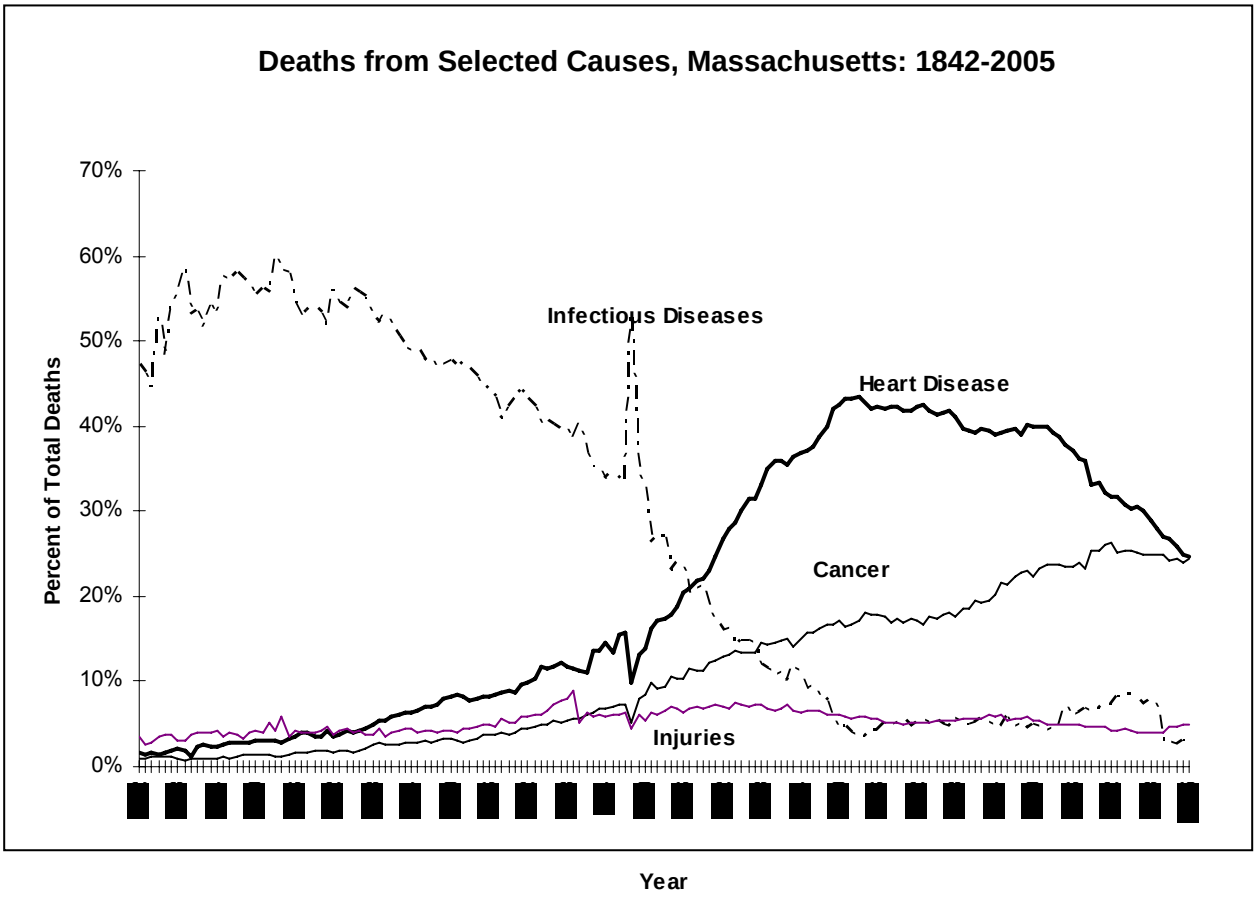
Massachusetts Deaths 2005



Center for Health Information, Statistics, Research and Evaluation

Massachusetts Department of Public Health

March 2007

Massachusetts Deaths 2005

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Massachusetts Department of Public Health

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Note to Readers: Changes in this year's report

This report contains significant changes from previous reports. Please review the information below before reading the report.

1. **New format**: The Report has been revised to follow the National Center for Health Statistics (NCHS) death report format. This format emphasizes important findings in text and provides detailed statistics in tables. By adopting this format, we have eliminated redundancy in the text, reduced the report production time, and made it easy to compare Massachusetts with U.S. data. The report is divided into five parts: 1) Highlights; 2) Introduction; 3) Methods; 4) Results; and 5) Appendix.

2. **Population changes:** Again, this year, as was done in 2004, new population estimates are being used for 2000-2005. The new population estimates file, which is referred to as the Massachusetts Department of Public Health Modified Age, Race/Ethnicity, and Sex (MMARS00-05), is based upon estimates produced by the National Center for Health Statistics in collaboration with the Census Bureau's Population Estimation Program. Please note that population-based rates published in this report cannot be compared with those published before 2004, which were based upon the Census 2000 counts. Please see the Technical Notes section in the Appendix for a detailed description of the MMARS00-05 file.

3. **Rate, Proportion, and Number comparisons**: The comparison of rates, proportions, and numbers made in this year's report is based on tests of statistical significance. Comparative words, for example, "higher", "lower", "increase", and "decrease" are used only when the statistics being compared are statistically different (i.e., statistically significant) at the $P \leq .05$ level. When the statistics do not differ significantly, we simply state the values for each period, or report them as "stable". Please see the Technical Notes section in the Appendix for a discussion of how statistical significance is determined.

Suggested Citation

Massachusetts Deaths 2005. Boston, MA: Division of Research and Epidemiology, Center for Health Information, Statistics, Research, and Evaluation, Massachusetts Department of Public Health. March 2007.

Highlights

- The age-adjusted death rate for Massachusetts fell to a record low of 720.6 deaths per 100,000 population in 2005, down 3% from 739.3 deaths per 100,000 in 2004, continuing a trend toward a lower rate and mirroring a decline in the death rate nationwide.

- In 2005, there was a continued decline in the number of resident deaths of 1% (643 deaths) from the previous year. This decrease was observed primarily in the 1-14 age group, which had 24 fewer deaths and in the 65-74 age group, which had 221 fewer deaths.

- Life expectancy reached an all-time high in Massachusetts. In 2005, an infant girl born in Massachusetts could expect to live to be 82, and an infant boy could expect to live to be 76 years.

- The infant mortality rate was 5.1 deaths per 1,000 live births in 2005, compared with 4.8 deaths per 1,000 live births in 2004. The infant mortality rate has decreased by 27% since 1990, from 7.0 deaths per 1,000 live births to 5.1 deaths per 1,000 live births.

- As expected, in 2005, among Massachusetts residents most deaths occurred among the oldest residents (75+ years), and the largest number of deaths continued to be among the oldest old (people aged 85 and over). One out of 3 deaths is to a person ages 85 or older (33%); almost 2 out of 3 deaths is to a person ages 75 and older (64%).

- Disparities by race, ethnicity, education, and geography persist:
    - The overall age-adjusted death rate for black non-Hispanics is 19% higher than the age-adjusted death rate for white non-Hispanics (865.8 vs. 725.0).
    - The death rate for those with a high school education or less was 3 times higher than the rate for those with 13 years of education or more.
    - The age-adjusted premature mortality rate (PMR) for black non-Hispanics (459.4) was higher than that of white non-Hispanics (314.3), Asian non-Hispanics (152.9), and Hispanics (297.8).
    - Springfield, Revere, New Bedford, Fall River, Brockton, Lynn and Worcester had the highest premature mortality rates[1] among the state's 30 largest communities.

- About half of the leading cause-specific mortality rates are lower in Massachusetts than in the U.S., including heart disease, stroke, and diabetes. Cancer and Alzheimer's age-adjusted death rates are about the same as those of the U.S.

- Heart disease and cancer continued to be the leading causes of death among Massachusetts residents, accounting for almost half of all deaths. As in previous years, more women than men died of heart disease and cancer (the 2nd leading cause of deaths) in Massachusetts.

[1] The premature mortality rate (PMR) measures the rate of premature death, that is, deaths that occur before the age of 75 years per 100,000, and is age-adjusted to the 2000 U.S. Standard Population.

- In 2005, heart disease had a death rate significantly lower than that of 2004 (172.2 vs. 182.8 deaths per 100,000), and has declined by 21% since 2000. In 2005, the stroke death rate also decreased by 10% (38.1 vs. 42.5 deaths per 100,000) from 2004 and has declined by 25% since 2000. Deaths rates due to other leading causes of death such as cancer, chronic lower respiratory disease, influenza and pneumonia, Alzheimer's disease, all injuries, and diabetes remained stable when compared with 2004 rates.

- In 2005, there were 180 Massachusetts residents who died from HIV/AIDS, which was the lowest annual number of HIV/AIDS deaths in Massachusetts since the peak in the epidemic in 1994 (981 HIV/AIDS deaths). HIV/AIDS deaths account for less than 1% of all deaths, however, there are two noteworthy changes in the distribution of HIV/AIDS deaths: 1) the proportion of HIV/AIDS deaths among women has almost doubled (32% vs. 19%), and 2) the proportion of HIV/AIDS deaths for persons ages 45 and older has tripled (61% vs. 22%) since 1994.

- Injuries were the leading cause of death for Massachusetts residents between the ages of 1 and 44 years. Among the population overall, injuries ranked as the fourth leading cause of death. Poisonings, which include drug overdoses, were the leading cause of injury death in Massachusetts, followed by motor vehicle related deaths. Close to two-thirds (73%) of poisoning deaths were associated with narcotics and other hallucinogens. The poisoning death rate has increased 36% since 2000.

- While the homicide rate for Massachusetts in 2005 was the same as it was in 2004, it has increased 40% since 2000. Homicide rates for Hispanics and black non-Hispanics continued to be significantly higher than that of white non-Hispanics. The homicide rate for black non-Hispanics has increased by 86% since 2000 (9.4 deaths per 100,000). The leading cause of homicides were firearm (60%).

- White non-Hispanics continue to have the highest suicide rate: 7.5 deaths per 100,000. Most of suicides occurred among persons ages 25-44 and persons ages 45-64. The leading causes of suicide deaths were "hanging, strangulation, or suffocation" (43%), followed by firearm (24%) and poisoning (23%).

- Massachusetts has achieved or moved closer to over one-half of the Healthy People 2010 mortality objectives[2]. Out of 40 HP2010 mortality objectives examined, Massachusetts has achieved 17 targets and is within 25% of achieving targets for 7 additional indicators.

[2] In January 2000, the U.S. Department of Health and Human Services launched Healthy People 2010 (HP2010), a comprehensive, nationwide health promotion and disease prevention agenda. Healthy People 2010 contains 467 objectives designed to serve as a road map for improving the health of all people in the United States. Within these 467 objectives, HP2010 has 46 mortality goals both using the underlying cause of death as well as other mentionable causes.

Introduction

This report presents detailed data on the number and characteristics of Massachusetts deaths in 2005. The data presented in this report can be used to monitor and evaluate the current status and long-term trends in mortality and health of the population in Massachusetts. Furthermore, this report can be used to identify the groups within the Massachusetts population that are at greatest risk for death from specific diseases and injuries and to inform policies and programs directed toward these groups.

Methods

Data on mortality are based on information on death certificates filed with the Massachusetts Registry of Vital Records and Statistics. Physicians and medical examiners assign the cause of death through a system that acknowledges the possibility of multiple causes. Demographic information on the certificates, such as age, race, Hispanic ethnicity, gender, educational attainment, marital status, and occupation, is recorded by the funeral director based on information provided by an informant, usually a family member, or, in the absence of an informant, based on observation or omitted. Resident data include all deaths that occur to residents of the Commonwealth, regardless of where they happen. In Massachusetts, a resident is a person with a permanent address in one of the 351 cities or towns. Occurrence data include all events that occur within the state, whether to residents or nonresidents. All data in this publication are for Massachusetts residents unless otherwise stated. There is an exchange agreement among the 50 states, District of Columbia, Puerto Rico, Virgin Islands, Guam, and Canadian provinces that provides for the exchange of copies of death records for persons dying in a state other than their state of residence. These records are used for statistical purposes only, and allow each state or province to track the births and deaths of its residents.

The data in this publication refer to the underlying cause of death as generated by the Mortality Medical Indexing, Classification, and Retrieval system (MICAR), unless specifically noted. This is a computer software algorithm developed by the National Center for Health Statistics and used by all U.S. jurisdictions so that coding of death data will be comparable throughout the U.S.

Throughout this report, both the number of deaths and age-adjusted rates are presented. The number of deaths is presented to highlight the overall public health burden of disease in the state. Disease rates are presented to allow for comparisons across groups so that we can better target our programs. All mortality rates were adjusted to the 2000 U.S. Standard Population and are per 100,000 population.

Comparison of rates is based on tests of statistical significance. In all tables statistically significant results are marked. Comparative words, for example, “higher”, “lower”, “increase”, and “decrease” are used only when the rates being compared are statistically different at $P \leq .05$ level.

Results

Number of Deaths

In 2005, 53,776 Massachusetts residents died (Table 1). The *number* of resident deaths in 2005 decreased (644 deaths) from the previous year (1%). This decrease was observed primarily among persons ages 1-14, who had 24 fewer deaths and persons ages 65-74 who had 221 fewer deaths.

The age-adjusted death rate in 2005 for Massachusetts was a record low of 720.6 deaths per 100,000 persons, which is a 17% decline since 1995 and a 3% decline from the previous year. The rate for males was considerably higher than that for females—about 1.4 times higher. Death rates for males have declined by 21% and death rates for females have declined by 14% since 1995.

Age-adjusted death rates varied greatly by race and Hispanic ethnicity in Massachusetts in 2005, as they have throughout the last decade. Black non-Hispanics had the highest death rate, experiencing 1.2 times the death rate of white non-Hispanics (865.8 vs. 725.0 deaths per 100,000), similar to 2004. Asian non-Hispanics had the lowest death rate (345.0 deaths per 100,000) followed by Hispanics (500.4 deaths per 100,000). In 2005, the age-adjusted death rate for white non-Hispanics decreased by 3% from the previous year, while rates for black non-Hispanics, Asian non-Hispanics, and Hispanics remained stable.

The actual death rates for both Asians and Hispanics may be higher than the rates presented in this report for several reasons. There are well-known difficulties in calculating accurate mortality rates for smaller populations such as Asians, Native Americans and Hispanics[3,4]. Evaluation studies since the early 1990s have demonstrated inaccuracy in mortality statistics for these racial and ethnicity groups[5,6]. Race and ethnicity are collected differently for death certificates than in the Census. They are self-reported in the decennial Census count, which is the denominator of the mortality rates; whereas, race and ethnicity on death certificates are collected by the funeral director from an informant or by observation. Caution is advised when interpreting mortality data as the potential undercounts in population data and misclassification on death certificates may result in inaccuracies in mortality statistics.

In 2005, heart disease, the leading cause of death, had a death rate significantly lower than in 2004 (172.2 vs. 182.8 deaths per 100,000), and has declined by 21% since 2000. Stroke has also declined by 10% in 2005 from 2004 and has declined by 25% since 2000. Deaths rates due to the other leading causes of death such as cancer and influenza and pneumonia remained stable when compared with 2004 rates (Table 2).

A Comparison of Massachusetts and U.S. Indicators

In 2005, certain Massachusetts mortality indicators were better than those for the U.S., and the ranking of the leading causes differed (Table 2). According to U.S. death statistics for 2004[7] (Note: 2005 data were not available at the time of release of this report):

- The 2005 Massachusetts overall age-adjusted death rate was 10% lower than the 2004 United States rate (720.6 vs. 801.0 deaths per 100,000), and has been consistently lower than that of the U.S. from 1990 to the present.

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[3] Rosenberg HM, Maurer JD, Sorlie PD, et al. Quality of death rates by race and Hispanic origin: A summary of current research, 1999. National Center for Health Statistics. Vital Health Stat 2 (128). 1999.
[4] Arias E. Quality of race and Hispanic origin reporting on death certificates in the United States. Presented at the 2004 NCHS Data Users Conference. Washington, DC, July 14, 2004. Available at: http://www.cdc.gov/nchs/ppt/duc2004/arias.pps.
[5] U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. Vital and Health Statistics (Series 2, Number 128), Quality of Death Rates by Race and Hispanic Origin: A Summary of Current Research, 1999. U.S. Department of Health and Human Services.
[6] Sorlie, P. D., Rogot, E., & Johnson, N. J. (1992). Validity the Death Certificate. Epidemiology, 3(2), 181-184.
[7] Minino AM, Heron MP, Smith, BL. Deaths: Final Data for 2004. National Vital Statistics Reports, November 24, 2006.

- In 2005, life expectancy at birth continued to be higher in Massachusetts as compared with the U.S. (79.8 years compared with 77.8 years).

- The 10 leading causes of death in Massachusetts are the same as those of the U.S., but they are not in the same rank order. The top 4 are the same (1-heart disease, 2-cancer, 3-stroke, 4-chronic lower respiratory disease). However, influenza and pneumonia is the 5th leading cause of death followed by unintentional injuries and Alzheimer's disease in Massachusetts; whereas, for the U.S., unintentional injuries, diabetes, and Alzheimer's disease are the 5th, 6th, and 7th leading causes of death, respectively.

- About half of the leading cause-specific mortality rates are lower in Massachusetts than in the U.S., including heart disease, stroke, and diabetes. Cancer and Alzheimer's age-adjusted deaths rates are about the same as those of the U.S.

- The infant mortality rate (IMR) in Massachusetts (5.1) was 25% lower than that of the U.S. (6.8 deaths per 1,000 live births).

Life Expectancy

In 2005, the Massachusetts life expectancy at birth reached a record high of 79.8 years. Figure 1 shows the trend toward longer life expectancy for Massachusetts residents in the last century. A person born in Massachusetts in 2005 could expect to live, on average, an additional 34.8 years than a person born in 1900 (79.8 vs. 45.0).

In 2005, a woman born in Massachusetts could expect to live, on average, until the age of 82, and a man could expect to live until the age of 76. This difference in life expectancy between the sexes is, in part, because men tend to die younger from injuries (such as unintentional injuries, homicide and suicide) than women. At age 65, men could expect to live an average of 18 more years, while women could expect to live 21 more years (Table 3).

Life expectancy varied by race and ethnicity, and gender as well (Figure 2). At birth, white non-Hispanic women could expect to live 82 years; black non-Hispanic women, 79 years; Hispanic women, 91 years; white non-Hispanic men, 78 years; black non-Hispanic men 73 years; and Hispanic men, 84 years**.**

Another potential ramification of the undercount and misclassification of deaths among Asians, Native Americans and Hispanics, discussed previously, is that Hispanics showed an exceptionally high life expectancy. As a group, Hispanics are expected to have a shorter life span, since they are more likely to have characteristics, such as low educational attainment and living in poverty, which are associated with adverse health outcomes. The method of calculating life expectancy here does not count younger deaths as heavily. Hispanics are a much younger population than white non-Hispanics: 82% of Hispanics are under 45 years of age compared with 58% of white non-Hispanics, and, 32% of deaths among Hispanics occur to persons under age 45, compared with 5% for white non-Hispanics. Therefore, life expectancy for Hispanics may be artificially inflated. Some studies have suggested that an adjustment factor be applied to mortality statistics to account for this.

The age composition of the Massachusetts population reflects changes in life expectancy and natural historic trends. From 1900 to 2005, the proportion of Massachusetts residents ages 45 and over increased by 81%, from 21% to 38% (Figure 3). While persons ages 85 and over accounted for only 2% of the population in Massachusetts in 2005, they continue to have the highest number of deaths in the state in the year 2005.

Massachusetts has a rich history of collecting and reporting vital statistics, as demonstrated by Figure 4, which presents historical mortality trend data from 1842 to the present. In 1842, infectious diseases were the leading causes of death in Massachusetts, accounting for 47% of all deaths; 4% were due to intentional and unintentional injuries, 2% were attributed to heart disease, and 1% of all deaths were due to cancer. In 2005, in almost a reversal of rank order, 25% of the deaths in Massachusetts were due to heart disease, 24% to cancer, 5% to intentional and unintentional injuries, and 3% were due to infectious diseases.

Place of Occurrence

Of the 53,776 deaths in 2005, 23,129 (43%) occurred in hospitals – 36% of persons who died were patients in (or admitted to) hospitals, and 8% died in emergency departments; 16,446 (31%) died in nursing homes, 12,004 (22%) died at home, and 871 (2%) were pronounced dead on arrival at emergency departments. These percentages have been consistent for the last 4 years (Table 4).

Medical Examiner Certified Deaths[8]

There are 19 circumstances in which a death is required by law to be referred to the Medical Examiner's Office (not all of these deaths occur under suspicious circumstances or as a result of violence). Please refer to the Appendix for a list of these circumstances. The total number of deaths certified by medical examiners was 3,915 in 2004 (7.2%) and 4,153 in 2005 (7.7%). Of those deaths certified by medical examiners, 45% were reported as a result of natural causes as causes of death (non-injury related). Almost 100% of homicide and suicide deaths were certified by medical examiners in 2005 compared with only 8% of heart disease deaths or less than 1% of cancer deaths (Figure 5).

Premature Mortality

A good summary measure of the impact of death on different groups in the population is premature mortality[9,10]. The premature mortality rate (PMR) measures the rate of premature death, that is, deaths that occur before the age of 75 years. PMR is the number of deaths to persons less than 75 per 100,000, age-adjusted to the 2000 U.S. standard population under 75 years of age. PMR is considered an excellent single measure of the health status of a population.

The reason PMR is an excellent measure of health status is that the vast majority of deaths to persons ages 75 and older are due to chronic conditions associated with aging. By examining deaths to persons younger than 75, it is possible to identify many issues that are amenable to systematic public health approaches to health promotion and disease prevention. An attractive feature of PMR analyses is that it moves away from considering single causes or single risk factors of death to taking a broader community perspective. PMR may be related to socioeconomic status, and its correlates such as environmental conditions, housing, education, and stress, higher rates of smoking, substance abuse, violence, obesity, and lack of access to care.

Age-adjusted premature mortality rates varied by race and Hispanic ethnicity in 2005 (Figure 6). Black non-Hispanics had the highest PMR, experiencing almost 1.5 times the rate of premature deaths as white non-Hispanics (459.3 vs. 314.2 deaths per 100,000). White non-Hispanics had the second highest PMR (314.2 deaths per 100,000), while Asian non-

[8] Massachusetts General Laws, Chapter 38, Section 3. http://www.mass.gov/legis/laws/mgl/38-3.htm.
[9] Carstairs V, Morris R. *Deprivation and Health in Scotland*. Aberdeen, Scotland: Aberdeen University Press, 1991.
[10] Patricia Martens, et al. The Health and Health Care Use of Registered First Nations People Living in Manitoba: A Population-Based Study. http://www.umanitoba.ca/centres/mchp/reports/reports_02/rfn.htm

Hispanics had the lowest PMR (152.8 deaths per 100,000). The Hispanic PMR (297.7 deaths per 100,000) was higher than the Asian non-Hispanic rate, but lower than the black non-Hispanic rate. For a discussion on mortality rates for Hispanics and Asians please see the first section: *Number of deaths* on pages 13-14.

Educational Attainment[11]

Mortality is inversely associated with educational attainment; that is, the average risk of death decreases markedly with increasing educational attainment. The age-adjusted death rate for those with a high school education or less was 520.9 per 100,000 population - 3 times higher than the rate of 172.2 for those with 13 years of education or more (Table 5). This is true for each race and ethnicity group. However, racial disparities persist among those more educated: the rate for more educated blacks was higher than the rate for more educated whites (313.1 vs. 169.0 deaths per 100,000).

Daily Mortality Statistics

On an average day in 2005, 147 Massachusetts residents died (Figure 7). Approximately 36 of these deaths were due to heart disease, 36 to cancer, 16 to respiratory diseases, 8 to stroke, 7 to injuries, 3 to diabetes, 4 to Alzheimer's disease; 1 was an infant death, 1 was an HIV/AIDS death, and 35 were due to other causes.

Leading Causes of Death[12]

Heart disease and cancer continued to be the leading causes of death among Massachusetts residents, accounting for almost half of all deaths (Table 6). The gap between these two leading causes of death continued to narrow to its lowest point since at least 1994 (89 deaths vs. 2,680 deaths in 1994). In 2005, 13,248 Massachusetts residents died of heart disease, which resulted in an age-adjusted death rate of 172.7 deaths per 100,000 persons. Cancer was the second leading cause of death, with 13,159 deaths, and an age-adjusted death rate of 184.9 per 100,000.

The ten leading causes of death accounted for 77% of all deaths in 2005. The top 5 causes of death remained the same as they were in 2004, and in the same order (1-heart disease, 2-cancer, 3-stroke, 4-chronic lower respiratory disease, and 5- influenza & pneumonia) (See Table 6 for a complete listing). Unintentional injuries and Alzheimer's disease switched rank in 2005. Diabetes and nephritis also changed ranks in 2005. While HIV/AIDS is not ranked among the 10 leading causes of death for Massachusetts overall, it remained among the leading causes of death for black non-Hispanics and Hispanics.

Injuries (with all intents combined) was the leading cause of death for persons between the ages of 1 to 44 years, and the 4th leading cause for all residents combined (Table 6). Unintentional injuries, which includes motor vehicle-related deaths, drug overdoses, falls, fires, drownings, and other causes, accounted for the highest percentage of deaths in this age group (43%), followed by homicide (17%), and suicide (11%).

In 2005, cancer remained the number one cause of death for Massachusetts residents ages 25 to 84 (33%). Heart disease, chronic lower respiratory disease, and stroke were other

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[11] **Note that 2000 denominator figures are used since these are the latest number available for population by age and education**. Rates are shown only for ages 25-64 years because persons under age 25 may not have completed their education.

[12] Note that leading causes of deaths are based on the *number* of deaths, and not the rate. Leading causes, as presented here, are based on the National Center for Health Statistics' 113 category cause-of-death scheme used for national rankings.

leading causes. Heart disease was the leading cause of death for Massachusetts residents ages 85 and older (31%).

In Table 7, we compare age-adjusted death rates for males and females for overall leading causes of death by age. For both males and females ages 1 to 14, unintentional injuries ranked first, and cancer ranked second. Seventy-three percent of deaths among individuals 15-24 years were caused by an injury. Unintentional injuries also ranked first for young males and females ages 15 to 24. Homicide ranked second for males in this age group while cancer ranked second for females ages 15 to 24. The rate of homicides for men ages 15-24 was 12 times higher than the rate of women for the same age group (17.3 vs. 1.4). The rank for suicides was third for males and females ages 15-24.

Unintentional injuries also were the leading cause of death for persons ages 25-44. The four leading causes of death among persons ages 25 to 44 were the same for males and females, but the rank order varied by sex. Unintentional injuries ranked first for males and second for females; while cancer ranked first among females and fourth among males. Suicide ranked third for males and fourth for females, and HIV ranked sixth for females and seventh for males in this age group (data not shown).

In Table 8, we examine the leading causes of death for persons 65 years and older. Cancer and heart disease were the leading causes of death for both males and females ages 45 to 64. Among persons in the 65-74 and 75-84 age groups, cancer was the leading cause of death for both males and females, and heart disease was the second leading cause. For persons ages 85 years and older, heart disease was the leading cause of death for both males and females; cancer was the second and stroke the third. Among persons ages 65 and older altogether, heart disease was the leading cause of death for males and females followed by cancer. Stroke was the third leading cause of death overall and for females while chronic lower respiratory disease was the third leading cause of death followed by stroke.

Patterns by Race and Ethnicity

The leading causes of death varied markedly by race and Hispanic ethnicity in Massachusetts in 2005 as they had in previous years (Table 9). The overall age-adjusted death rate for black non-Hispanics was 19% higher than that of white non-Hispanics. Age-adjusted death rates for black non-Hispanics were higher than white non-Hispanics for most leading causes of death.

The four major race and ethnic groups share seven of the 10 leading causes of death (Table 9). Heart disease and cancer were the first and second leading causes of death in all groups; however, for white non-Hispanics, heart disease ranked first, while for black non-Hispanics, Asian non-Hispanics and Hispanics, cancer was the leading cause of death. Stroke was the third leading cause of death for white non-Hispanics, black non-Hispanics and Asian non-Hispanics, while unintentional injuries was the third leading cause of death for Hispanics. The fourth leading cause of death for black non-Hispanics and Hispanics was diabetes, while diabetes was ninth for white non-Hispanics, and it dropped from the list for Asian non-Hispanics. The leading causes of death among Hispanics also included HIV/AIDS, perinatal conditions, and homicide, all of which occur more frequently among younger people.

HIV/AIDS was the seventh leading cause of death for Hispanics and the 10th leading cause of death for black non-Hispanics. HIV/AIDS was the 27th leading cause of death for white non-Hispanics and the 23rd leading cause for the state overall. Homicide was the seventh

leading cause of death for black non-Hispanics and the eighth leading cause of death for Hispanics. It was the 28h leading cause of death for white non-Hispanics and the 24th leading cause for the state overall.

Heart Disease

Heart disease accounted for 25% of all deaths in Massachusetts in 2005 (13,248 out of 53,776 total). Heart disease deaths occur predominantly among the older population, and in 2005, 86% of all heart disease deaths occurred among people ages 65 years and older. The proportion of deaths that were from heart disease varied by race and ethnicity in this age group: white non-Hispanics, 87%; Asian non-Hispanics, 79%; black non-Hispanics, 69%; and Hispanics, 62% (Figure 8 and Figure 9).

While the number of women who die of heart disease is higher than that of men (6,946 vs. 6,302), men have a higher death rate of heart disease than women (215.6 for men vs. 138.4 deaths for women, per 100,000). Although women experience twice as many heart disease deaths than men at ages 85 and older (3,969 women vs. 1,854 men), the female population is 2.2 times greater than that of men in the same age group, so the female death rate for ages 85 and older is smaller than that of men (4,031.9 vs. 4,223.7) (Table 8). Black non-Hispanic females have a heart disease death rate 1.25 times higher than white females. The overall heart disease death rate for men was 56% higher than the rate for women (215.6 vs. 138.4 per 100,000).

In Massachusetts during the past seven years, heart disease has continually declined by 6% from 2004 (172.2 vs. 182.8 deaths per 100,000) and by 22% since 1999. In 2005, death rates for heart disease decreased for both males and females from 2004 (Table 10). In 2005, the death rate for heart disease for Asians, Hispanics and black non-Hispanics did not change from the previous year. In the same time period, the heart disease death rate for white non-Hispanics declined by 6%; similarly for both males and females.

Cancer

Cancer accounted for 24% of all deaths in Massachusetts in 2005. Cancer mortality is largely a disease of older persons, except for Hispanics. In 2005, approximately 3 out of 4 cancer deaths in Massachusetts occurred to persons ages 65 and older (Figure 10 and Figure 11). This age group accounted for 74% of all cancer deaths among white non-Hispanics, 60% of cancer deaths among Asian non-Hispanics, 58% of cancer deaths among black non-Hispanics, and 44% of cancer deaths among Hispanics.

The overall leading cause of cancer death was lung cancer (28% of cancer deaths) followed by colorectal cancer (10% of cancer deaths) (Table 11). Lung cancer was the leading cause of cancer death for both men and women. The second leading cause of cancer death was breast cancer for females and prostate cancer for males. Among women, the breast cancer mortality rate was less than half the lung cancer mortality rate. Men had higher death rates than women for the most common cancers including: bladder, colorectal, esophagus, leukemia, lung, non-Hodgkin's lymphoma, pancreas, and stomach among others. The overall cancer death rate for men was 39% higher than the rate for women (222.8 vs. 159.8 per 100,000). In 2005, black non-Hispanic males were 57% more likely to die of cancer than females and white non-Hispanics (39%).

In 2005, the smallest number of cancer deaths was seen among persons under the age of 45 (401 deaths, Table 12). Leukemia was the leading cause of cancer death for persons between the ages of 15-24. Among cancers affecting men and women, lung cancer was the leading cause of cancer death for persons, ages 25 and older. Female breast cancer was

the second leading cause of cancer death (361 deaths) among adults ages 25 to 64. Lung cancer was the leading cause of cancer death for persons ages 45 and older. Colorectal cancer was the second leading cause of cancer death among persons ages 45 and older.

In 2005, there were 153 fewer cancer deaths among white non-Hispanics than in 2004. The overall cancer death rate for black non-Hispanics was no different than that of white non-Hispanics, but the cancer death rate among black non-Hispanic men was higher than that of white non-Hispanic men. In 2005, Hispanics and Asian non-Hispanics had the lowest cancer death rates, overall and for both men and women (Table 11).

Cancer mortality affects race and ethnic groups differently. Lung and colorectal cancer continued to be among the leading causes of cancer death for all race and ethnic groups in 2005. While colorectal cancer and female breast cancer were the second and third leading cause of cancer death for white non-Hispanics and black non-Hispanics, cancer of the pancreas was the second for Asian non-Hispanics (Table 13).

In 2005, the cancer death rate remained stable from 2004, but it has decreased by 10% since 2000. Cancer death rates for both females and males have also decreased since 2000 (by 9% for females and by 13% for males). Compared with 2000, white non-Hispanics experienced decreases on several cancer–specific death rates such as female breast cancer, colorectal cancer, and prostate cancer.

Stroke

Despite a decline in the number of deaths from stroke, stroke remained the third leading cause of death in Massachusetts in 2005, after heart disease and cancer. In 2005, there were 2,979 stroke deaths, yielding an age-adjusted rate of 38.1 deaths per 100,000 persons. In 2005, the death rate for stroke had declined by 10% from 2004 and has declined by 25% since 2000 (50.9 deaths per 100,000).

In 2005, 24% of strokes were deaths from hemorrhage (20% from intracerebral hemorrhage and 4% from subarachnoid hemorrhage) (Table 14). Cerebral infarction accounted for about 5% for all stroke deaths in 2005. For half of all stroke deaths the type was not specified.

In 2005, nine out of ten stroke deaths in Massachusetts occurred in persons ages 65 and older (Figure 12). This age group accounted for 93% of all stroke deaths among white non-Hispanics, 79% of stroke deaths among Asian non-Hispanics, 72% of stroke deaths among black non-Hispanics, and 62% of stroke deaths among Hispanics (Figure 13).

The stroke death rate for black non-Hispanics (47.5 per 100,000) was 1.25 times or 25% higher than the rate for white non-Hispanics (37.9 per 100,000) (Table 15). In 2005, the overall stroke death rate decreased by 10% (38.1 vs. 42.5 per 100,000) from 2004 and has declined by 25% since 2000. In Massachusetts during the past 7 years, the age-adjusted death rate for stroke has continually decreased for white non-Hispanics; similar patterns were seen for both males and females.

Diabetes

In 2004, diabetes was either the underlying or a contributing cause of death (i.e., a diabetes-related cause of death) for 3,923, or 7.3% of all deaths in Massachusetts. In one-third of these deaths, diabetes was recorded as the underlying cause of death (Figure 14). Diabetes was also listed as a contributing cause of death on an additional 2,652 deaths.

When diabetes is examined as a contributing cause of death as well as the underlying cause of death, we capture the full mortality burden of diabetes. As an underlying cause of death only, diabetes ranked ninth, but when considering all mentioned conditions, diabetes-related deaths ranked third as a cause of death in 2005.

Black non-Hispanics and Hispanics died from diabetes-related causes at higher rates than white non-Hispanics. In 2005, the diabetes-related age-adjusted death rate for black non-Hispanics was 92.5 deaths per 100,000, which is almost twice the rate for white non-Hispanics (51.9 per 100,000). The rate for Hispanics was 63.8 deaths per 100,000, which is 23% higher than the white non-Hispanic rate (Figure 15).

There were slightly more female than male deaths with diabetes as the underlying cause of death (Table 15a). Overall, males had a higher proportion of diabetes-related deaths (7.9% vs. 6.8% of all deaths) (Table 16). Hispanics (11.4%) and black non-Hispanics (10.3%) had a higher proportion of diabetes-related deaths than white non-Hispanics (7.0%) (Table 17).

Figure 16 illustrates that diabetes-related deaths rise with increasing age. The rise is particularly rapid from age 45 years to age 84. In 2005, 81% of diabetes-related deaths occurred to individuals aged 65 years and older. Figure 17 compares the number of deaths from diabetes as a contributory cause and underlying cause by age group. There were more diabetes-related deaths as a contributing cause among persons ages 35 years and older. In 2005, the diabetes-related death rate has remained stable from 2004, but has declined 14% since 2000.

Injuries

In 2005, 2,657 deaths were the result of injuries among Massachusetts residents. The leading causes of injury deaths in order of percentages were: poisonings, , which includes drug overdoses[13] (30%), motor vehicle-related deaths (18%), “hanging, strangulation or suffocation” (12%), falls (11%) and firearm-related deaths (8%) (Table 18). When combining all injuries (unintentional, suicide, homicide and injuries of undetermined intent) to capture the total burden of injury deaths among Massachusetts residents, injuries were the 4th leading cause of death in 2005.

Data on the cause and intent of injury deaths is generated through information listed in the cause and manner of death fields on official death certificates. Due to Massachusetts General Laws (MGL) reporting requirements, nearly all death certificates for individuals dying from an injury are completed by the Massachusetts Office of the Chief Medical Examiner (OCME). Policy changes affecting the classification of these deaths at the OCME can therefore impact the injury death data reported.

In May 2005, there was a change in OCME policy regarding the classification of fatal poisonings (which includes acute intoxications and overdoses) where there is no evidence of suicide or homicide. This policy states that fatal poisonings should be certified as “accidents” or unintentional events, and brings Massachusetts in line with the policies in most other states. Prior to this policy change (affecting poisoning deaths in 2004 and at least 10 years prior) the manner of death in these cases was listed as “undetermined”. As a consequence of this new policy, only 4% of all injuries in 2005 were classified as injuries of undetermined

[13] Poisoning refers to the damaging physiologic effects of ingestion, inhalation, or other exposure to a range of pharmaceuticals, illicit drugs, and chemicals, including pesticides, heavy metals, gases/vapors, and common household substances such as bleach and ammonia.

intent[14]. Seventy-one percent of all injury-related deaths were due to unintentional injuries, and 24% were intentional injuries (18% suicide and 7% homicide).

The leading causes of injury deaths vary by age group. Motor vehicle-related deaths accounted for the highest proportion of injury deaths among persons ages 1 to 24 (33% of injury deaths among 15 to 24 year-olds were due to motor vehicle crashes). Sixteen percent of injury deaths among persons ages 15 to 24 were due to firearms. Poisonings were the leading cause of injury deaths among 25 to 64 year-olds accounting for nearly half (46%) of injury deaths in this age group. Among persons 65 years and over, falls were the leading cause of injury deaths accounting for 27% of injury deaths among this age group (Table 18).

Nearly one third (31%) of all injury deaths occurred among 25 to 44 year-olds. This age group is overrepresented in poisoning deaths (51%), firearm deaths (33%), "hanging, strangulation or suffocation" (33%), and motor vehicle-related deaths (27%). Persons age 85 and older were overrepresented in deaths due to falls (34%) (Table 18).

For all types of injuries, age-adjusted death rates for males were higher than for females, regardless of race and ethnicity. Males were 2.3 times more likely to die from an injury than females, and 9.1 times more likely to die from a firearm injury than females in Massachusetts (Table 18). Black non-Hispanic males had the highest death rate from firearms: 28.5 deaths per 100,000 compared to 4.5 deaths per 100,000 white non-Hispanic males (Table 19).

Intentional injury deaths include homicides and suicides. In 2005, 7 out of 10 intentional injury deaths were suicides (73%) and only 27% were homicides. The suicide rate for Massachusetts in 2005 was stable from 2004; it was 6.4 deaths per 100,000 in 2004 compared to 7.1 in 2005. Among females, suicide rates were highest among females ages 45-64; whereas, among males, suicide rates were highest among persons ages 85 and older and persons ages 25-44.

As in the previous years, the majority of suicides occurred among persons ages 25-44 (Table 20). In 2005, white non-Hispanics accounted for 88% of all suicides, and continued to have the highest suicide rate: 7.5 deaths per 100,000 (Table 21). Among white non-Hispanics, the suicide rate for males (12.0 deaths per 100,000) was 3.4 times higher than the suicide rate for females (3.5). The suicide rates for all racial and ethnicity groups have remained stable since 2000. In 2005, 25% of all suicides occurred among females compared to 20% in 2004.

The leading causes of suicides were "hanging, strangulation, or suffocation" (43%), followed by firearm (24%) and poisoning (23%). In 2005, males accounted for 75% of deaths due to self-inflicted firearm wounds (firearm deaths). Among females, the leading causes of suicides were poisonings (45%) and "hanging, strangulation, or suffocation" (35%). For males, the leading causes of suicides were "hanging, strangulation, or suffocation" (45%) and firearms (28%) (Table 22).

In 2005, there were 177 homicides, similar to the figure for 2004 (175 deaths). The majority of homicides occurred among persons ages 15-24. In 2005, homicides were among the 10 leading causes of death for black non-Hispanics (as the seventh cause) and for Hispanics (as the eighth cause). The leading cause of homicides was by firearm (60%) (Table 22). While the homicide rate for Massachusetts in 2005 was the same as it was in 2004, it has

[14] Injury death of undetermined intent means that the medical examiner lacked sufficient evidence to classify the deaths as homicide, suicide, or accidental.

increased 40% since 2000. Homicide rates for black non-Hispanics and Hispanics continued to be higher than rates for white non-Hispanics. Black non-Hispanic males were 17.3 times more likely to be killed than white non-Hispanic males (32.9 vs. 1.9 deaths per 100,000).

In 2005, there were 1,883 unintentional injury deaths among Massachusetts residents, accounting for 71% of all injury deaths. The death rate for these injuries in 2005 (27.4 deaths per 100,000) increased by 41% from 2004 (19.4 deaths per 100,000). The number of unintentional injuries increased from 2004 because of the OCME policy changes pertaining to acute intoxications and drug overdoses explained earlier pertaining to acute intoxications and drug overdoses.

The leading causes of unintentional injury deaths were poisonings (33%), which includes drug overdoses, motor vehicle-related deaths (25%), falls (14%), and "hanging, strangulation or suffocation" (6%) (Table 23). In 2005, there were 478 motor vehicle-related deaths, 46 fewer deaths than in 2004. Although the greatest *number* of motor vehicle-related deaths occurred to men ages 25 to 44 years (91 deaths), males ages 85 years and older and males ages 15-24 had the highest *rates* for motor vehicle-related deaths (25.1 and 19.2 deaths per 100,000, respectively).

Due to the reasons discussed earlier in this section, and in order to more accurately interpret trends in *unintentional poison deaths* and *poison deaths of undetermined intent* among Massachusetts residents from 2004 to 2005, the two categories were combined. In 2004, this combined total (unintentional poisonings and poisonings of undetermined intent) was 639. In 2005, this combined total was 695, representing a 9% increase. Suicide poisonings increased from 94 deaths in 2004 to 107 deaths in 2005. Hispanic and white non-Hispanic males had the highest death rate of poisonings (including drug overdoses) among all race and ethnic groups (22.6 and 17.1 deaths per 100,000, respectively).

