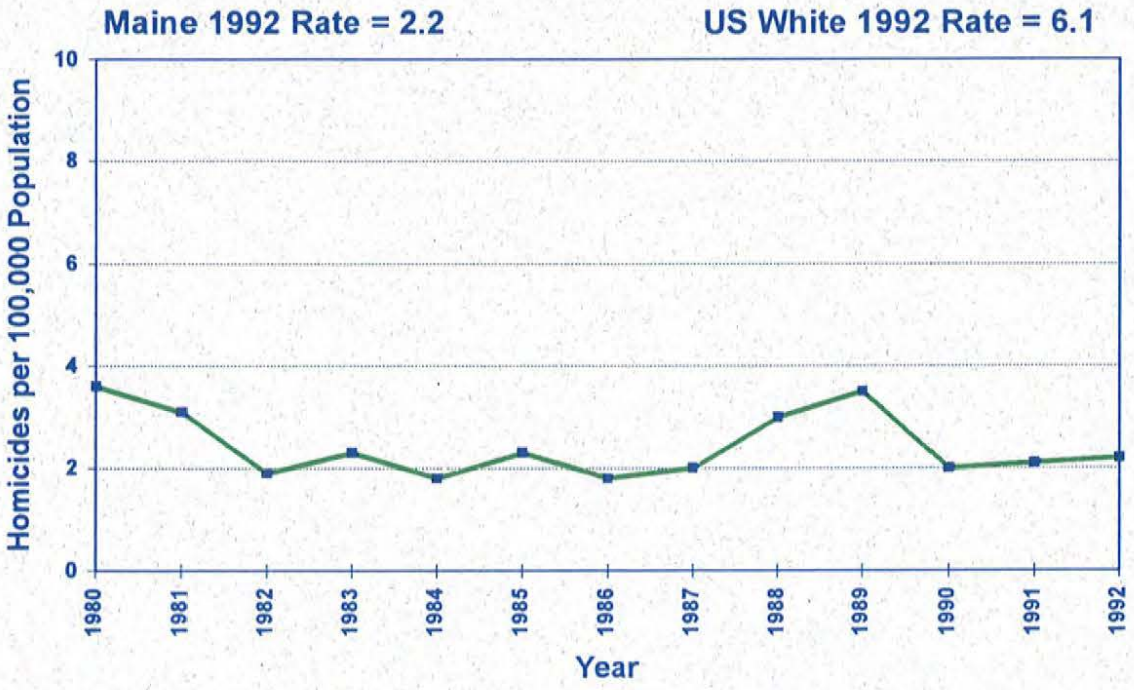
Age-adjusted to the U.S. 1940 Population

Homicide Rate

The homicide rate is a measure of intentional violence in the community.

Maine's homicide rate has not shown any overall decline from 1980 through 1992. In 1992, Maine's rate was significantly lower than the national rate for whites.

Homicide Rate

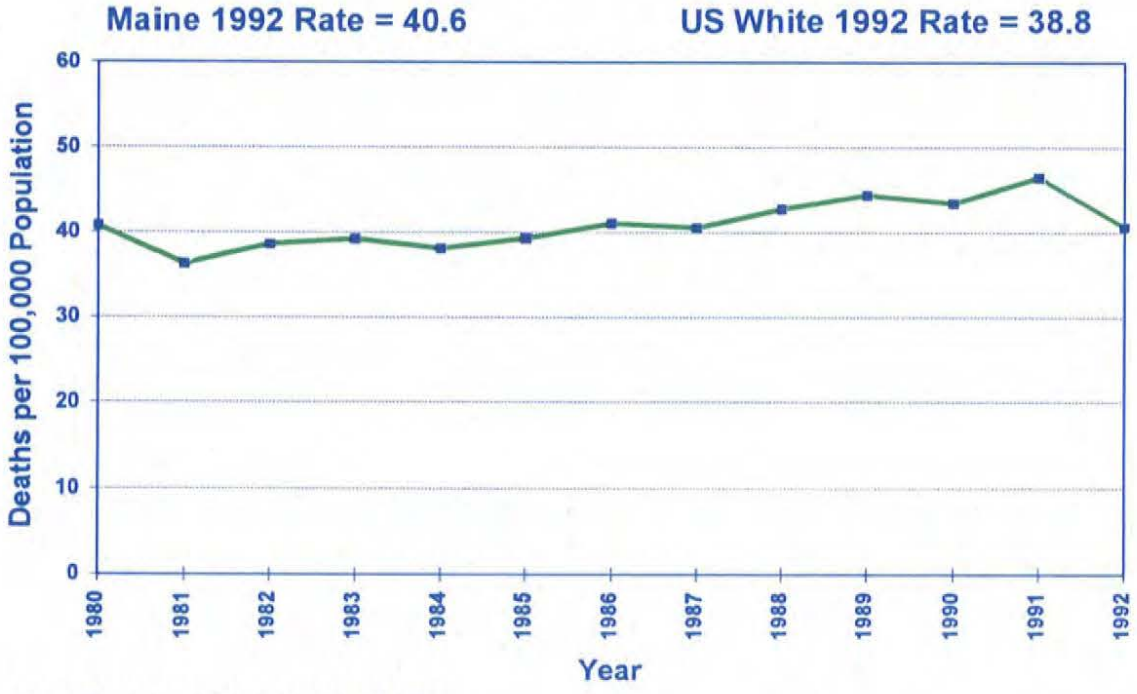


Age-adjusted to the U.S. 1940 Population

Lung Cancer Deaths

Lung cancer is the leading cause of cancer mortality for both men and women in Maine. Maine's lung cancer death rate increased from the early 1980s through 1991, but dropped in 1992. Maine's rate in 1992 was not significantly different than the national rate for whites. Over 70% of lung cancer deaths can be attributed to cigarette smoking. Over the past decades Maine citizens have suffered from high smoking rates. In 1988, Maine ranked first in the nation for the prevalence of adults aged 18-34 who had *ever* smoked. In 1991, the prevalence of *current* smoking among all adults 18 years or older in Maine (26%) was the 6th highest in the nation. In 1993 the prevalence of smoking among adults in Maine was 24%, the 14th highest in the nation.