In 2005, there were only 95 deaths due to injuries of undetermined intent because of the new OCME policies explained earlier. Most injuries of undetermined intent involved poisonings, which includes drug overdoses (72%).

Seventy-three percent of all poisoning deaths involved narcotics and other hallucinogens (Table 24). Most unintentional poisoning deaths involved narcotics and other hallucinogens (86%) compared to half of poisoning of undetermined intent and only 9% of intentional poisoning deaths. Narcotics and other hallucinogens include, but are not limited to, heroin, cocaine, oxycodone, codeine, LSD, and morphine. Poisoning death rates for all racial and ethnicity groups remained stable from 2004, but the poisoning rate for white non-Hispanics has increased 41% since 2000.

In 2005, 222 persons died from firearm injuries in Massachusetts compared to 205 in 2004. Of all firearm deaths in 2005, firearm suicide and firearm homicide accounted for 50% and 48%, respectively, of all firearm deaths in 2005 (Table 23). Black non-Hispanic males were 6.3 times more likely to be killed by firearms than their white counterparts.

HIV/AIDS

In 2005, there were 180 Massachusetts residents who died from HIV/AIDS, which was the lowest annual number of HIV/AIDS deaths in Massachusetts since the peak in the epidemic in 1994 (981 HIV/AIDS deaths). The death rate for HIV/AIDS deaths was 2.7 in 2005 compared to 3.1 in 2004 and has declined by 83% since 1994 (15.9 deaths per 100,000).

In 2005, 68% of all HIV/AIDS deaths occurred in the hospital, while 17% occurred in hospice or nursing homes, and 16% occurred at home (Table 25). The age distribution of HIV/AIDS deaths continued to change. The proportion of HIV/AIDS deaths among persons ages 45 and older has tripled (61% vs. 22%) since 1994.

In 2005, there were 31 fewer HIV/AIDS deaths than in 2004. This decline was seen among all age groups but the largest decline occurred among people ages 35 and older, among white non-Hispanics, and males (Table 26 and Table 27). The proportion of HIV/AIDS deaths among women almost doubled (32% vs.19%). In 2004, black non-Hispanic women accounted for 38% of all HIV/AIDS female deaths. This proportion of HIV/AIDS deaths among black non-Hispanics increased by 41% from 27% in 2004 (Table 28).

Disparities continued in the HIV/AIDS death rate among race and ethnic groups, with black non-Hispanics dying at a rate 12.3 times that of white non-Hispanics (16.0 vs.1.3 deaths per 100,000) (Table 28). For Hispanics, the HIV/AIDS rate is 8.8 times higher than that of white non-Hispanics (11.5 vs. 1.3 deaths per 100,000).

Infant Deaths

In 2005, there were 391 infant deaths (deaths of infants less than one year of age) and 76,824 live births among Massachusetts residents, which meant that the infant mortality rate (IMR) was 5.1 deaths per 1,000 live births. The 2005 IMR was similar to the 2004 rate, and it has decreased by 27% since 1990, from 7.0 deaths per 1,000 live births to 5.1 deaths per 1,000 live births (Table 29).

Although the IMR for black non-Hispanics went from 11.5 to 9.4 from 2004 to 2005, black non-Hispanics continued to have the highest IMR among all racial and ethnicity groups. The white non-Hispanic IMR was 3.8 in 2004 and 4.3 in 2005, and the IMR for Asian non-Hispanics was 2.7 in 2004 and 3.4 infant deaths per 1,000 live births in 2005. The Hispanic IMR was 7.6 in 2004 and 7.7 in 2005. None of these changes were statistically significant.

The leading causes of infant death were conditions arising in the perinatal period (58% of all infant deaths) followed by congenital malformations (18% of all infant deaths) (Table 30). Deaths occurring in the neonatal period (less than 28 days after birth) accounted for 72% of all infant deaths. The leading causes of death in the neonatal period were disorders relating to short gestation and low birthweight, while Sudden Infant Death Syndrome (SIDS) was the leading cause of death in the post neonatal period (28-365 days).

The distribution of the leading causes of infant death varied among race and ethnicity groups. Twenty-one percent of all Hispanic infant deaths were due to congenital malformations compared with 15.2% of all white non-Hispanic infant deaths (Table 31).

Deaths in the 30 Largest Massachusetts Cities and Towns

The premature mortality rate (PMR) measures the rate of premature death, that is, deaths that occur before the age of 75 years per 100,000, and is age-adjusted to the 2000 U.S. Standard Population.

Though strictly a mortality measure, the premature mortality rate has been found to be highly correlated with morbidity indicators which measure the level of “sickness” rather than death for a given population. Therefore, it is expected that populations with high premature mortality rates would also tend to report poorer general health status, a greater number of symptoms, and more illness both at the subjective self-reported level and the objective

illness level[15]. PMR analyses make it clear that community health status is related to many factors. Health care is certainly one of these factors, but not the only factor. PMR may be related to socioeconomic status and its correlates such as, higher rates of smoking, substance abuse, violence, obesity, stress, pollution, and lack of access to care. However, there are other possible reasons for high PMRs including but not limited to specific sub-populations of younger persons at risk for motor vehicle deaths in rural areas and heart attack deaths in persons 45 to 64 in suburban areas.

In 2005, compared with the state overall (317.1 deaths per 100,000 persons under 75 years), the age-adjusted premature mortality rates were significantly higher in Springfield (466.0), Revere (445.5), New Bedford (443.2), Fall River (441.3), Brockton (413.7), Lynn (411.9), Worcester (410.6), Plymouth (405.1), Lowell (404.1), Malden (392.8), Boston (387.4), and Taunton (383.7). Age-adjusted death rates were significantly lower than the state rate in Cambridge (237.5), Brookline (198.8), and Newton (172.4) (Table 32). [Please note that Table 34 presents PMR for all cities/towns in the Commonwealth, and Table 43 presents selected Causes of Death for all cities/towns].

Healthy People 2010

In 2005, Massachusetts achieved or moved closer to over one-half of the Healthy People 2010 mortality objectives. Out of 40 objectives presented in Table 32, Massachusetts' 2005 death data indicated that the state has already met 17 of the 2010 target goals, including those for cervical cancer, prostate cancer, coronary heart disease, homicide, and stroke.

For seven objectives, the 2005 Massachusetts indicators were within 25% of the target goals. These objectives included: overall cancer deaths, lung cancer deaths, female breast cancer deaths, infant mortality rate, postneonatal death rates, SIDS, and asthma death rates for adults ages 35-64 years. However, Massachusetts still needs to improve in the following areas: colorectal cancer deaths, malignant melanoma deaths, cirrhosis deaths, HIV/AIDS deaths, poisoning deaths, fall deaths, fire deaths, hanging/suffocation/strangulation deaths, deaths due to drowning, suicide deaths, drug-induced deaths, unintentional injuries, neonatal deaths, maternal deaths, death rates for adolescents ages 20-24 years, and asthma death rates for persons ages 15 to 34. Although these rates were greater than 25% from the target goals, most were still lower than the rates for the United States overall.

[15] Eyles J, Birch S. A population needs-based approach to health care resource allocation and planning in Ontario: A link between policy goals and practice. *Can J Public Health* 1993; 84 (2): 112-117.

Table 1. Trends in Mortality Characteristics, Massachusetts: 1995 - 2005

Year		1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Resident deaths[1]	Number	55,296	55,187	54,634	55,204	55,763	56,591	56,733	56,881	56,194	54,419	53,776
	Crude rate[2,3,4]	900.2	892.4	877.3	877.5	881.9	889.5	887.1	887.0	875.2	848.1	840.4
	Age-adjusted rate[5]	866.2	853.0	834.8	808.8	808.8	812.2	803.4	793.8	772.6	739.3	720.6
Race/ethnicity of decedent [6,7]												
White non-Hispanic	Number	51,785	51,917	51,398	51,829	52,282	52,959	52,792	52,839	52,050	50,439	49,639
	Percent[8]	93.7	94.1	94.1	93.9	93.8	93.6	93.1	92.9	92.6	92.7	92.3
	Age-adjusted rate	860.1	852.2	835.1	808.5	808.7	814.5	804.4	796.0	775.2	744.7	725.0
Black non-Hispanic	Number	2,136	2,025	2,033	1,969	2,018	2,109	2,226	2,275	2,378	2,225	2,263
	Percent	3.9	3.7	3.7	3.6	3.6	3.7	3.9	4.0	4.2	4.1	4.2
	Age-adjusted rate	1,193.0	1,141.1	1,142.1	1,076.6	995.2	933.5	951.0	935.6	949.1	866.2	865.8
Asian non-Hispanic	Number	403	398	403	413	449	467	510	531	579	531	570
	Percent	0.7	0.7	0.7	0.7	0.8	0.8	0.9	0.9	1.0	1.0	1.1
	Age-adjusted rate	565.2	534.5	512.0	500.7	422.4	401.4	396.9	397.6	411.9	353.7	345.0
Hispanic	Number	936	803	749	924	975	1,014	1,059	1,166	1,121	1,115	1,230
	Percent	1.7	1.5	1.4	1.7	1.7	1.8	1.9	2.0	2.0	2.1	2.3
	Age-adjusted rate	504.7	430.0	391.0	463.8	507.8	585.2	556.5	591.0	520.6	482.1	500.4
Gender of decedent [7]												
Female	Number	29,262	29,152	29,261	29,568	29,786	30,465	30,780	30,427	30,053	29,067	28,695
	Age-adjusted rate	717.6	702.7	699.0	678.0	676.9	688.8	689.5	674.4	659.3	632.3	617.8
Male	Number	26,034	26,035	25,373	25,635	25,977	26,126	25,953	26,454	26,141	25,352	25,079
	Age-adjusted rate	1,080.6	1,074.0	1,035.0	1,000.8	1,001.6	988.7	957.6	955.1	923.3	878.0	852.5
Age of decedent [7]												
<1 year	Number	419	403	425	414	418	377	407	397	383	376	391
1-14 years	Number	204	197	174	128	165	181	169	167	149	137	113
15-24 years	Number	452	434	422	413	407	403	444	460	490	517	489
25-44 years	Number	3,196	2,720	2,348	2,373	2,397	2,375	2,571	2,490	2,484	2,247	2,173
45-64 years	Number	7,611	7,477	7,416	7,501	7,431	7,841	8,004	8,344	8,476	8,347	8,355
65-74 years	Number	10,858	10,711	10,286	10,216	9,782	9,746	9,323	8,922	8,611	8,126	7,905
75-84 years	Number	16,497	16,839	16,884	16,946	17,397	17,554	17,416	17,262	16,973	16,342	15,632
85+ years	Number	16,054	16,400	16,677	17,213	17,765	18,113	18,395	18,838	18,627	18,327	18,718

1. Deaths presented in all tables and figures are resident deaths. 2. Deaths per 100,000 residents. 3. See Glossary for further definition of terms and rates. 4. Rate calculations are based on resident population estimates from MISER for 1994-1995 (released in September 1999), 1996-1997 (released in November 1999), and 1998 (released in September 2000). Resident death data for 2000-2005 are calculated using the Massachusetts (Department of Public Health) Modified Age, Race/Ethnicity, & Sex Estimates 2000-2005 (MMARS00-05), released October, 2006. 5. Rates are age-adjusted per 100,000 residents using the 2000 US standard population. 6. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in race categories. Please refer to the Technical Notes in the Appendix for a more detailed explanation. 7. Column sum may not equal total because the race, gender or age of some decedents was unknown.
8. Percent of all resident deaths in that year.

Table 2. Five Leading Causes of Death[1], Comparability Unmodified and Comparability Modified Age-Adjusted Rates, Massachusetts and United States: 1995-2005

Year[2]		Heart Disease				Cancer				Stroke			
		MA		US		MA		US		MA		US	
		Comparability Unmodified[3]	Comparability Modified[4]	Comparability Unmodified[3]	Comparability Modified[4]	Comparability Unmodified[3]	Comparability Modified[4]	Comparability Unmodified[3]	Comparability Modified[4]	Comparability Unmodified[3]	Comparability Modified[4]	Comparability Unmodified[3]	Comparability Modified[4]
1995	Rate	259.4	255.7	301.3	297.0	225.6	227.2	209.6	211.0	52.9	55.9	63.9	61.3
	% of Total	30.2		32.4		25.4		23.1		6.3		6.8	
1996	Rate	257.1	253.4	293.4	289.2	221.2	222.7	206.7	208.1	50.5	53.4	63.2	61.0
	% of Total	30.4		32.2		25.2		23.1		6.1		6.9	
1997	Rate	249.0	245.5	285.7	281.6	215.4	216.8	203.7	205.1	50.6	53.5	61.8	60.1
	% of Total	30.2		32.0		25.0		23.1		6.2		6.9	
1998	Rate	231.0	227.7	272.4	273.9	209.0	210.4	202.4	204.4	47.1	49.7	59.5	63.1
	% of Total	29.0		31.6		25.0		23.0		6.0		6.8	
1999	Rate	222.1[7]		265.9		206.6[7]		201.6		50.2[7]		61.4	
	% of Total	27.9		30.3		24.8		23.0		6.4		7.0	
2000	Rate	216.7[7]		258.2		206.1[7]		200.9		50.9[7]		60.9	
	% of Total	27.1		29.5		24.8		23.0		6.4		6.9	
2001	Rate	211.0[7]		247.7		200.0[7]		195.8		46.7[7]		57.9	
	% of Total	26.7		28.9		24.2		22.9		6.2		6.8	
2002	Rate	201.1[7]		240.4		200.1[7]		194.0		48.1[7]		56.3	
	% of Total	26.0		28.4		24.0		22.8		6.0		6.7	
2003	Rate	196.6[7]		232.3		193.0[7]		190.1		45.0[7]		53.5	
	% of Total	26.0		28.0		24.1		22.7		6.0		6.5	
2004	Rate	182.8[7]		217.0[8]		188.4[7]		185.8[8]		42.5[7]		50.0[8]	
	% of Total	25.3		27.2		24.5		23.1		6.0		6.3	
2005	Rate	172.2[7]		217.0[8]		184.9[7]		185.8[8]		38.1[7]		50.0[8]	
	% of Total	24.6		27.2		24.5		23.1		5.5		6.3	

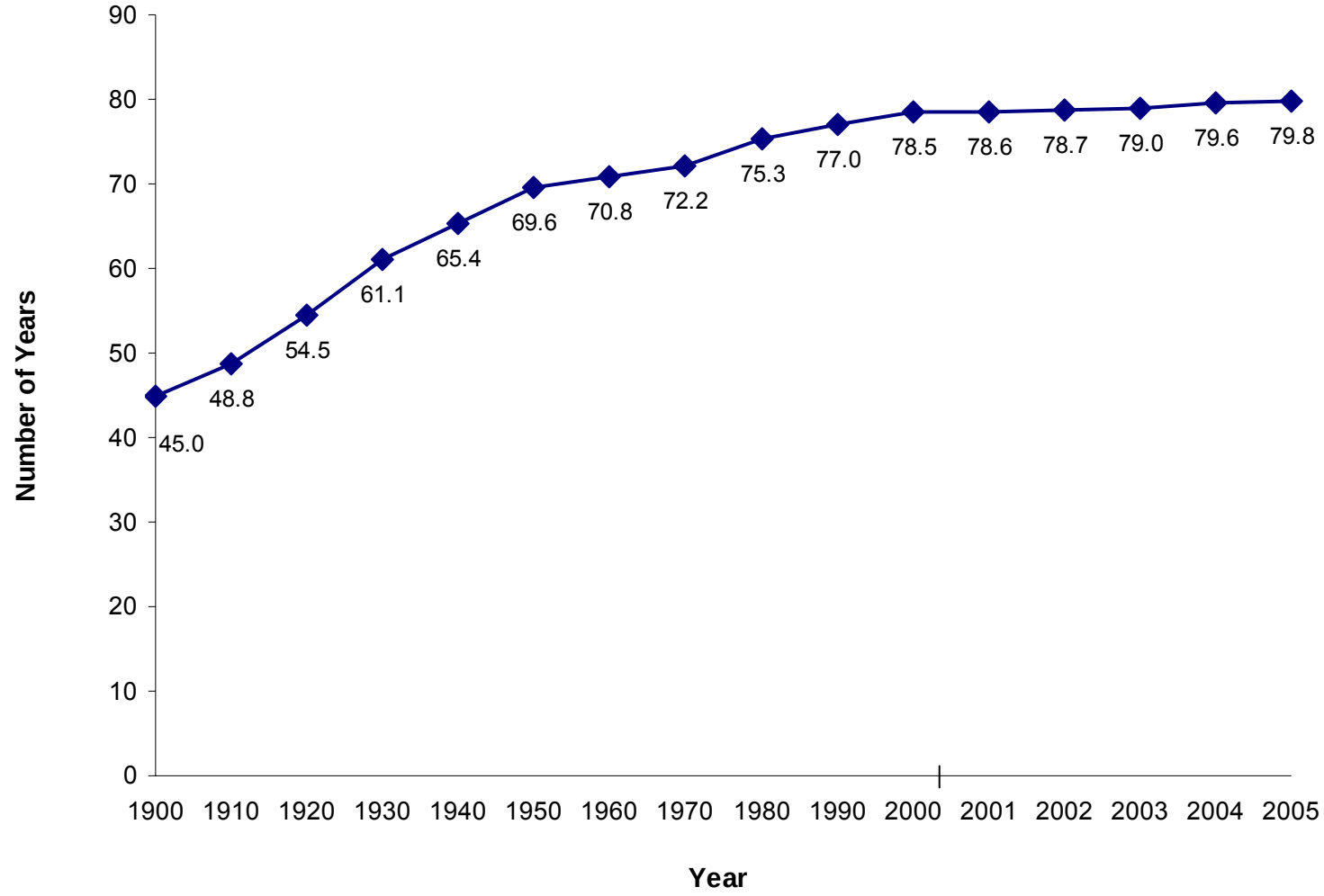
1. Cause of death: the disease or injury that initiated the events leading to death; or the circumstances of the unintentional or intentional injury that resulted in the death. 2. 1995-1998 data coded according to ICD-9. 1999-2005 data coded according to ICD-10. ICD-9 and ICD-10 codes used in this publication are listed in the Appendix. 3. Comparability unmodified rate: this rate has not been modified to account for changes from ICD-9 to ICD-10.
4. Comparability Modified Rate: this rate is adjusted using the preliminary comparability ratio (CR) from NCHS, February 2001 in order to account for changes from ICD-9 to ICD-10. Please see Appendix for a more detailed explanation and for a list of CR used in this report. 5. All rates are age-adjusted per 100,000 residents using the 2000 US standard population. U.S. data for years 1995-1998 obtained from Compressed Mortality File on CDC Wonder, February 2001. 6. NA: comparability ratio is not applicable for years prior to 1994. 7. When comparing data over time between 1995 through 2005, please use the comparability modified rates for years 1995-1998. Resident death data for 2000-2005 are calculated using the Massachusetts (Department of Public Health) Modified Age, Race/Ethnicity, & Sex Estimates 2000-2005 (MMARS00-05), released October, 2006. 8. U.S. data for 2004 and 2005 obtained from NCHS. Deaths: Final Data for 2004. National Vital Statistics Report, November 24, 2006.

Table 2 (continued). Five Leading Causes of Death[1], Comparability Unmodified and Comparability Modified Age-Adjusted Rates, Massachusetts and United States: 1995-2005

Year[2]		Influenza/Pneumonia				Unintentional Injuries				All Causes	
		MA		US		MA		US		MA	US
		Comparability Unmodified[3]	Comparability Modified[4]	**Comparability Unmodified[3]**	Comparability Modified[4]	**Comparability Unmodified[3]**	Comparability Modified[4]	**Comparability Unmodified[3]**	Comparability Modified[4]		
1995	Rate	41.2	28.7	33.5	23.4	18.8	18.8	36.0	35.4	866.2	918.4
	% of Total	4.9		3.6		2.1		4.0			
1996	Rate	41.5	29.0	32.9	23.0	19.5	19.5	36.2	35.6	853.0	902.1
	% of Total	5.1		3.6		2.3		4.1			
1997	Rate	39.1	27.3	33.3	23.3	19.7	19.7	36.0	35.3	834.8	887.0
	% of Total	4.9		3.7		2.3		4.1			
1998	Rate	40.2	28.1	34.6	24.2	19.9	19.8	35.0	36.1	808.8	875.4
	% of Total	5.2		3.9		2.3		4.2			
1999	Rate	30.3[7]		23.4		19.3[7]		35.9		808.8	881.9
	% of Total	3.9		2.7		2.3		4.1			
2000	Rate	29.1[7]		23.7		20.2[7]		35.6		812.2	872.0
	% of Total	3.7		2.8		2.4		3.9			
2001	Rate	24.0[7]		21.8		21.9[7]		34.3		803.5	855.0
	% of Total	3.1		2.6		2.6		4.0			
2002	Rate	27.3[7]		22.7		20.5[7]		35.3		793.8	846.8
	% of Total	4.0		2.7		2.0		4.2			
2003	Rate	26.0[7]		22.0		20.1[7]		37.3		772.6	832.7
	% of Total	3.6		2.7		2.5		4.3			
2004	Rate	24.9[7]		19.8[8]		19.4[7]		37.7[8]		739.3	800.8[8]
	% of Total	3.6		2.5		2.5		4.7			
2005	Rate	24.2[7]		19.8[8]		27.4[7]		37.7[8]		720.6	800.8[8]
	% of Total	3.6		2.5		3.5		4.7			

1. Cause of death: the disease or injury that initiated the events leading to death; or the circumstances of the unintentional or intentional injury that resulted in the death. 2. 1995-1998 data coded according to ICD-9. 1999-2005 data coded according to ICD-10. ICD-9 and ICD-10 codes used in this publication are listed in the Appendix. 3. Comparability unmodified rate: this rate has not been modified to account for changes from ICD-9 to ICD-10. 4. Comparability Modified Rate: this rate is adjusted using the preliminary comparability ratio (CR) from NCHS, February 2001 in order to account for changes from ICD-9 to ICD-10. Please see Appendix for a more detailed explanation and for a list of CR used in this report. 5. All rates are age-adjusted per 100,000 residents using the 2000 US standard population. U.S. data for years 1995-1998 obtained from Compressed Mortality File on CDC Wonder, February 2001. 6. NA: comparability ratio is not applicable for years prior to 1994. 7. When comparing data over time between 1995 through 2005, please use the comparability modified rate for years 1994-1998. Resident death data for 2000-2005 are calculated using the Massachusetts (Department of Public Health) Modified Age, Race/Ethnicity, & Sex Estimates 2000-2005 (MMARS00-05), released October, 2006. 8. U.S. data for 2004 and 2005 obtained from NCHS. Deaths: Final Data for 2004. National Vital Statistics Report, November 24, 2006.

Figure 1. Life Expectancy at Birth[1], Massachusetts: 1900-2005



1 Life Expectancy at birth calculated using the Greville Abridged Life Table Method (source: Dublin LI. Length of Life - A Study of the Life Table. Ronald Press Co. New York. 1949). Population data from the Massachusetts (Department of Public Health) Modified Age, Race/Ethnicity, & Sex Estimates 2005 (MMARS05), released October, 2006.

Figure 2. Expected Years of Life Remaining at Different Ages by Race and Hispanic Ethnicity, Massachusetts: 2005

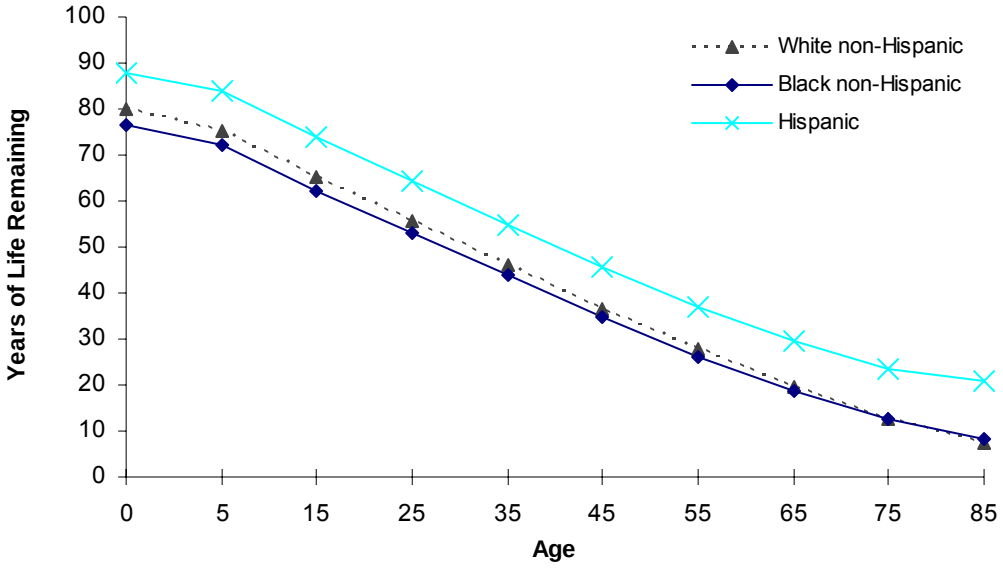
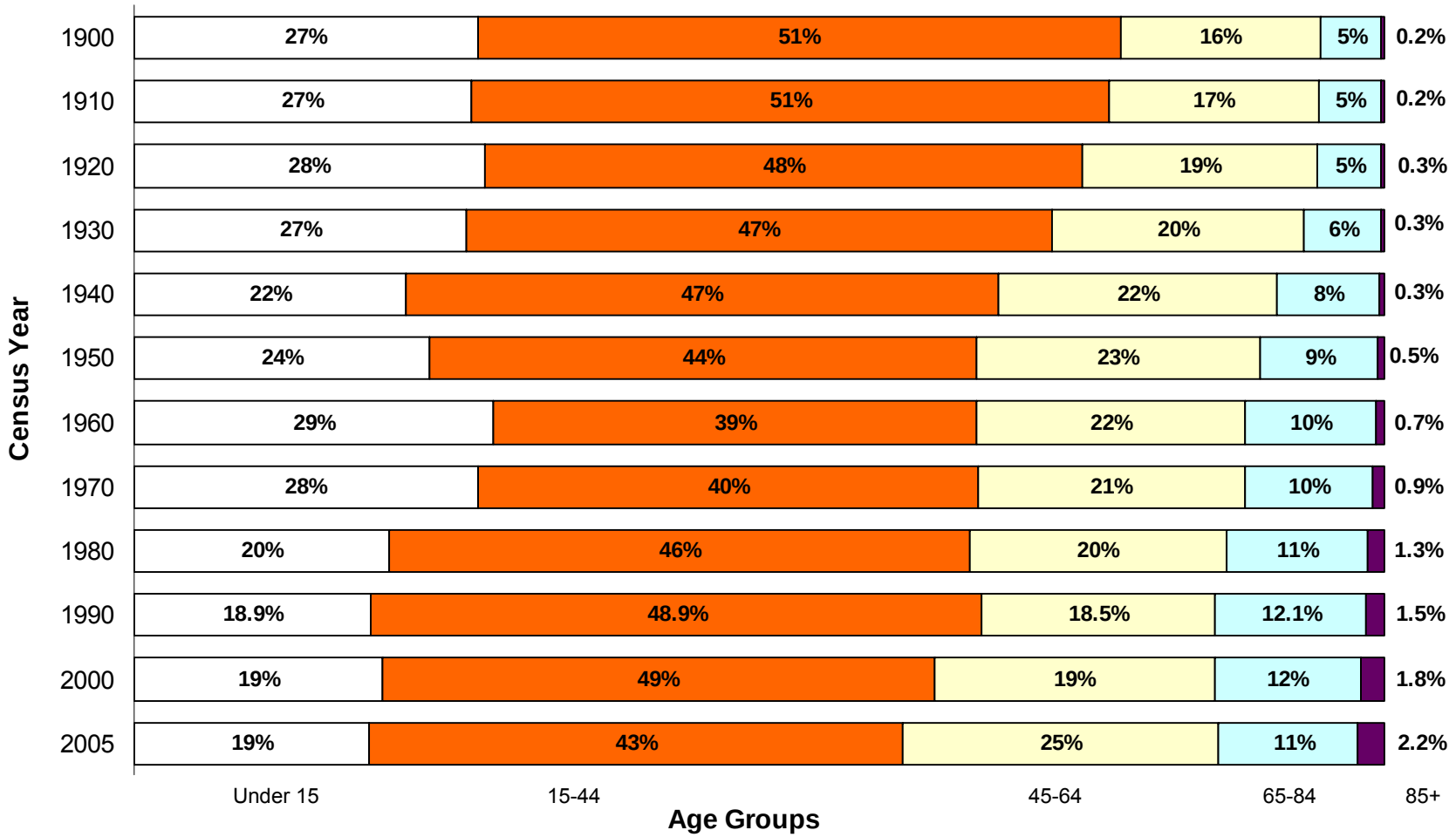


Table 3. Years of Life Remaining[1] by Race and Hispanic Ethnicity and Gender, Massachusetts: 2005

At Age:	All	Females	White non-Hispanic Females	Black non-Hispanic Females	Hispanic Females	Males	White non-Hispanic Males	Black non-Hispanic Males	Hispanic Males
Birth	79.8	82.1	82.1	79.3	91.4	77.5	77.6	73.4	84.2
1 year old	79.2	81.4	81.4	78.9	90.9	76.9	77.0	73.2	83.9
5 years old	75.3	77.4	77.4	75.0	86.9	72.9	73.0	69.2	80.0
15 years old	65.4	67.5	67.4	65.0	77.0	63.0	63.0	59.3	70.0
25 years old	55.7	57.7	57.6	55.2	67.1	53.5	53.4	50.4	60.8
35 years old	46.1	48.0	47.8	45.7	57.5	44.0	43.9	41.3	51.5
45 years old	36.7	38.4	38.3	36.4	48.1	34.7	34.6	32.3	42.6
55 years old	27.8	29.2	29.1	27.8	39.0	26.1	25.9	24.1	34.5
65 years old	19.5	20.7	20.5	19.8	31.0	18.1	17.9	16.8	27.8
75 years old	12.7	13.4	13.3	13.1	24.2	11.7	11.5	11.7	22.7
85 years old	7.6	7.8	7.6	8.0	21.4	7.2	7.0	8.8	19.9

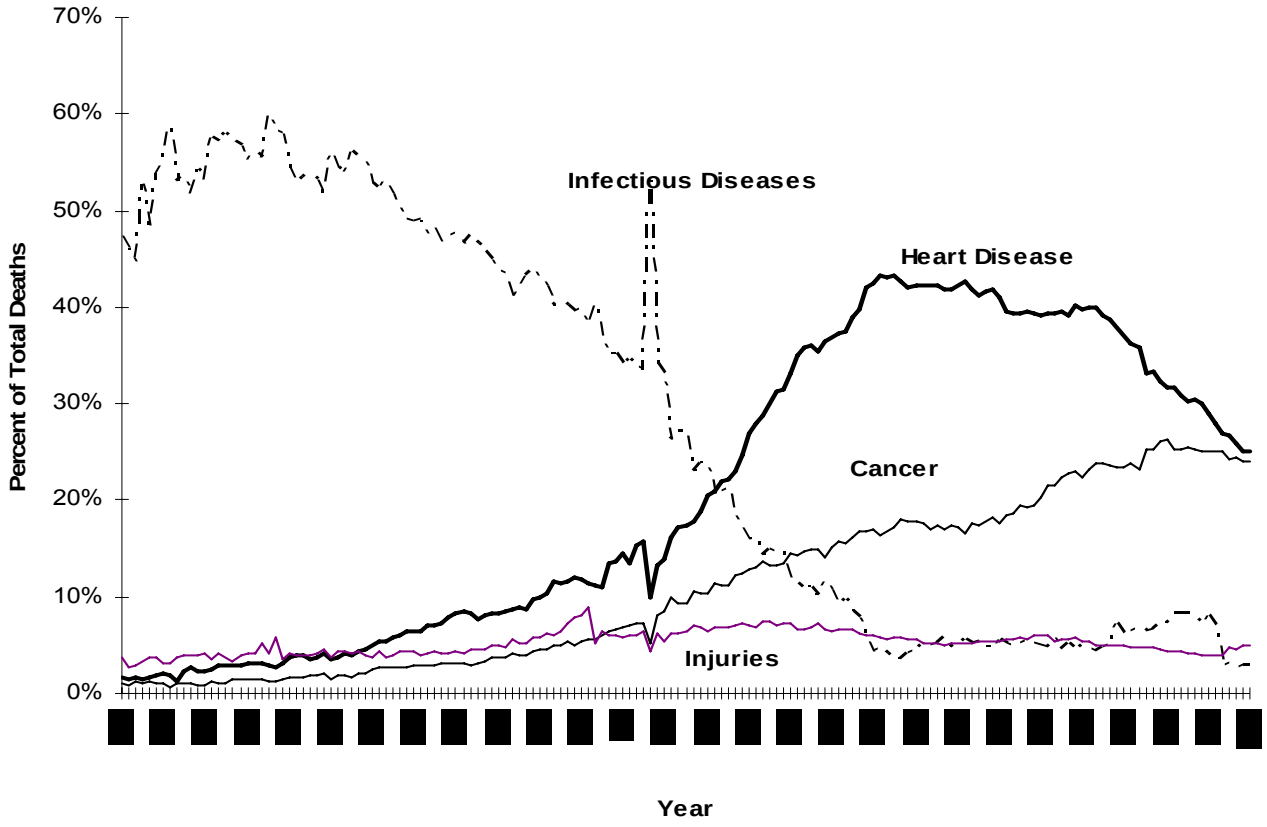
1. Years of Life Remaining calculated using the Greville Abridged Life Table Method (Source: Dublin LI. Length of Life - A Study of the Life Table. Ronald Press Co. New York. 1949). Population data from the Massachusetts (Department of Public Health) Modified Age, Race/Ethnicity, & Sex Estimates 2005 (MMARS05), released October, 2006.

Figure 3. Changes in Age Composition of the Population, Massachusetts: 1900-2005



Source: US Census Bureau 1900-1999. Resident death data for 2000 and 2005 are calculated using the Massachusetts (Department of Public Health) Modified Age, Race/Ethnicity, & Sex Estimates 2000-2005 (MMARS00-05), released October, 2006
Note: Percentages based on counts with known age.

Figure 4. Trends in Percentage of Deaths from Selected Causes, Massachusetts: 1842-2005

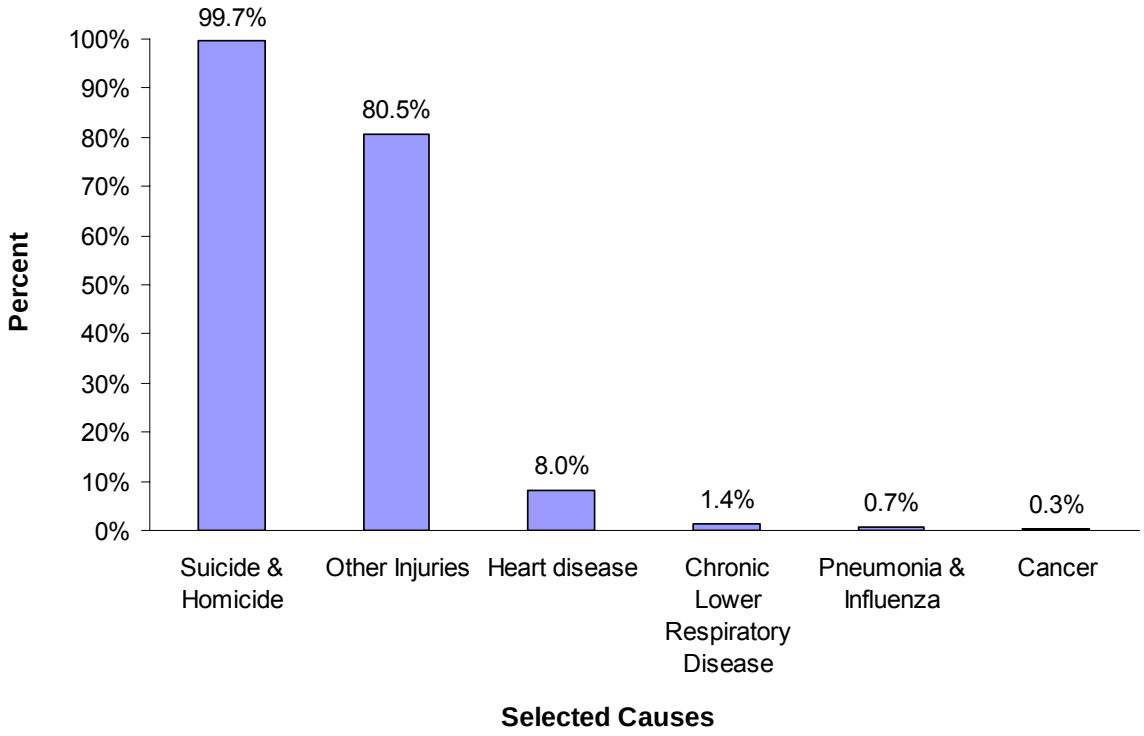


Source: Registry of Vital Records & Statistics, MDPH

Table 4. Distribution of Deaths by Place of Occurrence, Massachusetts: 2002-2005

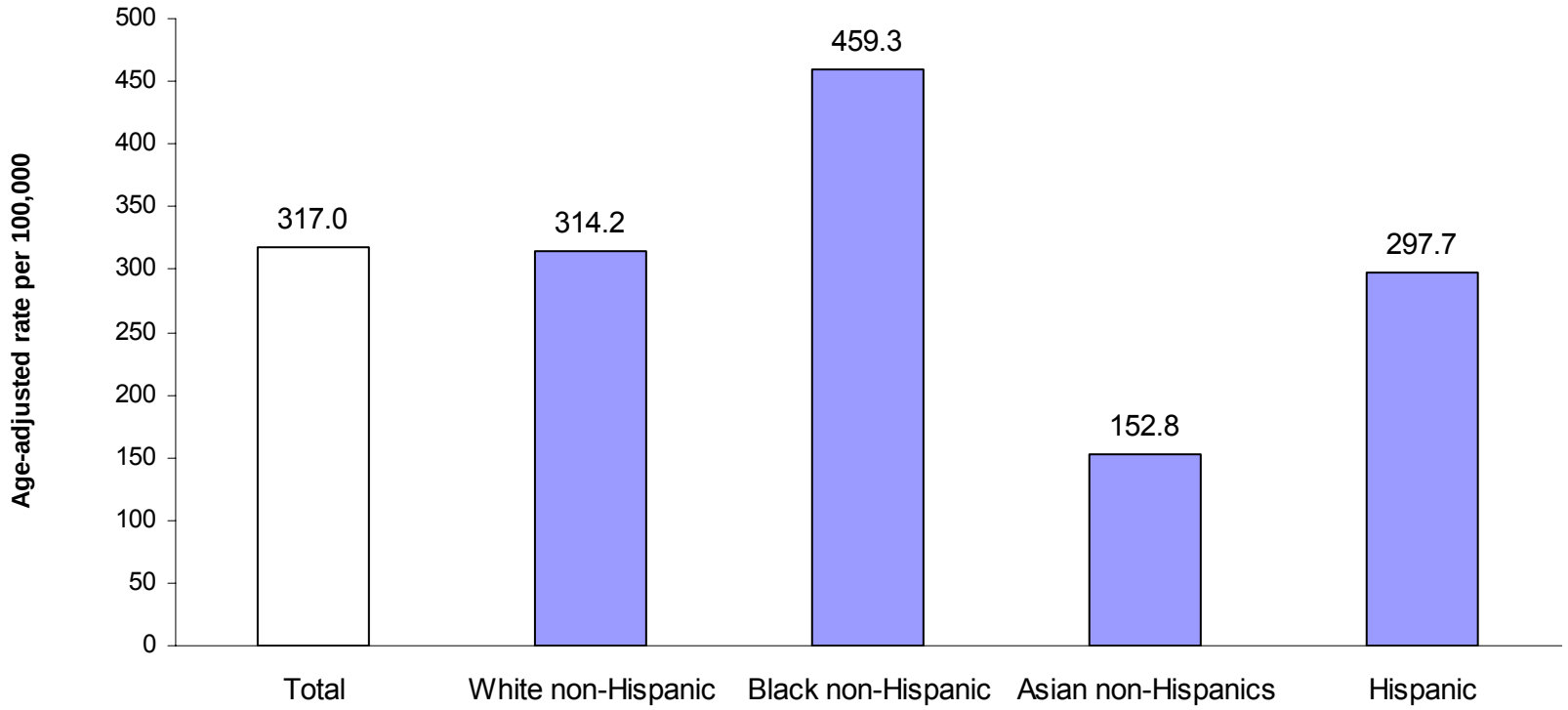
Type of Place where Death Occurred	2002		2003		2004		2005	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Hospital (inpatient/outpatient)	25,403	45%	24,936	44%	23,558	43%	23,129	43%
Dead on Arrival	927	2	905	2	936	2	871	2
Nursing Home	17,232	30	16,888	30	16,511	30	16,446	31
At Home	12,296	22	12,439	22	12,287	23	12,004	22
Other	956	2	968	2	1,104	2	1,311	2
Unknown	67	0.1	58	0.1	23	0.04	15	0.03

Figure 5. Proportion of Deaths Certified by Medical Examiner for Selected Causes[1] of Death, Massachusetts: 2005



[1] See the Appendix section, "Circumstance for Referral to the Office of the Chief Medical Examiner (OCME)" for a list of circumstances requiring referral to the Medical Examiner's Office.