Lung Cancer Death Rate



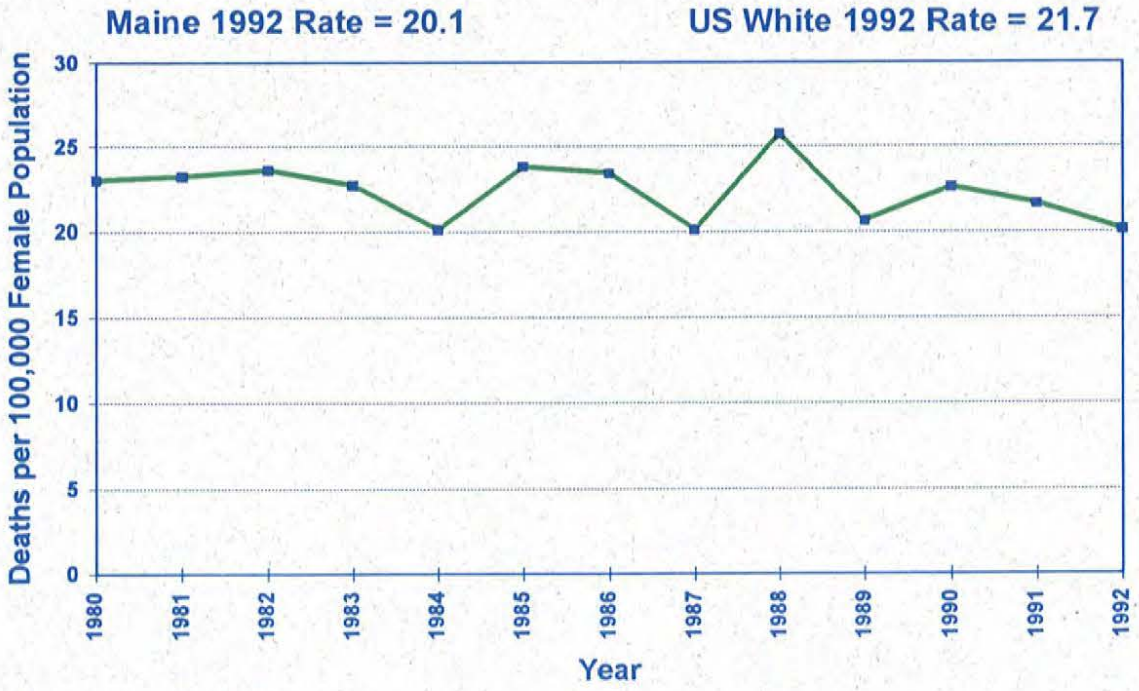
Age-adjusted to the U.S. 1940 Population

Breast Cancer Deaths

Breast cancer is the second leading cause of cancer mortality among women in Maine. Breast cancer incidence increased in the United States and Maine during the 1980s, in part due to increased detection through mammographic screening. However, perhaps due to improved survival with early detection and better treatment, national and Maine state mortality rates for breast cancer have not increased.

From 1980 through 1992, Maine's female breast cancer death rate fluctuated around 22.3 per 100,000 women. In 1992, it did not differ significantly from the national rate for white women.

Female Breast Cancer Death Rate



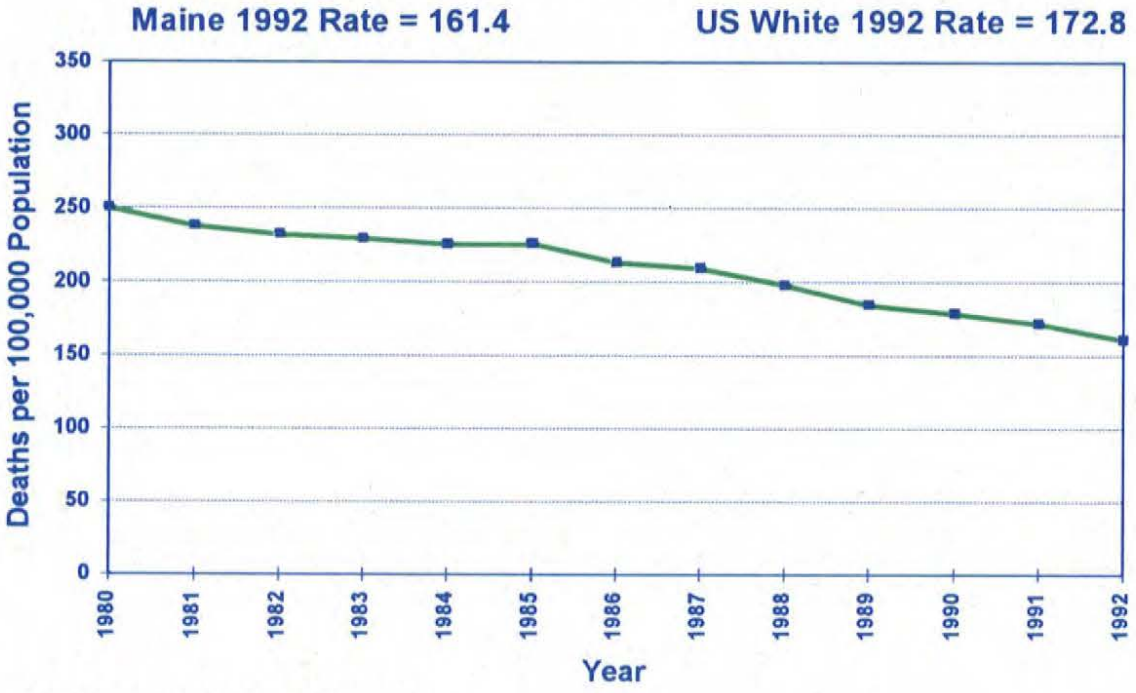
Age-adjusted to the U.S. 1940 Population