Figure 6. Premature Mortality Rate[1] (PMR) by Race and Hispanic Ethnicity, Massachusetts: 2005

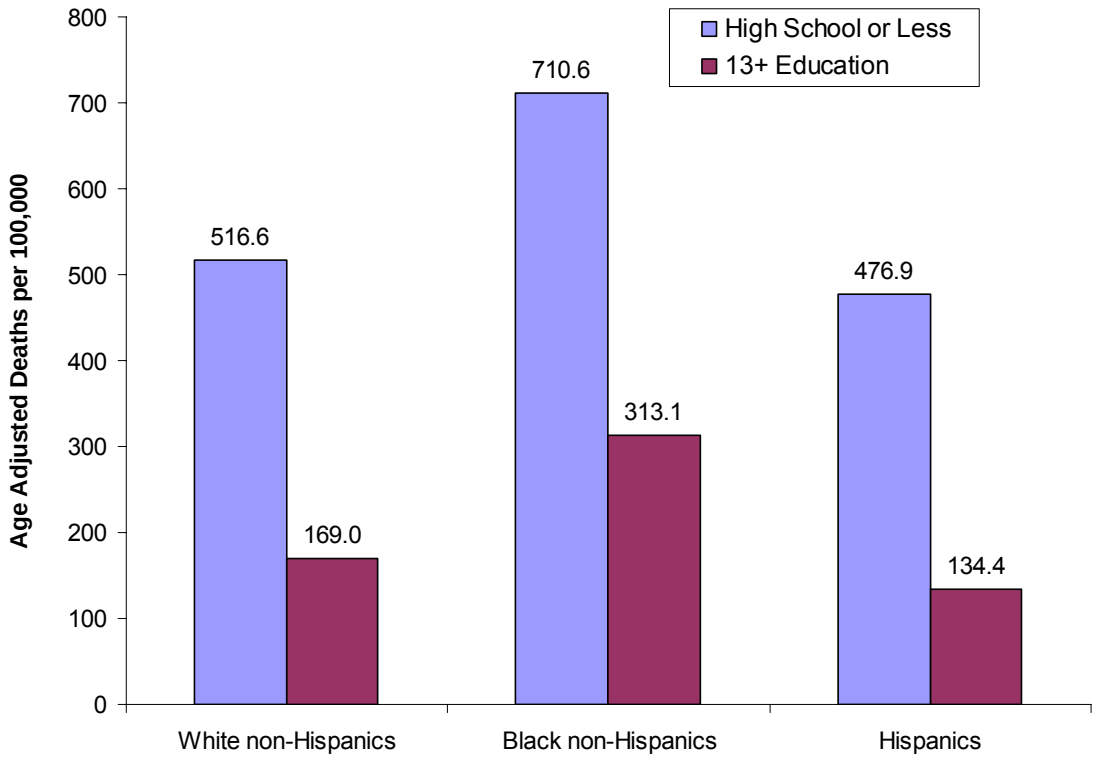


[1] Deaths that occur before the age of 75 years per 100,000, age-adjusted to the 2000 U.S. standard population under 75 years of age.

Table 5. Age-Adjusted Death Rates by Educational Attainment[1], Adults Ages 25-64 Years Massachusetts: 2005

	Age-Specific Rates			Age-Adjusted Rates
Years of school completed	**25-34 years**	**35-44 years**	**45-64 years**	**25-64 years**
Both sexes				
High School or Less	144.8	264.4	938.4	**520.9**
13+ education	31.5	65.3	336.4	**172.2**

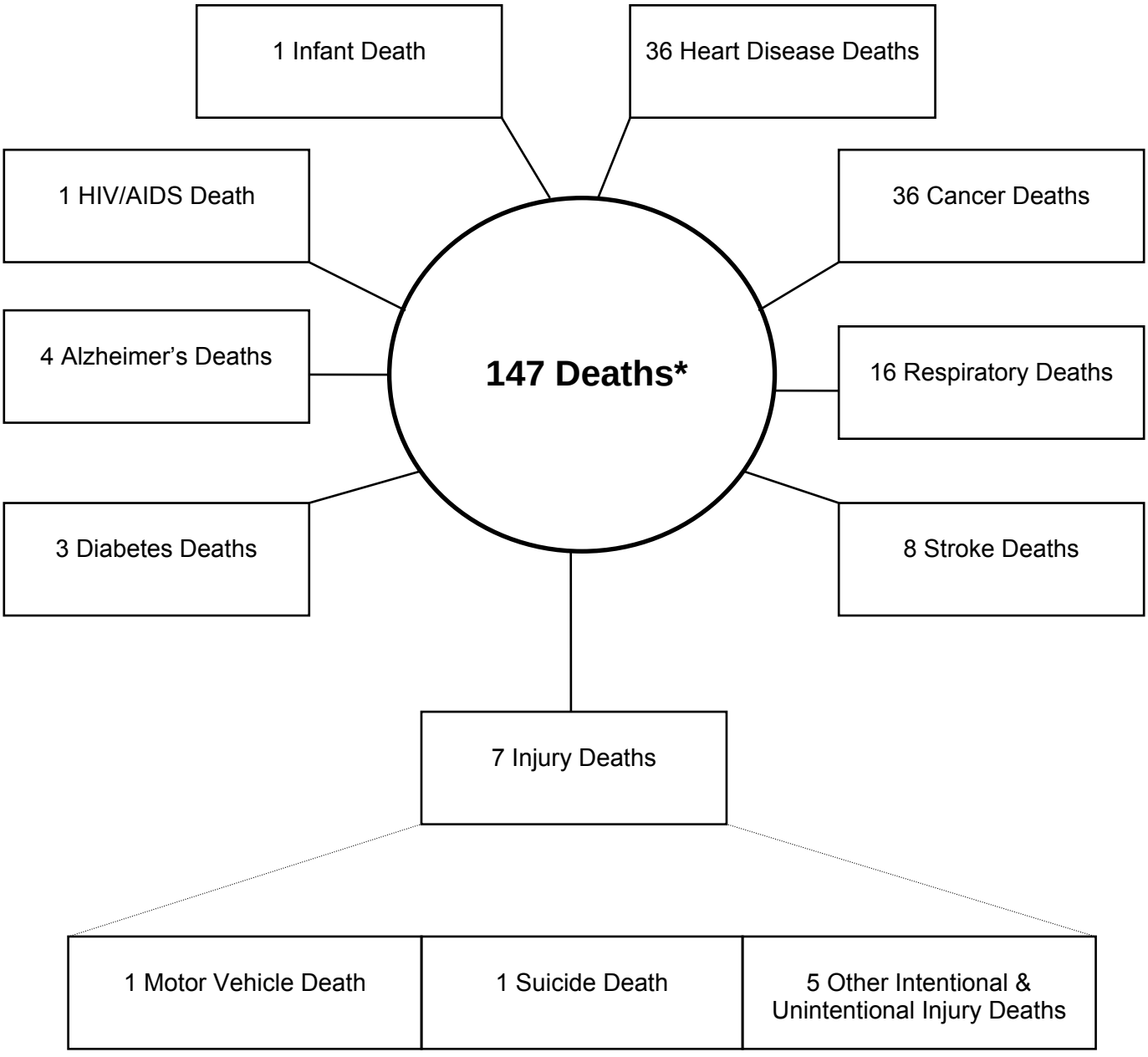
Age-Adjusted Death Rates by Education and Race and Hispanic Ethnicity Adults Ages 25-64, Massachusetts: 2005



[1] **Note: For this table and figure, 2000 population figures are used for the denominator since these are the latest number available for population by age and education.**

Figure 7. Daily Mortality Statistics, Massachusetts: 2005

Every day in 2005, in Massachusetts there were on average:



*includes 35 deaths due to other causes

Table 6. Ten Leading Underlying Causes of Death* by Age, Massachusetts: 2005

	Age Groups (number of deaths)								
Rank	**<1 year**	**1-14 years**	**15-24 years**	**25-44 years**	**45-64 years**	**65-74 years**	**75-84 years**	**85+ years**	**All**
1	Short gestation (80)	Unintentional injuries (32)	Unintentional injuries (212)	Unintentional injuries (537)	Cancer (3,148)	Cancer (3,063)	Cancer (4,210)	Heart disease (5,823)	**Heart disease (13,248)**
2	Congenital malformations (69)	Cancer (25)	Homicide (81)	Cancer (346)	Heart disease (1,611)	Heart disease (1,765)	Heart disease (3,759)	Cancer (2,337)	**Cancer (13,159)**
3	SIDS (21)	Congenital malformations (9)	Suicide (54)	Heart disease (258)	Unintentional injuries (454)	Chronic Lower Respiratory Disease (494)	Chronic Lower Respiratory Disease (1,020)	Stroke (1,437)	**Stroke (2,979)**
4	Pregnancy Complications (20)	Heart disease (6)	Cancer (30)	Suicide (181)	Chronic Lower Respiratory Disease (271)	Stroke (303)	Stroke (970)	Influenza & pneumonia (1,062)	**Chronic Lower Respiratory Disease (2,643)**
5	Complications of placenta (17)	Ill defined conditions (5)	Heart disease (20)	Ill defined conditions (93)	Diabetes (256)	Diabetes (236)	Influenza & pneumonia (577)	Alzheimer's Disease (1,060)	**Influenza & pneumonia (1,932)**
6	Intrauterine hypoxia (16)	In situ neoplasms (3)	Ill defined conditions (16)	HIV /AIDS (70)	Chronic Liver Disease (239)	Nephritis (194)	Alzheimer's Disease (492)	Chronic Lower Respiratory Disease (831)	**Unintentional injuries (1,883)**
7	Respiratory distress (14)	Stroke (3)	Congenital malformations (9)	Homicide (66)	Stroke (220)	Influenza & pneumonia (154)	Nephritis (466)	Nephritis (599)	**Alzheimer's Disease (1,635)**
8	Bacterial sepsis of newborn (10)	Homicide (3)	Injuries of undetermined intent (8)	Chronic Liver Disease (46)	Suicide (158)	Septicemia (149)	Diabetes (398)	Diabetes (338)	**Nephritis (1,403)**
9	Necrotizing entercolitis (9)	Septicemia (2)	Influenza & pneumonia (6)	Injuries of undetermined intent (45)	Septicemia (152)	Unintentional injuries (110)	Septicemia (317)	Septicemia (328)	**Diabetes (1,271)**
10	Circulatory System (8)	Suicide (2)	Diabetes (3)	Stroke (43)	Influenza & pneumonia (118)	Chronic Liver Disease (88)	Unintentional injuries (241)	Ill defined conditions (325)	**Septicemia (982)**
All Causes	**391**	**113**	**489**	**2,173**	**8,355**	**7,905**	**15,632**	**18,718**	**53,776**

* Ranking based on number of deaths. The number of deaths is shown in parentheses.

Injuries are subdivided into 4 separate categories by intent (unintentional, homicide, suicide and injuries of undetermined intent, deaths where investigation has not determined whether injuries were accidental or purposely inflicted).

Table 7. Leading Underlying Causes of Death*, Numbers and Age-Specific Rates by Gender, Massachusetts: 2005

		Total		Female		Male	
Age	**Cause of death[1]**	**Number**	**Rate[2]**	**Number**	**Rate[2]**	**Number**	**Rate[2]**
1-14 years	**TOTAL**	**113**	**10.1**	**49**	**9.0**	**64**	**11.2**
	Unintentional Injuries	32	2.9	13	2.4	19	3.3
	Cancer	25	2.2	10	1.8	15	2.6
	Congenital Malformations	9	0.8	5	0.9	4	--[5]
	Heart Disease	6	0.5	2	--[5]	4	--[5]
15-24 years	**TOTAL**	**489**	**57.5**	**128**	**30.6**	**361**	**83.5**
	Unintentional Injuries	212	24.9	62	14.8	150	34.7
	Homicide	81	9.5	6	1.4	75	17.3
	Suicide	54	6.3	12	2.9	42	9.7
	Cancer	30	3.5	13	3.1	17	3.9
25-44 years	**TOTAL**	**2,173**	**115.6**	**779**	**81.8**	**1,394**	**150.4**
	Unintentional Injuries	537	28.6	149	15.6	388	41.9
	Cancer	346	18.4	214	22.5	132	14.2
	Heart Disease	258	13.7	77	8.1	181	19.5
	Suicide	181	9.6	28	2.9	153	16.5
45-64 years	**TOTAL**	**8,355**	**516.6**	**3,270**	**391.1**	**5,085**	**651.0**
	Cancer	3,148	194.6	1,505	180.0	1,643	210.3
	Heart Disease	1,611	99.6	414	49.5	1,197	153.2
	Unintentional Injuries	454	28.1	119	14.2	335	42.9
	Chronic Lower Respiratory Disease[3]	271	16.8	149	17.8	122	15.6
65+ years[4]	**TOTAL**	**42,255**	**4,954.7**	**24,306**	**4,804.5**	**17,949**	**5,173.7**
	Heart Disease	11,347	1,330.5	6,449	1,274.8	4,898	1,411.8
	Cancer	9,610	1,126.8	4,849	958.5	4,761	1,372.3
	Stroke	2,710	317.8	1,767	349.3	943	271.8
	Chronic Lower Respiratory Disease[3]	2,345	275.0	1,354	267.6	991	285.6

1. Cause of Death classified using ICD-10. See Appendix for ICD-10 codes. 2. Number of deaths per 100,000 residents in each age group. 3. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title). 4. See Table 8 for leading causes of death for detailed age groups for persons ages 65+ years. 5. Calculations based on fewer than 5 events are excluded.

* Ranking based on number of deaths for all persons.

Table 8. Leading Underlying Causes of Death, Numbers and Age-Specific Rates (Ages 65 and older) by Gender, Massachusetts: 2005

		Total		Female		Male	
Age	**Cause of death[1]**	**Number**	**Rate[2]**	**Number**	**Rate[2]**	**Number**	**Rate[2]**
65-74 years	**TOTAL**	**7,905**	**2,026.9**	**3,530**	**1,649.5**	**4,375**	**2,485.8**
	Cancer	3,063	785.4	1,425	665.9	1,638	930.7
	Heart Disease	1,765	452.6	661	308.9	1,104	627.3
	Chronic Lower Respiratory Disease[3]	494	126.7	260	121.5	234	133.0
	Stroke	303	77.7	139	65.0	164	93.2
75-84 years	**TOTAL**	**15,632**	**4,877.6**	**8,131**	**4,203.1**	**7,501**	**5,904.6**
	Cancer	4,210	1,313.6	2,087	1,078.8	2,123	1,671.2
	Heart Disease	3,759	1,172.9	1,819	940.3	1,940	1,527.1
	Stroke	1,020	318.3	578	298.8	442	347.9
	Chronic Lower Respiratory Disease[3]	970	302.7	588	304.0	382	300.7
85+ years	**TOTAL**	**18,718**	**13,150.6**	**12,645**	**12,845.3**	**6,073**	**13,835.3**
	Heart Disease	5,823	4,091.0	3,969	4,031.9	1,854	4,223.7
	Cancer	2,337	1,641.9	1,337	1,358.2	1,000	2,278.2
	Stroke	1,437	1,009.6	1,040	1,056.5	397	904.4
	Influenza and Pneumonia	1,062	746.1	692	703.2	370	842.9

1. Cause of Death classified according to ICD-10. See Appendix for ICD-10 codes. 2. Number of deaths per 100,000 residents in each age group. 3. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title).

Table 9. Leading Causes of Death[1] and Age-Adjusted Death Rates by Race and Hispanic Ethnicity, Massachusetts: 2005

White non-Hispanic[2]

Cause[3]	#	Rate[4]
Total	**49,639**	**725.0**
Heart Disease	12,465	174.9
Cancer	12,197	188.1
Stroke	2,766	37.9
Chronic Lower Resp. Disease[5]	2,535	37.1
Influenza and Pneumonia	1,854	24.8
Unintentional Injuries[6]	1,645	28.2
Alzheimer's Disease	1,573	20.2
Nephritis	1,261	17.7
Diabetes	1,107	16.5
Septicemia	895	13.0

Black non-Hispanic[2]

Cause	#	Rate
Total	**2,263**	**865.8**
Cancer	526	204.1
Heart Disease	489	199.8
Stroke	114	47.5
Diabetes	91	35.5
Nephritis	90	38.6
Unintentional Injuries[6]	87	24.8
Homicide	76	17.5
Chronic Lower Resp. Disease[5]	59	24.7
Septicemia	57	21.9
HIV/AIDS	56	16.0

Asian non-Hispanic[2]

Cause	#	Rate
Total	**570**	**345.0**
Cancer	186	106.1
Heart Disease	89	61.3
Stroke	42	28.1
Unintentional Injuries[6]	25	9.9
Nephritis	19	13.5
Chronic Lower Resp. Disease[5]	15	11.3
Influenza and Pneumonia	14	10.6
Suicide	14	5.0
Ill defined conditions	13	4.9
Alzheimer's Disease	11	9.1

Hispanic

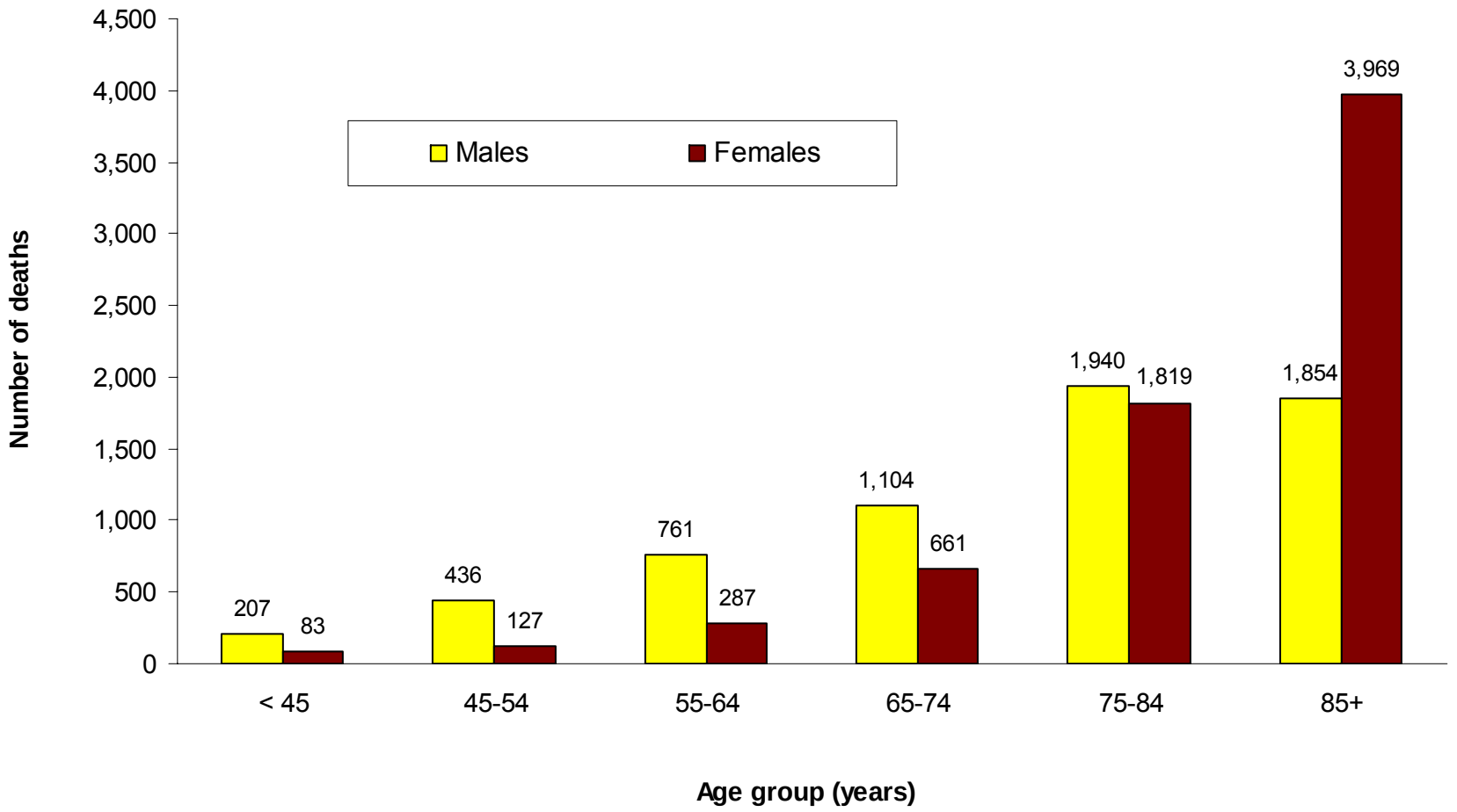
Cause	#	Rate
Total	**1,230**	**500.4**
Cancer	236	105.7
Heart Disease	185	98.5
Unintentional Injuries[6]	120	25.4
Diabetes	59	29.3
Stroke	53	28.2
Perinatal Conditions	47	6.0
HIV/AIDS	45	11.5
Homicide	33	5.0
Chronic Lower Resp. Disease[5]	31	18.0
Nephritis	31	15.4

Total

Cause	#	Rate
Total	**53,776**	**720.6**
Heart Disease	13,248	172.2
Cancer	13,159	184.9
Stroke	2,979	38.1
Chronic Lower Respiratory Disease[5]	2,643	35.7
Influenza and Pneumonia	1,932	24.2
Unintentional Injuries[6]	1,883	27.4
Alzheimer's Disease	1,635	19.8
Nephritis	1,403	18.3
Diabetes	1,271	17.4
Septicemia	982	13.2

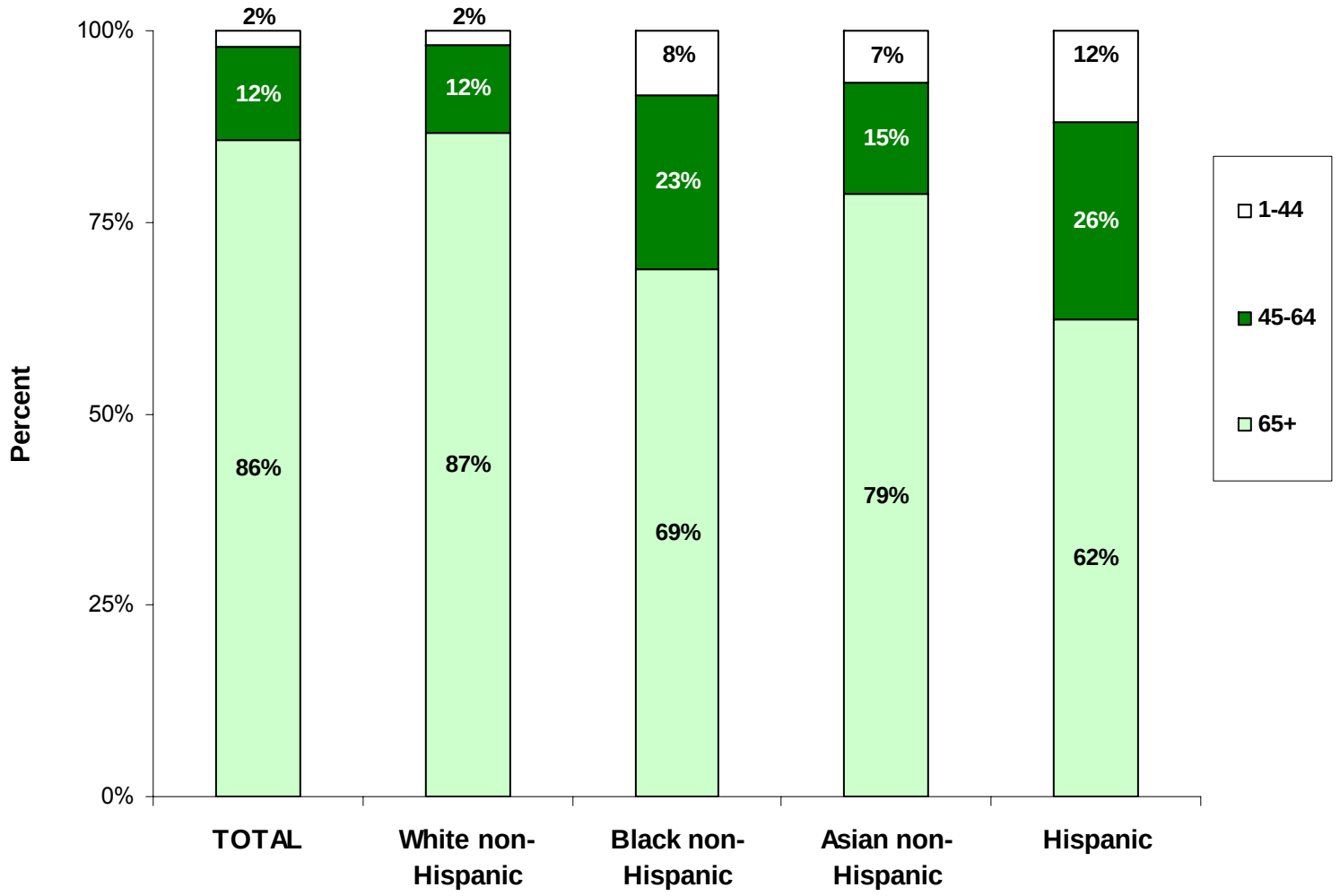
1. Ranking based on number of deaths. 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in a race category. Please refer to the Technical Notes in the Appendix for a more detailed explanation. 3. Underlying Cause of Death based on ICD-10 (Please refer to Appendix for list of ICD-10 codes used). 4. All rates are age-adjusted per 100,000 residents using the 2000 US standard population. 5. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title). 6. Unintentional injuries such as motor vehicle-related and other transportation related deaths, falls, fires, and drownings that were not intended to occur.

Figure 8. Number of Heart Disease Deaths[1] by Age Group and Gender, Massachusetts: 2005



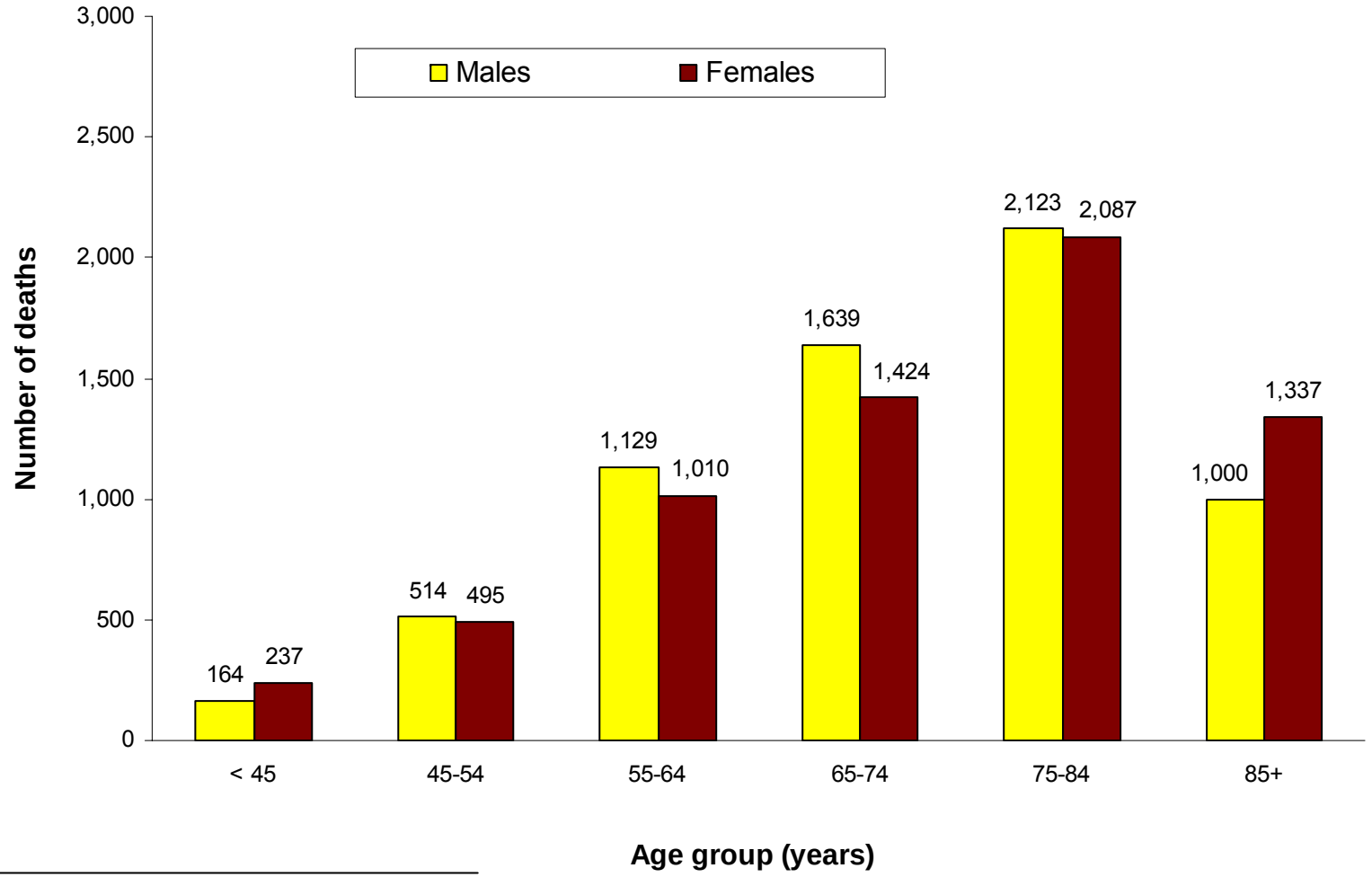
[1] **ICD-10:** I00-I09, I11, I13, I20-I51

Figure 9. Age Distribution by Race and Ethnicity for Heart Disease Deaths[1], Massachusetts: 2005



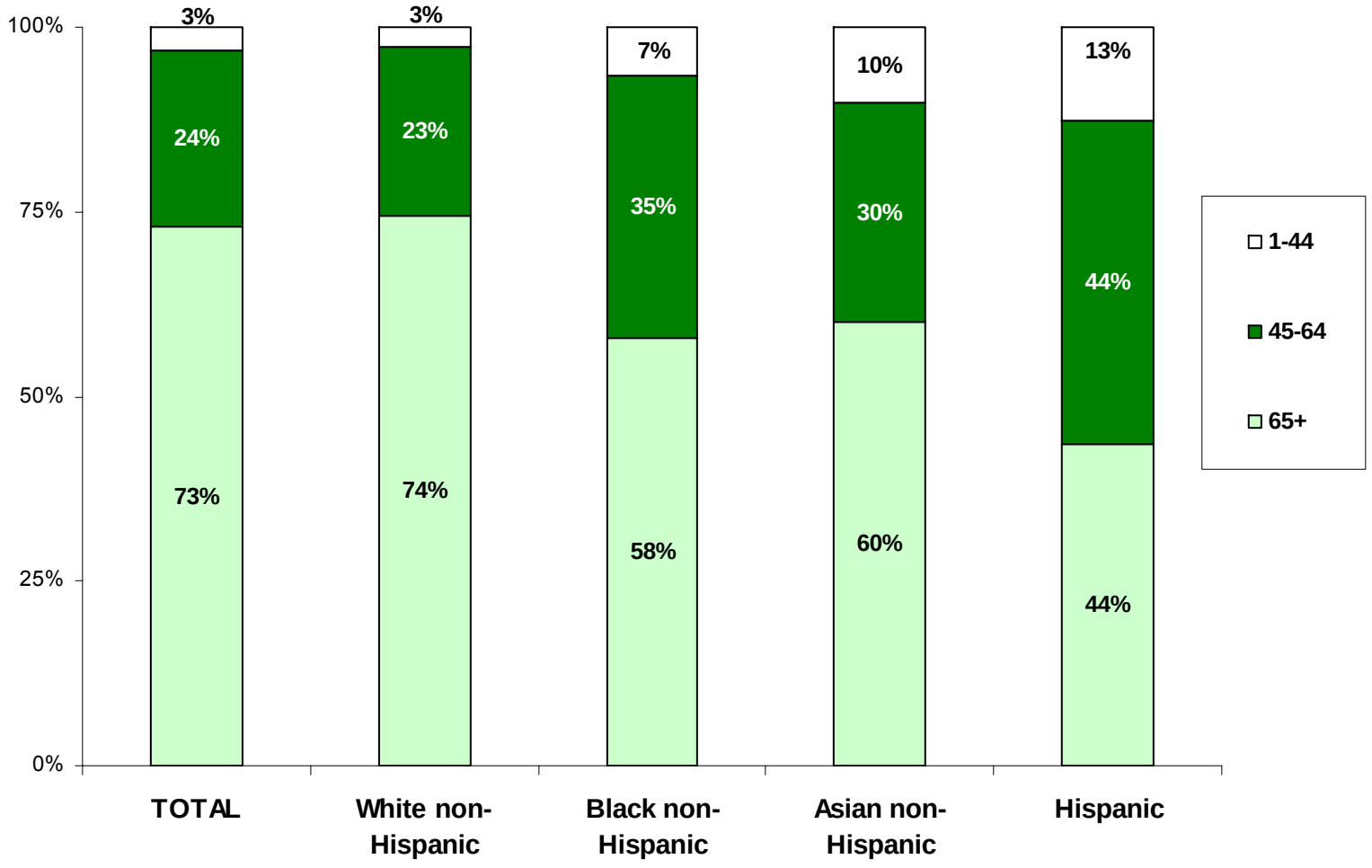
[1] **ICD-10:** I00-I09, I11, I13, I20-I51

Figure 10. Number of Cancer Deaths[1] by Age Group and Gender, Massachusetts: 2005



[1] **ICD-10**: C00-C97

Figure 11. Age Distribution by Race and Ethnicity for Cancer Deaths[1], Massachusetts: 2005



[1]**ICD-10**: C00-C97

Table 10. Heart Disease and Cancer Deaths by Race and Gender, Age-Adjusted Rates[1], Massachusetts: 1999-2005

Heart Disease

Year	White non-Hispanic[2] Male	White non-Hispanic[2] Female	White non-Hispanic[2] Total	Black non-Hispanic[2] Male	Black non-Hispanic[2] Female	Black non-Hispanic[2] Total
1999	289.8	178.4	224.3	296.5	211.5	248.0
2000	282.4	174.4	219.3	235.1	203.6	221.9
2001	265.9	174.0	213.4	295.2	181.3	228.6
2002	254.7	163.5	202.3	242.2	177.6	205.9
2003	250.3	160.2	198.5	272.1	188.5	223.9
2004	233.1	150.3	185.7	268.1	148.3	198.8
2005	220.6	139.1	174.9	233.7	174.5	199.8

Year	Asian non-Hispanic[2] Male	Asian non-Hispanic[2] Female	Asian non-Hispanic[2] Total	Hispanic Male	Hispanic Female	Hispanic Total
1999	119.6	73.7	94.7	143.4	83.5	108.2
2000	111.2	65.5	85.6	122.1	106.6	115.6
2001	113.5	62.6	85.1	148.7	110.0	126.9
2002	94.6	69.5	79.9	174.1	101.2	131.9
2003	115.2	65.0	87.6	124.8	96.2	109.7
2004	56.9	54.3	56.1	129.9	77.4	100.3
2005	77.5	48.2	61.3	118.5	83.7	99.2

1. Rates are per 100,000 age-adjusted to the 2000 US standard population. 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in a race category. Please refer to the Technical Notes in the Appendix for a more detailed explanation.

Table 10 (continued). Heart Disease and Cancer Deaths by Race and Gender, Age-Adjusted Rates[1], Massachusetts: 1999-2005

Cancer

Year	White non-Hispanic[2] Male	White non-Hispanic[2] Female	White non-Hispanic[2] Total	Black non-Hispanic[2] Male	Black non-Hispanic[2] Female	Black non-Hispanic[2] Total
1999	263.4	174.3	207.7	337.2	195.7	251.5
2000	258.7	179.0	209.0	348.1	167.4	237.8
2001	249.2	175.8	203.5	264.7	176.4	212.1
2002	245.7	175.3	202.2	293.5	179.5	224.3
2003	237.1	169.4	195.7	304.5	199.0	238.7
2004	230.4	168.4	192.5	277.6	155.7	200.1
2005	226.1	163.2	188.1	264.2	168.1	204.1

Year	Asian non-Hispanic[2] Male	Asian non-Hispanic[2] Female	Asian non-Hispanic[2] Total	Hispanic Male	Hispanic Female	Hispanic Total
1999	162.8	116.9	136.7	141.8	92.5	113.8
2000	104.7	92.1	99.0	151.9	104.5	123.8
2001	98.3	105.6	103.1	142.9	97.4	116.4
2002	145.8	90.0	114.3	144.3	103.3	120.6
2003	134.6	87.4	109.3	110.0	76.6	90.0
2004	109.5	79.7	93.1	125.6	82.5	100.4
2005	138.9	79.5	106.1	118.2	97.3	105.7

1. Rates are per 100,000 age-adjusted to the 2000 US standard population. 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in a race category. Please refer to the Technical Notes in the Appendix for a more detailed explanation.

Table 11. Number and Age-Adjusted Rates of Cancer Deaths by Selected Causes and Gender, Massachusetts: 2005

Cause of Death[1]	ICD-10 Code	Total		Female		Male	
		#	Rate[2,3]	#	Rate	#	Rate
Total Cancer Deaths	**C00-C97**	**13,159**	**184.9**	**6,591**	**159.8**	**6,568**	**222.8**
Bladder	C67	354	4.9	122	2.8	232	8.0
Brain and nervous system	C70-C72	285	4.1	117	3.0	168	5.5
Cervix	C53	61	1.6	61	1.6	NA	NA
Colorectal	C18-C21	1,283	17.6	690	15.6	593	20.2
Esophagus	C15	398	5.7	86	2.0	312	10.4
Female breast	C50[4]	937	23.1	937	23.1	NA	NA
Hodgkin's disease	C81	18	0.3	8	0.2	10	0.3
Kidney and other urinary organs	C64, C65	255	3.6	99	2.4	156	5.3
Leukemia	C91-C95	462	6.6	208	5.1	254	8.8
Lung	C33, C34	3,633	52.4	1,753	44.2	1,880	64.1
Melanoma of the skin	C43	231	3.3	104	2.7	127	4.2
Multiple myeloma	C88, C90	247	3.5	120	2.8	127	4.4
Non-Hodgkin's lymphoma	C82-C85	536	7.4	271	6.3	265	9.1
Ovary	C56	339	8.4	339	8.4	NA	NA
Pancreas	C25	830	11.7	423	10.0	407	13.7
Prostate	C61	622	21.8	NA	NA	622	21.8
Stomach	C16	256	3.5	92	2.1	164	5.5
Uterus	C54, C55	182	4.5	182	4.5	NA	NA
All other cancers	Residual	2,230	31.0	979	23.0	1,251	41.6

1. Common terms are used to describe the causes of cancer deaths. For detailed terminology of cancer sites, please refer to ICD-10 code list in the Appendix. 2. All rates are age-adjusted by the direct method using the 2000 US standard population. Rates are per 100,000 population. 3. The total resident population is used to calculate all "Total Rates" except for ICD-10 C50, C53-C56, which are based on the total female population, and ICD-10 C61, which is based on the total male population. 4. Includes only female breast cancer.

Table 12. Selected Causes of Cancer Deaths by Age, Massachusetts: 2005

Age	Cause of death[1]	ICD-10 Code	Number	Age-specific rate[2]
1 – 14 years	**TOTAL**		**25**	**2.2**
	Brain and nervous system	C70-C72	6	0.5
	Leukemia	C91-C95	6	0.5
15 - 24 years	**TOTAL**		**30**	**3.5**
	Leukemia	C91-C95	9	1.1
	Melanoma of the skin	C43	2	--[3]
	Uterus	C54, C55	2	--[3]
	Brain and nervous system	C70-C72	2	--[3]
25 – 44 years	**TOTAL**		**346**	**18.4**
	Female breast[4]	C50	66	6.9
	Lung	C33, C34	62	3.3
	Leukemia	C91-C95	24	1.3
	Colorectal	C18-C21	23	1.2
45 – 64 years	**TOTAL**		**3,148**	**194.6**
	Lung	C33, C34	878	54.3
	Female breast[4]	C50	295	35.3
	Colorectal	C18-C21	245	15.1
	Pancreas	C25	206	12.7
65 + years	**TOTAL**		**9,610**	**1,126.8**
	Lung	C33, C34	2,693	315.8
	Colorectal	C18-C21	1,015	119.0
	Pancreas	C25	610	71.5
	Prostate[5]	C61	580	167.2
65-74 years	**TOTAL**		**3,063**	**785.4**
	Lung	C33, C34	1,110	284.6
	Colorectal	C18-C21	258	66.2
	Pancreas	C25	189	48.5
	Female breast[4]	C50	176	82.2
75-84 years	**TOTAL**		**4,210**	**1,313.6**
	Lung	C33, C34	1,165	363.5
	Colorectal	C18-C21	428	133.5
	Pancreas	C25	289	90.2
	Prostate[5]	C61	263	207.0
85+ years	**TOTAL**		**2,337**	**1,641.9**
	Lung	C33, C34	418	293.7
	Colorectal	C18-C21	329	231.1
	Prostate[5]	C61	228	519.4
	Female Breast[4]	C50	180	182.9

1. Common terms are used to describe causes of cancer death. For detailed terminology, please refer to the ICD-10 codes listed in the Appendix.
2. Number of deaths per 100,000 residents in each age group. 3. Calculations based on fewer than five events are excluded. 4. Calculation based on female population in specified age group. 5. Calculation based on male population in specified age group.