Cardiovascular Disease Deaths

Overall, cardiovascular disease is the leading cause of death in Maine and the United States. Risk factors for cardiovascular disease include cigarette smoking, dietary factors, and sedentary lifestyle.

In Maine, as in the nation as a whole, the death rate from cardiovascular disease has declined. Maine's cardiovascular disease death rate was slightly higher than the national rate for whites from 1983 through 1987, then dropped below the national rate for whites from 1988 through 1992.

Cardiovascular Disease Death Rate

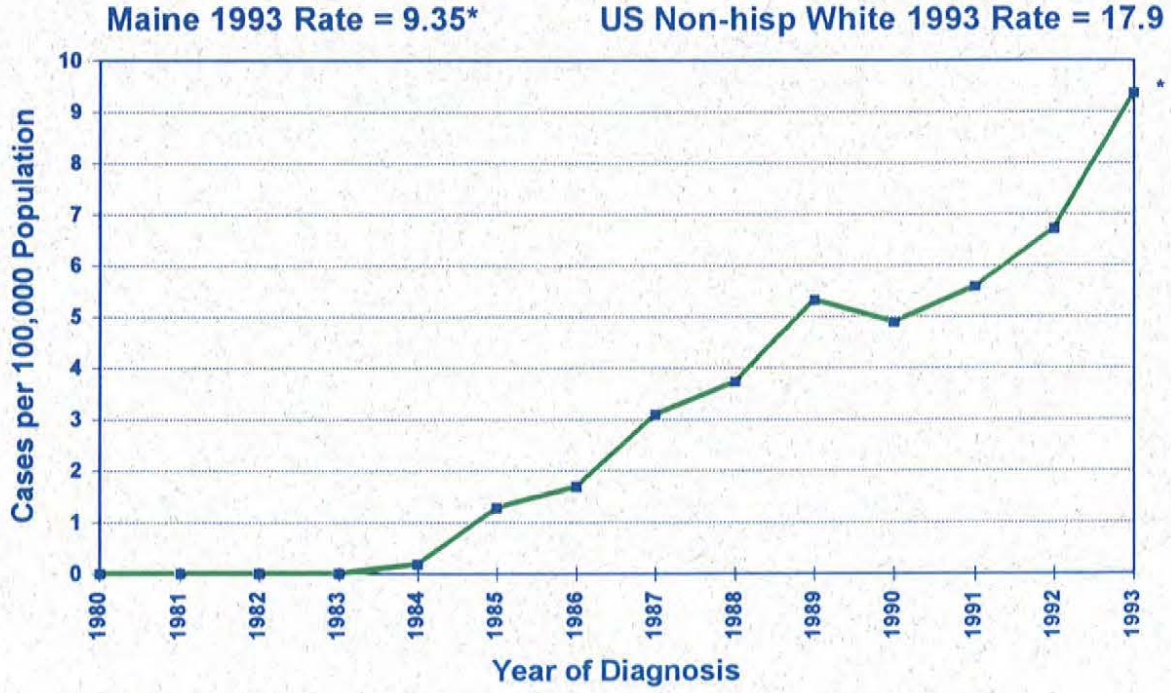


Age-adjusted to the U.S. 1940 Population

Acquired Immunodeficiency Syndrome

AIDS is a major public health problem with changing risk groups. AIDS case incidence is an indicator of the progress of the HIV epidemic. In Maine, AIDS incidence leveled off somewhat from 1989-1991. In 1993 the case definition for AIDS was expanded to include a broader clinical spectrum of HIV infection which resulted in a retrospective increase in cases by year of diagnosis for 1991 through 1993. (Approximately 30% of cases diagnosed in 1992 and 53% of cases diagnosed in 1993 would not have been included under the old case definition.) In 1993, Maine's rate was significantly less than the national rate for non-Hispanic whites. Since 1990, AIDS cases have been increasing in rural areas, among injection drug users, and among women. In 1992, AIDS was the fifth leading cause of death in 25-44 year old men in Maine.

Incidence of Acquired Immunodeficiency Syndrome



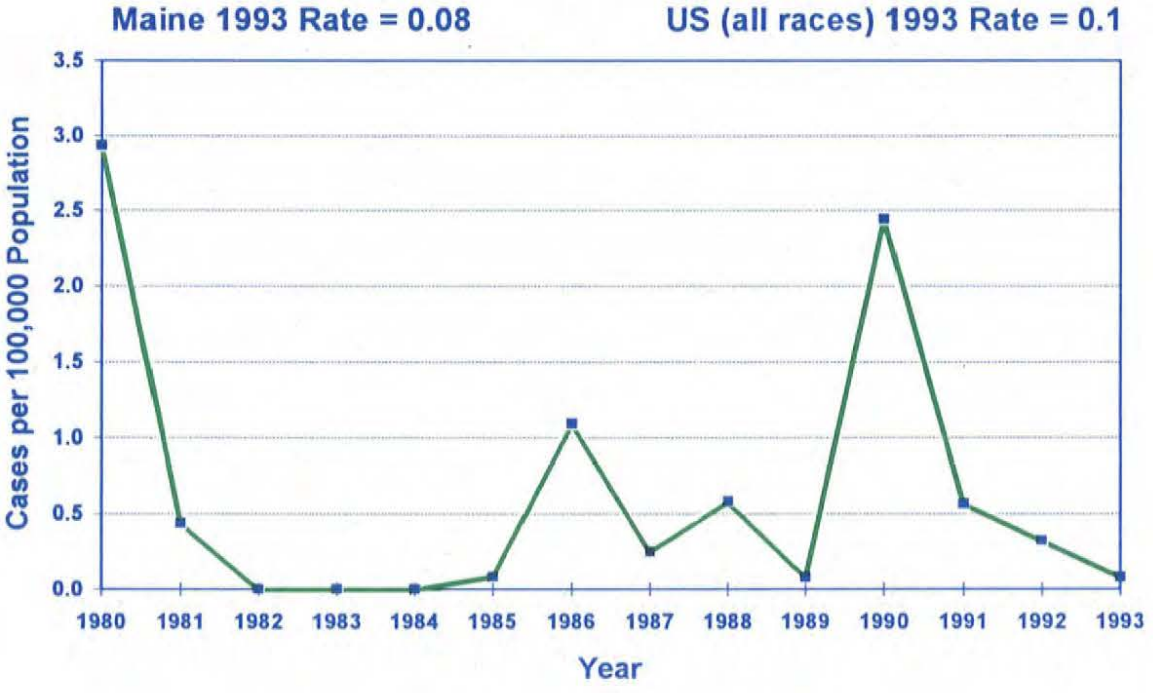
* On 1/1/93, the CDC adopted an expanded case definition for AIDS

Measles

Measles can be a severe childhood infection. The incidence of measles also serves as a sentinel for other vaccine preventable diseases. Occurrence of measles in a community indicates the need for preventive services and improved access to health care.

In Maine, the incidence of measles and other vaccine-preventable diseases is relatively low. However, a national resurgence of measles in 1990 resulted in the recommendation to routinely administer two doses of measles vaccine instead of only one.

Incidence of Measles

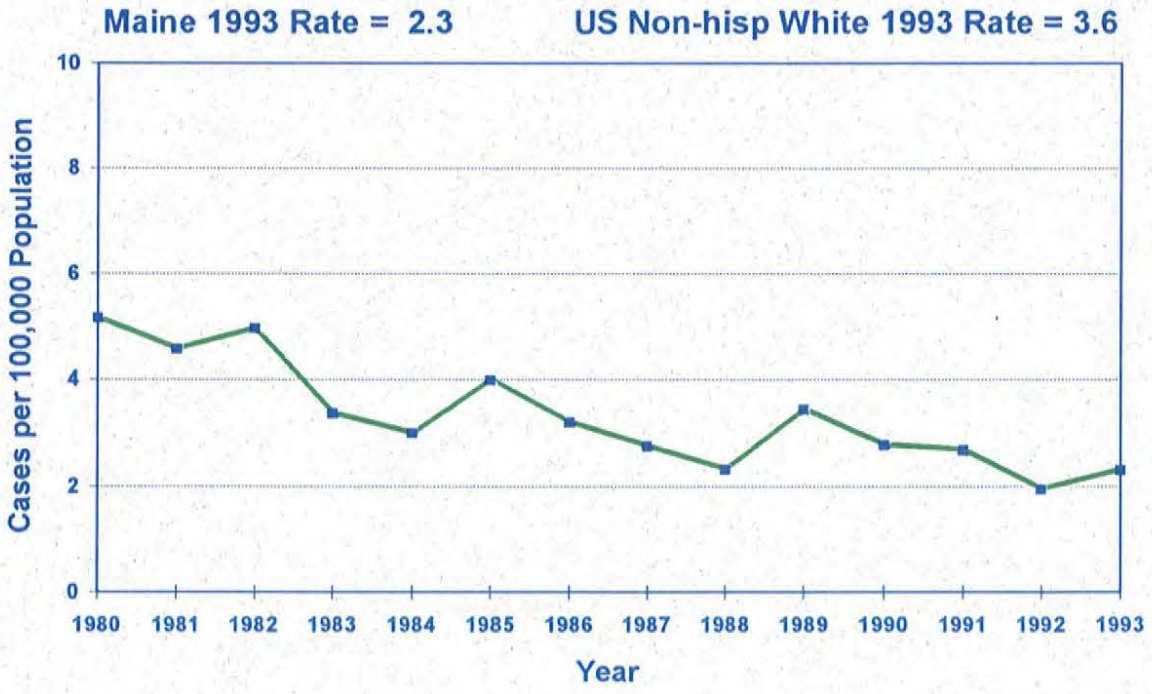


Tuberculosis

Tuberculosis incidence is affected by HIV infection rates, immigration patterns, and access to health care. The control of tuberculosis is a high public health priority.

Maine's tuberculosis rate has shown an overall decline since 1980. The Maine rate in 1993 was significantly lower than the US rate for non-Hispanic whites. The highest risk groups for tuberculosis in Maine are the elderly and immigrants from countries with high rates of tuberculosis transmission.