Table 13. Leading Causes of Cancer Deaths and Age-Adjusted Rates by Race and Hispanic Ethnicity, Massachusetts: 2005

White non-Hispanic[1]			Black non-Hispanic[1]			Asian non-Hispanic[1]			Hispanic		
Cause[2]	**#**	**Rate[3]**	**Cause**	**#**	**Rate**	**Cause**	**#**	**Rate**	**Cause**	**#**	**Rate**
Lung	3,405	54.0	Lung	145	57.7	Lung	40	24.5	Lung	41	18.3
Colorectal	1,186	17.7	Colorectal	57	22.5	Pancreas	20	11.9	Colorectal	23	10.7
Female Breast	861	23.6	Female Breast	51	31.3	Colorectal	15	9.1	Female Breast	19	15.7
Pancreas	759	11.7	Pancreas	37	14.4	Stomach	11	5.5	Stomach	14	5.3
Prostate	579	21.9	Prostate	27	35.9	Non-Hodgkin's Lymphoma	9	5.6	Leukemia	14	5.6
Total Cancer	**12,197**	**188.1**	**Total Cancer**	**526**	**204.1**	**Total Cancer**	**186**	**106.1**	**Total Cancer**	**236**	**105.7**

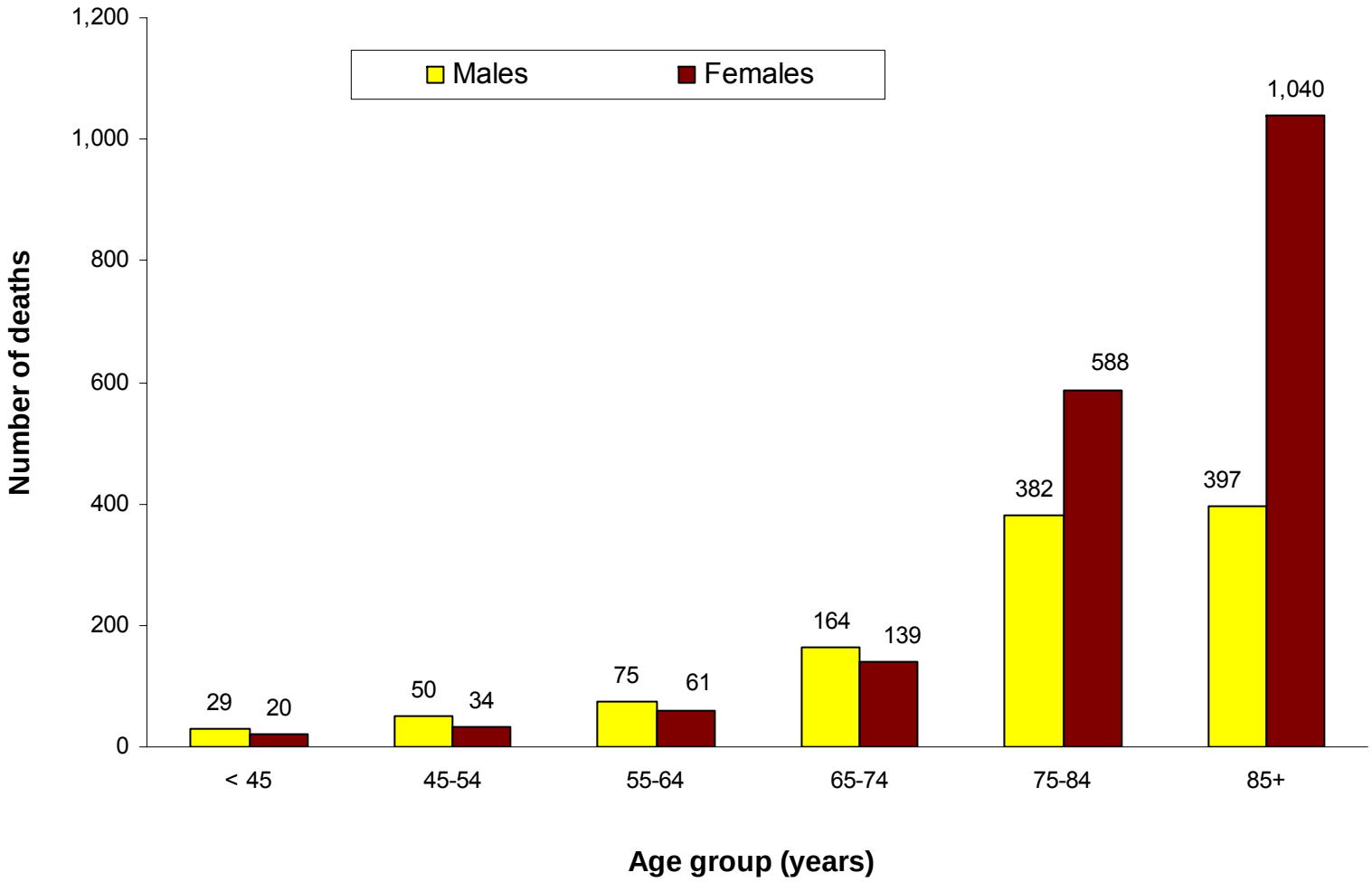
1. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in a race category. Please refer to the Technical Notes in the Appendix for a more detailed explanation. 2. ICD-10 codes used. Please refer to the ICD-10 codes listing in the Appendix for detailed terminology. 3. All rates are age-adjusted by the direct method using the 2000 US standard population. Rates are per 100,000 population.

Table 14. Number, Percent, and Age-Adjusted Rates of Stroke Deaths by Type and Gender, Massachusetts: 2005

Cause of Death	ICD-10 Code	Total			Female			Male		
		#	%	Rate[1]	#	%	Rate[1]	#	%	Rate[1]
Total Stroke Deaths	**I60-I69**	**2,979**	**100%**	**38.1**	**1,882**	**100%**	**37.4**	**1,097**	**100%**	**38.1**
Subarachnoid hemorrhage	I60	130	4.4%	1.8	79	4.2%	1.9	51	4.6%	1.6
Intracerebral and other intracranial hemorrhage	I61-I62	586	19.7%	7.9	310	16.5%	6.8	276	25.2%	9.5
Cerebral infarction	I63	143	4.8%	1.8	90	4.8%	1.8	53	4.8%	1.8
Stroke, not specified	I64	1,496	50.2%	18.8	1,014	53.9%	19.4	482	43.9%	16.9
Other	I67, I69	624	20.9%	7.8	389	20.7%	7.4	235	21.4%	8.2

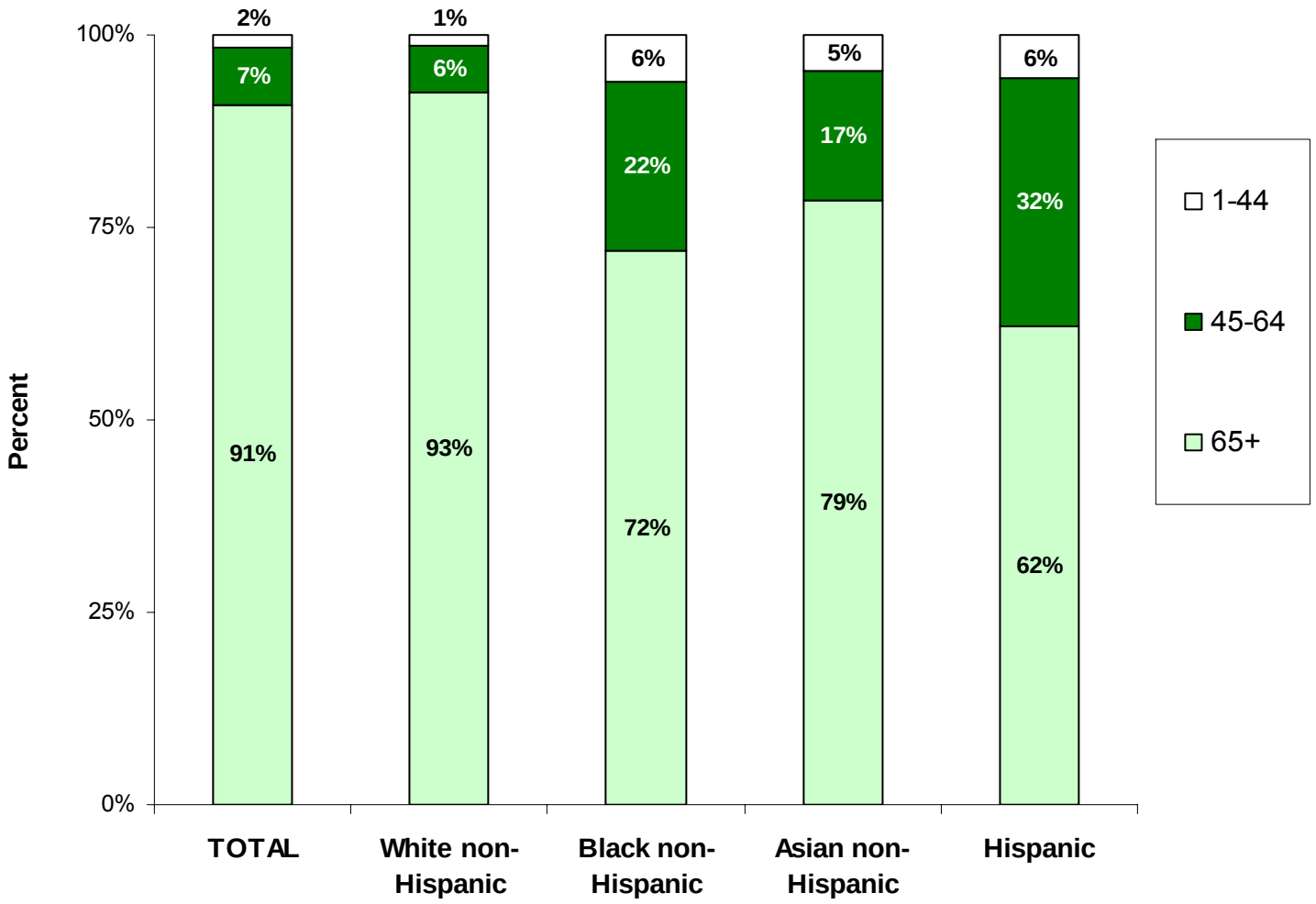
1. All rates are age-adjusted by the direct method using the 2000 US standard population. Rates are per 100,000 population.

Figure 12. Number of Stroke Deaths[1] by Age Group and Gender, Massachusetts: 2005



[1] **ICD-10**: I60-I69

Figure 13. Age Distribution by Race and Ethnicity for Stroke Deaths[1], Massachusetts: 2005



[1] **ICD-10**: I60-I69

Table 15. Stroke Deaths by Race and Gender, Age-Adjusted Rates[1], Massachusetts: 1999-2005

Year	White non-Hispanic[2]			Black non-Hispanic[2]		
	Male	Female	Total	Male	Female	Total
1999	52.1	48.5	50.2	71.5	47.5	57.5
2000	48.8	50.6	50.5	65.3	56.4	60.8
2001	51.5	46.0	48.5	50.8	61.5	59.3
2002	50.2	45.7	47.9	57.9	60.2	59.5
2003	44.7	43.9	44.7	45.9	54.9	52.7
2004	42.8	40.4	41.9	52.1	58.3	56.2
2005	37.7	37.3	37.9	50.6	44.9	47.5

Year	Asian non-Hispanic[2]			Hispanic		
	Male	Female	Total	Male	Female	Total
1999	51.3	28.6	37.6	38.3	30.0	33.8
2000	50.9	49.4	50.4	40.6	47.1	45.0
2001	23.8	38.0	32.0	39.4	28.5	33.2
2002	21.2	28.7	25.6	49.6	30.2	38.3
2003	39.3	28.7	33.4	44.3	36.0	39.3
2004	35.2	32.7	34.1	39.7	32.6	35.5
2005	28.2	27.5	28.1	33.2	24.5	28.2

1. Rates are per 100,000 age-adjusted to the 2000 US standard population. 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in a race category. Please refer to the Technical Notes in the Appendix for a more detailed explanation.

Figure 14. Diabetes Deaths[1], Massachusetts: 1999-2005

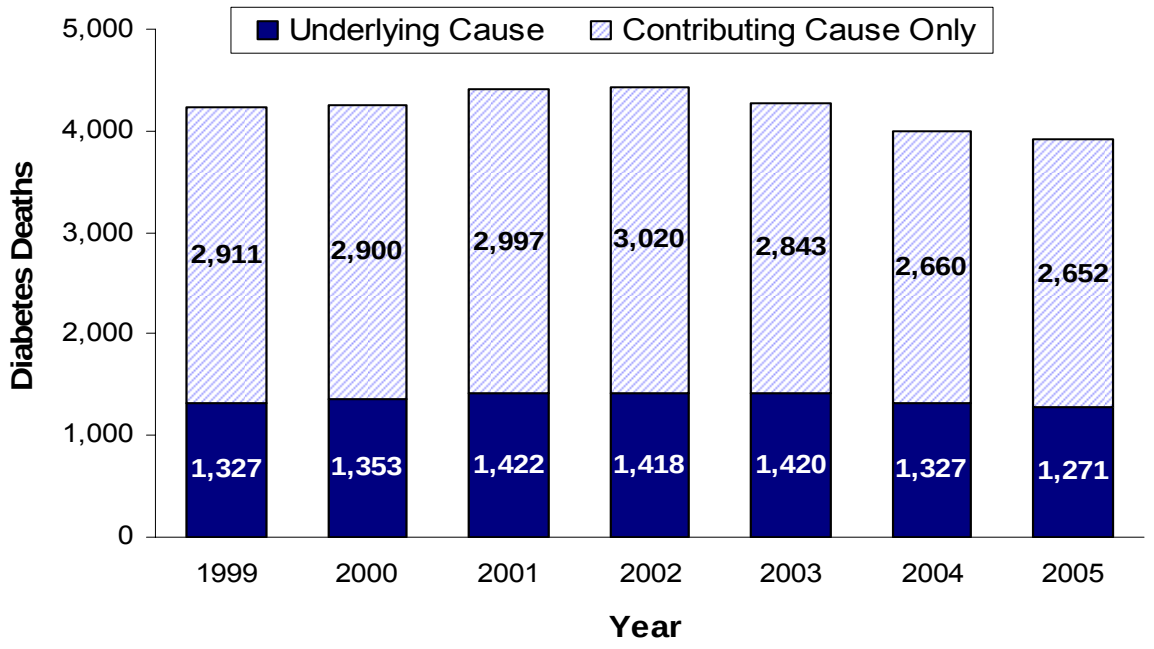


Table 16. Diabetes Deaths[1] by Gender, Massachusetts: 2005

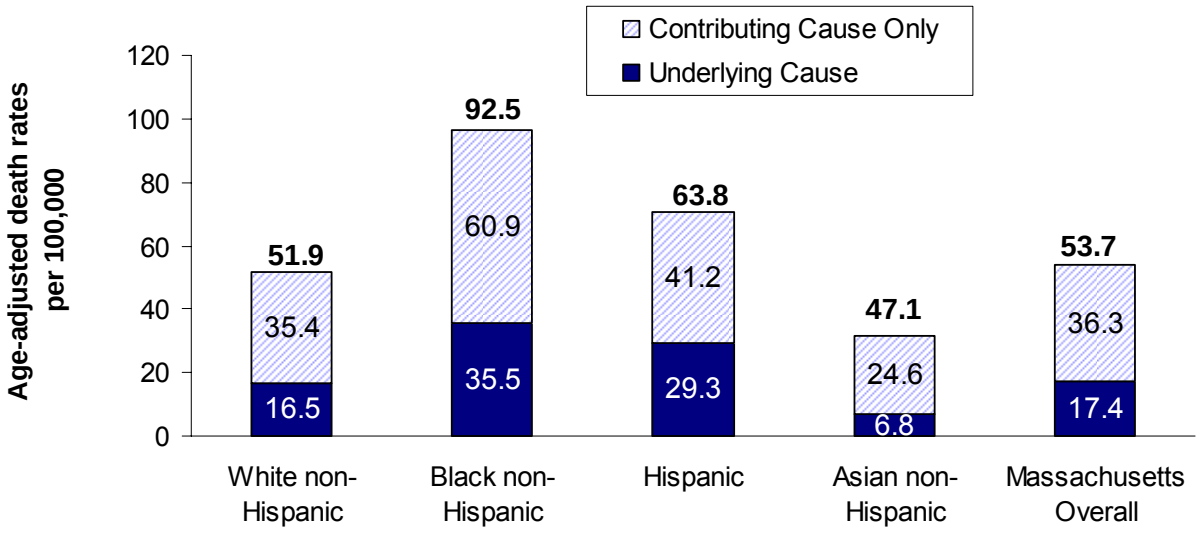
	Proportion of all deaths (%)			Number		
Cause of death	Males	Females	Total	Males	Females	Total
Underlying	2.5%	2.3%	2.4%	619	652	1,271
Contributing/Associated	5.4%	4.5%	4.9%	1,350	1,302	2,652
Total diabetes-related	7.9%	6.8%	7.3%	1,969	1,954	3,923
Total deaths (all causes)	***100***	***100***	***100***	***25,079***	***28,695***	***53,776***

[1] **ICD-10: E10-E14**

Table 17. Diabetes Deaths[1] by Race and Hispanic Ethnicity, Massachusetts: 2005

Cause of death	Race/Hispanic Ethnicity				
	White non-Hispanic	Black non-Hispanic	Hispanic	Asian non-Hispanic	Total
	Number				
Underlying	1,107	91	59	10	1,271
Contributing/Associated	2,385	142	81	37	2,652
Total diabetes-related	3,492	233	140	47	3,923
Total deaths (all causes)	***49,639***	***2,263***	***1,230***	***570***	***53,776***
	Proportion of all deaths (%)				
Underlying	2.2	4.0	4.8	1.8	2.4
Contributing/Associated	4.8	6.3	6.6	6.5	4.9
Total diabetes-related	***7.0***	***10.3***	***11.4***	***8.2***	***7.3***

Figure 15. Diabetes Death[1] Rates by Race and Hispanic Ethnicity, Massachusetts: 2005



[1] **ICD-10: E10-E14**

Figure 16. Age Distribution of Diabetes Deaths[1], Massachusetts: 2005

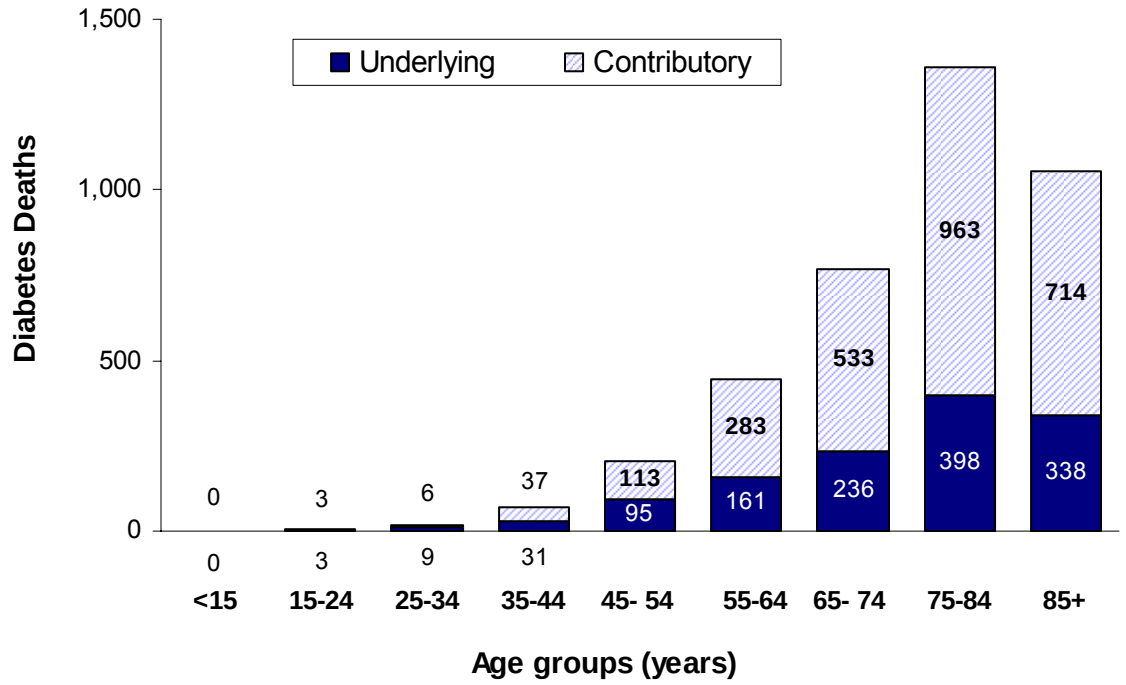
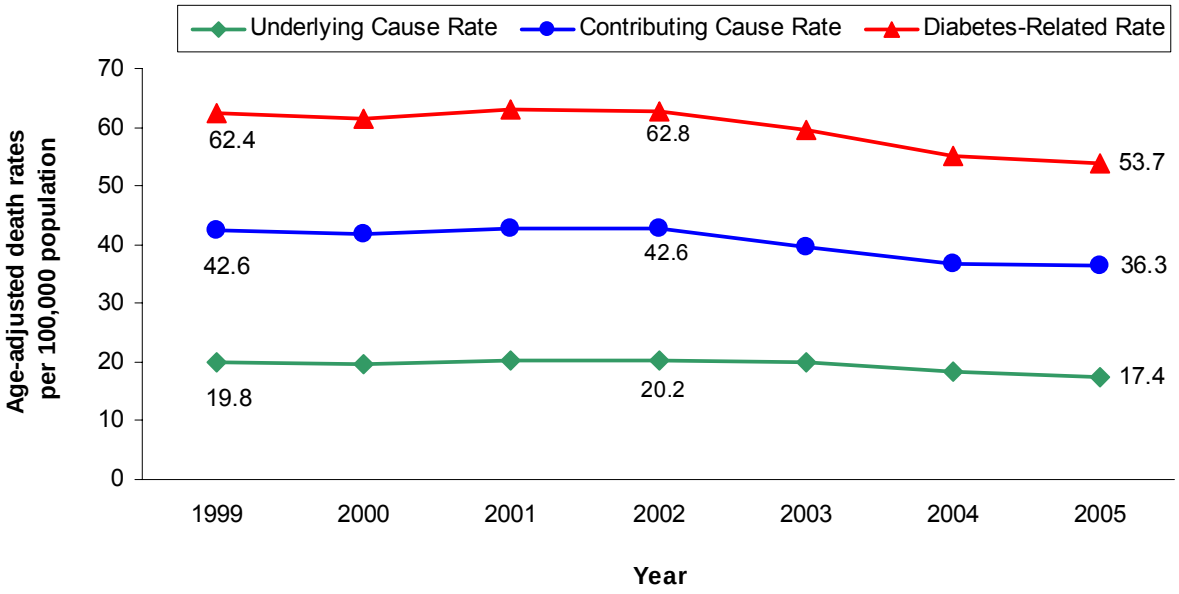


Figure 17. Diabetes Death[1] Rates, Massachusetts: 1999-2005



[1] **ICD-10: E10-E14**

Table 18. Injury Deaths[1] by Leading Causes, Gender, Age: Numbers, Age-Adjusted, and Age-Specific Rates, Massachusetts: 2005

	All Injury Deaths		Poisoning[2]		Motor Vehicle-related [3]		Hanging, strangulation, or suffocation		Falls		Firearm		Other[4]	
	Number	Rate[5]	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
All Persons	**2,657**	**39.1**	**802**	**12.2**	**478**	**7.2**	**326**	**4.9**	**283**	**3.8**	**222**	**3.4**	**546**	**7.6**
<1	8	10.0	1	--[6]	0	--[6]	5	6.3	0	--[6]	0	--[6]	2	--[6]
1-14	37	3.3	2	--[6]	10	0.9	8	0.7	1	--[6]	1	--[6]	15	1.3
15-24	356	41.8	76	8.9	118	13.9	46	5.4	9	1.1	58	6.8	49	5.8
25-44	834	44.4	408	21.7	127	6.8	107	5.7	18	1.0	74	3.9	100	5.3
45-64	668	41.3	288	17.8	122	7.5	61	3.8	48	3.0	49	3.0	100	6.2
65-74	159	40.8	10	2.6	39	10.0	27	6.9	27	6.9	21	5.4	35	9.0
75-84	279	87.1	13	4.1	37	11.5	38	11.9	84	26.2	15	4.7	92	28.7
85+	316	222.0	4	--[6]	25	17.6	34	23.9	96	67.4	4	--[6]	153	107.5
All Females	**917**	**23.8**	**273**	**8.1**	**151**	**4.3**	**99**	**2.6**	**134**	**2.9**	**22**	**0.7**	**238**	**5.2**
<1	4	--[6]	1	--[6]	0	--[6]	2	--[6]	0	--[6]	0	--[6]	1	--[6]
1-14	15	2.7	1	--[6]	5	0.9	4	--[6]	1	--[6]	0	--[6]	4	--[6]
15-24	84	20.1	28	6.7	35	8.4	8	1.9	4	--[6]	2	--[6]	7	1.7
25-44	206	21.6	125	13.1	36	3.8	19	2.0	4	--[6]	7	0.7	15	1.6
45-64	197	23.6	100	12.0	33	3.9	16	1.9	12	1.4	9	1.1	27	3.2
65-74	69	32.2	8	3.7	14	6.5	14	6.5	12	5.6	4	--[6]	17	7.9
75-84	134	69.3	8	4.1	14	7.2	18	9.3	40	20.7	0	--[6]	54	27.9
85+	208	211.3	2	--[6]	14	14.2	18	18.3	61	62.0	0	--[6]	113	114.8
All Males	**1,740**	**55.6**	**529**	**16.5**	**327**	**10.4**	**227**	**7.3**	**149**	**5.0**	**200**	**6.4**	**308**	**10.0**
<1	4	--[6]	0	--[6]	0	--[6]	3	--[6]	0	--[6]	0	--[6]	1	--[6]
1-14	22	3.8	1	--[6]	5	0.9	4	--[6]	0	--[6]	1	--[6]	11	1.9
15-24	272	62.9	48	11.1	83	19.2	38	8.8	5	1.2	56	13.0	42	9.7
25-44	628	67.8	283	30.5	91	9.8	88	9.5	14	1.5	67	7.2	85	9.2
45-64	471	60.3	188	24.1	89	11.4	45	5.8	36	4.6	40	5.1	73	9.3
65-74	90	51.1	2	--[6]	25	14.2	13	7.4	15	8.5	17	9.7	18	10.2
75-84	145	114.1	5	3.9	23	18.1	20	15.7	44	34.6	15	11.8	38	29.9
85+	108	246.0	2	--[6]	11	25.1	16	36.5	35	79.7	4	--[6]	40	91.1

1. Data presented in this table are classified according to ICD-10. Please refer to Appendix for list of ICD-10 codes used in this table. 2. Includes drug overdoses, which account for the largest percentage (74%). 3. Motor vehicle deaths to occupants, pedestrians, motorcyclists and bicyclists. 4. All remaining injury causes. 5. Number of deaths per 100,000 persons in each age group; rates for all rows except the age group rows are age-adjusted to the 2000 US standard population. 6. Calculations based on fewer than five events are excluded.

Table 19. Injury Deaths[1] by Leading Causes, Gender, Age, Race and Hispanic Ethnicity: Numbers, Age-Adjusted, and Age-Specific Rates, Massachusetts: 2005

	All Injury Deaths		Poisoning[2]		Motor Vehicle-related [3]		Hanging, strangulation, or suffocation		Falls		Firearm		Other[4]	
	Number	Rate[5]	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
White non- Hispanic	**2,236**	**39.1**	**691**	**13.1**	**406**	**7.5**	**276**	**4.9**	**265**	**3.9**	**135**	**2.4**	**463**	**7.2**
Females	830	25.1	250	9.2	135	4.7	86	2.6	124	2.9	17	0.6	218	5.1
Males	1,406	54.2	441	17.1	271	10.6	190	7.5	141	5.3	118	4.5	245	9.3
Black non- Hispanic	**184**	**47.8**	**39**	**10.2**	**25**	**6.5**	**15**	**4.3**	**6**	**2.5**	**64**	**14.8**	**35**	**9.6**
Females	35	19.3	10	4.9	4	--[6]	5	3.1	3	--[6]	4	1.8	9	5.6
Males	149	77.5	29	15.9	21	12.2	10	5.2	3	--[6]	60	28.5	26	13.2
Asian non- Hispanic	**45**	**17.8**	**5**	**1.3**	**10**	**3.7**	**11**	**4.6**	**5**	**2.7**	**2**	**0.6**	**12**	**5.0**
Females	18	14.1	1	--[6]	5	3.7	5	4.2	4	--[6]	0	--[6]	3	--[6]
Males	27	21.9	4	--[6]	5	3.4	6	5.3	1	--[6]	2	--[6]	9	7.4
Hispanic	**183**	**37.1**	**65**	**13.1**	**35**	**6.6**	**22**	**5.0**	**7**	**3.2**	**20**	**3.0**	**34**	**6.3**
Females	29	13.0	11	4.0	7	2.4	2	1.4	3	--[6]	0	--[6]	6	2.2
Males	154	62.6	54	22.6	28	11.2	20	8.8	4	--[6]	20	5.7	28	10.8

1. Data presented in this table are classified according to ICD-10. Please refer to Appendix for list of ICD-10 codes used in this table. 2. Includes drug overdoses, which account for the largest percentage (74%). 3. Motor vehicle deaths to occupants, pedestrians, motorcyclists and bicyclists. 4. All remaining injury causes. 5. Number of deaths per 100,000 persons in each age group; rates for all rows except the age group rows are age-adjusted to the 2000 US standard population. 6. Calculations based on fewer than five events are excluded.

Table 20. Intentional Injury Deaths[1] by Gender, Age: Numbers, Age-Adjusted, and Age-Specific Rates, Massachusetts: 2005

	All Intentional		Suicide		Homicide	
	Number	Rate[2]	Number	Rate[2]	Number	Rate[2]
All Persons	**646**	**9.9**	**469**	**7.1**	**177**	**2.8**
<1	2	--[3]	0	--[3]	2	--[3]
1-14	5	0.4	2	--[3]	3	--[3]
15-24	135	15.9	54	6.3	81	9.5
25-44	247	13.1	181	9.6	66	3.5
45-64	173	10.7	158	9.8	15	0.9
65-74	41	10.5	34	8.7	7	1.8
75-84	30	9.4	28	8.7	2	--[3]
85+	13	9.1	12	8.4	1	--[3]
All Females	**143**	**4.2**	**115**	**3.3**	**28**	**0.9**
<1	1	--[3]	0	--[3]	1	--[3]
1-14	2	--[3]	1	--[3]	1	--[3]
15-24	18	4.3	12	2.9	6	1.4
25-44	39	4.1	28	2.9	11	1.2
45-64	57	6.8	54	6.5	3	--[3]
65-74	14	6.5	11	5.1	3	--[3]
75-84	10	5.2	8	4.1	2	--[3]
85+	2	--[3]	1	--[3]	1	--[3]
All Males	**503**	**16.0**	**354**	**11.2**	**149**	**4.8**
<1	1	--[3]	0	--[3]	1	--[3]
1-14	3	--[3]	1	--[3]	2	--[3]
15-24	117	27.1	42	9.7	75	17.3
25-44	208	22.4	153	16.5	55	5.9
45-64	116	14.9	104	13.3	12	1.5
65-74	27	15.3	23	13.1	4	--[3]
75-84	20	15.7	20	15.7	0	--[3]
85+	11	25.1	11	25.1	0	--[3]

1. Data presented in this table are classified according to ICD-10. Please refer to Appendix for list of ICD-10 codes used in this table. 2. Number of deaths per 100,000 persons in each age group; rates for all rows except the age group rows are age-adjusted to the 2000 US standard population. 3. Calculations based on fewer than five events are excluded.

Table 21. Intentional Injury Deaths[1] by Gender, Age, Race and Hispanic Ethnicity: Numbers, Age-Adjusted, and Age-Specific Rates, Massachusetts: 2005

	All Intentional		Suicide		Homicide	
	Number	Rate[2]	Number	Rate[2]	Number	Rate[2]
White non- Hispanic	**477**	**8.8**	**412**	**7.5**	**65**	**1.3**
Females	118	4.1	101	3.5	17	0.6
Males	359	14.0	311	12.0	48	1.9
Black non- Hispanic	**92**	**21.9**	**16**	**4.3**	**76**	**17.5**
Females	8	4.0	2	--[3]	6	2.8
Males	84	40.9	14	8.0	70	32.9
Asian non- Hispanic	**17**	**6.0**	**14**	**5.0**	**3**	**--[3]**
Females	8	5.5	7	4.9	1	--[3]
Males	9	6.9	7	5.6	2	--[3]
Hispanic	**58**	**10.5**	**25**	**5.5**	**33**	**5.0**
Females	7	3.3	3	--[3]	4	--[3]
Males	51	17.5	22	9.0	29	8.5

1. Data presented in this table are classified according to ICD-10. Please refer to Appendix for list of ICD-10 codes used in this table. 2. Number of deaths per 100,000 persons in each age group; rates for all rows except the age group rows are age-adjusted to the 2000 US standard population. 3. Calculations based on fewer than five events are excluded.

Table 22. Injury[1] Deaths by Intent, Method and Gender: Number and Age-Adjusted Rates[2], Massachusetts: 2005

Type of Injury	All Injury Deaths		Female		Male	
	Number	Rate	Number	Rate	Number	Rate
Unintentional Injuries (Accidents)	**1,883**	**27.4**	**718**	**18.0**	**1,165**	**37.3**
Poisoning	627	9.6	185	5.6	442	13.8
Motor Vehicle-related	478	7.2	151	4.3	327	10.4
Injury to pedestrian	75	1.1	24	0.7	51	1.6
Injury to pedal cyclist	4	--[3]	1	--[3]	3	--[3]
Injury to motorcyclist	57	0.9	2	--[3]	55	1.7
Injury to occupant	81	1.2	25	0.7	56	1.8
Other and unspecified	261	3.9	99	2.8	162	5.1
Falls	267	3.5	129	2.7	138	4.6
Hanging, strangulation or suffocation	114	1.6	56	1.3	58	2
Drowning or submersion	54	0.8	6	0.2	48	1.5
Smoke, fire and flames	42	0.6	22	0.6	20	0.6
Firearm	3	--[3]	0	--[3]	3	--[3]
Other and unspecified	298	3.8	169	3.3	129	4.3
Suicide	**469**	**7.1**	**115**	**3.3**	**354**	**11.2**
Hanging, strangulation or suffocation	201	3.1	40	1.2	161	5.1
Firearm	111	1.6	12	0.3	99	3.2
Poisoning	107	1.6	52	1.5	55	1.7
Other and unspecified	50	0.7	11	0.3	39	1.2
Homicide	**177**	**2.8**	**28**	**0.9**	**149**	**4.8**
Firearm	107	1.7	10	0.3	97	3.1
Cut or pierce	38	0.6	9	0.3	29	0.9
Other and unspecified	32	0.5	9	0.3	23	0.7
Injury Deaths of Undetermined Intent	**95**	**1.4**	**41**	**1.2**	**54**	**1.7**
Poisoning	68	1.0	36	1.1	32	1.0
Drowning or submersion	9	0.1	1	--[3]	8	0.2
Fall	3	--[3]	1	--[3]	2	--[3]
Other and unspecified	15	0.2	3	--[3]	12	0.4
Legal Intervention	**1**	**--[3]**	**0**	**--[3]**	**1**	**--[3]**
Firearm	1	--[3]	0	--[3]	1	--[3]
Other and unspecified	0	--[3]	0	--[3]	0	--[3]
Adverse Effects	**32**	**0.5**	**15**	**0.4**	**17**	**0.6**
Medical Care	24	0.3	11	0.3	13	0.5
Drugs	8	0.1	4	--[3]	4	--[3]
ALL INJURIES	**2,657**	**39.1**	**917**	**23.8**	**1,740**	**55.6**

1. Data presented in this table are classified according to ICD-10. Please refer to Appendix for list of ICD-10 codes used in this table. 2. Number of deaths per 100,000 persons; rates are adjusted to the 2000 US standard population. 3. Calculations based on fewer than five events are excluded.

Table 23. Type of Injury[1] Deaths by Method/Intent Categories: Number and Age-Adjusted Rates[2], Massachusetts: 2005

Method	Intent											
	All Injury Deaths		Unintentional		Intentional				Undetermined		Other[3]	
	Total		"Accidents"		Suicide		Homicide				Legal Intervention	
	Total Number	Rate	Total Number	Rate	Total Number	Rate	Total Number	Rate	Total Number	Rate	Total Number	Rate
Poisoning	802	12.2	627	9.6	107	1.6	0	--[4]	68	1.0	0	--[4]
Transport Injuries	496	7.5	496	7.5	0	--[4]	0	--[4]	0	--[4]	0	--[4]
Motor vehicle-related	478	7.2	478	7.2	0	--[4]	0	--[4]	0	--[4]	0	--[4]
Injury to pedestrian	75	1.1	75	1.1	0	--[4]	0	--[4]	0	--[4]	0	--[4]
Injury to pedal cyclist	4	--[4]	4	--[4]	0	--[4]	0	--[4]	0	--[4]	0	--[4]
Injury to motorcyclist	57	0.9	57	0.9	0	--[4]	0	--[4]	0	--[4]	0	--[4]
Injury to occupant	81	1.2	81	1.2	0	--[4]	0	--[4]	0	--[4]	0	--[4]
Other and unspecified	261	3.9	261	3.9	0	--[4]	0	--[4]	0	--[4]	0	--[4]
Other transport	18	0.3	18	0.3	0	--[4]	0	--[4]	0	--[4]	0	--[4]
Hanging, strangulation or suffocation	326	4.9	114	1.6	201	3.1	6	0.1	5	0.1	0	--[4]
Falls	283	3.8	267	3.5	13	0.2	0	--[4]	3	--[4]	0	--[4]
Firearm	222	3.4	3	--[4]	111	1.6	107	1.7	0	--[4]	1	--[4]
Drowning and submersion	74	1.1	54	0.8	11	0.2	0	--[4]	9	0.1	0	--[4]
Cut or pierce	55	0.9	0	--[3]	17	0.2	38	0.6	0	--[4]	0	--[4]
Smoke, fire and flames	45	0.7	42	0.6	2	--[3]	1	--[4]	0	--[4]	0	--[4]
Other and unspecified	322	4.2	280	3.6	7	0.1	25	0.4	10	0.1	0	--[4]
Adverse Effects	32	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ALL INJURIES	**2,657**	**39.1**	**1,883**	**27.4**	**469**	**7.1**	**177**	**2.8**	**95**	**1.4**	**1**	**--[4]**

1. Data presented in this table are classified according to ICD-10. Please refer to Appendix for list of ICD-10 codes used in this table. 2. Number of deaths per 100,000; rates are adjusted to the 2000 US standard population. 3. Includes legal intervention and operations of war. 4. Calculations based on fewer than five events are excluded.

Table 24. Poisoning Deaths[1] by Intent and by Class of Agent, Massachusetts: 2005

Poisoning Agent	Total	Undetermined Intent	Unintentional	Intentional
Narcotics and hallucinogens[2]	585	34	541	10
Other and unspecified drugs, medicaments, biological substances	84	10	33	41
Antiepileptic, sedative-hypnotic, antiparkinsonism & psychotropic	78	17	36	25
Gases and vapors	28	1	9	18
Nonopioid analgesics, antipyretics & antirheumatics	12	4	2	6
Alcohol	6	1	2	3
Other and unspecified chemicals and noxious substances	4	0	4	0
Organic solvents and halogenated hydrocarbons and their vapors	3	1	0	2
Other drugs acting on the nervous system	1	0	0	1
Pesticides	1	0	0	1
TOTAL	**802**	**68**	**627**	**107**

1. Data presented in this table are classified according to ICD-10. Please refer to Appendix for list of ICD-10 codes used in this table.
[2] Includes: cannabis, cocaine, codeine, heroin, lysergic acid diethylamide (LSD), mescaline, methadone, morphine, and opium (alkaloids).

Table 25. HIV/AIDS[1] Deaths by Place of Occurrence, Massachusetts: 1993-2005

Year		Total		Place of Occurrence: At Home		Hospital		Out of State		Hospice/Nursing Home/Other	
		Comparability Unmodified	Comparability Modified[2]	Comparability Unmodified	Comparability Modified[2]	Comparability Unmodified	Comparability Modified[2]	Comparability Unmodified	Comparability Modified[2]	Comparability Unmodified	Comparability Modified[2]
1993	#	777	NA	218	NA	413	NA	14	NA	127	NA
	%	100.0		28.1		53.2		1.8		16.3	
1994	#	938	998	265	282	514	547	13	14	142	151
	%	100.0		28.3	28.3	54.8	54.8	1.4	1.4	15.1	15.1
1995	#	937	997	303	322	500	532	7	7	127	135
	%	100.0		32.3	32.3	53.4	53.4	0.7	0.7	13.6	13.5
1996	#	609	648	154	164	336	357	9	10	110	117
	%	100.0		25.3	25.3	55.2	55.1	1.5	1.5	18.1	18.1
1997	#	242	277	59	68	158	181	4	5	21	24
	%	100.0		24.4	24.5	65.3	65.3	-[5]	1.8	8.6	8.7
1998	#	213	244	46	53	130	149	2	2	35	40
	%	100.0		21.6	21.7	61.0	61.1	-[5]	-[5]	16.4	16.4
1999	#	242[4]		55		142		2		43	
	%	100.0		22.7		58.7		-[5]		17.8	
2000	#	226[4]		48		145		0		33	
	%	100.0		21.2		64.2		-[5]		14.6	
2001	#	249[4]		47		164		4		34	
	%	100.0		18.9		65.9		-[5]		13.7	
2002	#	229[4]		33		156		4		36	
	%	100.0		14.4		68.1		-[5]		15.7	
2003	#	226[4]		55		134		5		32	
	%	100.0		24.3		59.3		2.2		14.2	
2004	#	211[4]		45		134		1		31	
	%	100.0		21.3		63.5		-[5]		14.7	
2005	#	180[4]		28		122		1		30	
	%	100.0		15.6		67.8		-[5]		16.7	

**PLEASE NOTE: this table has been updated June 2001 to reflect the revised comparability ratio of HIV Disease Deaths, issued by the National Center for Health Statistics. 1. AIDS: Acquired Immune Deficiency Syndrome, HIV: Human Immunodeficiency Virus. The deaths reported are cases for which AIDS or HIV-related disease was the underlying cause of death. Deaths for 1993-1998 were coded according to the ICD-9 classification schedule, which began with 1987 death data (codes 042-044). Deaths for 1999-2005 were coded according to the ICD-10 (codes B20-B24). 2. Comparability Modified (CM): this number has been adjusted using the preliminary comparability ratio (CR) from NCHS (revised June 2001). CM data for 1994-1996 use 1996 based CR; CM data for 1997-1998 use revised 1998 based CR. 3. NA: Comparability ratio is not applicable for years prior to 1994. 4. When comparing data over time between 1994 through 2005, please use the comparability modified number for years 1994-1998. Please see Appendix for a detailed explanation. 5. Calculations based on fewer than 5 events are excluded.