Incidence of Tuberculosis

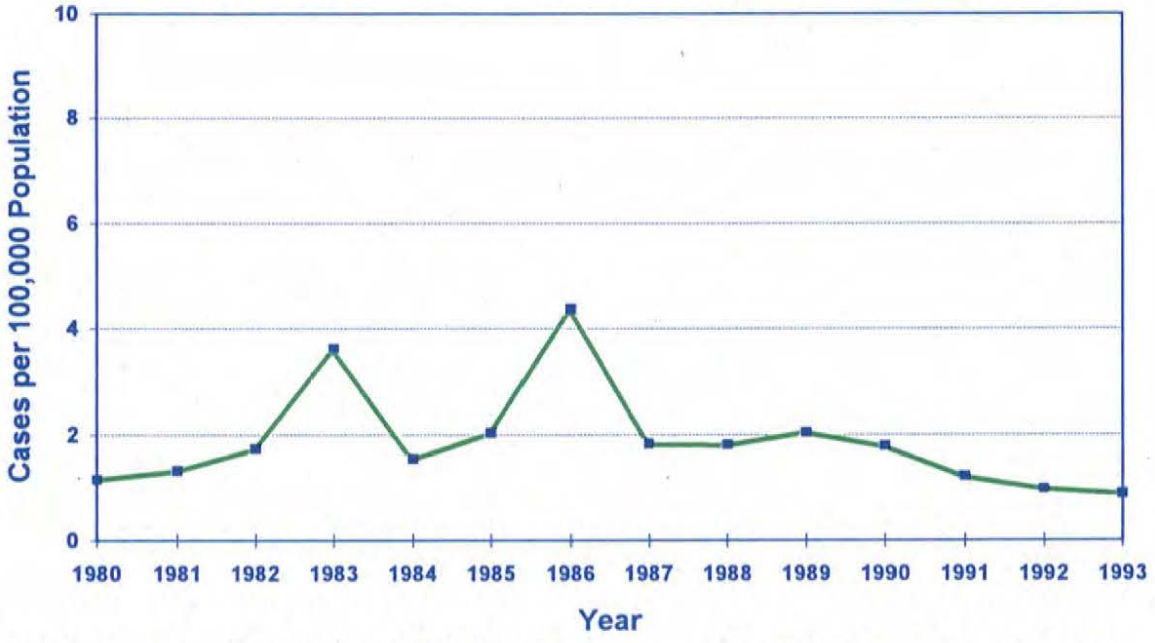


Syphilis

This indicator serves as a sentinel measure for sexually transmitted diseases. In Maine, the incidence of early syphilis has remained low through the 1980s except for limited outbreaks in 1983 and 1986. Since 1989 there has been a continued decline in syphilis cases, with most cases occurring among gay and bisexual men. In 1993, Maine's rate for primary and secondary syphilis was significantly below the national rate.

Incidence of Early* Syphilis

Maine 1993 Rate = 0.6 US Non-hisp White 1993 Rate** = 1.2**



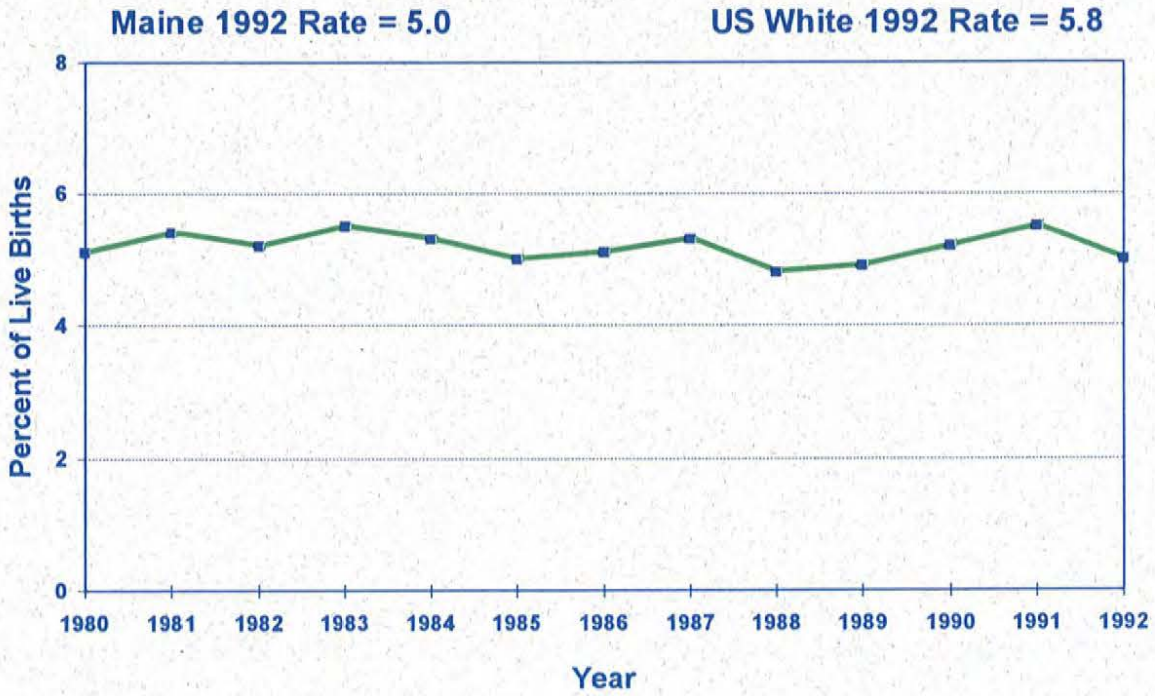
* Graph shows primary, secondary, and early latent syphilis. **Primary and secondary syphilis only.

Prevalence of Low Birth Weight

Low birth weight is directly associated with adverse birth outcomes and infant mortality. A high proportion of live born infants who have low birth weight may indicate problems with access to adequate prenatal care.

Through the 1980s the prevalence of low birth weight in Maine has remained close to 5 percent. In 1992, it was significantly lower than the national rate for whites.

Proportion of Live Births Weighing Less Than 2500 Grams



Births to Adolescent Mothers

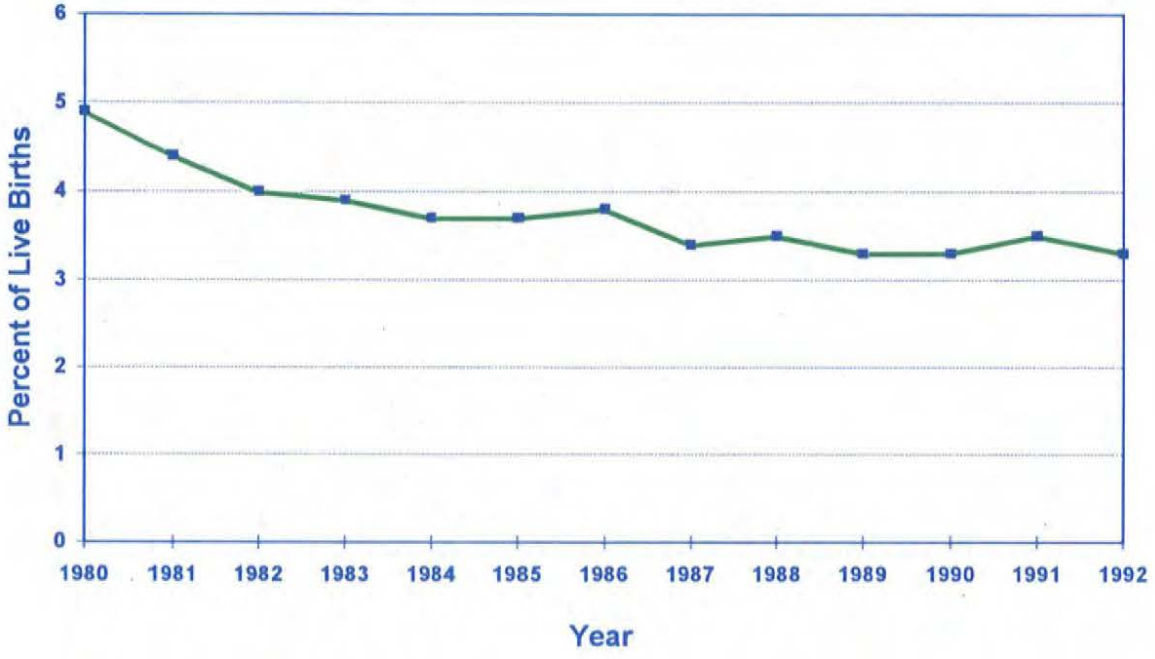
The proportion of live births born to adolescent mothers represents a surrogate measure of health risk among both adolescents and infants in a community.

The percent of live births with mothers aged 10-17 years in Maine has declined from nearly 5% to below 3.5% from 1980 through 1992. In 1992, this proportion for Maine was significantly lower than the proportion for whites nationally.

For women younger than 20 years of age, the proportion of live births to unmarried women has increased from 58% in 1985 to 81% in 1994.

Proportion of Live Births to Mothers Aged 10-17 Years

Maine 1992 Rate = 3.3 **US White 1992 Rate = 3.9**



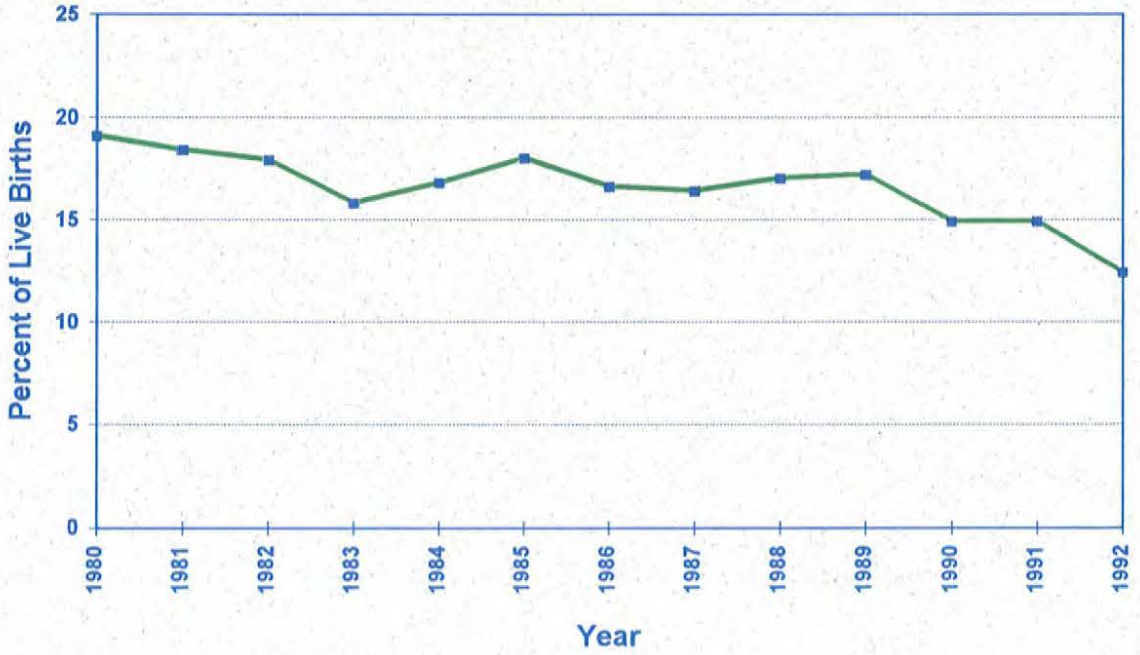
Percent of Live Born Infants Lacking Early Prenatal Care