Table 26. HIV/AIDS[1] Deaths by Age, Massachusetts: 1993-2005

Year		Age (in years) <15 Comparability Unmodified	<15 Comparability Modified[2]	15-24 Comparability Unmodified	15-24 Comparability Modified[2]	25-34 Comparability Unmodified	25-34 Comparability Modified[2]	35-44 Comparability Unmodified	35-44 Comparability Modified[2]	45+ Comparability Unmodified	45+ Comparability Modified[2]
1993	#	10	NA	5	NA	234	NA	359	NA	169	NA
	%	1.3		0.6		30.1		46.2		21.8	
1994	#	7	7	8	9	272	289	464	494	187	199
	%	0.7	0.7	0.9	0.9	29.0	29.0	49.5	49.5	19.9	19.9
1995	#	11	12	5	5	272	289	443	471	206	219
	%	1.2	1.2	0.5	0.5	29.0	29.0	47.3	47.2	22.0	22.0
1996	#	4	4	8	9	154	164	300	319	143	152
	%	0.7	0.6	1.3	1.4	25.3	25.3	49.3	49.2	23.5	23.5
1997	#	5	6	1	1	35	40	135	155	66	76
	%	2.1	2.2	-[5]	-[5]	14.5	14.4	55.8	56.0	27.3	27.4
1998	#	0	0	0	0	47	54	106	121	60	69
	%	-[5]	-[5]	-[5]	-[5]	22.1	22.1	49.8	50.0	28.2	28.3
1999	#	2[4]		9[4]		34[4]		112[4]		85[4]	
	%	-[5]		3.7		14.0		46.3		35.1	
2000	#	4[4]		0[4]		26[4]		104[4]		92[4]	
	%	-[5]		0.0[4]		11.5[4]		46.0[4]		40.7[4]	
2001	#	1[4]		2[4]		25[4]		111[4]		110[4]	
	%	-[5]		-[5]		10.0		44.6		44.2[4]	
2002	#	1[4]		1[4]		10[4]		91[4]		126[4]	
	%	-[5]		-[5]		4.4		39.7		55.0[4]	
2003	#	1[4]		3[4]		14[4]		94[4]		114[4]	
	%	-[5]		-[5]		6.2		41.6		50.4	
2004	#	0[4]		2[4]		9[4]		79[4]		121[4]	
	%	-[5]		-[5]		4.3		37.4		57.4	
2005	#	0[4]		1[4]		6[4]		64[4]		109[4]	
	%	-[5]		-[5]		3.3		35.6		60.6	

**PLEASE NOTE: this table has been updated June 2001 to reflect the revised comparability ratio of HIV Disease Deaths, issued by the National Center for Health Statistics. 1. AIDS: Acquired Immune Deficiency Syndrome, HIV: Human Immunodeficiency Virus. The deaths reported are cases for which AIDS or HIV-related disease was the underlying cause of death. Deaths for 1992-1998 were coded according to the ICD-9 classification schedule, which began with 1987 death data (codes 042-044). Deaths for 1999-2005 were coded according to the ICD-10 (codes B20-B24). 2. Comparability Modified (CM): this number has been adjusted using the preliminary comparability ratio (CR) from NCHS (revised June 2001). CM data for 1994-1996 use 1996 based CR; CM data for 1997-1998 use revised 1998 based CR. 3. NA: Comparability ratio is not applicable for years prior to 1994. 4. When comparing data over time between 1994 through 2005, please use the comparability modified number for years 1994-1998. Please see Appendix for a detailed explanation. 5. Calculations based on fewer than 5 events are excluded

Table 27. HIV/AIDS[1] Deaths by Gender, Race and Hispanic Ethnicity, Massachusetts: 1993-2005

		Gender				Race and Ethnicity							
		Male		Female		White non-Hispanic[2]		Black non-Hispanic[2]		Other[3]		Hispanic[2]	
		Comparability Unmodified	Comparability Modified[4]	Comparability Unmodified	Comparability Modified[4]	Comparability Unmodified	Comparability Modified[4]	Comparability Unmodified	Comparability Modified[4]	Comparability Unmodified	Comparability Modified[4]	Comparability Unmodified	Comparability Modified[4]
Year													
1993	#	663	NA	114	NA	518	NA	160		5	NA	94	NA
	%	85.3		14.7		66.7		20.6	NA	0.6		12.1	
1994	#	763	812	175	186	581	618	193	205	7	7	157	167
	%	81.3	81.4	18.7	18.6	61.9	61.9	20.6	20.5	0.7	0.7	16.7	16.7
1995	#	753	801	184	196	554	589	223	237	5	5	155	165
	%	80.4	80.3	19.6	19.7	59.1	59.1	23.8	23.8	0.5	0.5	16.5	16.5
1996	#	494	525	115	122	341	363	161	171	5	5	101	107
	%	81.1	81.0	18.9	18.8	56.0	56.0	26.4	26.4	0.8	0.8	16.6	16.5
1997	#	190	218	52	60	121	139	74	85	0	0	47	54
	%	78.5	78.7	21.5	21.7	50.0	50.2	30.6	30.7	-[5]	-[5]	19.4	19.5
1998	#	169	193	44	50	104	119	51	58	0	0	58	66
	%	79.3	79.1	20.7	20.5	48.8	48.8	23.9	23.8	-[5]	-[5]	27.2	27.0
1999	#	177[6]		65[6]		126[6]		51[6]		2[6]		63[6]	
	%	73.1		26.9		52.1		21.1		-[5]		26.0	
2000	#	161[6]		65[6]		104[6]		61[6]		2[6]		59[6]	
	%	71.2		28.8		46.0		27.0		-[5]		26.1	
2001	#	182[6]		67[6]		125[6]		73[6]		0[6]		51[6]	
	%	73.1		26.9		50.2		29.3		-[5]		20.5	
2002	#	163[6]		66[6]		108[6]		68[6]		1[6]		52[6]	
	%	71.2		28.8		47.1		29.7		-[5]		22.7	
2003	#	150[6]		76[6]		113[6]		58[6]		2[6]		53[6]	
	%	66.4		33.6		50.0		25.7		-[5]		23.5	
2004	#	151[6]		60[6]		97[6]		55[6]		4[6]		55[6]	
	%	71.6		28.4		46.0		26.1		-[5]		26.1	
2005	#	122[6]		58[6]		75[6]		56[6]		4[6]		45[6]	
	%	67.8		32.2		41.7		31.1		-[5]		25.0	

**PLEASE NOTE: this table was updated in June 2001 to reflect the revised comparability ratio of HIV Disease Deaths, issued by the National Center for Health Statistics. 1. AIDS: Acquired Immune Deficiency Syndrome, HIV: Human Immunodeficiency Virus. The deaths reported are cases for which AIDS or HIV-related disease was the underlying cause of death. Deaths for 1992-1998 were coded according to the ICD-9 classification schedule, which began with 1987 death data (codes 042-044). Deaths for 1999-2005 were coded according to the ICD-10 (codes B20-B24). 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in a race category. Please refer to the Technical Notes in the Appendix for a more detailed explanation. 3. The "Other" category represents Asian, non-Hispanics, American Indian, non-Hispanics, and other non-Hispanics. 4. Comparability Modified: this number has been adjusted using the preliminary comparability ratio (CR) from NCHS (June 2001). CM data for 1994-1996 use 1996 based CR; CM data for 1997-1998 use revised 1998 based CR. 5. Calculations based on fewer than 5 events are excluded. 6. When comparing data over time between 1994 through 2005, please use the comparability modified number for years 1994-1998. Please see Appendix for a detailed explanation.

Table 28. HIV/AIDS[1] Deaths by Gender, Race and Hispanic Ethnicity: Numbers, Percent and Age-adjusted Rates, Massachusetts: 2000-2005

TOTAL	White non-Hispanic[2]			Black non-Hispanic[2]			Hispanic		
Year	#	Percent	Rate[3]	#	Percent	Rate[3]	#	Percent	Rate[3]
2000	104	46%	1.9	61	27%	18.3	59	26%	17.4
2001	125	50%	2.2	73	29%	21.1	51	20%	13.5
2002	108	47%	1.9	68	30%	20.3	52	23%	13.5
2003	113	50%	2.0	58	26%	17.2	53	23%	14.9
2004	97	46%	1.7	55	26%	15.8	55	26%	13.9
2005	75	42%	1.3	56	31%	16.0	45	25%	11.5
MALE									
2000	77	48%	2.8	40	25%	26.0	42	26%	27.7
2001	92	51%	3.3	50	27%	31.4	40	22%	22.5
2002	86	53%	3.1	43	26%	27.9	34	21%	18.7
2003	74	49%	2.7	36	24%	23.4	39	26%	23.8
2004	74	49%	2.7	39	26%	24.0	34	23%	18.4
2005	52	43%	1.9	34	28%	20.9	33	27%	18.4
FEMALE									
2000	27	42%	1.0	21	32%	11.4	17	26%	8.6
2001	33	49%	1.2	23	34%	12.1	11	16%	5.4
2002	22	33%	0.8	25	38%	13.8	18	27%	8.7
2003	39	51%	1.4	22	29%	12.0	14	18%	7.1
2004	23	38%	0.8	16	27%	8.7	21	35%	10.0
2005	23	40%	0.8	22	38%	11.8	12	21%	5.4

1. AIDS and HIV disease deaths coded using ICD-10: B20-B24. 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in a race category. Please refer to the Technical Notes in the Appendix for a more detailed explanation. 3. Number of deaths per 100,000 persons; rates are age-adjusted to the 2000 U.S. standard population. Resident death data for 2000-2005 are calculated using the Massachusetts (Department of Public Health) Modified Age, Race/Ethnicity, & Sex Estimates 2000-2005 (MMARS00-05), released October, 2006.

Table 29. Trends in Infant, Neonatal, and Post Neonatal Mortality, by Race and Hispanic Ethnicity, Massachusetts: 1995-2005

INFANT MORTALITY (less than one year of age)

	State Total[1]		White non-Hispanic		Black non-Hispanic		Hispanic		Asian non-Hispanic		Other[2]	
Year	#	Rate[3]	#	Rate[3]	#	Rate[3]	#	Rate[3]	#	Rate[3]	#	Rate[3]
1995	419	5.1	275	4.4	65	11.1	58	7.2	19	5.5	2	--[4]
1996	403	5.0	289	4.7	63	11.4	40	5.1	8	2.2	2	--[4]
1997	425	5.3	294	4.8	64	11.7	55	6.7	10	2.6	2	--[4]
1998	414	5.1	287	4.6	59	10.6	58	6.7	10	2.7	0	--[4]
1999	418	5.2	285	4.7	72	12.3	49	5.5	8	1.9	4	--[4]
2000	377	4.6	232	3.8	74	12.8	48	5.2	19	4.1	4	--[4]
2001	407	5.0	245	4.1	71	12.1	69	7.3	15	3.1	7	4.1
2002	397	4.9	239	4.1	69	11.6	67	7.0	16	3.0	6	3.8
2003	383	4.8	235	4.1	75	12.7	55	5.6	14	2.7	4	--[4]
2004	376	4.8	210	3.8	70	11.5	75	7.6	15	2.7	6	3.5
2005	391	5.1	230	4.3	57	9.4	77	7.7	18	3.4	8	4.3

NEONATAL MORTALITY (birth to 27days)

	State Total[1]		White non-Hispanic		Black non-Hispanic		Hispanic		Asian non-Hispanic		Other[2]	
Year	#	Rate[3]	#	Rate[3]	#	Rate[3]	#	Rate[3]	#	Rate[3]	#	Rate[3]
1995	298	3.6	198	3.1	50	8.5	39	4.8	10	2.9	1	--[4]
1996	290	3.6	222	3.6	34	6.2	27	3.5	5	1.4	1	--[4]
1997	323	4.0	228	3.7	44	8.0	43	5.2	7	1.8	1	--[4]
1998	315	3.9	218	3.5	47	8.5	43	5.0	7	1.9	0	--[4]
1999	332	4.1	226	3.7	58	9.9	39	4.4	5	1.2	4	--[4]
2000	288	3.5	177	2.9	57	9.9	37	4.0	14	3.0	3	--[4]
2001	308	3.8	190	3.2	56	9.5	49	5.2	10	2.1	3	--[4]
2002	299	3.7	185	3.2	49	8.2	50	5.2	13	2.4	2	--[4]
2003	285	3.6	179	3.1	56	9.5	38	3.9	10	1.9	2	--[4]
2004	291	3.7	167	3.0	51	8.4	57	5.8	12	2.2	4	--[4]
2005	282	3.7	168	3.1	40	6.6	57	5.8	11	2.1	5	2.7

POST NEONATAL MORTALITY (28-365 days)

	State Total[1]		White non-Hispanic		Black non-Hispanic		Hispanic		Asian non-Hispanic		Other[2]	
Year	#	Rate[3]	#	Rate[3]	#	Rate[3]	#	Rate[3]	#	Rate[3]	#	Rate[3]
1995	121	1.5	77	1.2	15	2.6	19	2.3	9	2.6	1	--[4]
1996	113	1.4	67	1.1	29	5.3	13	1.7	3	--[4]	1	--[4]
1997	102	1.3	66	1.1	20	3.7	12	1.5	3	--[4]	1	--[4]
1998	99	1.2	69	1.1	12	2.2	15	1.7	3	--[4]	0	--[4]
1999	86	1.1	59	1.0	14	2.4	10	1.1	3	--[4]	0	--[4]
2000	89	1.1	55	0.9	17	2.9	11	1.2	5	1.1	1	--[4]
2001	99	1.2	55	0.9	15	2.6	20	2.1	5	1.0	4	--[4]
2002	98	1.2	54	0.9	20	3.4	17	1.8	3	--[4]	4	--[4]
2003	98	1.2	56	1.0	19	3.2	17	1.7	4	--[4]	2	--[4]
2004	85	1.1	43	0.8	19	3.1	18	1.8	3	--[4]	2	--[4]
2005	109	1.4	62	1.2	17	2.8	20	2.0	7	1.3	3	--[4]

1. Deaths of infants of unknown race are included in the total calculation. For rate computations, births of infants of unknown race are allocated into the race categories according to the distribution of births of known race. 2. Other: American Indian and Other races. 3. Rates are expressed per 1,000 live births. 4. Calculations based on fewer than five events are excluded.

Table 30. Infant, Neonatal, and Post Neonatal Deaths by Cause, Massachusetts: 2005

Cause of Death[1]	ICD-10 Code	Infant (<1 year) #	Infant (<1 year) %[2,3]	Neonatal (<28 days) #	Neonatal (<28 days) %[2,3]	Post Neonatal (28-365 days) #	Post Neonatal (28-365 days) %[2,3]
TOTAL		**391**	**100.0**	**282**	**100.0**	**109**	**100.0**
Infectious and parasitic diseases	**A00-B99**	**5**	**1.3**	**1**	**--[3]**	**4**	**--[3]**
Cancer	**C00-C97**	**0**	**--[3]**	**0**	**--[3]**	**0**	**--[3]**
Diseases of the blood and blood forming organs (anemia)	**D50-D89**	**1**	**--[3]**	**0**	**--[3]**	**1**	**--[3]**
Diseases of nervous system and ear	**G00-G98, H60-H93**	**10**	**2.6**	**0**	**--[3]**	**10**	**9.2**
Diseases of the respiratory system	**J00-J98**	**8**	**2.0**	**1**	**--[3]**	**7**	**6.4**
Diseases of digestive system	**K00-K92**	**8**	**2.0**	**2**	**--[3]**	**6**	**5.5**
Congenital malformations	**Q00-Q99**	**69**	**17.6**	**48**	**17.0**	**21**	**19.3**
Congenital malformations of nervous system	Q00-Q07	11	2.8	7	2.5	4	--[3]
Anencephalus and similar malformations	Q00	4	--[3]	4	--[3]	0	--[3]
Congenital malformations of eye, ear, face, and neck	Q10-Q18	0	--[3]	0	--[3]	0	--[3]
Congenital malformations of heart	Q20-Q24	11	2.8	5	1.8	6	5.5
Other congenital malformations of circulatory system	Q25-Q28	6	1.5	5	1.8	1	--[3]
Congenital malformations of respiratory system	Q30-Q34	6	1.5	6	2.1	0	--[3]
Cleft palate and other digestive tract malformations	Q35-Q45	1	--[3]	0	--[3]	1	--[3]
Congenital malformations of genitourinary system	Q50-Q64	3	--[3]	3	--[3]	0	--[3]
Congenital malformations of musculoskeletal system	Q65-Q85	7	1.8	4	--[3]	3	--[3]
Chromosomal abnormalities	Q90-Q99	15	3.8	12	4.3	3	--[3]
Certain conditions originating in the perinatal period	**P00-P96**	**226**	**57.8**	**217**	**77.0**	**9**	**8.3**
Newborn affected by maternal conditions which may be unrelated to present pregnancy	P00	3	--[3]	2	--[3]	1	--[3]
Newborn affected by maternal complications of pregnancy	P01	20	5.1	20	7.1	0	--[3]
Newborn affected by complications of placenta, cord and membrane	P02	17	4.3	17	6.0	0	--[3]
Newborn affected by other complications of labor and delivery	P03	1	--[3]	1	--[3]	0	--[3]
Disorders relating to short gestation and low birthweight	P07	80	20.5	80	28.4	0	--[3]
Birth trauma	P10-P15	1	--[3]	1	--[3]	0	--[3]
Intrauterine hypoxia and birth asphyxia	P20-P21	16	4.1	15	5.3	1	--[3]
Respiratory distress of newborn	P22	14	3.6	13	4.6	1	--[3]
Other respiratory conditions of newborn	P23-P28	13	3.3	11	3.9	2	--[3]
Infections specific to the perinatal period	P35-P39	13	3.3	13	4.6	0	--[3]
Neonatal hemorrhage	P50-P52, P54	7	1.8	7	2.5	0	--[3]
Other and ill-defined conditions originating in the perinatal period	P90-P96	5	1.3	5	1.8	0	--[3]
Symptoms, signs, and ill-defined conditions	**R00-R99**	**42**	**10.7**	**10**	**3.5**	**32**	**29.4**
Sudden Infant Death Syndrome (SIDS)	R95	21	5.4	2	--[3]	19	17.4
Unintentional Injuries	**V01-X59**	**5**	**1.3**	**0**	**--[3]**	**5**	**4.6**
Homicide	**X85-Y09**	**2**	**--[3]**	**0**	**--[3]**	**2**	**--[3]**
All other causes	Residual	**15**	**3.8**	**3**	**--[3]**	**12**	**11.0**

1. Please refer to the Technical Notes in the Appendix for an explanation of ICD-10 codes. 2. Percents not calculated for subcategories. 3. Calculations based on fewer than five events are excluded.

Table 31. Infant Deaths by Major Causes, Race and Hispanic Ethnicity, Massachusetts: 2005

Cause of Death[2]	ICD-10 Code	White non-Hispanic[1] #	White non-Hispanic[1] %	Black non-Hispanic[1] #	Black non-Hispanic[1] %	Asian non-Hispanic[1] #	Asian non-Hispanic[1] %	Hispanic #	Hispanic %
TOTAL		**230**	**100.0%**	**57**	**100.0%**	**18**	**100.0%**	**78**	**100.0%**
Congenital malformations	Q00-Q99	35	15.2%	12	21.1%	6	33.3%	16	20.5%
Certain conditions originating in the perinatal period	P00-P96	138	60.0%	30	52.6%	7	38.9%	47	60.3%
Symptoms, signs, and ill-defined conditions	R00-R99	23	10.0%	10	17.5%	1	--[3]	6	7.7%
SIDS	R95	8	3.5%	8	14.0%	1	--[3]	4	--[3]
Unintentional Injuries	V01-X59	4	--[3]	0	--[3]	0	--[3]	0	--[3]
Homicide	X85-Y09	1	--[3]	0	--[3]	1	--[3]	0	--[3]
All other causes	Residual	29	12.6%	5	8.8%	3	--[3]	9	11.5%

1. Race and ethnicity data in this table are presented as mutually exclusive categories and Cape Verdeans are not included with Blacks. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in a race category. Please refer to the Technical Notes in the Appendix for a more detailed explanation. 2. Deaths are coded according to ICD-10. 3. Calculations based on fewer than five events are excluded.

Table 32. Target Status for Selected Healthy People 2010 Mortality Objectives

Objective Number	HEALTHY PEOPLE 2010 OBJECTIVE	TARGET 2010[1]	MA 2004[2]	MA 2005[2]	US 2004[3]	TARGET STATUS
	Age-adjusted rates (per 100,000 population)					
3-1	Overall Cancer death rate	159.9	188.4	185.8	184.6	○
3-2	Lung Cancer	44.9	52.0	52.4	53.2	○
3-3	Female Breast Cancer (per 100,000 females)	22.3	24.2	23.1	24.4	○
3-4	Uterine Cervix (per 100,000 females)	2.0	1.7	1.6	2.4	✓
3-5	Colorectal Cancer	13.9	17.7	17.6	18.0	●
3-6	Oropharyngeal Cancer	2.7	2.8	2.1	2.6	✓
3-7	Prostate Cancer (per 100,000 males)	28.8	23.4	21.8	25.4	✓
3-8	Malignant Melanoma	2.5	2.7	3.3	2.7	●
12-1	Coronary Heart Disease	166.0	119.8	112.0	160.0	✓
12-7	Stroke	48.0	42.5	38.7	50.0	✓
13-14	HIV/AIDS	0.7	3.1	2.7	4.5	●
26-2	Cirrhosis	3.0	5.4	5.1	9.0	●
26-3	Drug-induced deaths	1.0	11.1	12.9	9.7	●
	Injury Deaths					
15-3	Firearm- related	4.1	3.2	3.4	10.0	✓
15-8	Poisonings	1.5	11.2	12.2	10.3	●
15-9	Hanging, strangulation or suffocation	3.0	4.4	4.9	4.8	●
15-13	Unintentional injuries (Accidents)	17.5	19.4	27.4	37.7	●
15-15	Motor vehicle crashes	9.0	8.0	7.2	14.7	✓
15-25	Residential fire deaths	0.2	0.4	0.6	1.1	●
15-27	Falls	3.0	4.0	3.8	6.3	●
15-29	Drowning	0.9	1.2	1.2	1.3	●
15-32	Homicide	3.0	2.8	2.8	5.9	✓
18-1	Suicide	5.0	6.4	7.0	10.9	●
	Death Rates (per 1,000 live births)					
16-1c	Infant deaths	4.5	4.7	5.1	6.8	○
16-1d	Neonatal deaths	2.9	3.7	3.7	4.5	●
16-1e	Postneonatal deaths	1.2	1.1	1.4	2.3	○
16-1f	Birth defects	1.1	0.8	0.9	1.4	✓
16-1g	Congenital heart defects	0.38	0.11	0.14	0.34	✓
16-1h	Sudden infant death syndrome (SIDS)	0.25	0.42	0.26	0.51	○
16-4	Maternal deaths (per 100,000 live births)	3.3	6.3	10.3	13.1	●
	Child/Adolescent/Young Adults Death Rates (per 100,000 pop)					
16-2a	1-4 years old	25.0	14.6	14.2	29.9	✓
16-2b	5-9 years old	14.3	9.2	8.0	14.7	✓
16-3a	10-14 years old	16.8	12.9	8.8	18.7	✓
16-3b	15-19 years old	43.2	46.0	40.6	66.1	✓
16-3c	20-24 years old	57.3	74.8	74.4	94.0	●
24-1	Asthma deaths (per million)					
24-1a	Children under age 5 years	1.0	--[4]	--[4]	1.8	✓
24-1b	Children aged 5-14 years	1.0	--[4]	--[4]	2.6	✓
24-1c	Ages 15-34 years	3.0	4.0	5.8	4.4	●
24-1d	Ages 35-64 years	9.0	10.3	10.7	12.7	○
24-1e	Ages 65+ years	60.0	52.7	53.9	51.3	✓

✓ = YES, met target ○ = NO, but within 25% of target ● = NO, > 25% from target

1. Data 2010 the Healthy People 2010 Database. CDC Wonder website. 2. Death data for 2004-2005 are calculated using the Massachusetts (Department of Public Health) Modified Age, Race/Ethnicity, & Sex Estimates 2004-2005 (MMARS04-05), released October, 2006. 3. U.S. data for 2004 obtained from NCHS. Deaths: Final Data for 2004. National Vital Statistics Report, Vol. 54, No. 19, June 28, 2006, and http://wonder.cdc.gov January, 2007 Edition. 4. Calculations based on fewer than 5 events are excluded.

Table 33. Rank of Premature Mortality Rates for the Largest 30 Communities[1], Massachusetts: 2005 (Sorted by PMR)

City/Town	Number of Deaths	PMR[2] (per 100,000 population)
Springfield	617	466.0*
Revere	204	445.5*
New Bedford	389	443.2*
Fall River	381	441.3*
Brockton	360	413.7*
Lynn	329	411.9*
Worcester	621	410.6*
Plymouth	199	405.1*
Lowell	347	404.1*
Malden	212	392.8*
Boston	1,773	387.4*
Taunton	194	383.7*
Pittsfield	177	374.7
Lawrence	217	370.3
Chicopee	207	360.7
Weymouth	204	358.2
Attleboro	139	355.9
Haverhill	183	353.4
Barnstable	188	350.0
Leominster	134	343.6
Medford	184	333.8
Quincy	302	324.1
Peabody	180	313.7
Somerville	187	310.2
Waltham	163	288.3
Methuen	121	281.4
Framingham	173	273.3
Cambridge	190	237.5*
Brookline	95	198.8*
Newton	143	172.4*
STATE TOTAL	**19,426**	**317.0**

[1] Selected from among the 30 Massachusetts communities with the largest populations, based on 2000 Census.

[2] Rates are age-adjusted to the 2000 U.S. Standard Population for person ages 0-74 years.

* Statistically significant difference from State PMR.

Table 34. Premature Mortality Rates by Community Within EOHHS Region, Massachusetts: 2005

City/Town	Premature Deaths (#)	PMR* (per 100,000 population)
STATE	**19,426**	**317.0**
	WESTERN REGION	
Adams	39	410.7
Agawam	109	373.6
Alford	1	--[1]
Amherst	27	162.1
Ashfield	1	--[1]
Athol	51	445.1
Becket	4	--[1]
Belchertown	41	347.3
Bernardston	2	--[1]
Blandford	4	--[1]
Buckland	4	--[1]
Charlemont	4	--[1]
Cheshire	18	465.0
Chester	1	--[1]
Chesterfield	5	419.3
Chicopee	207	360.7
Clarksburg	3	--[1]
Colrain	4	--[1]
Conway	3	--[1]
Cummington	1	--[1]
Dalton	19	279.9
Deerfield	15	275.4
East Longmeadow	49	300.4
Easthampton	54	351.5
Egremont	7	412.3
Erving	7	399.6
Florida	4	--[1]
Gill	8	555.1
Goshen	1	--[1]
Granby	13	193.3
Granville	5	281.4
Great Barrington	30	383.2
Greenfield	68	412.7
Hadley	20	413.4
Hampden	9	177.3
Hancock	4	--[1]
Hatfield	8	209.8
Hawley	1	--[1]
Heath	2	--[1]
Hinsdale	7	367.2
Holyoke	173	485.6
Huntington	5	259.8
Lanesborough	3	--[1]
Lee	20	302.0
Lenox	12	178.9

Table 34. Premature Mortality Rates by Community Within EOHHS Region, Massachusetts: 2005

City/Town	Premature Deaths (#)	PMR* (per 100,000 population)
Leverett	3	--[1]
Leyden	2	--[1]
Longmeadow	32	179.3
Ludlow	70	309.4
Middlefield	1	--[1]
Monroe	1	--[1]
Monson	26	318.8
Montague	39	450.7
Monterey	0	--[1]
Montgomery	1	--[1]
Mount Washington	0	--[1]
New Ashford	2	--[1]
New Marlborough	0	--[1]
New Salem	1	--[1]
North Adams	72	506.3
Northampton	78	298.7
Northfield	10	308.6
Orange	31	389.8
Otis	5	250.5
Palmer	37	299.5
Pelham	5	397.9
Peru	5	788.6
Petersham	3	--[1]
Phillipston	5	293.5
Pittsfield	177	374.7
Plainfield	1	--[1]
Richmond	2	--[1]
Rowe	1	--[1]
Royalston	3	--[1]
Russell	7	460.9
Sandisfield	7	643.8
Savoy	2	--[1]
Sheffield	12	296.9
Shelburne	3	--[1]
Shutesbury	1	--[1]
South Hadley	48	256.5
Southampton	19	326.0
Southwick	31	360.2
Springfield	617	466.0
Stockbridge	6	170.0
Sunderland	8	339.8
Tolland	0	--[1]
Tyringham	2	--[1]
Ware	44	439.9
Warwick	2	--[1]
Washington	2	--[1]
Wendell	1	--[1]
West Springfield	139	483.4
West Stockbridge	1	--[1]
Westfield	133	355.5
Westhampton	2	--[1]
Whately	4	--[1]

Table 34. Premature Mortality Rates by Community Within EOHHS Region, Massachusetts: 2005

City/Town	Premature Deaths (#)	PMR* (per 100,000 population)
Wilbraham	31	196.0
Williamsburg	14	563.3
Williamstown	22	288.5
Windsor	1	--[1]
Worthington	8	460.8
	CENTRAL REGION	
Ashburnham	15	291.3
Ashby	7	226.4
Auburn	53	302.1
Ayer	25	370.6
Barre	15	312.6
Bellingham	54	360.3
Berlin	4	--[1]
Blackstone	40	536.1
Bolton	8	288.7
Boylston	8	168.7
Brimfield	9	282.0
Brookfield	13	458.4
Charlton	36	382.3
Clinton	46	351.4
Douglas	19	253.7
Dudley	19	193.0
East Brookfield	7	303.4
Fitchburg	149	419.6
Franklin	74	302.5
Gardner	81	403.8
Grafton	33	231.3
Groton	26	379.9
Hardwick	10	412.3
Harvard	18	394.6
Holden	36	220.6
Holland	10	402.7
Hopedale	12	218.2
Hubbardston	9	306.8
Lancaster	13	243.0
Leicester	44	443.7
Leominster	134	343.6
Lunenburg	30	305.6
Medway	30	282.8
Mendon	8	133.8
Milford	89	366.3
Millbury	55	374.2
Millville	11	482.3
New Braintree	1	--[1]
North Brookfield	9	229.5
Northbridge	31	255.5
Oakham	5	298.4
Oxford	53	430.0
Paxton	16	334.3

Table 34. Premature Mortality Rates by Community Within EOHHS Region, Massachusetts: 2005

City/Town	Premature Deaths (#)	PMR* (per 100,000 population)
Pepperell	25	275.8
Princeton	8	293.0
Rutland	14	238.7
Shirley	22	342.9
Shrewsbury	53	170.6
Southbridge	55	360.2
Spencer	39	345.6
Sterling	21	366.0
Sturbridge	17	191.9
Sutton	34	421.2
Templeton	24	334.3
Townsend	28	403.9
Upton	15	310.9
Uxbridge	33	312.5
Wales	9	543.7
Warren	27	553.7
Webster	65	392.0
West Boylston	20	265.9
West Brookfield	14	336.4
Westminster	32	450.9
Winchendon	32	357.6
Worcester	621	410.6
NORTHEAST REGION		
Amesbury	58	376.5
Andover	68	224.0
Beverly	113	281.4
Billerica	125	340.1
Boxford	10	122.2
Chelmsford	89	260.1
Danvers	82	281.8
Dracut	91	330.3
Dunstable	5	215.3
Essex	10	287.6
Everett	126	347.8
Georgetown	17	241.7
Gloucester	106	311.6
Groveland	12	195.9
Hamilton	14	182.1
Haverhill	183	353.4
Ipswich	30	212.2
Lawrence	217	370.3
Lowell	347	404.1
Lynn	329	411.9
Lynnfield	36	288.4
Malden	212	392.8
Manchester	10	152.5
Marblehead	44	192.2
Medford	184	333.8
Melrose	81	299.3
Merrimac	18	304.8

Table 34. Premature Mortality Rates by Community Within EOHHS Region, Massachusetts: 2005

City/Town	Premature Deaths (#)	PMR* (per 100,000 population)
Methuen	121	281.4
Middleton	21	259.7
Nahant	9	205.1
Newbury	10	154.6
Newburyport	52	284.8
North Andover	72	303.6
North Reading	34	247.1
Peabody	180	313.7
Reading	59	248.1
Rockport	15	158.0
Rowley	8	152.1
Salem	131	330.4
Salisbury	33	379.5
Saugus	106	345.0
Stoneham	69	289.0
Swampscott	25	178.1
Tewksbury	99	345.8
Topsfield	11	181.8
Tyngsborough	34	445.4
Wakefield	78	314.6
Wenham	5	110.1
West Newbury	4	--[1]
Westford	39	241.2
METROWEST REGION		
Acton	45	221.8
Arlington	106	235.8
Ashland	40	280.6
Bedford	34	233.1
Belmont	52	201.3
Boxborough	7	234.7
Braintree	91	239.9
Burlington	58	213.5
Cambridge	190	237.5
Canton	59	266.0
Carlisle	2	--[1]
Cohasset	17	194.4
Concord	35	180.9
Dedham	62	234.8
Dover	10	198.3
Foxborough	45	268.2
Framingham	173	273.3
Hingham	39	168.6
Holliston	24	185.4
Hopkinton	24	238.6
Hudson	48	241.6
Hull	44	350.9
Lexington	52	156.3
Lincoln	5	73.3
Littleton	16	186.6
Marlborough	117	342.8

Table 34. Premature Mortality Rates by Community Within EOHHS Region, Massachusetts: 2005

City/Town	Premature Deaths (#)	PMR* (per 100,000 population)
Maynard	35	355.1
Medfield	27	236.7
Millis	14	174.3
Milton	48	190.8
Natick	86	255.2
Needham	69	232.9
Newton	143	172.4
Norfolk	14	171.5
Northborough	29	227.8
Norwell	26	252.7
Norwood	85	276.0
Plainville	25	317.3
Quincy	302	324.1
Randolph	113	361.3
Scituate	47	225.0
Sharon	35	213.7
Sherborn	8	180.4
Somerville	187	310.2
Southborough	19	271.2
Stow	15	287.3
Sudbury	26	163.6
Walpole	55	231.6
Waltham	163	288.3
Watertown	89	268.1
Wayland	25	200.8
Wellesley	43	166.2
Westborough	42	279.0
Weston	21	163.9
Westwood	26	196.1
Weymouth	204	358.2
Wilmington	52	259.3
Winchester	45	193.2
Woburn	137	340.3
Wrentham	35	359.2
SOUTHEAST REGION		
Abington	48	293.8
Acushnet	33	279.2
Aquinnah	0	--[1]
Attleboro	139	355.9
Avon	21	396.6
Barnstable	188	350.0
Berkley	15	317.5
Bourne	59	284.0
Brewster	39	310.8
Bridgewater	60	287.4
Brockton	360	413.7
Carver	42	359.0
Chatham	26	283.8
Chilmark	3	--[1]

Table 34. Premature Mortality Rates by Community Within EOHHS Region, Massachusetts: 2005

City/Town	Premature Deaths (#)	PMR* (per 100,000 population)
Dartmouth	72	238.6
Dennis	69	329.0
Dighton	17	291.7
Duxbury	39	260.3
East Bridgewater	44	341.6
Eastham	16	237.6
Easton	56	273.9
Edgartown	16	392.7
Fairhaven	46	268.7
Fall River	381	441.3
Falmouth	114	268.3
Freetown	23	313.6
Gosnold	0	--[1]
Halifax	35	432.8
Hanover	29	222.0
Hanson	27	276.4
Harwich	59	363.9
Holbrook	37	302.5
Kingston	35	297.0
Lakeville	23	237.3
Mansfield	50	360.3
Marion	12	204.6
Marshfield	73	288.6
Mashpee	60	366.9
Mattapoisett	18	212.8
Middleborough	80	420.9
Nantucket	24	271.2
New Bedford	389	443.2
North Attleboro	50	225.0
Norton	40	286.7
Oak Bluffs	16	404.2
Orleans	25	278.1
Pembroke	52	311.0
Plymouth	199	405.1
Plympton	7	352.3
Provincetown	18	440.7
Raynham	39	305.7
Rehoboth	23	229.8
Rochester	16	336.3
Rockland	61	339.6
Sandwich	53	267.7
Seekonk	32	230.9
Somerset	55	242.2
Stoughton	114	399.7
Swansea	47	268.9
Taunton	194	383.7
Tisbury	7	163.3
Truro	8	321.6
Wareham	95	385.2
Wellfleet	6	144.0
West Bridgewater	22	303.7

Table 34. Premature Mortality Rates by Community Within EOHHS Region, Massachusetts: 2005

City/Town	Premature Deaths (#)	PMR* (per 100,000 population)
West Tisbury	4	--[1]
Westport	53	322.1
Whitman	51	394.6
Yarmouth	86	291.3
BOSTON REGION		
Boston	1,773	387.4
Brookline	95	198.8
Chelsea	109	405.9
Revere	204	445.5
Winthrop	52	312.8

*Rates are age-adjusted to the 2000 U.S. Standard Population for person ages 0-74 years.
[1] Age-adjusted rates based on fewer than five events are excluded.

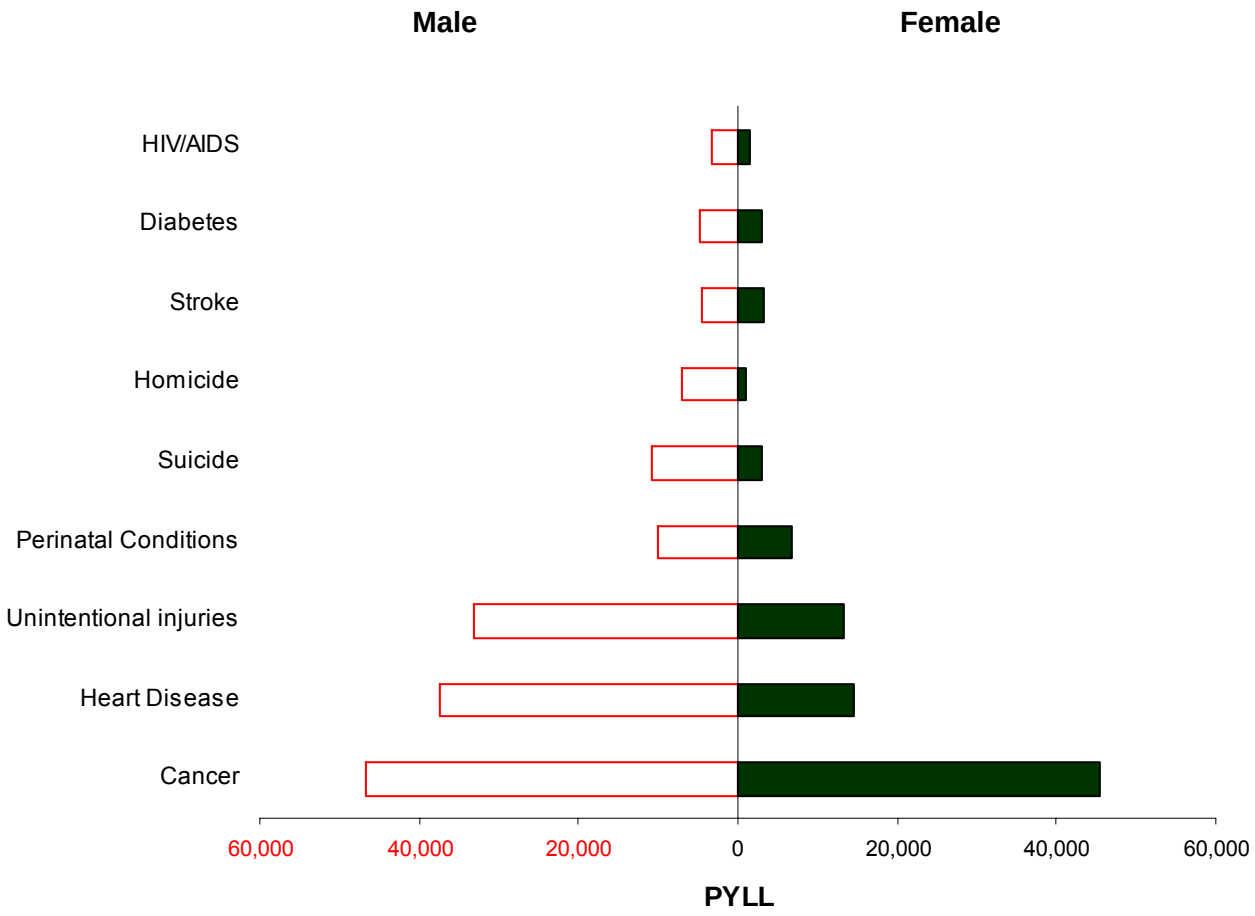
APPENDIX

Table 35. Rank by Potential Years of Life Lost (PYLL), Massachusetts: 2005

Cause	Total PYLL	Rank on PYLL	Average PYLL	# of Deaths before 75 years	Rank on Number of Deaths
All Causes					
Cancer	92,036	1	13.9	6,612	2
Heart Disease	51,948	2	14.2	3,666	1
Unintentional injuries	46,476	3	34.4	1,350	6
Perinatal Conditions	16,910	4	74.5	227	20
Suicide	13,813	5	32.4	426	14
Homicide	8,016	6	46.1	174	24
Stroke	7,972	7	13.9	572	3
Diabetes	7,893	8	14.8	535	9
HIV/AIDS	4,959	9	27.9	178	23
Alzheimer's Disease	657	10	7.9	83	7

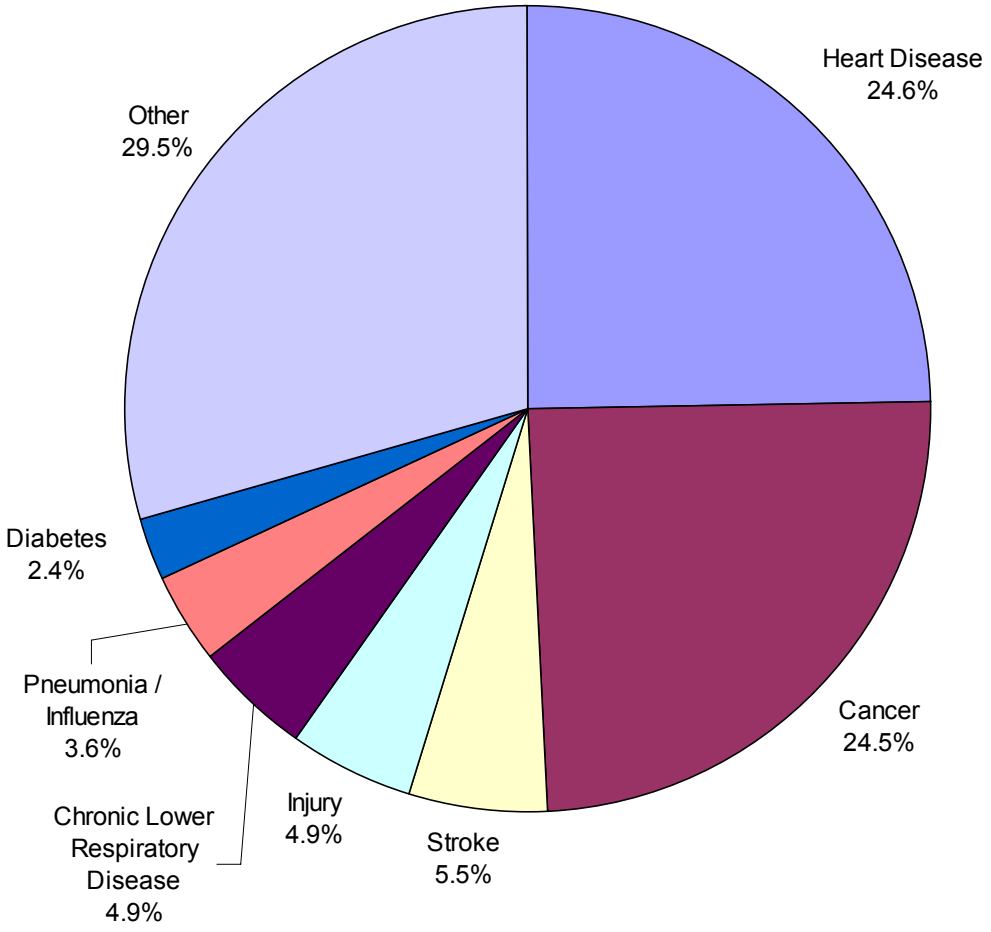
Note: Total potential years of life lost is calculated by multiplying the number of deaths for each group by the years of life lost (the difference between life expectancy and the midpoint of the age group, then adding the figures for all age groups).

Figure 18. Potential Years of Life Lost (PYLL) for Selected Causes by Gender, Massachusetts: 2005



Note: Total potential years of life lost is calculated by multiplying the number of deaths for each group by the years of life lost (the difference between life expectancy and the midpoint of the age group, then adding the figures for all age groups).

Figure 19. Percent Distribution of Leading Underlying Causes of Death,[1] Massachusetts: 2005



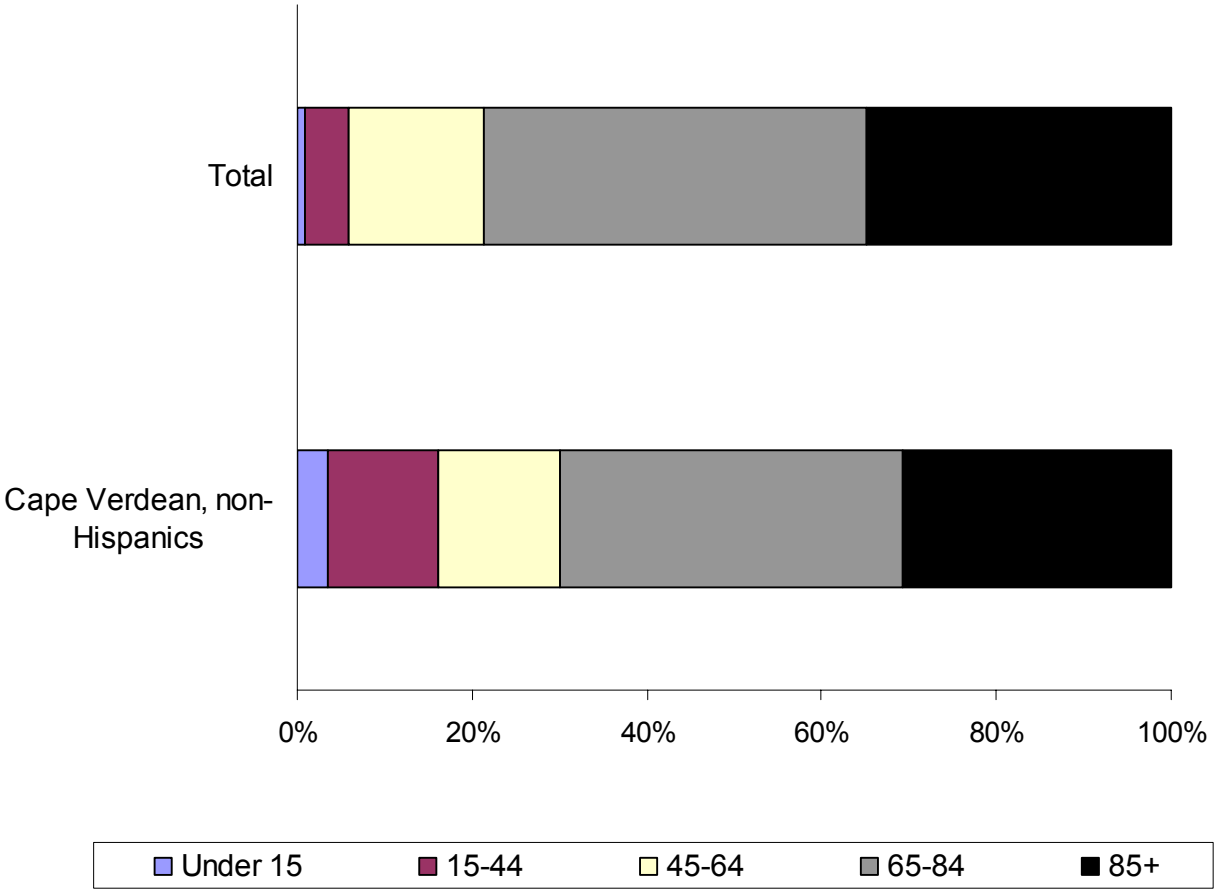
[1]Total Number of Deaths = 53,776
Causes of Death are classified according to ICD-10

Table 36. Leading Causes of Death[1] for Cape Verdean, non-Hispanics[2], Massachusetts: 2005

	Number	Percent
Cancer	41	23.7%
Heart Disease	38	22.0
Unintentional Injuries	11	6.4
Influenza and Pneumonia	9	5.2
Diabetes	8	4.6
Nephritis	8	4.6
HIV/AIDS	5	2.9
Septicemia	5	2.9
Homicide	4	--[3]
Other Causes	44	25.4
All Deaths	**173**	**100%**

1. Deaths are coded according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Historically, MA DPH has followed federal definitions of race and ethnicity and has reported death rates for white, black, Asian races including persons of Hispanic origin; and Hispanic ethnicity. Furthermore, Cape Verdeans have been included with blacks, to be consistent with the National Center for Health Statistics. Starting with Deaths 1999, in all tables where data were classified by race and ethnicity, we presented mutually exclusive categories of white, non-Hispanic; black, non-Hispanic; Asian, non-Hispanic; and Hispanic. Here, we separate Cape Verdeans from the Black, non-Hispanic group. 3. Calculations based on fewer than five events are excluded.

Figure 20. Age Distribution of Deaths for Cape Verdean non-Hispanics and State Total, Massachusetts: 2005



* Historically, MA DPH has followed federal definitions of race and ethnicity and has reported death rates for white, black, Asian races including persons of Hispanic origin; and Hispanic ethnicity. Furthermore, Cape Verdeans have been included with blacks, to be consistent with the National Center for Health Statistics. Starting with Deaths 1999, in all tables where data were classified by race and ethnicity, we presented mutually exclusive categories of white non-Hispanic; black non-Hispanic; Asian non-Hispanic; and Hispanic. Here, we separate Cape Verdeans from the Black, non-Hispanic group.

Table 37. Number and Age-Specific Rates for Selected Causes of Death by Race and Hispanic Ethnicity, Massachusetts: 2005

Selected Causes[2]	Total		White non-Hispanic[1]		Black non-Hispanic[1]		Asian non-Hispanic[1]		Hispanic	
	#	Rate[3]	#	Rate	#	Rate	#	Rate	#	Rate
Age: 1-14, TOTAL	**113**	**10.1**	**72**	**8.6**	**16**	**17.7**	**6**	**10.4**	**17**	**12.7**
Unintentional Injuries[4]	32	2.9	19	2.3	4	--[5]	2	--[5]	6	4.5
Cancer	25	2.2	19	2.3	2	--[5]	2	--[5]	2	--[5]
Congenital malformations	9	0.8	4	--[5]	1	--[5]	1	--[5]	3	--[5]
Heart Disease	6	0.5	4	--[5]	2	--[5]	0	--[5]	0	--[5]
Age: 15-24, TOTAL	**489**	**57.5**	**332**	**51.5**	**77**	**118.6**	**17**	**35.3**	**61**	**67.6**
Unintentional Injuries[4]	212	24.9	169	26.2	11	16.9	4	--[5]	27	29.9
Homicide	81	9.5	19	2.9	44	67.8	1	--[5]	17	18.8
Suicide	54	6.3	44	6.8	3	4.6	3	--[5]	4	--[5]
Cancer	30	3.5	19	2.9	4	6.2	2	--[5]	5	5.5
Age: 25-44, TOTAL	**2,173**	**115.6**	**1,662**	**114.8**	**222**	**183.2**	**49**	**38.4**	**233**	**130.7**
Unintentional Injuries[4]	537	28.6	436	30.1	31	25.6	9	7.1	60	33.7
Cancer	346	18.4	279	19.3	29	23.9	15	11.8	23	12.9
Heart Disease	258	13.7	194	13.4	36	29.7	5	3.9	22	12.3
Suicide	181	9.6	154	10.6	6	5.0	6	4.7	14	7.9
Age: 45-64, TOTAL	**8,355**	**516.6**	**7,267**	**516.3**	**580**	**749.2**	**116**	**209.9**	**373**	**507.5**
Cancer	3,148	194.6	2,801	199.0	186	240.3	55	99.5	103	140.1
Heart Disease	1,611	99.6	1,435	102.0	111	143.4	13	23.5	48	65.3
Unintentional Injuries[4]	454	28.1	397	28.2	29	37.5	6	10.9	21	28.6
Chronic Lower Respiratory Disease[6]	271	16.8	252	17.9	10	12.9	2	--[5]	4	--[5]
Age: 65+, TOTAL	**42,255**	**4,954.7**	**40,076**	**5,100.6**	**1,305**	**4,704.2**	**364**	**1,973.3**	**468**	**2,394.8**
Heart Disease	11,347	1,330.5	10,810	1,375.8	337	1,214.8	70	379.5	116	593.6
Cancer	9,610	1,126.8	9,079	1,155.5	305	1,099.5	112	607.2	103	527.1
Stroke	2,710	317.8	2,559	325.7	82	295.6	33	178.9	33	168.9
Chronic Lower Respiratory Disease[6]	2,345	275.0	2,266	288.4	44	158.6	13	70.5	22	112.6

1. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in a race category. Please refer to the Technical Notes in the Appendix for a more detailed explanation. 2. Deaths are coded according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 3. Number of deaths per 100,000 persons in each age group. 4. Unintentional injuries include injuries such as motor vehicle-related and other transportation related deaths, falls, fires, and drownings that were not intended to occur. 5. Calculations based on fewer than five events are excluded. 6. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title).

Table 37 (cont). Number and Age-Specific Rates for Selected Causes of Death by Race and Hispanic Ethnicity, Massachusetts: 2005

	Total		White non-Hispanic[1]		Black non-Hispanic[1]		Asian non-Hispanic[1]		Hispanic	
Selected Causes[2]	**#**	**Rate[3]**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**
Age: 65-74, TOTAL	**7,905**	**2,026.9**	**7,191**	**2,046.3**	**407**	**2,641.3**	**117**	**1,073.6**	**175**	**1,505.9**
Cancer	3,063	785.4	2,814	800.8	131	850.2	62	568.9	52	447.5
Heart Disease	1,765	452.6	1,607	457.3	104	674.9	11	100.9	37	318.4
Chronic Lower Respiratory Disease[4]	494	126.7	477	135.7	13	84.4	1	--[5]	3	--[5]
Stroke	303	77.7	260	74.0	20	129.8	10	91.8	13	111.9
Age: 75-84, TOTAL	**15,632**	**4,877.6**	**14,792**	**4,937.3**	**494**	**5,488.3**	**143**	**2,484.8**	**185**	**3,262.8**
Cancer	4,210	1,313.6	4,027	1,344.2	109	1,211.0	36	625.5	33	582.0
Heart Disease	3,759	1,172.9	3,543	1,182.6	127	1,411.0	40	695.0	44	776.0
Chronic Lower Respiratory Disease[4]	1,020	318.3	986	329.1	18	200.0	5	86.9	11	194.0
Stroke	970	302.7	909	303.4	33	366.6	13	225.9	13	229.3
Age: 85+, TOTAL	**18,718**	**13,150.6**	**18,093**	**13,430.6**	**404**	**12,128.5**	**104**	**5,800.3**	**108**	**4,797.9**
Heart Disease	5,823	4,091.0	5,660	4,201.5	106	3,182.2	19	1,059.7	35	1,554.9
Cancer	2,337	1,641.9	2,238	1,661.3	65	1,951.4	14	780.8	18	799.6
Stroke	1,437	1,009.6	1,390	1,031.8	29	870.6	10	557.7	7	311.0
Influenza and Pneumonia	1,062	746.1	1,034	767.5	15	450.3	8	446.2	4	--[5]

1. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in a race category. Please refer to the Technical Notes in the Appendix for a more detailed explanation. 2. Deaths are coded according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 3. Number of deaths per 100,000 persons in each age group. 4. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title). 5. Calculations based on fewer than five events are excluded.

Table 38. Number of Deaths for Leading Causes of Death[1] by Hispanic Ethnicity, Massachusetts: 2005

Ethnicity	Cancer	Heart Disease	Unintentional Injuries	Diabetes	Stroke	Perinatal Conditions	HIV/AIDS	Homicide	Chronic Lower Respiratory Disease[2]	Injuries of Undetermined Intent	ALL DEATHS
Puerto Rican	145	123	77	46	35	28	41	19	25	2	**845**
Dominican	36	26	12	5	6	10	1	4	1	0	**138**
South American	18	7	15	3	4	2	1	1	3	0	**86**
Central American	19	11	9	4	3	6	2	9	1	1	**85**
Cuban	13	13	2	0	3	0	0	0	1	0	**43**
Mexican	4	2	4	0	1	1	0	0	0	1	**21**
Other/Unknown	1	3	1	1	1	0	0	0	0	0	**12**
All Hispanics	**236**	**186**	**120**	**59**	**53**	**47**	**45**	**33**	**31**	**4**	**1,230**

[1] Ranking based on number of deaths. Underlying Cause of Death based on ICD-10 (Please refer to Appendix for list of ICD-10 codes used).
[2] The title of this cause has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title).

Figure 21. Heart Disease Death Rates by Race/Ethnicity and Gender, Massachusetts: 1996-2005

(For 1996-1998 the comparability modified rates were used. Please see Table 11 footnotes for more details)

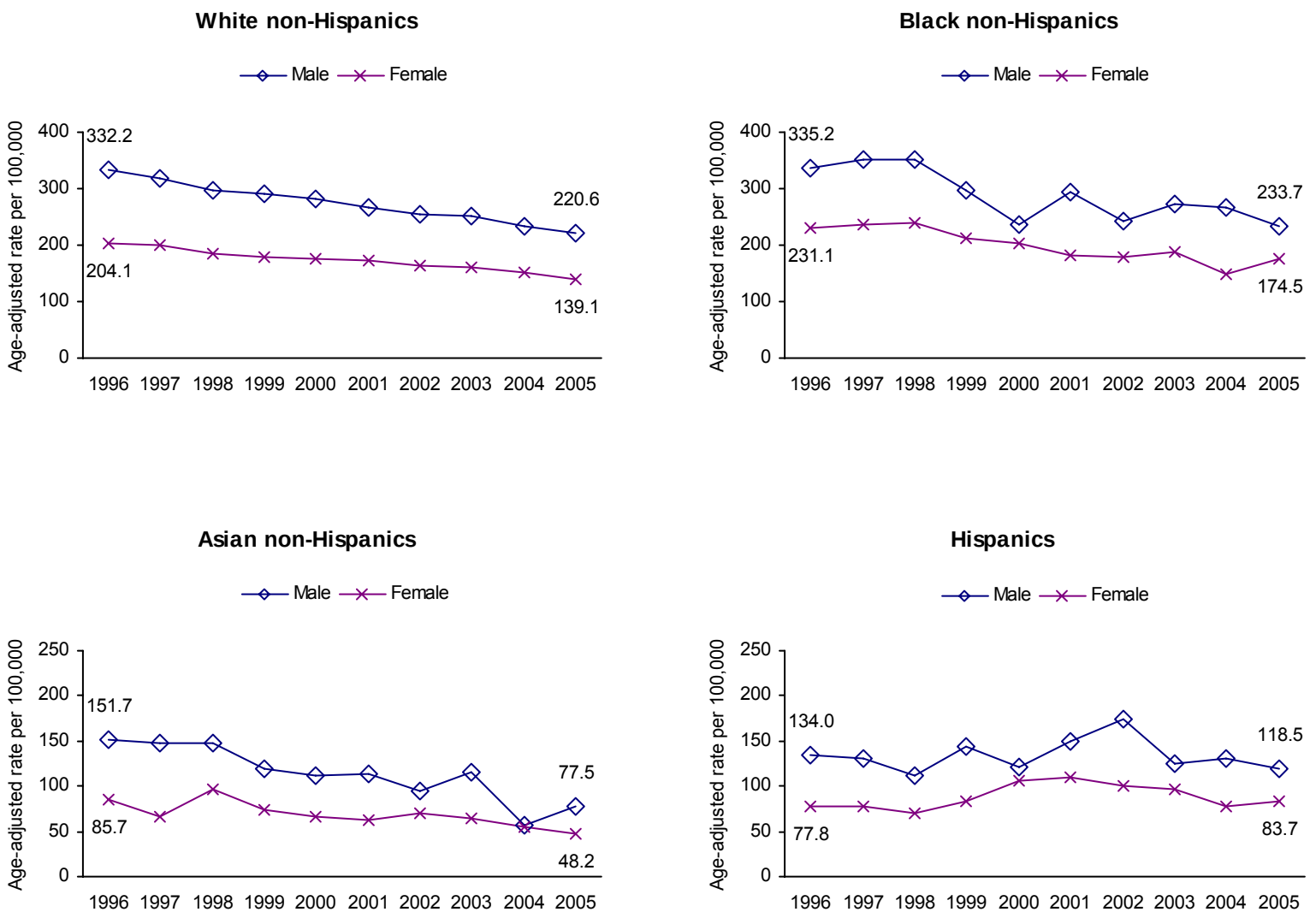


Figure 22. Cancer Death Rates by Race/Ethnicity and Gender, Massachusetts: 1996-2005

(For 1996-1998 the comparability modified rates were used. Please see Table 11 footnotes for more details)

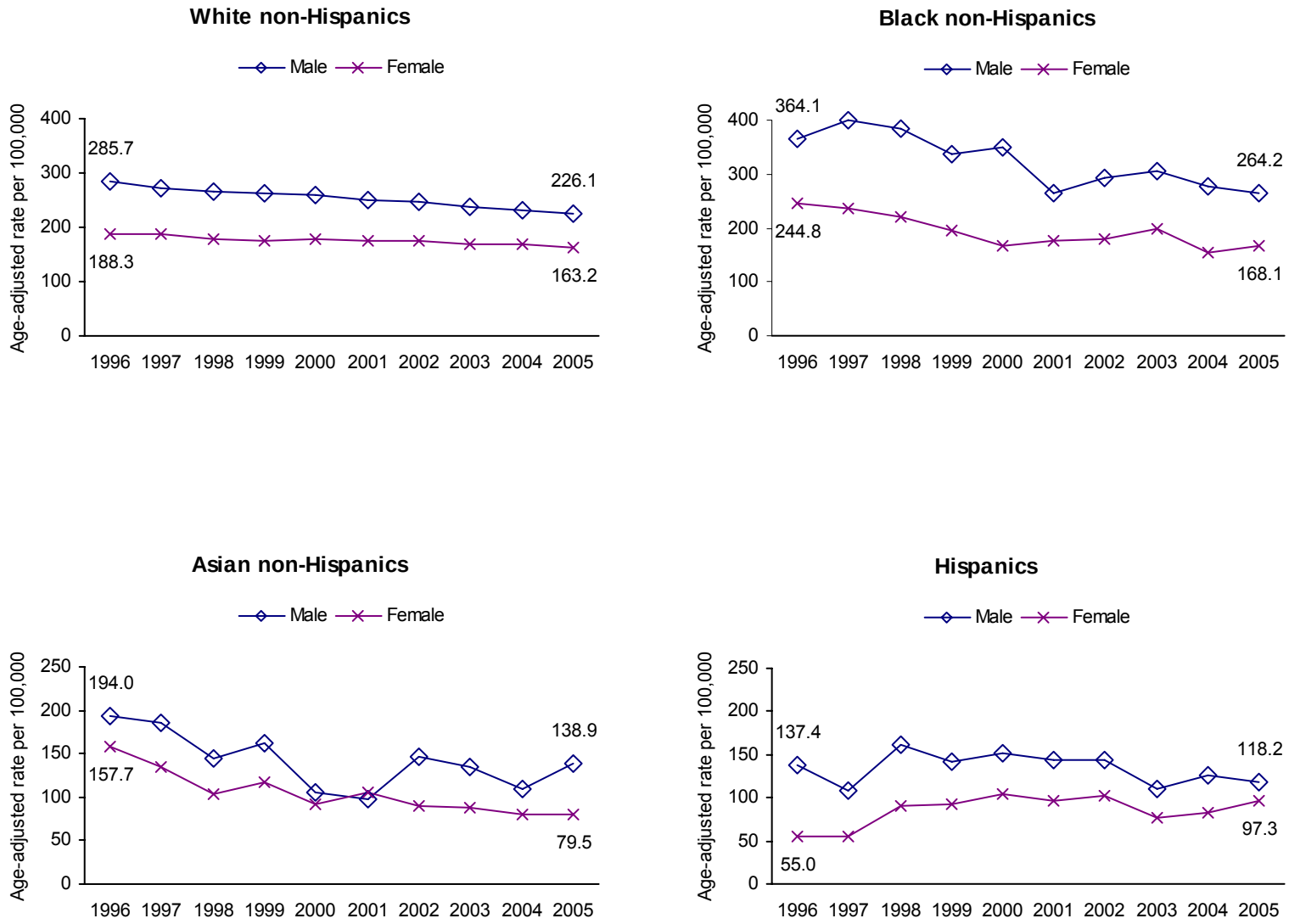


Table 39. Underlying Cause of Death where Diabetes[1] is a Contributing Cause, Massachusetts: 2005

Underlying Cause of Death	Number	Proportion (%)
Cardiovascular Diseases	1,280	48.3
Heart Disease	1,045	39.4
Stroke	169	6.4
Cancer	450	17.0
Diseases of the Respiratory System	255	9.6
CLRD	123	4.6
Influenza and pneumonia	67	2.5
Diseases of the Digestive System	132	5.0
Diseases of the Genito-Urinary System	139	5.2
Nephritis	89	3.4
Diseases of the Nervous System and Sense Organs	109	4.1
Alzheimer's Disease	72	2.7
Parkinson's Disease	13	0.5
Infectious and Parasitic Diseases	88	3.3
HIV/AIDS	5	0.2
Injury and Poisoning	37	1.4
Endocrine, Nutritional and Metabolic Diseases and Immunity Disorders	34	1.3
Diseases of the Musculoskeletal Systems and Connective Tissue	20	0.8
Other	108	4.1
Total deaths where diabetes is ONLY a contributing cause	**2,652**	**100%**

[1] **ICD-10: E10-E14**

Table 40. Associated Causes of Death where Diabetes[1] is the Underlying Cause of Death, Massachusetts: 2005

Associated Causes of Death	Number	Proportion (%)
Cardiovascular Disease	659	51.9
Cardiovascular Disease and Diseases of the Genitourinary System	187	14.7
No Associated Causes	115	9.1
Cardiovascular Disease and Diseases of the Respiratory System	85	6.7
Diseases of the Genitourinary System	71	5.6
Other Associated Cause Combinations Less than 19	58	4.6
Diseases of the Respiratory System	26	2.1
Cardiovascular Disease, Diseases of the Respiratory System, and Diseases of the Genitourinary System	26	2.1
Cancer and Cardiovascular Disease	25	2.0
Cardiovascular Disease and Diseases of the Nervous System	19	1.5
Total deaths where diabetes is the underlying cause of death	**1,271**	**100%**

[1] **ICD-10: E10-E14**

Figure 23. Distribution of Injury Deaths by Intent, Massachusetts: 2005

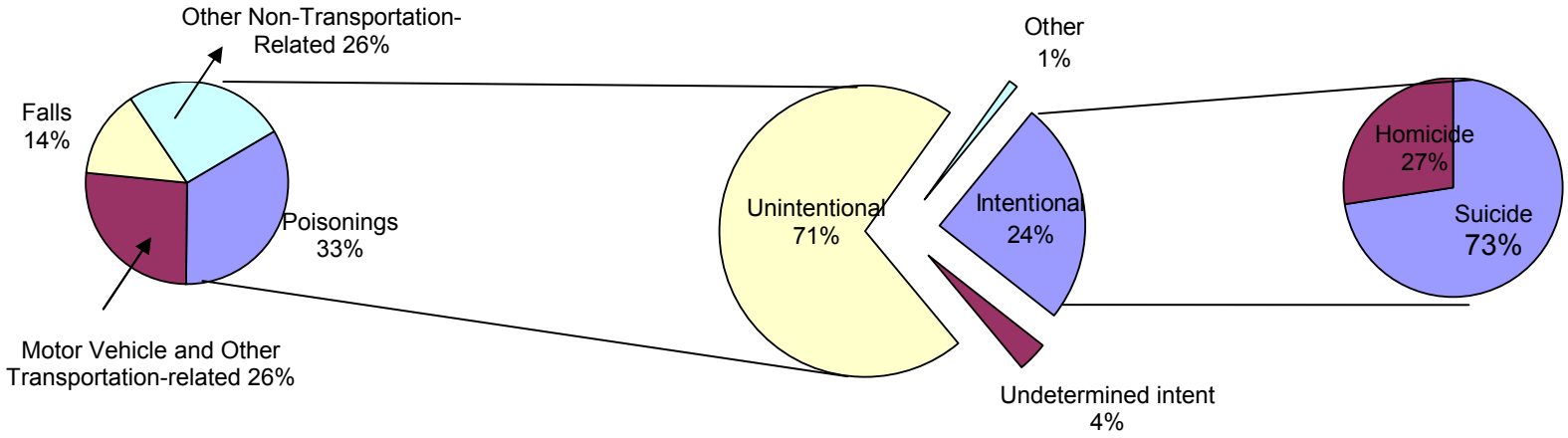


Table 41. HIV/AIDS[1] Deaths by Race, Hispanic Ethnicity, and Gender Persons Ages 25-44, Massachusetts: 1995- 2005

Year	White non-Hispanic[2]				Black non-Hispanic[2]				Hispanic			
TOTAL	#	Rate[3]	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
	Comparability Unmodified		Comparability Modified[4]		Comparability Unmodified		Comparability Modified[4]		Comparability Unmodified		Comparability Modified[4]	
1995	428	24.3	455	25.8	159	169.7	169	180.5	124	113.0	132	120.2
1996	251	14.2	267	15.1	113	121.1	120	128.8	85	75.4	90	80.2
1997	86	4.9	98	5.6	48	51.3	55	58.7	36	31.1	41	35.6
1998	68	3.9	78	4.5	38	40.7	44	46.6	47	39.8	54	45.6
1999		74[6]	4.4			32[6]	31.2			40[6]	30.5	
2000		60	3.7			28	23.8			40	27.6	
2001		70	4.4			35	29.3			31	20.3	
2002		42	2.7			24	20.1			35	22.1	
2003		63	4.1			19	15.8			25	15.1	
2004		38	2.6			17	14.0			31	18.0	
2005		29	2.0			22	18.2			19	10.7	
MALE												
1995	367	42.1	390	44.8	112	242.2	119	257.6	90	164.5	96	175.0
1996	221	25.3	235	26.9	73	158.1	78	168.2	61	108.5	65	115.4
1997	71	8.1	81	9.3	30	64.6	34	74.0	28	48.5	32	55.5
1998	57	6.6	65	7.6	27	58.2	31	66.6	34	57.7	39	66.1
1999		54[6]	6.5			20[6]	39.9			30[6]	46.2	
2000		39	4.9			17	30.1			27	37.9	
2001		46	5.8			19	33.3			23	30.6	
2002		29	3.8			15	26.3			21	26.8	
2003		42	5.6			10	17.3			19	23.1	
2004		30	4.1			11	18.9			19	22.1	
2005		21	2.9			12	20.4			11	12.3	
FEMALE												
1995	61	6.9	65	7.3	47	99.0	50	105.3	34	61.8	36	65.7
1996	30	3.4	32	3.6	40	84.9	43	90.3	24	42.4	26	45.1
1997	15	1.7	17	1.9	18	38.2	21	43.7	8	13.8	9	15.8
1998	11	1.3	13	1.5	11	23.4	13	26.8	13	22.0	15	25.2
1999		20[6]	2.3			12[6]	22.9			10[6]	15.1	
2000		21	2.5			11	17.9			13	17.6	
2001		24	2.9			16	25.7			8	10.3	
2002		13	1.6			9	14.4			14	17.4	
2003		21	2.7			9	14.4			6	7.2	
2004		8	1.1			6	9.6			12	13.9	
2005		8	1.1			10	16.0			8	9.0	

1. AIDS and HIV disease deaths for years 1994-1998 coded using ICD-9: 042-044; 1999–2005 deaths coded using ICD-10: B20-B24. Please refer to Appendix for comparability ratios. 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in a race category. Please refer to the Technical Notes in the Appendix for a more detailed explanation. 3. Number of deaths per 100,000 residents in the specified population group. 4. Comparability Modified (CM) number and rate based on preliminary comparability ratios (CR) from NCHS (June 2001). CM data for 1994-1996 use 1996 based CR; CM data for 1997-1998 use revised 1998 based CR. Please see Appendix for detailed explanation. 5. NA = not applicable. 6. When comparing data over time between 1994 through 2004, please use comparability modified data for years 1994-1998. Resident death data for 2000-2005 are calculated using the Massachusetts (Department of Public Health) Modified Age, Race/Ethnicity, & Sex Estimates 2000-2005 (MMARS00-05), released October, 2006.

Table 42. Premature Mortality Rates by Community Health Network Area (CHNA), Massachusetts: 2005

CHNA (Name and Number)	Number of Deaths	PMR[1] (per 100,000 population)
Massachusetts	**19,426**	**317.1**
Community Health Network of Berkshire (1)	489	336.9
Upper Valley Health Web (Franklin County) (2)	288	330.8
Partnership for Health in Hampshire County (Northampton) (3)	390	294.2
The Community Health Connection (Springfield) (4)	1,097	391.5
Community Health Network of Southern Worcester County (5)	382	347.6
Community Partners for Health (Milford) (6)	450	327.4
Community Health Network of Greater Metro West (Framingham) (7)	926	255.0
Community Wellness Coalition (Worcester) (8)	939	343.1
Fitchburg/Gardner Community Health Network (9)	802	343.0
Greater Lowell Community Health Network (10)	829	340.5
Greater Lawrence Community Health Network (11)	499	302.0
Greater Haverhill Community Health Network (12)	405	296.0
Community Health Network North (Beverly/Gloucester) (13)	314	246.8
North Shore Community Health Network (14)	942	323.3
Greater Woburn/Concord/Littleton Community Health Network (15)	488	219.6
North Suburban Health Alliance (Medford/Malden/Melrose) (16)	843	322.8
Greater Cambridge/Somerville Community Health Network (17)	624	257.6
West Suburban Health Network (Newton/Waltham) (18)	537	209.3
Alliance for Community Health (Boston/Chelsea/Revere/Winthrop) (19)	2,233	373.1
Blue Hills Community Health Alliance (Greater Quincy) (20)	1,110	283.0
Four (For) Communities (Holyoke, Chicopee, Ludlow, Westfield) (21)	589	376.9
Greater Brockton Community Health Network (22)	813	361.6
South Shore Community Partners in Prevention (Plymouth) (23)	599	330.6
Greater Attleboro-Taunton Health & Education Response (24)	702	320.2
Partners for a Healthier Community (Fall River) (25)	536	373.4
Greater New Bedford Health & Human Services Coalition (26)	704	353.6
Cape Cod & Islands Community Health Network (27)	896	300.6

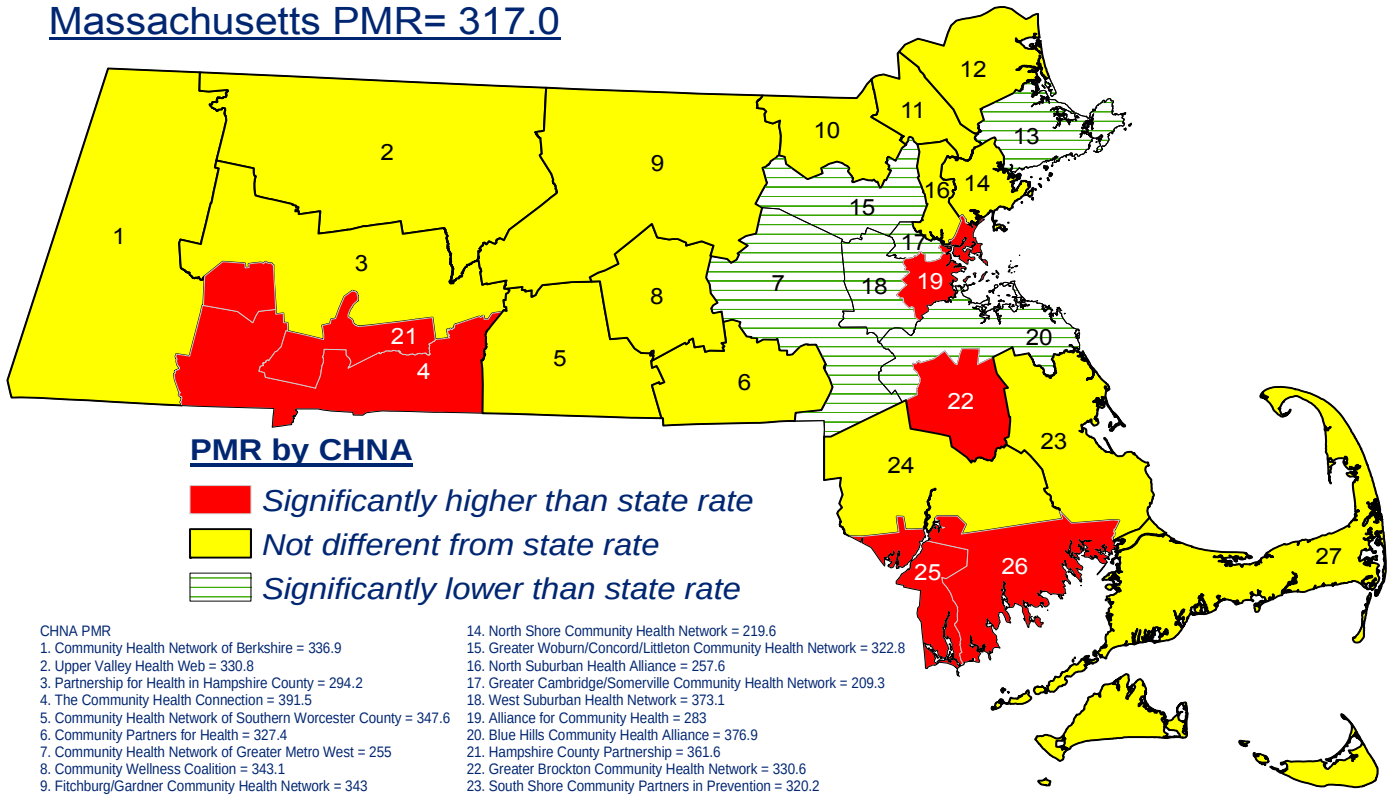
[1]Rates are age-adjusted to the 2000 U.S. Standard Population for person ages 0-74 years.

Table 43. Premature Mortality Rates by County, Massachusetts: 2005

County	Number of Deaths	PMR[1] (per 100,000 population)
Massachusetts	**19,426**	**317.0**
Barnstable	826	303.8
Berkshire	489	336.9
Bristol	1,754	338.9
Dukes	46	279.1
Essex	2,160	298.5
Franklin	226	318.2
Hampden	1,709	386.7
Hampshire	395	293.8
Middlesex	3,865	274.6
Nantucket	24	271.2
Norfolk	1,804	273.3
Plymouth	1,584	329.5
Suffolk	2,138	390.0
Worcester	2,406	338.6

[1] Rates are age-adjusted to the 2000 U.S. Standard Population for person ages 0-74 years.

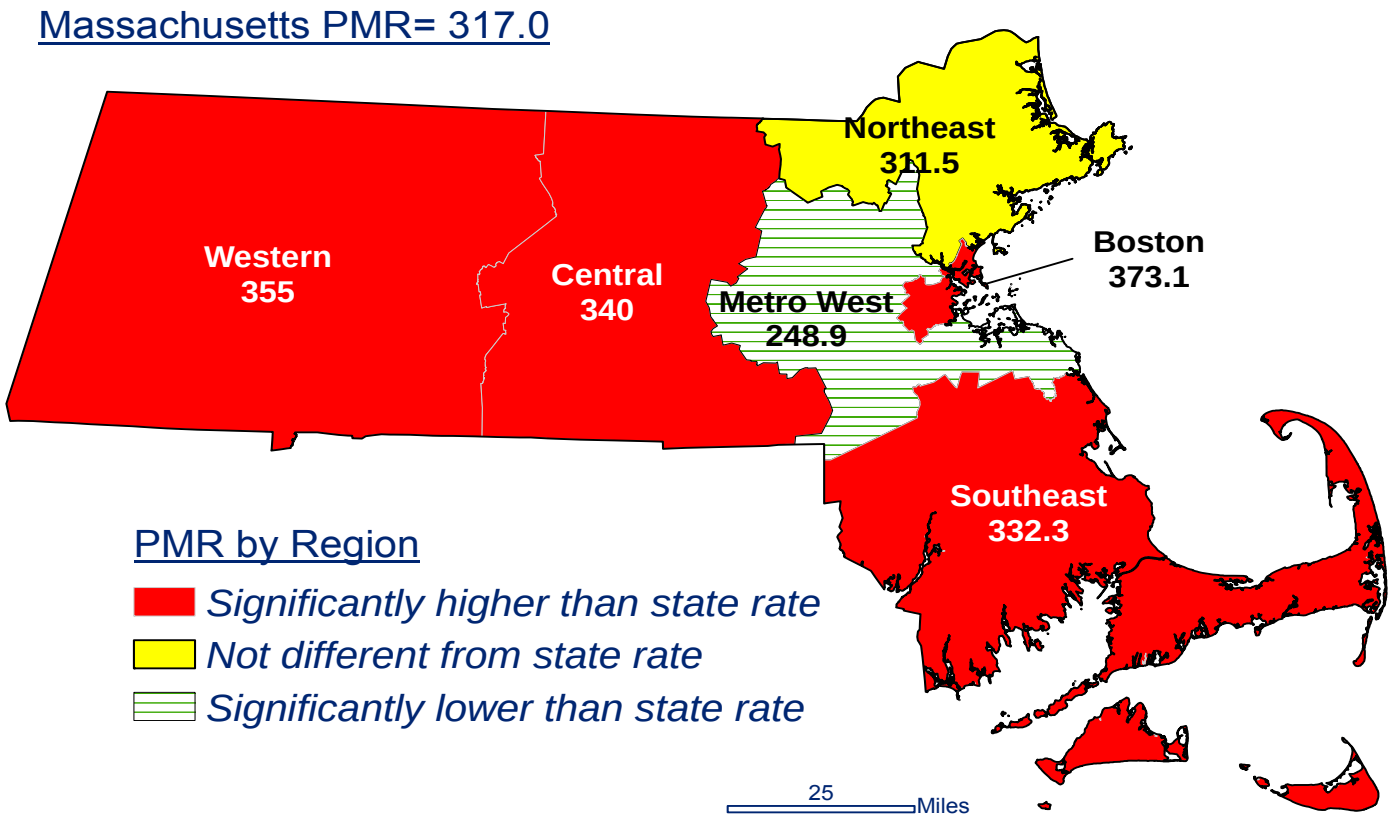
Map 1. Premature Mortality Rates (PMR) by Community Health Network Area (CHNA), Massachusetts: 2005



CHNA PMR
1. Community Health Network of Berkshire = 336.9
2. Upper Valley Health Web = 330.8
3. Partnership for Health in Hampshire County = 294.2
4. The Community Health Connection = 391.5
5. Community Health Network of Southern Worcester County = 347.6
6. Community Partners for Health = 327.4
7. Community Health Network of Greater Metro West = 255
8. Community Wellness Coalition = 343.1
9. Fitchburg/Gardner Community Health Network = 343
10. Greater Lowell Community Health Network = 340.5
11. Greater Lawrence Community Health Network = 302
12. Greater Haverhill Community Health Network = 296
13. Community Health Network North = 246.8
14. North Shore Community Health Network = 219.6
15. Greater Woburn/Concord/Littleton Community Health Network = 322.8
16. North Suburban Health Alliance = 257.6
17. Greater Cambridge/Somerville Community Health Network = 209.3
18. West Suburban Health Network = 373.1
19. Alliance for Community Health = 283
20. Blue Hills Community Health Alliance = 376.9
21. Hampshire County Partnership = 361.6
22. Greater Brockton Community Health Network = 330.6
23. South Shore Community Partners in Prevention = 320.2
24. Greater Attleboro-Taunton Health & Education Response = 373.4
25. Partners for a Healthier Community = 353.6
26. Greater New Bedford Health & Human Services Coalition = 300.6
27. Cape Cod & Islands Community Health Network = 317

Rates are per 100,000 persons under 75 years of age, age-adjusted to the 2000 US standard population.

Map 2. Premature Mortality Rates (PMR) by Region, Massachusetts: 2005

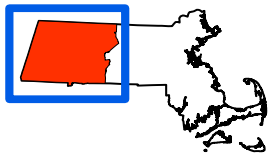


Rates are per 100,000 persons under 75 years of age, age-adjusted to the 2000 US standard population under 75 years of age.

Map 3. Premature Mortality Rates (PMR), Western Region by City/Town: 2005

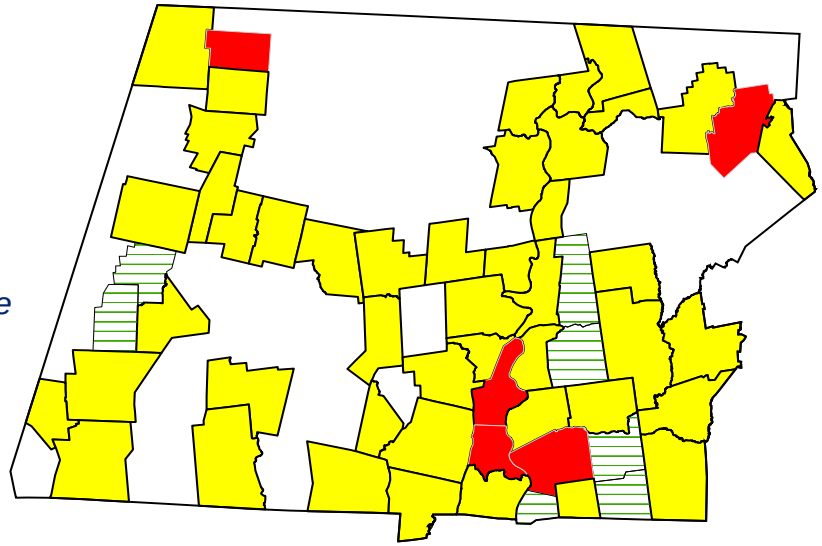
Massachusetts PMR= 317.0

Western Region PMR= 355.0



PMR by City/Town

- *Significantly higher than state rate*
- *Not different from state rate*
- *Significantly lower than state rate*
- Less than 5 premature deaths.

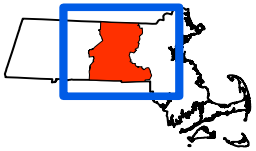


Rates are per 100,000 persons under 75 years of age, age-adjusted to the 2000 US standard population under 75 years of age.