Early prenatal care permits early identification of risks and appropriate preventive interventions. High proportions of births that lack early prenatal care may indicate problems with access to adequate prenatal care.

From 1980 through 1992 in Maine, there was an overall decline in the percent of all live births that lacked prenatal care in the first trimester, and in 1992 this percent was significantly less in Maine than for whites nationally.

Proportion of Births Lacking Prenatal Care in First Trimester

Maine 1992 Rate = 12.4 **US White 1992 Rate = 19.2**



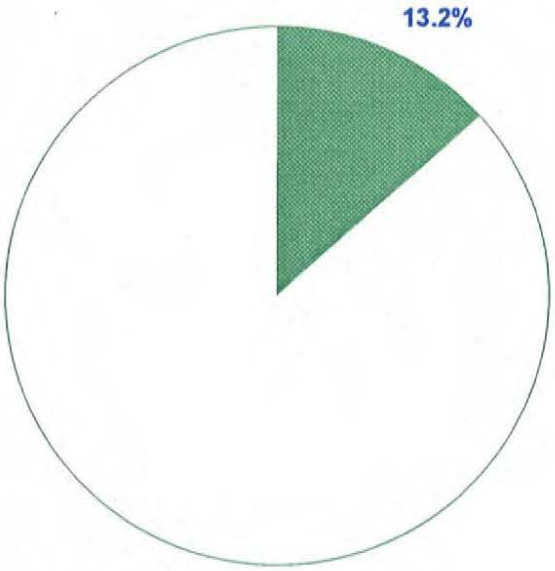
Percent of Children Living in Poverty

This is an indicator of global risk factors that also has implications for access to preventive health care services. Children who live in poverty are at high risk for a broad range of adverse health outcomes.

In 1990, over thirteen percent of Maine's children lived in families with incomes below the federal poverty level.

Percent of Children* Living in Poverty**

Maine 1990 Census = 13.2% **US 1990 Census (Whites) = 12.5%**

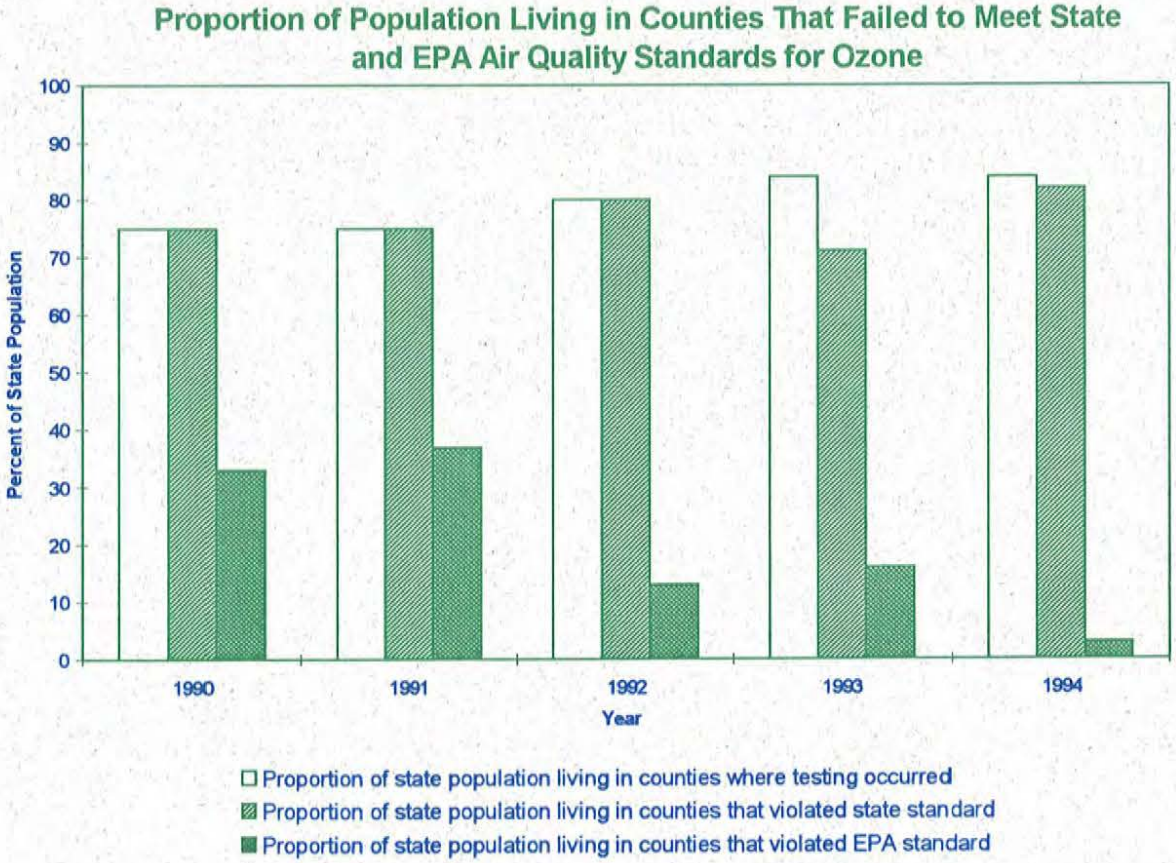


*Under 18 years of age

**Federal level of poverty as used by US Census

Proportion of Population Living in Counties That Failed to Meet EPA Air Quality Standards (for Ozone)