Map 4. Premature Mortality Rates (PMR), Central Region by City/Town: 2005

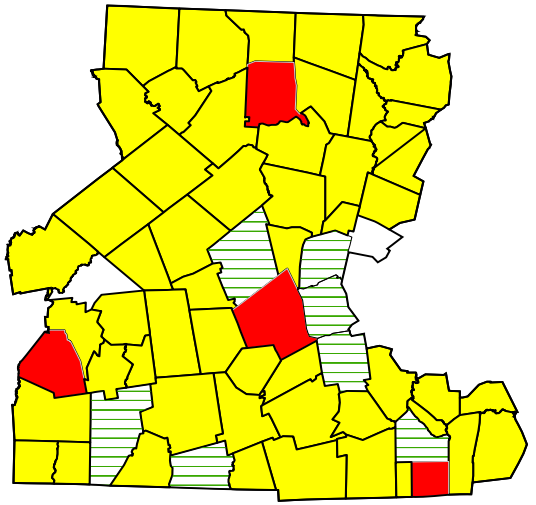
Massachusetts PMR= 317.0

Central Region PMR= 340.0



PMR by City/Town

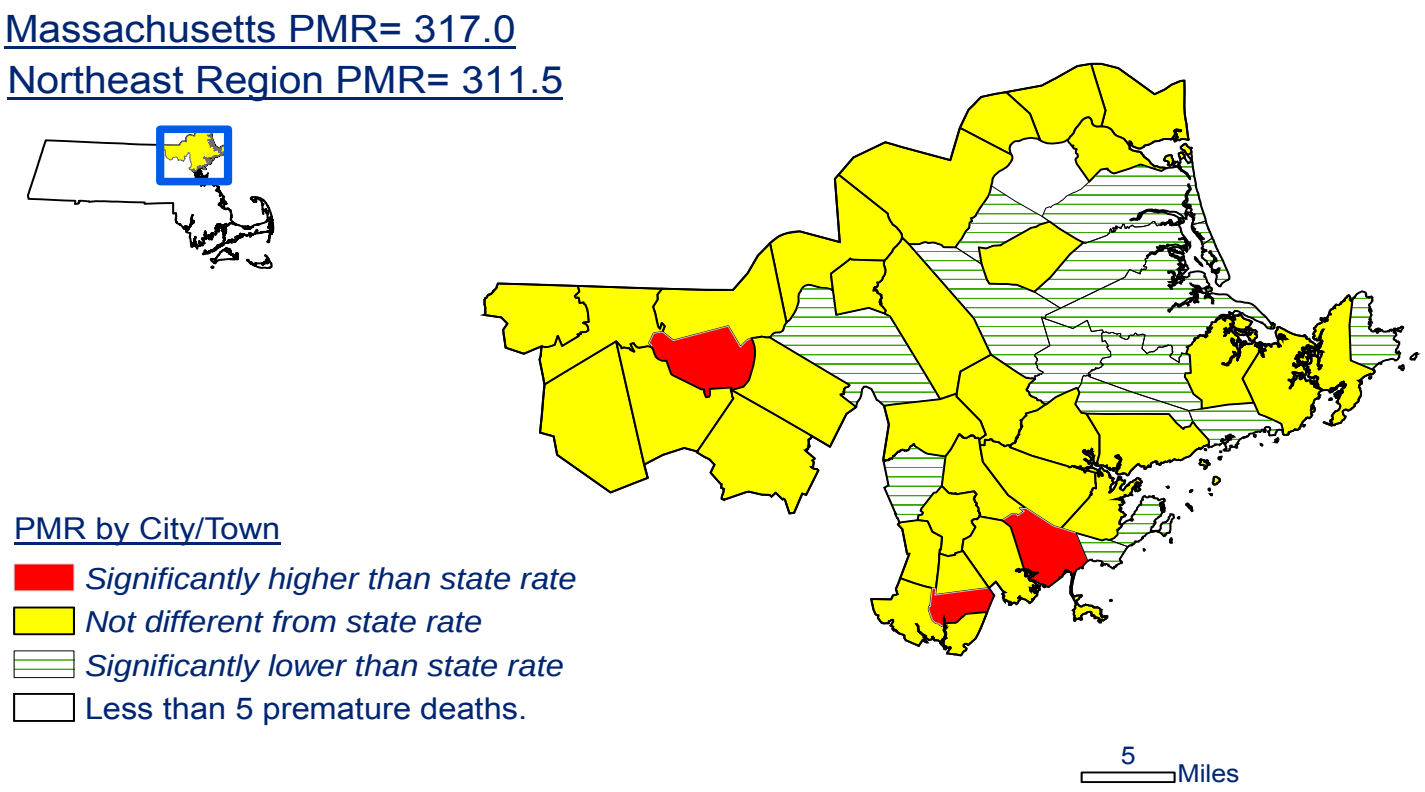
- *Significantly higher than state rate*
- *Not different from state rate*
- *Significantly lower than state rate*
- Less than 5 premature deaths.



10 Miles

Rates are per 100,000 persons under 75 years of age, age-adjusted to the 2000 US standard population under 75 years of age.

Map 5. Premature Mortality Rates (PMR), Northeast Region by City/Town: 2005

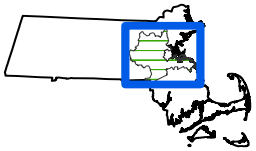


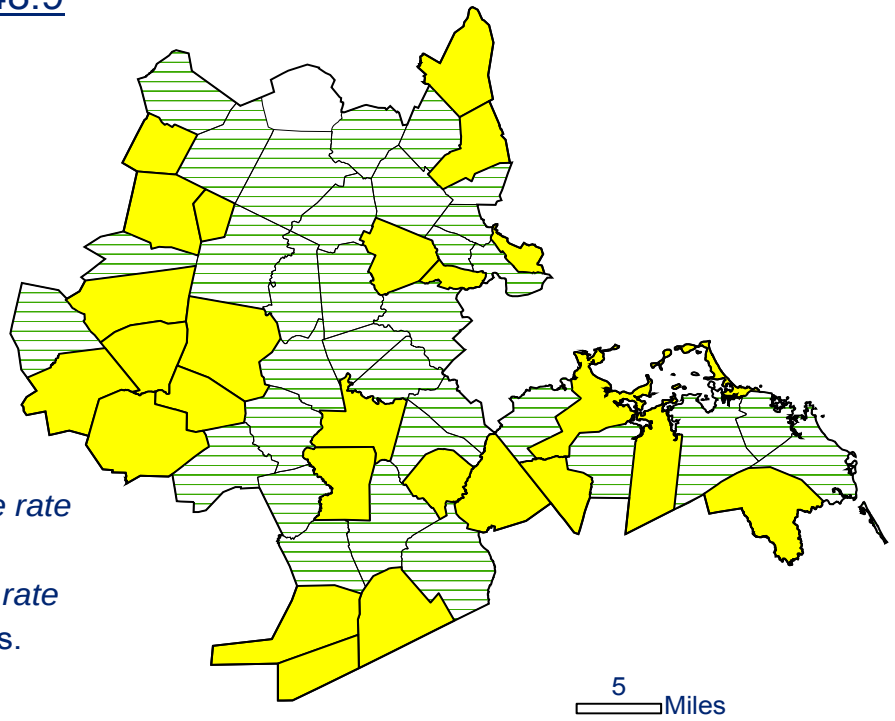
Rates are per 100,000 persons under 75 years of age, age-adjusted to the 2000 US standard population under 75 years of age.

Map 6. Premature Mortality Rates (PMR), Metrowest Region by City/Town: 2005

Massachusetts PMR= 317.0

Metrowest Region PMR= 248.9





PMR by City/Town

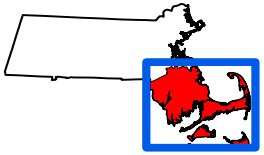
- *Significantly higher than state rate*
- *Not different from state rate*
- *Significantly lower than state rate*
- Less than 5 premature deaths.

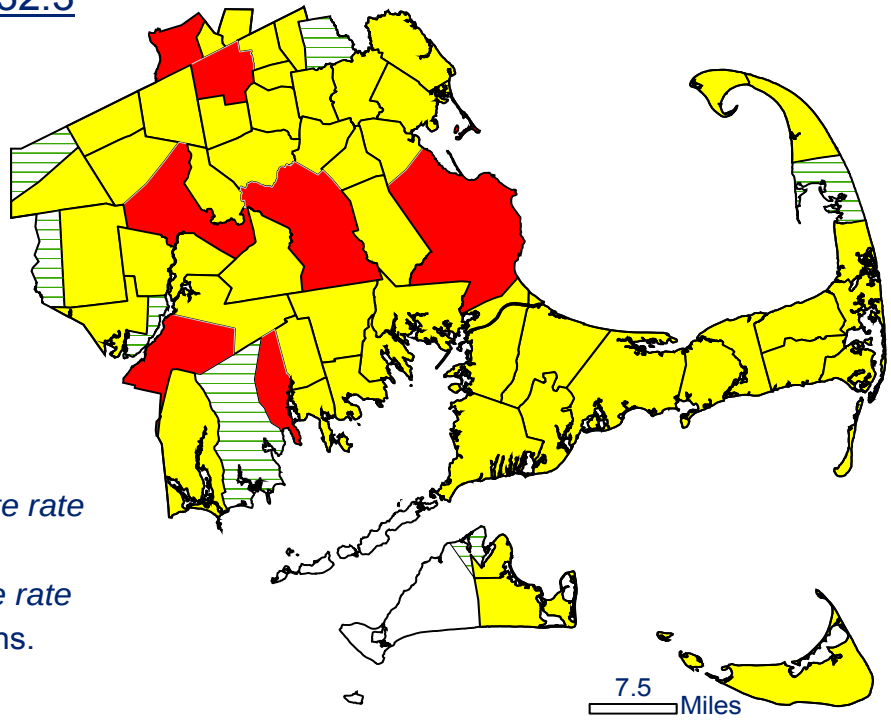
Rates are per 100,000 persons under 75 years of age, age-adjusted to the 2000 US standard population under 75 years of age.

Map 7. Premature Mortality Rates (PMR), Southeast Region by City/Town: 2005

Massachusetts PMR= 317.0

Southeast Region PMR= 332.3





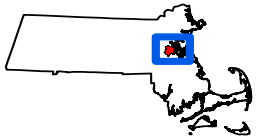
PMR by City/Town

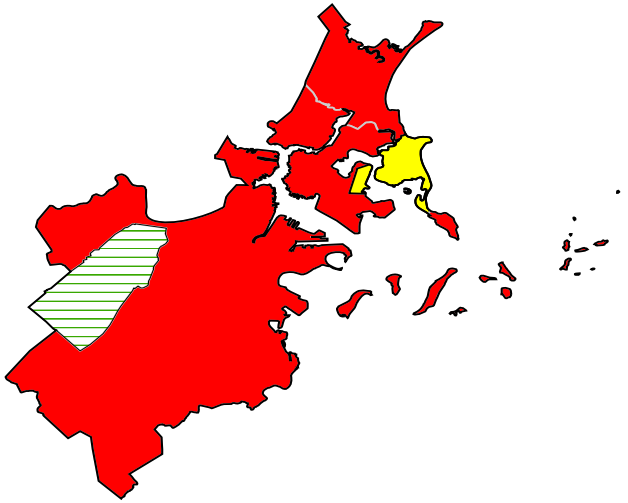
- *Significantly higher than state rate*
- *Not different from state rate*
- *Significantly lower than state rate*
- Less than 5 premature deaths.

Rates are per 100,000 persons under 75 years of age, age-adjusted to the 2000 US standard population under 75 years of age.

Map 8. Premature Mortality Rates (PMR), Boston Region by City/Town: 2005

Massachusetts PMR= 317.0
Boston Region PMR= 373.1





PMR by City/Town

- *Significantly higher than state rate*
- *Not different from state rate*
- *Significantly lower than state rate*
- Less than 5 premature deaths.

2.5 Miles

Rates are per 100,000 persons under 75 years of age, age-adjusted to the 2000 US standard population under 75 years of age.

Table 44. Selected Causes of Death by Community, Massachusetts: 2005

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Female Breast Cancer[2]	Stroke	Chronic Lower Respiratory Disease[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	All Narcotics, psychodyslepti hallucinogens[5]
Massachusetts	**53,776**	**720.6**	**13,248**	**13,159**	**3,633**	**937**	**2,979**	**2,643**	**1,271**	**1,932**	**478**	**177**	**469**	**585**
Abington	126	690.2	32	30	9	6	6	8	3	5	3	0	0	1
Acton	104	662.1	20	33	5	4	5	2	2	5	0	0	2	1
Acushnet	76	613.6	19	18	5	0	6	2	2	6	0	0	1	0
Adams	124	876.4	41	25	7	1	5	5	8	3	1	0	0	1
Agawam	336	781.9	81	79	18	7	19	12	7	6	6	0	2	1
Alford	1	--[4]	0	1	1	0	0	0	0	0	0	0	0	0
Amesbury	133	763.7	31	40	13	2	2	9	9	3	1	1	3	2
Amherst	99	478.7	17	31	6	2	9	6	0	2	0	0	1	0
Andover	225	619.3	59	67	17	4	9	12	3	6	4	0	3	0
Arlington	340	564.3	69	93	25	7	24	11	9	12	0	1	2	4
Ashburnham	29	666.8	7	7	0	0	2	1	0	1	1	0	0	0
Ashby	13	520.7	3	5	1	0	0	0	0	1	0	0	0	0
Ashfield	9	418.4	3	3	0	0	0	0	0	0	0	0	0	0
Ashland	85	743.7	20	32	4	4	4	7	1	0	2	0	0	0
Athol	158	930.3	37	42	13	3	7	6	2	3	2	0	0	2
Attleboro	383	807.1	102	70	22	3	23	23	14	21	4	0	2	3
Auburn	175	724.9	48	45	14	3	7	8	4	9	2	0	1	0
Avon	55	980.0	19	18	5	1	0	2	0	0	1	0	0	0
Ayer	55	719.4	16	16	6	1	4	1	1	0	1	1	0	3
Barnstable	540	719.0	120	130	35	7	22	22	8	20	9	0	4	6
Barre	36	631.6	13	12	4	1	3	3	0	1	0	0	1	0
Becket	11	577.4	3	5	4	0	0	0	0	0	0	0	0	0
Bedford	126	609.6	31	28	6	3	8	4	2	4	0	0	0	0
Belchertown	80	700.1	17	28	10	5	5	1	3	2	2	0	1	1
Bellingham	97	781.9	33	26	11	0	3	3	2	3	1	0	0	1
Belmont	190	519.7	35	56	11	6	17	6	4	6	3	0	1	2
Berkley	30	844.5	6	9	1	2	3	4	0	0	1	0	0	0
Berlin	15	605.7	5	3	1	0	1	2	1	1	0	0	0	0
Bernardston	12	402.9	3	2	0	0	2	1	0	1	0	0	0	0
Beverly	382	670.0	98	78	27	8	34	26	6	20	2	0	5	2
Billerica	262	897.3	52	78	24	10	17	8	6	6	5	0	3	4
Blackstone	85	1,106.6	17	29	6	3	5	3	3	2	0	0	1	2
Blandford	6	615.6	1	1	0	1	1	0	0	0	0	0	0	0
Bolton	24	1,259.5	3	5	0	0	1	1	2	0	1	0	2	0
Boston	4,070	779.7	868	992	262	72	213	179	104	155	24	64	23	55

Table 43. Selected Causes of Death by Community, Massachusetts: 2005 (continued)

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Female Breast Cancer[2]	Stroke	Chronic Lower Respiratory Disease[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	All Narcotics, psychodysleptic hallucinogens[5]
Bourne	200	727.0	65	45	16	1	11	11	5	4	5	0	0	1
Boxborough	12	558.2	6	1	0	0	3	1	0	0	0	0	0	0
Boxford	34	571.1	6	15	4	1	0	1	0	2	1	0	0	0
Boylston	22	560.3	4	8	4	0	2	2	0	0	0	0	0	0
Braintree	384	738.5	95	78	20	4	26	26	7	20	2	0	5	3
Brewster	163	680.9	41	34	6	2	14	9	1	9	0	0	0	1
Bridgewater	144	766.9	40	45	12	4	6	7	0	2	3	0	2	1
Brimfield	21	612.6	5	5	1	0	1	0	1	0	0	0	0	0
Brockton	798	843.9	187	169	61	12	47	53	21	22	8	8	9	15
Brookfield	28	923.2	9	8	2	1	1	3	0	1	0	0	0	0
Brookline	351	521.7	90	65	14	6	25	8	4	26	1	0	2	0
Buckland	16	749.8	3	4	1	0	1	2	0	0	0	0	2	0
Burlington	177	845.2	28	58	17	6	7	19	3	5	1	0	0	4
Cambridge	519	603.5	123	133	36	10	33	18	17	19	5	5	5	8
Canton	193	575.4	59	39	8	5	8	7	3	4	3	0	1	0
Carlisle	10	365.6	3	3	0	1	1	1	0	0	0	0	0	0
Carver	107	803.3	33	24	7	1	6	7	2	2	0	1	1	0
Charlemont	6	417.8	0	2	1	1	1	0	0	0	0	0	0	0
Charlton	77	790.2	20	28	8	3	3	2	5	2	0	0	2	0
Chatham	117	606.5	35	17	8	1	7	7	2	3	0	0	2	0
Chelmsford	268	714.2	76	77	22	7	11	12	5	8	1	0	3	0
Chelsea	296	902.6	77	61	13	5	20	12	14	7	3	1	1	7
Cheshire	38	953.2	10	19	5	0	0	0	1	1	0	0	0	0
Chester	4	--[4]	0	2	1	0	0	0	0	0	0	0	0	0
Chesterfield	9	855.2	1	4	1	0	0	1	0	0	0	0	0	0
Chicopee	622	828.4	169	154	48	5	38	33	15	12	2	4	4	8
Chilmark	7	428.2	0	3	1	0	2	1	0	1	0	0	0	0
Clarksburg	14	744.7	0	6	4	0	0	0	2	1	0	0	0	0
Clinton	134	780.4	30	38	11	1	8	7	2	3	1	0	2	1
Cohasset	58	613.3	6	17	4	2	2	2	1	3	0	0	1	0
Colrain	12	644.2	3	4	0	1	1	1	0	0	0	0	0	0
Concord	177	675.6	49	34	5	0	9	5	0	18	0	0	1	0
Conway	11	769.3	4	3	0	0	1	1	0	0	0	0	1	0
Cummington	5	556.5	1	1	1	0	1	0	0	0	0	0	0	0
Dalton	87	908.9	24	15	2	1	6	7	0	2	1	0	1	0
Danvers	299	768.8	61	59	13	3	20	12	1	3	0	0	1	1
Dartmouth	261	640.3	63	58	10	6	17	11	3	15	8	1	1	6

Table 43. Selected Causes of Death by Community, Massachusetts: 2005 (continued)

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Female Breast Cancer[2]	Stroke	Chronic Lower Respiratory Disease[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	All Narcotics, psychodysleptic hallucinogens[5]
Dedham	229	686.3	65	58	14	3	15	4	5	9	0	0	0	3
Deerfield	48	826.3	16	13	1	0	0	3	1	5	0	0	0	0
Dennis	221	689.4	48	57	19	5	19	11	4	10	0	1	1	1
Dighton	44	616.8	12	15	6	2	4	1	2	2	0	0	0	0
Douglas	30	446.0	6	7	3	2	0	1	0	2	3	1	0	2
Dover	22	470.8	1	9	2	0	1	3	0	0	0	0	0	0
Dracut	224	894.6	46	69	20	4	15	14	6	10	3	0	2	2
Dudley	72	638.5	21	14	2	0	7	4	3	4	1	0	1	1
Dunstable	11	654.8	4	1	0	0	0	1	1	0	0	0	2	0
Duxbury	132	732.7	27	33	7	4	10	6	2	2	1	0	1	0
East Bridgewater	100	777.2	34	20	4	1	5	5	1	4	0	0	3	1
East Brookfield	18	732.8	6	3	2	0	2	2	1	0	0	0	1	0
East Longmeadow	170	710.8	27	39	10	1	8	9	4	10	1	0	2	2
Eastham	51	528.3	13	14	3	1	3	3	1	1	1	0	3	0
Easthampton	155	771.8	41	36	12	4	5	8	2	7	2	0	2	0
Easton	159	861.6	43	40	14	4	7	8	4	6	0	0	1	2
Edgartown	30	784.1	8	5	1	1	1	1	4	5	0	0	0	2
Egremont	13	690.9	0	6	0	0	1	1	1	0	0	0	0	0
Erving	13	684.0	4	5	3	1	0	1	0	0	0	0	0	0
Essex	30	844.0	8	7	0	0	1	2	0	1	0	0	0	0
Everett	347	780.3	80	87	33	6	12	28	12	7	1	2	1	7
Fairhaven	198	689.5	54	33	8	0	10	10	2	23	6	0	0	1
Fall River	1,058	845.5	287	241	72	11	60	48	21	44	12	3	8	18
Falmouth	369	612.3	93	108	26	7	18	25	9	9	4	1	1	0
Fitchburg	393	834.5	89	90	20	6	28	35	15	15	2	0	2	5
Florida	8	1,164.2	1	2	1	0	0	0	1	0	0	0	0	0
Foxborough	112	702.9	28	38	9	1	4	6	6	3	0	0	1	0
Framingham	557	720.6	145	111	30	11	24	20	11	25	3	0	4	5
Franklin	162	709.2	42	46	15	2	2	9	4	2	0	0	0	1
Freetown	57	862.4	9	18	7	0	6	4	1	0	1	0	2	0
Gardner	223	808.2	56	45	12	4	15	13	4	5	3	0	1	0
Gay Head (Aquinnah)	2	--[4]	0	1	0	0	1	0	0	0	0	0	0	0
Georgetown	34	504.0	6	11	1	1	1	3	1	2	1	0	1	0
Gill	21	1,286.0	3	9	3	0	4	0	0	1	0	0	1	0
Gloucester	291	737.6	68	76	26	5	15	13	5	8	2	0	2	7
Goshen	5	543.9	1	3	0	0	0	0	0	0	0	0	0	0

Table 43. Selected Causes of Death by Community, Massachusetts: 2005 (continued)

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Female Breast Cancer[2]	Stroke	Chronic Lower Respiratory Disease[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	All Narcotics, Psychodysleptics, hallucinogens[5]
Gosnold	0	--[4]	0	0	0	0	0	0	0	0	0	0	0	0
Grafton	109	741.8	23	28	4	4	8	6	1	5	2	0	1	1
Granby	29	465.1	8	8	2	1	1	2	0	0	1	0	1	0
Granville	12	1018.3	6	3	1	0	0	0	0	0	0	0	0	0
Great Barrington	97	759.7	27	25	6	1	3	4	3	3	1	0	0	0
Greenfield	213	760.9	42	50	15	5	12	16	5	8	3	0	4	1
Groton	66	1,013.7	9	14	5	0	5	6	5	2	0	0	2	0
Groveland	39	745.2	11	10	1	1	0	2	0	2	0	0	1	0
Hadley	74	880.0	24	18	3	1	3	1	1	0	2	0	1	0
Halifax	73	877.3	17	15	2	1	5	8	0	2	1	0	1	0
Hamilton	36	513.4	6	11	3	0	1	2	0	3	0	1	0	0
Hampden	40	644.3	14	5	3	0	4	1	1	1	0	0	0	0
Hancock	6	522.3	1	3	0	1	0	0	0	1	0	0	0	0
Hanover	78	627.7	12	24	6	2	7	7	1	5	0	0	0	0
Hanson	67	995.3	14	17	5	3	2	6	1	0	0	0	0	1
Hardwick	24	835.8	8	4	0	0	1	0	0	0	1	0	0	0
Harvard	34	826.8	11	10	2	1	3	1	0	3	0	0	0	0
Harwich	173	627.1	40	36	11	0	14	7	4	7	0	0	1	2
Hatfield	29	625.1	6	8	2	0	3	2	0	0	0	0	0	0
Haverhill	552	793.5	173	112	36	13	30	19	13	22	5	0	4	3
Hawley	3	--[4]	1	1	0	0	0	1	0	0	0	0	0	0
Heath	2	--[4]	1	0	0	0	0	0	1	0	0	0	0	0
Hingham	148	545.1	37	45	16	2	11	10	4	6	1	0	0	0
Hinsdale	12	766.0	2	3	1	0	0	1	0	0	0	0	0	0
Holbrook	77	611.8	16	25	9	4	2	4	2	0	1	0	2	4
Holden	117	581.9	29	35	8	2	4	8	2	8	0	1	2	0
Holland	17	872.0	2	6	2	2	2	0	0	2	1	0	0	0
Holliston	64	665.1	11	22	4	2	2	6	2	3	0	0	0	1
Holyoke	484	919.9	115	84	20	6	25	28	15	21	6	3	4	4
Hopedale	54	627.5	21	7	4	0	4	2	0	1	1	0	0	0
Hopkinton	59	624.2	12	13	2	0	4	3	1	3	0	0	1	2
Hubbardston	18	702.3	7	6	2	1	0	0	0	0	2	0	0	0
Hudson	116	628.2	29	30	13	1	4	2	3	7	1	0	0	0
Hull	84	758.3	17	19	5	3	3	2	2	4	1	0	0	1

Table 43. Selected Causes of Death by Community, Massachusetts: 2005 (continued)

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Female Breast Cancer[2]	Stroke	Chronic Lower Respiratory Disease[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	All Narcotics, psychodysleptic hallucinogens[5]
Huntington	12	595.5	4	3	0	1	0	1	0	0	0	0	0	0
Ipswich	105	587.0	28	32	12	4	5	2	3	2	0	0	1	1
Kingston	123	766.9	29	29	11	1	9	5	1	3	0	1	0	0
Lakeville	65	569.9	21	17	8	2	3	2	2	3	1	0	0	0
Lancaster	51	884.8	10	15	3	1	3	3	2	1	0	0	0	0
Lanesborough	15	459.7	6	3	0	1	2	1	0	0	0	0	0	0
Lawrence	465	699.4	122	100	28	6	19	19	18	14	4	2	5	11
Lee	71	896.4	18	14	4	1	7	5	0	3	1	0	0	0
Leicester	95	824.2	35	23	10	2	2	8	0	0	0	0	2	1
Lenox	100	655.2	36	19	2	1	9	2	2	4	2	0	0	0
Leominster	371	799.0	78	103	26	7	39	22	11	16	6	0	4	3
Leverett	7	381.3	3	3	0	0	0	0	0	0	0	0	0	0
Lexington	247	473.1	55	48	12	4	27	9	2	12	0	0	2	3
Leyden	2	--[4]	0	2	1	0	0	0	0	0	0	0	0	0
Lincoln	26	411.8	4	12	2	0	2	3	0	2	0	0	0	0
Littleton	70	709.4	22	11	0	1	4	7	0	3	0	0	1	0
Longmeadow	148	519.8	33	31	7	3	9	4	6	10	2	0	1	2
Lowell	802	840.4	183	190	68	4	49	34	21	36	8	2	13	10
Ludlow	185	738.6	43	43	11	4	14	9	2	6	2	1	2	1
Lunenburg	74	773.8	13	17	5	1	4	2	3	2	1	0	3	2
Lynn	724	783.7	177	195	55	16	29	37	17	18	9	4	5	24
Lynnfield	94	621.7	14	34	9	4	5	1	1	4	1	0	4	1
Malden	451	711.5	106	126	43	7	27	28	5	20	3	3	8	4
Manchester	37	501.6	6	12	2	1	0	0	1	1	0	0	0	0
Mansfield	104	764.9	26	25	6	2	8	12	4	1	1	0	2	0
Marblehead	140	511.7	30	36	11	6	8	9	2	3	3	0	0	0
Marion	54	650.3	17	12	2	1	7	2	1	1	0	0	0	1
Marlborough	328	826.5	79	82	22	6	7	13	12	7	5	1	2	2
Marshfield	165	805.1	36	40	14	3	7	8	2	6	3	0	5	1
Mashpee	140	743.5	31	34	11	3	10	5	4	2	3	0	0	3
Mattapoisett	55	616.4	21	13	3	1	0	1	1	0	1	0	1	0
Maynard	72	649.7	15	23	6	1	4	6	2	5	0	0	1	0
Medfield	67	669.1	19	25	4	1	3	0	3	1	0	0	0	0
Medford	565	726.8	142	146	32	6	22	27	9	22	3	0	4	8
Medway	72	682.8	11	25	7	1	4	1	1	1	1	0	3	1
Melrose	251	651.0	71	68	18	3	8	10	3	10	1	0	2	4
Mendon	22	482.6	5	7	1	0	1	2	0	0	0	0	0	0

Table 43. Selected Causes of Death by Community, Massachusetts: 2005 (continued)

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Female Breast Cancer[2]	Stroke	Chronic Lower Respiratory Disease[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	All Narcotics, psychodysleptic hallucinogens[5]
Merrimac	37	627.8	7	8	3	0	3	1	3	1	0	0	1	0
Methuen	377	652.3	106	94	25	9	19	20	12	24	3	0	3	3
Middleborough	190	909.5	53	39	13	2	10	8	4	3	3	0	1	4
Middlefield	3	--[4]	0	0	0	0	0	0	0	0	0	0	0	0
Middleton	49	674.8	18	17	6	0	1	0	0	0	0	0	3	0
Milford	213	692.6	55	50	8	5	10	9	8	4	6	1	2	3
Millbury	146	798.1	42	31	12	0	5	5	0	7	0	0	0	2
Millis	33	547.1	10	6	1	1	3	0	0	0	0	0	0	0
Millville	26	1,349.4	6	7	3	1	3	1	0	1	0	0	0	0
Milton	200	545.7	53	53	15	3	10	8	8	4	0	0	1	3
Monroe	2	--[4]	1	0	0	0	1	0	0	0	0	0	0	0
Monson	58	705.8	8	16	6	1	6	1	2	2	0	0	0	0
Montague	86	805.5	26	14	4	4	6	5	3	7	0	1	0	2
Monterey	3	--[4]	0	0	0	0	0	0	0	1	0	0	0	0
Montgomery	9	1,997.0	1	1	0	0	1	0	0	1	0	0	0	0
Mount Washington	0	--[4]	0	0	0	0	0	0	0	0	0	0	0	0
Nahant	32	491.5	8	9	1	2	1	2	0	0	0	0	0	0
Nantucket	61	721.2	20	17	2	1	4	3	1	2	0	0	1	0
Natick	265	655.9	64	68	15	6	17	16	2	11	3	0	3	0
Needham	280	586.3	78	73	13	6	20	15	3	10	2	0	4	0
New Ashford	3	--[4]	0	1	0	0	0	0	0	0	0	0	0	0
New Bedford	1,004	828.4	248	232	64	15	46	39	39	59	8	10	5	31
New Braintree	3	--[4]	1	0	0	0	0	0	0	0	0	0	0	1
New Marlborough	7	392.3	3	2	1	0	1	0	0	0	0	0	0	0
New Salem	5	506.2	2	0	0	0	1	0	0	0	0	0	0	0
Newbury	39	647.9	12	12	2	0	2	2	2	0	0	0	2	0
Newburyport	182	793.6	45	37	10	2	8	10	7	2	4	0	1	2
Newton	582	495.6	149	156	23	11	25	23	8	21	2	0	2	0
Norfolk	32	636.6	4	10	2	2	2	0	0	0	2	0	0	0
North Adams	199	963.0	47	39	13	1	16	17	10	10	2	1	1	5
North Andover	232	674.3	67	58	17	1	12	7	2	10	4	0	1	2
North Attleboro	171	714.4	42	35	4	2	12	13	4	9	1	0	0	0
North Brookfield	31	630.9	5	7	2	0	2	2	1	2	0	0	1	0

Table 43. Selected Causes of Death by Community, Massachusetts: 2005 (continued)

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Female Breast Cancer[2]	Stroke	Chronic Lower Respiratory Disease[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	All Narcotics, psychodysleptic hallucinogens[5]
North Reading	90	757.1	18	28	4	1	5	4	1	2	0	0	2	2
Northampton	259	662.5	64	70	17	6	21	9	8	5	2	0	1	0
Northborough	92	844.9	30	20	7	2	2	4	1	7	1	0	0	1
Northbridge	126	662.8	36	19	6	1	11	9	6	4	2	0	0	0
Northfield	28	737.5	7	8	2	1	2	1	0	0	1	0	0	0
Norton	120	840.1	23	22	9	1	8	7	2	6	1	0	0	2
Norwell	101	791.7	16	20	10	0	5	7	2	7	2	0	1	1
Norwood	304	702.4	80	71	16	3	19	22	10	3	1	0	3	4
Oak Bluffs	42	935.7	16	6	1	0	1	2	0	0	1	0	0	0
Oakham	10	727.6	1	3	1	0	0	1	0	0	0	0	0	0
Orange	64	718.0	19	19	7	2	3	2	0	1	0	0	1	1
Orleans	94	557.4	18	31	7	3	5	4	4	3	0	0	1	1
Otis	12	799.9	2	5	2	0	0	1	0	0	1	0	0	0
Oxford	124	1,012.7	31	33	10	2	7	15	3	8	2	0	0	0
Palmer	107	641.6	31	22	8	0	4	7	4	4	0	0	2	0
Paxton	29	568.6	6	7	4	1	0	1	2	0	1	0	0	1
Peabody	580	815.6	161	161	47	12	34	28	10	17	3	0	6	4
Pelham	12	972.4	4	4	0	0	0	0	0	0	1	0	0	0
Pembroke	102	765.1	23	19	10	0	5	7	1	3	4	0	0	2
Pepperell	69	917.2	16	21	3	3	2	4	2	2	0	0	1	0
Peru	6	847.1	1	0	0	0	0	1	0	0	0	0	1	0
Petersham	19	920.8	5	7	1	0	1	0	2	0	0	0	0	0
Phillipston	11	805.0	3	3	2	0	0	0	1	0	0	0	0	0
Pittsfield	482	727.3	122	103	35	11	31	42	13	16	3	2	2	5
Plainfield	1	--[4]	1	0	0	0	0	0	0	0	0	0	0	0
Plainville	55	691.3	13	16	4	0	3	1	1	2	3	0	0	2
Plymouth	482	826.8	138	118	28	12	20	22	11	20	6	0	8	5
Plympton	17	1,034.6	5	5	0	0	0	0	0	2	1	0	0	0
Princeton	24	1,034.6	7	5	2	0	0	1	0	0	0	0	0	0
Provincetown	35	696.9	8	7	3	0	4	1	1	0	0	0	1	1
Quincy	858	708.5	212	198	54	11	37	55	15	33	2	1	9	17
Randolph	291	824.4	84	73	23	1	7	6	10	11	6	1	0	3
Raynham	94	648.5	20	18	6	0	8	5	2	1	2	0	1	1
Reading	205	722.4	48	52	12	1	13	11	4	8	0	0	1	3
Rehoboth	68	762.6	17	19	4	0	6	3	1	1	1	0	0	1
Revere	508	870.3	105	131	46	12	24	24	14	20	3	3	6	10
Richmond	7	348.2	1	3	0	1	0	1	0	0	0	0	1	0
Rochester	27	615.2	8	12	2	2	1	0	0	1	1	0	1	0

Table 43. Selected Causes of Death by Community, Massachusetts: 2005 (continued)

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Female Breast Cancer[2]	Stroke	Chronic Lower Respiratory Disease[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	All Narcotics, psychodysleptic hallucinogens[5]
Rockland	165	866.1	45	32	11	4	3	15	5	4	2	0	2	3
Rockport	92	618.8	23	19	6	0	11	3	0	3	0	0	0	0
Rowe	2	--[4]	1	1	1	0	0	0	0	0	0	0	0	0
Rowley	44	839.8	19	5	1	0	0	3	0	1	2	0	0	1
Royalston	7	571.7	0	4	3	0	0	1	0	0	0	0	0	0
Russell	10	698.1	2	3	1	0	0	0	0	0	0	0	0	0
Rutland	32	587.3	8	12	3	0	0	1	0	1	2	0	2	1
Salem	296	618.5	57	80	22	2	14	18	7	6	5	3	4	8
Salisbury	57	684.9	12	13	5	0	4	3	1	2	2	0	0	1
Sandisfield	11	973.9	3	1	1	0	1	1	1	0	1	0	0	0
Sandwich	164	661.5	45	40	8	3	8	10	2	4	3	0	1	1
Saugus	276	739.7	74	69	22	4	12	9	6	8	3	0	7	4
Savoy	5	827.6	0	3	0	0	0	0	1	0	0	0	0	0
Scituate	148	671.9	30	38	13	3	7	8	4	6	0	0	1	1
Seekonk	96	669.5	29	23	8	2	2	1	4	5	3	0	3	1
Sharon	77	464.7	15	21	6	3	4	6	0	6	1	0	1	0
Sheffield	41	994.6	8	11	3	0	2	3	2	2	0	0	1	0
Shelburne	24	614.6	6	3	1	0	1	3	0	2	0	0	0	0
Sherborn	21	520.5	4	7	3	0	2	2	2	0	0	0	0	0
Shirley	39	662.3	9	5	2	0	3	1	1	1	0	0	1	1
Shrewsbury	215	571.0	61	46	8	4	13	13	4	16	0	0	1	3
Shutesbury	3	--[4]	2	1	0	0	0	0	0	0	0	0	0	0
Somerset	233	720.6	76	57	10	8	10	8	2	7	0	0	0	0
Somerville	455	651.7	101	130	39	9	23	22	19	14	4	1	5	9
South Hadley	193	740.2	56	47	14	5	9	5	7	6	0	0	0	0
Southampton	48	872.3	12	10	2	1	5	3	1	1	0	0	3	0
Southborough	51	828.3	11	16	6	0	4	1	3	1	2	0	0	0
Southbridge	153	701.4	43	25	5	3	10	7	6	4	1	0	1	3
Southwick	80	846.5	27	23	5	3	4	2	2	1	3	0	1	0
Spencer	117	1,005.1	26	33	10	2	7	4	3	6	2	0	3	2
Springfield	1,266	815.0	273	300	98	23	56	52	40	38	14	15	19	13
Sterling	69	1,289.6	21	11	1	1	3	5	2	1	0	0	0	1
Stockbridge	16	381.7	4	8	3	0	0	0	0	0	0	0	0	0
Stoneham	218	645.9	49	63	18	6	17	10	6	6	0	0	2	2
Stoughton	274	835.7	67	77	21	4	15	6	7	3	1	0	2	1
Stow	31	695.9	4	8	1	1	2	3	0	0	2	0	0	0
Sturbridge	68	710.1	19	18	5	1	3	3	1	0	1	0	0	0
Sudbury	99	709.5	33	18	2	1	4	6	0	3	1	1	1	0

Table 43. Selected Causes of Death by Community, Massachusetts: 2005 (continued)

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Female Breast Cancer[2]	Stroke	Chronic Lower Respiratory Disease[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	All Narcotics, psychodysleptic hallucinogens[5]
Sunderland	24	879.9	5	8	1	1	1	0	0	0	1	0	0	0
Sutton	53	752.2	11	16	5	2	3	2	2	0	0	0	2	0
Swampscott	158	592.8	42	33	5	7	9	4	0	6	0	1	0	1
Swansea	124	595.1	31	32	5	1	12	6	0	3	1	1	0	1
Taunton	515	842.9	148	124	36	6	25	22	11	25	5	2	2	9
Templeton	72	894.8	23	13	2	1	6	4	4	4	4	0	0	1
Tewksbury	231	846.0	45	70	28	5	13	14	4	6	2	0	5	1
Tisbury	29	469.7	7	8	3	0	0	0	3	0	0	0	0	0
Tolland	1	--[4]	0	0	0	0	0	0	0	0	0	0	0	0
Topsfield	46	606.2	11	12	2	3	2	0	1	2	0	0	0	0
Townsend	52	876.4	14	15	2	4	6	5	1	1	1	0	0	0
Truro	24	793.5	9	6	1	0	2	1	0	1	0	0	0	0
Tyngsborough	71	1,097.1	13	28	6	4	2	0	2	4	0	1	0	2
Tyringham	3	--[4]	1	0	0	0	0	1	0	0	0	0	0	0
Upton	32	601.5	10	7	2	0	2	2	0	0	0	0	0	0
Uxbridge	95	896.9	21	25	8	0	4	5	5	7	1	0	0	0
Wakefield	229	697.5	68	52	12	6	11	9	4	6	2	3	4	5
Wales	13	994.3	4	4	0	1	1	0	0	1	0	0	0	0
Walpole	185	624.0	59	47	22	3	5	8	8	11	1	0	2	2
Waltham	473	702.6	111	122	29	7	48	15	11	14	2	0	3	9
Ware	109	816.5	30	30	9	3	5	3	2	4	1	1	0	0
Wareham	241	871.1	78	53	11	6	15	9	7	8	1	0	1	1
Warren	54	1,020.1	9	11	5	1	0	7	4	3	1	0	2	1
Warwick	4	--[4]	1	0	0	0	0	1	1	0	0	0	0	0
Washington	2	--[4]	0	0	0	0	0	0	0	0	0	0	1	0
Watertown	290	621.4	67	80	22	6	21	13	5	4	1	0	4	4
Wayland	82	560.7	18	22	3	2	6	3	2	2	1	0	1	0
Webster	218	888.1	67	45	5	3	13	14	6	9	2	2	0	1
Wellesley	150	452.7	41	42	6	6	7	6	4	6	0	0	1	0
Wellfleet	24	460.8	6	9	2	2	1	1	1	1	0	0	0	0
Wendell	3	--[4]	0	0	0	0	0	1	0	1	0	0	0	0
Wenham	25	470.7	3	9	2	0	2	1	0	2	1	0	1	0
West Boylston	94	950.3	20	23	6	2	6	4	1	7	0	0	2	0
West Bridgewater	83	778.1	28	17	5	0	4	3	2	2	2	0	0	0
West Brookfield	43	594.5	15	7	2	0	2	1	2	1	0	0	0	0
West Newbury	15	516.5	2	8	3	0	0	0	0	0	0	0	1	0

Table 43. Selected Causes of Death by Community, Massachusetts: 2005 (continued)

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Female Breast Cancer[2]	Stroke	Chronic Lower Respiratory Disease[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	All Narcotics, Psychodysleptics, hallucinogens[5]
West Springfield	310	881.6	73	72	21	8	20	19	7	10	5	1	7	5
West Stockbridge	8	378.9	1	4	1	0	0	1	0	1	0	0	0	0
West Tisbury	19	803.3	6	6	1	3	1	0	0	1	0	0	1	0
Westborough	159	744.7	41	34	10	1	4	9	5	13	1	0	1	1
Westfield	362	763.7	94	92	28	6	14	29	7	9	3	2	3	4
Westford	103	715.5	20	27	8	2	7	3	3	6	1	0	2	0
Westhampton	8	702.0	3	0	0	0	1	0	0	0	0	0	0	0
Westminster	58	842.1	15	17	7	1	2	3	1	5	1	0	1	0
Weston	113	595.2	30	29	6	4	10	3	0	3	0	0	2	0
Westport	126	722.5	35	39	13	6	8	9	1	3	4	0	0	1
Westwood	138	534.8	30	33	11	2	8	4	4	4	1	0	0	0
Weymouth	525	784.7	123	139	38	12	24	28	20	17	6	1	5	13
Whately	6	306.1	2	1	0	0	0	0	0	0	0	0	1	0
Whitman	84	663.5	12	28	9	2	3	4	2	1	0	1	1	2
Wilbraham	135	644.5	34	30	2	2	10	2	1	5	0	0	1	1
Williamsburg	34	1,189.7	11	8	1	0	2	2	2	1	0	0	0	0
Williamstown	83	606.4	27	20	6	3	5	2	0	1	0	0	0	0
Wilmington	160	793.2	33	36	10	2	12	9	6	6	1	0	2	1
Winchendon	81	903.5	20	20	7	0	7	5	1	3	1	0	1	1
Winchester	181	525.9	50	39	7	4	25	7	3	3	3	0	2	0
Windsor	2	237.1	0	1	0	0	0	0	0	0	0	0	0	0
Winthrop	169	727.5	40	44	13	1	10	7	3	4	0	0	2	3
Woburn	337	759.2	74	87	32	4	23	25	5	10	4	1	2	5
Worcester	1762	854.2	436	368	116	23	99	104	46	72	8	6	15	16
Worthington	15	929.5	4	6	0	1	0	0	1	0	0	0	0	0
Wrentham	93	748.3	20	18	8	0	5	3	2	5	0	0	0	0
Yarmouth	364	607.7	92	93	27	5	20	21	6	13	4	0	2	3

1. Age-adjusted death rates are calculated using the Massachusetts (Department of Public Health) Modified Age, Race/Ethnicity, & Sex Estimates 2005 (MMARS05), released October, 2006. Data presented in this table are classified according to ICD-10. Please refer to Appendix for list of ICD-10 codes used in this table. 2. Includes only female breast cancer. 3. The title of this cause of death changed between ICD-10 an ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title). 4. Rates based on fewer than five events are excluded. 5. All poisoning deaths due to narcotics and hallucinogens including cannabis, cocaine

Table 45. Selected Causes of Death by Community Health Network Area (CHNA), Massachusetts: 2005

CHNA (Name and Number)	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Female Breast Cancer[2]	Stroke	CLRD[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Narcotics, psychodysleptic hallucinogens[4]
Massachusetts	**53,776**	**720.6**	**13,248**	**13,159**	**3,633**	**937**	**2,979**	**2,643**	**1,271**	**1,932**	**478**	**177**	**469**	**585**
Community Health Network of Berkshire	1,487	744.7	389	347	102	23	89	96	45	49	13	3	8	11
Upper Valley Health Web (Franklin County)	821	725.8	203	212	60	19	45	46	16	29	7	1	10	6
Partnership for Health in Hampshire County	1,167	695.6	301	312	80	29	70	43	27	28	11	1	10	1
The Community Health Connection (Springfield)	2,688	770.1	611	625	180	49	142	109	74	88	31	16	35	24
Community Health Network of Southern Worcester County	1,054	787.7	282	247	61	19	61	64	36	43	11	2	11	8
Community Partners for Health (Milford)	1,067	724.0	274	271	79	17	52	49	31	27	15	2	8	10
Community Health Network of Greater Metro West (Framingham)	2,658	686.7	669	666	178	46	115	119	67	109	28	2	17	16
Community Wellness Coalition (Worcester)	2,764	778.5	704	614	186	41	146	159	60	124	13	7	24	24
Fitchburg/Gardner Community Health Network	2,069	797.4	493	512	128	34	146	127	58	69	28	1	23	20
Greater Lowell Community Health Network	1,972	817.5	439	540	176	36	114	86	48	76	20	3	30	19
Greater Lawrence Community Health Network	1,348	663.6	372	336	93	20	60	58	35	54	15	2	15	16
Greater Haverhill Community Health Network	1,166	736.2	324	271	79	20	50	53	36	37	16	1	14	9
Community Health Network North (Beverly/Gloucester)	1,044	649.1	251	256	80	21	71	49	16	42	5	1	9	10
North Shore Community Health Network	2,599	720.0	624	676	185	56	132	120	44	65	24	8	27	43
Greater Woburn/Concord/Littleton Community Health	1,627	632.0	375	390	96	29	126	92	23	68	9	1	12	14
North Suburban Health Alliance (Medford/Malden/Melrose)	2,356	707.0	582	622	172	36	115	127	44	81	10	8	24	35
Greater Cambridge/Somerville Community Health Network	1,794	602.2	395	492	133	38	118	70	54	55	13	7	17	27
West Suburban Health Network (Newton/Waltham)	1,987	568.4	505	522	104	39	134	73	35	67	7	0	12	12
Alliance for Community Health (Boston/Chelsea/Revere/Winthrop)	5,394	767.2	1,180	1,293	348	96	292	230	139	212	31	68	34	75
Blue Hills Community Health Alliance (Greater Quincy)	3,371	689.9	827	811	228	52	163	187	86	124	25	3	28	46
Four (For) Communities (Holyoke, Chicopee, Ludlow, Westfield)	1,669	813.4	425	378	108	22	91	100	39	48	13	10	13	17
Greater Brockton Community Health Network	1,900	797.9	478	469	149	38	95	100	42	45	19	9	20	27
South Shore Community Partners in Prevention	1,511	796.2	379	356	101	31	74	91	26	49	18	2	18	12
Greater Attleboro-Taunton Health & Education Response	1,880	770.5	499	416	123	24	112	101	50	77	23	2	11	21
Partners for a Healthier Community (Fall River)	1,541	780.6	429	369	100	26	90	71	24	57	17	4	8	20
Greater New Bedford Health & Human Services Coalition	1,973	757.8	517	449	112	31	108	78	56	113	26	11	12	40
Cape Cod & Islands Community Health Network	2,869	649.2	721	707	192	45	168	145	60	96	30	2	19	22

1. Age-adjusted death rates are calculated using the Massachusetts (Department of Public Health) Modified Age, Race/Ethnicity, & Sex Estimates 2005 (MMARS05), released October, 2006. Data presented in this table are classified according to ICD-10. Please refer to Appendix for list of ICD-10 codes used in this table. 2. Includes only female breast cancer. 3. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title). 4. All poisoning deaths due to narcotics and hallucinogens including cannabis, cocaine, codeine, heroin, lysergic acid diethylamide (LSD), mescaline, methadone, morphine, and opium (alkaloids).