Air quality is one of society's most serious emerging environmental issues and may serve as an indicator for other environmental concerns. In Maine, the counties that failed to meet current EPA Air Quality Standards from 1990 through 1994 exceeded the federal standard for ozone. Not all counties were monitored and high ozone concentrations measured at monitoring sites in any given county may not affect the entire county's population. Ozone concentrations are influenced by meteorological factors, precursor concentrations, and sunlight. High ozone concentrations may be particularly hazardous to individuals with respiratory illness and to individuals who exercise vigorously.



Technical Notes

Data sources

1. For infant mortality rate, total death rate, motor vehicle crash death rate, work-related injury death rate, suicide rate, homicide rate, lung cancer death rate, breast cancer death rate, cardiovascular death rate, prevalence of low birth weight, births to adolescents, and infants lacking early prenatal care, **source:** state vital statistics data from death and birth certificates, compiled by the Office of Data, Research and Vital Statistics, Bureau of Health. Data on smoking prevalence, **source:** Maine Behavioral Risk Factor Surveillance System, Division of Health Promotion and Education. Comparison of 12-year average age-specific state and national suicide rates, **source:** CDC WONDER compressed mortality files.

2. For incidence of AIDS, measles, tuberculosis, and syphilis, **source:** disease specific surveillance systems based on case reports submitted to Division of Disease Control, Bureau of Health.

3. For percent of children living in poverty for Maine and US, **source:** Maine State Census Data Center, Department of Labor.

4. For counties exceeding EPA Air Quality Standards, **source:** Bureau of Air Quality Control, Department of Environmental Protection.

5. National data except for percent of children living in poverty, **source:** Division of Health Promotion Statistics, National Center for Health Statistics, CDC.

Note on Work-Related Injury Death Rate: *Sources for tracking work-related injury mortality have varied at both state and national levels over the period covered by this report. National rates have been tracked by using death certificate data through the National Traumatic Occupational Fatalities (NTOF) system operated by NIOSH, CDC. Both the state data presented in this report and the NTOF data count death certificates for individuals aged 16 and older who have an ICD code E800-E999 and the work at injury box checked on the certificate in the rate numerator. However, the rates presented by NTOF are expressed per 100,000 worker and are thus not directly comparable to the health status indicator rate which is expressed per 100,000 population. In addition, slight differences in reporting, verification, and analysis may lead to differences in the numerator between NTOF data and data reported by the Maine Bureau of Health's Office of Data, Research and Vital Statistics. A meta-analysis of state-based studies found that death certificate data captured an average of 81% of all fatal occupational injuries (Stout and Bell: Effectiveness of Source Documents for Identifying Fatal Occupational Injuries: A Synthesis of Studies. APHA 1991;81:725-8).*

In the past, fatal occupational injuries in the United States were also tracked by the Bureau of Labor Statistic's Annual Survey of Occupational Injuries and Illnesses and were not comparable to rates derived from death certificate data. More recently, death certificate data and other sources were added to the national Census of Fatal Occupational Injuries (CFOI). This system is also used by the Maine Department of Labor. The Maine Department of Labor reported 19 work-related injury deaths for Maine in 1992 through CFOI, compared with 14 work-related injury deaths reported by the Bureau of Health's Office of Data, Research, and Vital Statistics (ODRVS). However, CFOI data includes all deaths which occur in Maine, whereas ODRVS data counts deaths of Maine residents in the state or elsewhere.

Statistical Notes

1. All mortality rates except the work-related injury death rate are based on underlying cause and directly age-adjusted to the 1940 US standard population. This is a standard population used by the National Center of Health Statistics for purposes of comparing rates across populations with differing age distributions. The age adjusted

rate for any stated year can be thought of as the rate that would have occurred in this 1940 standard population if the stated year's age-specific rates were operating on the standard population. By consensus, the health status indicator on work-related injury death rate is based on multiple cause and reported as a crude rate.

2. Differences between Maine's rates and national rates were assessed by determining whether the national rate fell within the 95% confidence limits around the Maine rate. Confidence limits for non-adjusted rates were calculated by the following formula: $R \pm 2^*(R/\sqrt{N})$ where R=rate, and N=number of events (Ref: Technical Appendix, NCHS: Vital Statistics of the United States, 1989, Vol II, Mortality, Part A. Washington, PHS, 1993). Confidence limits for age-adjusted rates were calculated by the formula $1.96 \pm \sqrt{(\sum s_i^2 r_i(1-r_i)/p_i)}$ where s=weight of standard population in age group i, r=age-group specific mortality rate in group i, and p=the reference population in age group i (Ref: Pickle LW, Mason TJ, Howard N, et. al. Atlas of US Cancer Mortality Among Whites: 1950-1980. National Cancer Institute, DHHS Pub No. (NIH) 87-2900. 1987). In addition to assessing statistical significance of differences, an attempt was made to describe meaningful differences in the text for each indicator.

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