Table 46. Selected Causes of Death by County, Massachusetts: 2005

County	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Female Breast Cancer[2]	Stroke	Chronic Lower Respiratory Disease[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Narcotics, psychodysleptics, hallucinogens[4]
Massachusetts	**53,776**	**720.6**	**13,248**	**13,159**	**3,633**	**937**	**2,979**	**2,643**	**1,271**	**1,932**	**478**	**177**	**469**	**585**
Barnstable	2,679	648.8	664	661	183	40	158	138	52	87	29	2	17	20
Berkshire	1,487	744.7	389	347	102	23	89	96	45	49	13	3	8	11
Bristol	4,921	760.6	1,290	1,128	310	71	281	236	119	237	59	17	28	77
Dukes	129	684.4	37	29	7	4	6	4	7	7	1	0	1	2
Essex	6,157	695.5	1,571	1,539	437	117	313	280	131	198	60	12	65	78
Franklin	626	688.2	158	156	41	16	37	39	11	26	5	1	10	4
Hampden	4,396	786.9	1,043	1,015	291	73	237	208	114	139	45	26	48	41
Hampshire	1,179	694.4	305	315	80	30	70	44	27	28	11	1	10	1
Middlesex	10,990	673.8	2,582	2,863	759	204	656	520	236	391	76	22	107	118
Nantucket	61	721.2	20	17	2	1	4	3	1	2	0	0	1	0
Norfolk	5,374	661.7	1,373	1,346	362	87	264	243	130	187	36	3	43	58
Plymouth	3,959	773.4	1,010	933	284	78	207	220	82	124	45	11	39	41
Suffolk	5,043	791.6	1,090	1,228	334	90	267	222	135	186	30	68	32	75
Worcester	6,775	779.3	1,716	1,582	441	103	390	390	181	271	68	11	60	59

1. Age-adjusted death rates are calculated using the Massachusetts (Department of Public Health) Modified Age, Race/Ethnicity, & Sex Estimates 2005 (MMARS05), released October, 2006. All rates are age-adjusted using the 2000 U.S. standard population. Data presented in this table are classified according to ICD-10. Please refer to Appendix for list of ICD-10 codes used in this table. 2. Includes only female breast cancer. 3. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title). 4. All poisoning deaths due to narcotics and hallucinogens including cannabis, cocaine, codeine, heroin, lysergic acid diethylamide (LSD), mescaline, methadone, morphine, and opium (alkaloids).

Table A1. Age-Adjusted Death Rates[1] for Selected Causes of Death by Race and Gender, Massachusetts: 2005

Cause	ICD-10 Code	White[2] Total	White[2] Male	White[2] Female	Black[2] Total	Black[2] Male	Black[2] Female
All Deaths		**725.4**	**858.6**	**621.7**	**794.1**	**953.8**	**674.6**
Heart Disease	I00-I09, I11, I13, I20-I51	173.8	218.9	138.6	184.3	214.5	161.4
Cancer	C00-C97	186.7	224.2	162.0	189.4	244.7	155.9
Stroke	I60-I69	37.9	37.8	37.2	44.4	47.1	42.1
Chronic Lower Respiratory Disease[3]	J40-J47	36.8	40.1	35.1	22.5	28.7	19.1
Influenza and Pneumonia	J10-J18	24.7	29.0	22.0	15.5	23.1	11.5
Diabetes	E10-E14	16.9	20.6	14.2	32.4	36.3	28.2
Alzheimer's Disease	G30	20.2	16.0	22.2	14.1	9.2	16.7
Nephritis	N00-N07, N17-N19, N25-N27	17.8	22.4	15.0	35.6	41.5	31.7
Septicemia	A40-A41	13.1	15.2	11.7	19.9	21.7	17.9
HIV Diseases	B20-B24	2.0	2.8	1.1	14.5	19.5	10.2
Perinatal Conditions	P00-P96	3.9	4.4	3.2	5.4	6.7	3.7
All Injuries	V01-Y98	39.8	56.1	24.6	42.7	69.8	17.3
Motor Vehicle-Related Injuries	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2	7.6	10.8	4.6	6.0	11.0	1.9
Suicide	X60-X84, Y87.0	7.4	11.9	3.3	3.9	7.3	1.0
Homicide	X85-Y09, Y87.1	1.8	2.8	0.7	15.2	28.6	2.4

1. Age-adjusted death rates are calculated using the Massachusetts (Department of Public Health) Modified Age, Race/Ethnicity, & Sex Estimates 2005 (MMARS05), released October, 2006. Age-adjusted to the 2000 U.S. standard population, per 100,000. 2. Race categories presented in this table are consistent with Federal definitions of race and ethnicity. Persons of Hispanic ethnicity are included in any race category. Please use data in this table to compare to national data by race. 3. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title).

TECHNICAL NOTES

Effective since our 1999 publication, the *Advance Data: Deaths* series has been renamed *Massachusetts Deaths*.

NOTE

Please note that death statistics are presented as both *numbers* (or percentages, proportions) and *rates. Numbers* are, of course, the basic, raw counts of deaths, while *rates* are population-based statistics. The *number* of x *per* 100,000, for example.

DATA SOURCES

Data for this document are derived from Massachusetts death certificates, Massachusetts birth certificates, the U.S. Census, the Massachusetts Institute for Social and Economic Research (MISER) (population data pre-2000), and the National Center for Health Statistics (NCHS).

CHANGES TO MORTALITY DATA, EFFECTIVE 1999

Beginning with data year 1999, two major changes in Federal classification and tabulation procedures occurred that affect the tabulation and analyses of mortality data over time. First, a new revision for classifying causes of death was implemented: The International Classification of Diseases, Tenth Revision (ICD-10) replaced the International Classification of Diseases, Ninth Revision (ICD-9) for coding all mortality data. Second, a new standard population for the tabulation of age-adjusted mortality rates was also implemented.

CHANGES TO THE PRESENTATION OF RACE AND ETHNICITY DATA

In response to readers' feedback, the presentation of race and ethnicity data beginning with the 1999 publication has been changed. Previously, race and ethnicity data were presented according to Federal definitions of race and ethnicity; that is, persons of Hispanic ethnicity can be of any race group. Beginning with the 1999 report, race and ethnicity data are presented as mutually exclusive categories; that is, persons of Hispanic ethnicity are not included in a race group. All race and ethnicity data presented in trend tables have been updated to reflect this change. Thus, race and ethnicity data tables include the categories white non-Hispanic; black non-Hispanic; Asian non-Hispanic; and Hispanic. In addition, Table A1 in the Appendix contains data according to the Federal definitions so data can be compared with the nation and other states. Race data presented in Table A1 are for whites (including persons of Hispanic ethnicity) and blacks (including persons of Hispanic ethnicity). Furthermore, starting with the 2001 publication, there has been a nomenclature change in the way data for Asians are presented: the Asian/Pacific Islander non-Hispanics category will be renamed Asian non-Hispanics, which includes Pacific Islanders.

CAPE VERDEANS

The U.S. Federal Census and the National Center for Health Statistics (NCHS) places persons who are Cape Verdean in the race category "Black". Historically, we have followed this federal definition in order to be consistent with the National Center for Health Statistics. Beginning with 1999 data, we have separated the concept of "Race" from "Ethnic group" for reporting birth statistics. This enables us to place Cape Verdeans where they self-identify: Cape Verdeans are classified as "Cape Verdeans" in ethnicity tables. With respect to race, 70% of Cape Verdeans classified their race as "Other" while only 24% classified themselves as Black, and 6% as White in 1999. We do not currently have accurate Cape Verdean population counts or estimates that we need to calculate rates either statewide or at the sub-state level. Thus, we can remove Cape Verdeans from the numerator (the count of deaths) but not from the denominator

(population data) when we calculate rates. Beginning with our 2000 report, a detailed table and figure summarizing age and cause specific patterns of deaths among Cape Verdeans was added.

POPULATION ESTIMATES

We calculated the proportion of the county total that each Massachusetts city/town contributed by age, sex, five-race group from the 2000 Massachusetts Race Age Census Estimates (MRACE) file (see below) and applied those proportions to the 2005 NCHS Modified Age, Race, and Sex (MARS) file to create the Massachusetts Modified Age Race Sex 2005 estimates (MMARS05) file.

The MRACE file was derived from the Census 2000 file by allocating persons who indicated "some other race" or multiple races to the conventional DPH race categories: "White", "Black or African American", "Asian," "Native American," and "Hispanic." In Census 2000, unlike previous censuses, respondents were able to classify themselves by Hispanic ethnicity and by single or multi-race categories, including "some other race." In order to make the DPH population 2000 file consistent with previous years' population files, the MRACE file maintains the prior mutually exclusive race and Hispanic categories.

In this year's report, we are using the most up-to-date population estimates for the calculation of population-based rates such as the teen birth rate. In the next paragraphs, the methods used in calculating these estimate are explained.

Note: Population-based statistics presented in this report for the years 2000-2005 will differ from previous publications due to the use of new population estimates for these years.

MDPH Census Year 2000 Estimates

MDPH estimated the population for the years since the 2000 Census using the MDPH 2000 population estimates file, the MRACE file. The MRACE file is a modification of the Census 2000 population counts for Massachusetts. In Census 2000, respondents could select one or more races for the race question. The Census Bureau reported the results by single race and two or more races, for example, in Massachusetts, the race population counts were:

Race	Population
Total:	6,349,097
Population of one race:	6,203,092
White alone	5,367,286
Black or African American alone	343,454
American Indian and Alaska Native alone	15,015
Asian alone	238,124
Native Hawaiian and Other Pacific Islander alone	2,489
Some other race alone	236,724
Population of two or more races:	146,005
Specific combinations…	

Source: Table P3. Census 2000 Summary File 1 (SF1).

Hispanic was considered an ethnicity, and not a race. Therefore, persons of any race could be Hispanic. This new Census reporting system made it difficult in Massachusetts to compare 2000 rates with previous years' rates in which there were five race categories: white non-Hispanic, black non-Hispanic, Asian non-Hispanic, American Indian non-Hispanic, and Hispanic. The MRACE file reallocated (also known as, "bridging") the "Some other race alone" and "Two or more race" persons to the traditional five race categories used at the Department. This was done using an algorithm developed by the Massachusetts Institute of Social and Economic Research (MISER), in which those populations were redistributed at the city/town level according to the proportion of single race populations.

Postcensal Years

The MRACE file was used to calculate the population-based rates in the deaths reports from 2000 through 2004.

Every year the Population Estimates Program of the U.S. Census Bureau, in collaboration with the National Center for Health Statistics (NCHS), produces bridged race files for the states and counties. These estimates are known as the Modified Age Race Sex (MARS) estimates. In previous years, we have not used these estimates since they are not available at the city/town level.

Methodology for New MDPH 2000 - 2005 Population Estimates

In the years since Census 2000, the distribution of Massachusetts residents has changed by age, race/ethnicity, and race. In 2006, because these changes were significant, MDPH decided to produce new population estimates by age, race/ethnicity, and sex at the city/town level.

These estimates were created using the city/town age, race/ethnicity, and sex proportions of their counties in the MRACE estimates and applying these to the MARS county estimates. The resulting estimates were called the Massachusetts Department of Public Health Modified Age, Race, & Sex 200*x* Estimates (MMARS0x), where *x* = year. Estimates were produced for 2000, 2001, 2002, 2003, 2004, and 2005.

The MMARS05 estimates were used to calculate the population-based rates in this year's report.

The MMARS00, MMARS01, MMARS02, MMARS03, and MMARS04 estimates were used to recalculate the population-based rates for births. **This means that trends from 2000-2005 presented in this report will differ from the previous years' reports.**

Population-based rates between 1991 and 1999 in this publication were calculated as follows:

- 1991-1998: Massachusetts Institute for Social and Economic Research (MISER) Population Estimates;

- 1999: Massachusetts Dept. of Public Health 1999 Population Estimate, which is a linear interpolation between the preliminary DPH Population 2000 file and the MISER 1998 Population Estimate.

Please note that the statewide age-adjusted rates published in this report cannot be compared with those published in previous years because the overall population count and the age distribution of the population, which were based on the Census 2000 count, differ. The difference in the new population estimates is pronounced for Hispanics and black non-

Hispanics. The Hispanic and black non-Hispanic populations have increased 15% since 2000, while the overall population has increased by 1%. It is important to remember that age-adjusted death rates are not a measure of the actual risk of death, but rather, age-adjusted death rates are summary measures used to compare mortality trends over time or among different populations whose age distributions differ.

2005 DEATH RATES
Death rates for 2005 are calculated using the new population estimates from the Census Bureau and NCHS (see above, "population estimates").

LIMITATIONS OF SMALL NUMBERS
Cells in some tables contain small numbers. Rates and proportions based on fewer than five observations are suppressed, and trends based upon small numbers should be interpreted cautiously.

APPLYING COMPARABILITY RATIOS TO EXAMINE TRENDS IN MORTALITY
Beginning with 1999, mortality data are coded according to the International Classification of Diseases-10th revision (ICD-10). Due to the changes in coding rules, comparison of mortality trends over time using different revisions of ICD is challenging. A method was devised to assess if changes in causes of death are "real" changes, or due to the new classification system. Using this method, death data for 1996 were coded twice; once according to ICD-9 and again according to ICD-10. A comparability ratio (CR) was then calculated by dividing the number of deaths coded according to ICD-10 by the number of deaths coded according to the most similar codes in ICD-9 (please refer to Table A7. Preliminary Comparability Ratios for a list of codes and CR used in this publication).

A CR of 1.00 indicates that the same number of deaths was assigned to a cause of death whether ICD-9 or ICD-10 was used. A CR of less then 1.00 results from 1) a decrease in the number of deaths assigned to a cause in ICD-10 compared with ICD-9 or 2) the cause described in ICD-10 is only a part of the ICD-9 title to which it is being compared. A CR of more than 1.00 results from 1) an increase in the assignments of deaths to a cause in ICD-10 compared with ICD-9 or 2) the ICD-10 title is broader than the ICD-9 title to which it is being compared.

EXAMPLE: **Influenza and Pneumonia[1] Deaths: Massachusetts, 1996-2000**

Year	Age-adjusted rate[2]	Comparability Ratio	Comparability Modified Rate (=age-adjusted rate X Comparability Ratio)
1996	41.5	0.6982	29.0
1997	39.1	0.6982	27.3
1998	40.2	0.6982	28.1
1999	30.3		
2000	29.3		

1. Influenza and pneumonia defined as ICD-9: 480-487 for years 1996-1998 and ICD-10: J10-J18 for year 1999 and 2000.
2. age-adjusted to the 2000 U.S. standard population, per 100,000.

If you look only at the age-adjusted rate over time, not taking the ICD coding changes into account, it appears that deaths from influenza and pneumonia have decreased between 1996-1999. However, because the coding rules changed between ICD-9 and ICD-10 revisions, we

need to apply the comparability ratio to the rates for 1996-1998. (This is done by multiplying the age-adjusted rate by the comparability ratio). Now we can make a fairer comparison. When we examine the changes between the comparability modified rate and the 1999 or 2000 rate, we see that deaths to influenza and pneumonia have remained fairly constant between 1996-2000, and have actually increased between 1998 and 1999 (28.1 to 30.3 per 100,000, respectively) after taking the changes in the classification system into account.

PLEASE NOTE: the comparability ratios used in this report are based on the Preliminary Comparability Study conducted by the National Center for Health Statistics (NCHS), February 2001, and are subject to change once the Final Comparability Study is completed.

TESTS OF STATISTICAL SIGNIFICANCE

Beginning with *Massachusetts Deaths 2004* statistics presented in the text section have been tested to determine whether they differ significantly from a target statistic. For example, the number of deaths in 2005 was compared with the number of deaths in 2004, to determine whether their difference was unlikely to have occurred by chance. When a difference is unlikely to have occurred by chance it is referred to as "significant."

Note that with respect to statistical difference, the language of this year's report differs from the language of past reports, and caution must be used when comparing the text of previous reports with this year's report.

In testing for statistical significance, we have used the testing methods from the National Center for Health Statistics (NCHS). These methods are presented in the following document:

> National Vital Statistics Reports, Volume 52, Number 10
> Births: Final Data for 2002
> by Joyce A. Martin, M.P.H.; Brady E. Hamilton, Ph.D.; Paul D. Sutton, Ph.D.; Stephanie J. Ventura, M.A.; Fay Menacker, Dr. P.H.; and Martha L. Munson, M.S.;
> From the Division of Vital Statistics, NCHS.
> Technical Notes, "Significance testing" section beginning on page 110.

This document is available from the following website:
http://www.cdc.gov/nchs/products/pubs/pubd/nvsr/52/52-23.htm

For comparisons of more than 100 events, whether they are rates, proportions, or numbers, the binomial distribution is assumed, and confidence intervals are examined to see whether they overlap (Refer to the "Confidence Intervals" section in next page for an explanation of using confidence intervals to determine statistical significance.) When the number of events is less than 100, a Poisson distribution is assumed, and confidence intervals are constructed based upon the Poisson distribution. For more details and exact formulas for calculating confidence intervals or other tests of statistical significance, refer to the publication listed above.

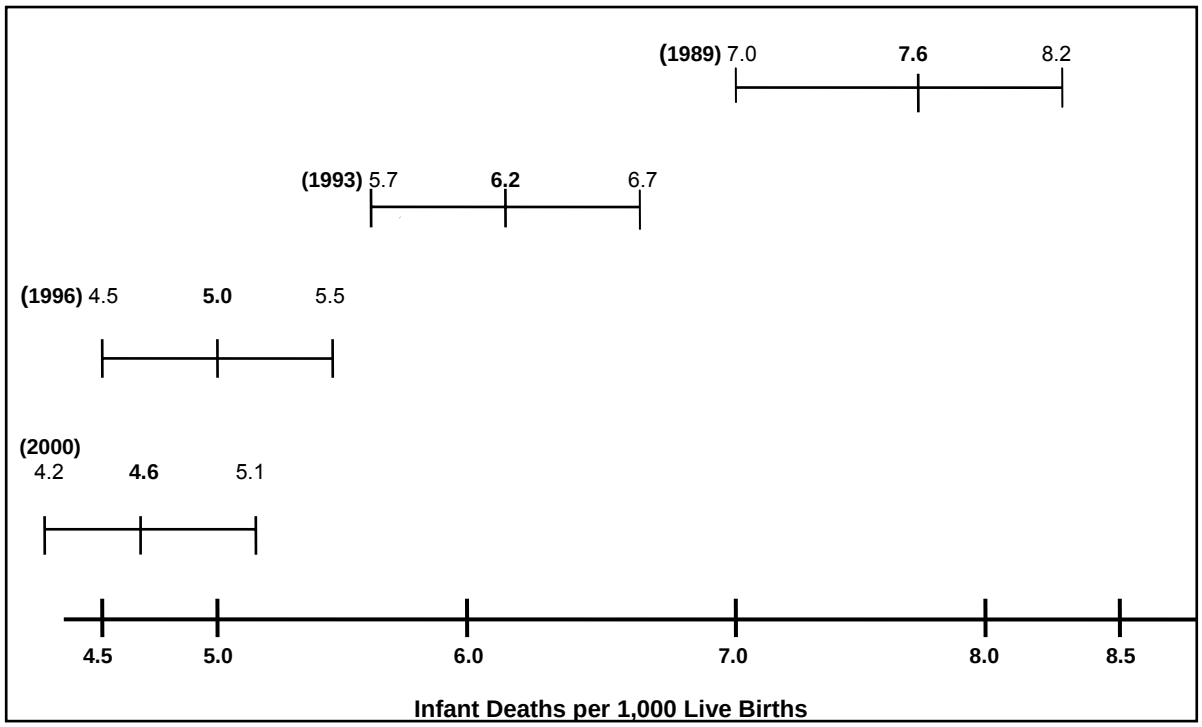
When two statistics are determined to differ significantly, then they are referred to in the text with language expressing differences, such as, "higher" and "lower", or "increased" and "decreased". Otherwise, differences which are not significant are reported as having "no change" or "no statistical difference."

CONFIDENCE INTERVALS AND INFANT MORTALITY RATES

The confidence interval (CI) provides a measure of stability of the IMR and a basis for comparing rates to determine if they are statistically different. Rates can be compared for the same group in different years or for different groups in the same year. The width of the CI reflects the stability of the IMR. For example, a narrow CI reflects high stability, and a wide interval reflects low stability. If the CIs around two IMRs being compared do not overlap, the difference between the two rates is statistically significant. The following table and chart illustrate the concept of statistically significant differences using actual data from 1989, 1993, 1996, and 2000.

Comparison of Infant Mortality Rates and Confidence Intervals for Selected Years

Year	IMR (per 1,000 births)	95% Confidence Interval
1989	7.6	(7.0-8.2)
1993	6.2	(5.7-6.7)
1996	5.0	(4.5-5.5)
2000	4.6	(4.2-5.1)



The difference between the 1993 IMR and 1996 IMR is statistically significant – the confidence intervals do not overlap. The same is true for the differences between the 1989 IMR and each annual IMR for 1993, 1996, and 2000. However, the difference between the 1996 and 2000 IMRs is not statistically significant, since their confidence intervals overlap.

GLOSSARY

Age-Adjusted Rate
A summary rate designed to minimize the distortions created by differences in age distribution when comparing rates for populations with different age compositions. Age-adjusted rates are useful when comparing death rates from different populations or in the same population over time. For example, if one wished to compare the 1998 death rates between Barnstable County (Cape Cod) and Hampshire County, the age-adjusted formula would account for the fact that 24% of the Barnstable County residents were 65 years of age or older, whereas only 11% of the Hampshire County residents were in this age group.

Age-adjusted rates are calculated by weighting the age-specific rates for a given year by the age distribution of a standard population. The weighted age-specific rates are then added to produce the adjusted rate for all ages combined. (Please see example below).

The 2000 U.S. projected population is used as the standard population in this document for consistency with data published by the National Center for Health Statistics (NCHS). **ONLY RATES USING THE SAME STANDARD POPULATION CAN BE COMPARED**. All age-adjusted rates published in this report have been re-calculated using the 2000 U.S. standard population. These rates should NOT be compared with age-adjusted rates previously published which used the 1940 U.S. standard population.

Example: Calculation of 1999 Age-adjusted Mortality Rate, Massachusetts: All Causes of Death

A	B	C	D	E	F	G
Age group (in years)	# of deaths (1999)	Population (1998)	1940 US standard	2000 US standard	Age-adjusted rate (using1940 standard) =[((B/C)*D)*100,000]	Age-adjusted rate (using 2000 standard) =[((B/C)*E)*100,000]
< 1	418	79,860	0.015343	0.013818	8.0	7.2
1-4	65	320,000	0.064718	0.055317	1.3	1.1
5-14	100	806,670	0.170355	0.145565	2.1	1.8
15-24	407	883,830	0.181677	0.138646	8.4	6.4
25-34	701	1,005,337	0.162066	0.135573	11.3	9.5
35-44	1,696	1,019,365	0.139237	0.162613	23.2	27.1
45-54	2,870	818,660	0.117811	0.134834	41.3	47.3
55-64	4,561	495,555	0.080294	0.087247	73.9	80.3
65-74	9,782	442,003	0.048426	0.066037	107.2	146.1
75-84	17,397	299,482	0.017303	0.044842	100.5	260.5
85+	17,765	120,501	0.002770	0.015508	40.8	228.6
Total					**418.0**	**815.9**

Age-Specific Rate
A rate for a specified age group. Age-specific death rates are calculated by dividing the actual number of deaths in a given year for a specific age group by the population in that age group for that year. The numerator and denominator refer to the same age group.

$$\text{Age-specific death rate (ages 25-34)} = \frac{\text{Number of deaths among residents ages 25-34 in a given year}}{\text{population ages 25-34 in that year}} \times 100{,}000$$

Community Health Network Areas (CHNA)
The Department of Public Health, in collaboration with health service providers, coalition members, and interested citizens, has designated 27 areas for community health planning. It is the Department's intention to foster in each of these areas the development of Community Health Networks -- consortia of health care providers, human service agencies, schools, churches, youth, parents, elders, advocacy groups, and individual consumers -- to address the health needs of the community. The Community Health Network Area (CHNA) mobilize around key health issues impacting the community, promote prevention efforts, enhance access to care, provide opportunities for more collaboration among agencies, and create a client-centered, outcome-oriented health service delivery system. Community Health Network Areas also promote efficiency in service delivery by working to reduce duplication and overlap, and by identifying gaps in service. These community coalitions participate in monitoring outcomes and progress of strategies and responses to those health needs. To determine which cities and towns make up a particular CHNA, Table A10. Population Estimates for Massachusetts Communities provides the appropriate CHNA code for each city and town based on the geographic definitions established in 1997.

Comparability Modified Rate
A rate designed to assist in the analysis of mortality trends between revisions of the International Classification of Diseases (ICD). A comparability modified rate is calculated by multiplying the cause-specific comparability ratio by the cause-specific rate for years 1994-1998. Comparability modified rates should be used to compare trends between causes of death in 1994-1998 with causes of death in 1999.

Comparability Ratio (CR)
A factor used to adjust mortality statistics for causes of death classified in ICD-9 to be comparable with mortality statistics classified in ICD-10. It is calculated by dividing the number of deaths for a selected cause of death classified by the new revision (i.e. ICD-10) by the number of deaths for a selected cause of death classified by the old revision (i.e. ICD-9).

More specifically, the comparability ratios used in this report were calculated by the National Center for Health Statistics (NCHS) based on a national sample of death records. Death records for 1996 were double coded, once according to ICD-9 and again according to ICD-10. Secondly, the leading causes of death were grouped according to ICD-10 titles, using the ICD-10 codes for data coded in ICD-10, and the most similar ICD-9 titles for data coded in ICD-9. Finally, the number of deaths coded in ICD-10 were divided by the number of deaths in ICD-9 to produce a comparability ratio for the cause of death.

A CR of 1.00 indicates that the same number of deaths was assigned to a cause of death whether ICD-9 or ICD-10 was used.

A CR of less then 1.00 results from 1) a decrease in the number of deaths assigned to a cause in ICD-10 compared with ICD-9 or 2) the cause described in ICD-10 is only a part of the ICD-9 title to which it is being compared.

A CR of more than 1.00 results from 1) an increase in the assignments of deaths to a cause in ICD-10 compared with ICD-9 or 2) the ICD-10 title is broader than the ICD-9 title to which it is being compared.

Preliminary comparability ratios supplied by the National Center for Health Statistics (NCHS) in February 2001 are used in this report (see Table A7 and A8).

See also, comparability modified rate.

Crude Death Rate
An estimate of the proportion of a population that died during the year. The numerator is the number of persons who died during the year and the denominator is the size of the population. The death rate in a population is calculated by the formula:

$$\text{Crude death rate} = \frac{\text{Number of resident deaths in a year}}{\text{Number of residents}} \times 100{,}000$$

Death Certificate
A vital record signed by a licensed physician that includes cause of death, decedent's name, gender, birth date, place of residence, and place of occurrence. (A copy of the Massachusetts death certificate used in 2004 is in the Appendix. In a properly completed death certificate, the immediate cause of death is recorded on line 29a. The other mentioned causes are written on lines 29 b-d. Other significant conditions contributing to the death but not resulting in the underlying cause are also listed. The underlying cause of death is the disease or injury that initiated the events leading to the death. All causes of death are data entered and processed by a software program supplied by NCHS. This software assigns the appropriate ICD-10 codes. Trained nosologists review the ICD-10 codes assigned.

International Classification of Diseases, Ninth Revision (ICD-9)
The International Classification of Diseases (ICD) classifies mortality information for statistical purposes. The ICD was first used in 1900 and has since been revised about every 10 years, with the exception of the ICD-9, which was in use between 1979-1998. ICD-9 codes used in this publication are listed on Tables A2-Table A6.

Because of coding changes between the Ninth and Tenth revision, caution should be used when comparing data coded under ICD-9 and ICD-10.

International Classification of Diseases, Tenth Revision (ICD-10)
The tenth revision of the International Classification of Diseases was used to code mortality data beginning in 1999. For a list of ICD-10 codes used in the publication, please see Tables A2-A6.

Because of coding changes between the Ninth and Tenth revision, caution should be used when comparing data coded under ICD-9 and ICD-10.

Life expectancy at birth
Life expectancy at birth is based on the expected age at death for a newborn infant, based upon the actual experience of mortality of the population in Massachusetts.

NCHS
National Center for Health Statistics (U.S. Department of Health and Human Services, Centers for Disease Control and Prevention).

Occurrence Death
Occurrence deaths include all deaths that occur within the state, including deaths of nonresidents. An interstate exchange agreement among the 50 states, District of Columbia, Puerto Rico, Virgin Islands, Guam, and Canada provides for exchanges of copies of birth and death records. These out of state records are used for statistical purposes only and allow each state or province to track the births and deaths of their own residents.

Potential Years of Life Lost
Total potential years of life lost is calculated by multiplying the number of deaths for each group by the years of life lost (the difference between life expectancy and the midpoint of the age group, then adding the figures for all age groups).

A measure of the impact of death from various diseases on society, highlighting the total loss to society, especially the loss contributed by early deaths. For the purpose of calculating PYLL, since *Massachusetts Deaths 2002*, we have adjusted the maximum age to be 75 years so that we do not include deaths beyond average life expectancy. Data after 2002 are not comparable with previous publications because we used a different maximum age cutoff

Premature Mortality Rate
Premature mortality rate (PMR) measures the rate of premature death, that is, death before the age of 75 years, and it is given as a rate per 100,000 and it is adjusted to the 2000 U.S. population. PMR is considered the best single measure to reflect the health status of a population.

Race and Hispanic Ethnicity
For death records, race and Hispanic ethnicity are specified by the death record informant (for example, spouse or next of kin). Prior to 1989, death certificates included a question on race, but a separate question on Hispanic origin was added to the death record beginning on January 1, 1989.

Beginning with the 1999 report, race and ethnicity categories are presented as mutually exclusive categories, except for Table A1 which provides race and ethnicity data consistent with federal guidelines so that national comparisons can be made. All trend data from 1989-2003 presented in this report have been re-tabulated to reflect this modification. Data presented by race in this report are not directly comparable to previously published data by race.

Resident Death
The death of a person whose usual place of residence or permanent address (as reported by the informant) is in one of the 351 cities or towns of Massachusetts, regardless of where the death took place. Unless otherwise noted, all data in this publication are resident data. An interstate exchange agreement among the 50 states, District of Columbia, Puerto Rico, Virgin Islands, Guam, and Canada provides for exchange of copies of birth and death records. These records are used for statistical purposes only, and allow each state or province to track the births and deaths of residents.

Total Rate of Change
The total rate of change is calculated as follows:

$$\frac{P_n - P_o}{P_o}$$

where P_n is the rate during the later time period and P_o is the rate during the earlier time period.

Underlying Cause of Death

The disease or injury that initiated the series of events leading to death, or the circumstances of the unintentional or intentional injury that resulted in the death. The underlying cause of death is used for all analyses published in this report.

Table A2. ICD-10 and ICD-9 Codes Used in this Publication

(Sorted by ICD-10 Codes)

Cause of Death	ICD-10 Code	ICD-9 Code
Infectious and parasitic diseases	A00-B99	001-139
Septicemia	A40-A41	038
Human Immunodeficiency Virus (HIV) disease	B20-B24	042-044
Cancer (Malignant Neoplasms)	C00-C97	140-208
of esophagus	C15	150
of stomach	C16	151
of colon, rectum, rectum and anus	C18-C21	153-154, 159.9
of pancreas	C25	157
of trachea, bronchus and lung	C33-C34	162
of female breast	C50	174
of cervix uteri	C53	180
of corpus uteri and uterus, part unspecified	C54-C55	179,182
of ovary	C56	183.0
of prostate	C61	185
of kidney and renal pelvis	C64-C65	189.0-189.1
of bladder	C67	188
of meninges, brain & other parts of central nervous system	C70-C72	191-192
Hodgkin's Disease	C81	201
Non-Hodgkin's lymphoma	C82-C85	200, 202 (except 202.4)
Leukemia	C91-C95	202.4, 204-208
Multiple myeloma and immunoproliferative neoplasms	C88, C90	203
Diabetes Mellitus	E10-E14	250
Alzheimer's disease	G30	331.0
Heart Disease	I00-I09, I11, I13, I20-I51	390-398, 402, 404-429
Stroke (Cerebrovascular disease)	I60-I69	430-438
Influenza and pneumonia	J10-J18	480-487
Chronic lower respiratory diseases[1]	J40-J47	490-496
Chronic liver disease and cirrhosis	K70, K73-K74	571
Nephritis	N00-N07, N17-N19, N25-N27	580-589
Congenital malformations, deformations, and chromosomal abnormalities	Q00-Q99	740-759
Certain conditions originating in the perinatal period (Perinatal Conditions)	P00-P96	760-779
Ill defined conditions	R00-R99	780-797, 798.1-798.9, 799
Sudden infant death syndrome (SIDS)	R95	798.0
External causes of injuries and poisonings (intentional, unintentional and of undetermined intent)	V01-Y89	E800-E999
Accidents (Unintentional Injuries)	V01-X59, Y85-Y86	E800-E949
Motor Vehicle-related injuries	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2	E810-E825
Unintentional non-transport injuries	W00-X59, Y86	E850-E869, E880-E928, E929.2-E929.9
Suicide	X60-X84, Y87.0	E950-E959
Homicide	X85-Y09, Y87.1	E960-E969
Injuries of undetermined intent	Y10-Y34,Y87.2,Y89.9	E980-E989

1. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title).

Table A3. ICD-10 and ICD-9 Codes Used in this Publication

(Sorted by Cause of Death)

Cause of Death	ICD-10 Code	ICD-9 Code
Alzheimer's Disease	G30	331.0
Cancer (Malignant Neoplasms)	C00-C97	140-208
of bladder	C67	188
of cervix uteri	C53	180
of colon, rectum, rectum and anus	C18-C21	153-154, 159.9
of corpus uteri and uterus, part unspecified	C54-C55	179,182
of esophagus	C15	150
of female breast	C50	174
Hodgkin's Disease	C81	201
of kidney and renal pelvis	C64-C65	189.0-189.1
Leukemia	C91-C95	202.4, 204-208
of meninges, brain & other parts of central nervous system	C70-C72	191-192
Multiple myeloma and immunoproliferative neoplasms	C88, C90	203
Non-Hodgkin's lymphoma	C82-C85	200, 202 (except 202.4)
of ovary	C56	183.0
of prostate	C61	185
of stomach	C16	151
of pancreas	C25	157
of trachea, bronchus and lung	C33-C34	162
Certain conditions originating in the perinatal period (Perinatal Conditions)	P00-P96	760-779
Chronic liver disease and cirrhosis	K70, K73-K74	571
Chronic lower respiratory diseases[1]	J40-J47	490-496
Congenital malformations, deformations, and chromosomal abnormalities	Q00-Q99	740-759
Diabetes Mellitus	E10-E14	250
External causes of injuries and poisonings (intentional, unintentional and of undetermined intent)	V01-Y98	E800-E999
Homicide	X85-Y09, Y87.1	E960-E969
Injuries of undetermined intent	Y10-Y34,Y87.2,Y89.9	E980-E989
Suicide	X60-X84, Y87.0	E950-E959
Accidents (Unintentional Injuries)	V01-X59	E800-E949
Motor Vehicle-related injuries	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2	E810-E825 E850-E869, E880-E928, E929.2-E929.9
Unintentional non-transport injuries	W00-X59, Y86	
Heart Disease	I00-I09, I11, I13, I20-I51	390-398, 402, 404-429
Infectious and parasitic diseases	A00-B99	001-139
Human Immunodeficiency Virus (HIV) disease (AIDS)	B20-B24	042-044
Septicemia	A40-A41	038
Influenza and pneumonia	J10-J18	480-487
Nephritis	N00-N07, N17-N19, N25-N27	580-589
Stroke (Cerebrovascular disease)	I60-I69	430-438
Ill defined conditions	R00-R99	780-797, 798.1-798.9, 799
Sudden infant death syndrome (SIDS)	R95	798.0
Terrorism	U01-U02 (homicide), U03 (suicide)	--

1. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title).

Table A4. ICD-10 Injury Codes Used in this Publication

Cause of Death	ICD-10 Code
Suicide	X60-X84, Y87.0
Poisoning	X60-X69
Hanging, strangulation or suffocation	X70
Firearm	X72-X74
Other and unspecified	Residual
Homicide	X85-Y09, Y87.1
Firearm	X93-X95
Cut or pierce	X99
Other and unspecified	Residual
Unintentional Injuries (Accidents)	V01-X59, Y85-Y86
Falls	W00-W19
Hanging, strangulation or suffocation	W75-W84
Drowning or submersion	W65-W74
Smoke, fire and flames and contact with heat and hot substances	X00-X19
Poisoning	X40-X49
Firearm	W32-W34
Motor Vehicle-related	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2
Injury to pedestrian	V02-V04, V09.0, V09
Injury to pedal cyclist	V12-V14, V19.0, V19.2, V19.4, V19.5, V19.6
Injury to motorcyclist	V20-V29
Injury to occupant	V30-V79, V80.3, V80.4, V80.5, V81.0,V81.1, V82.0, V82.1, V83-V86
Other and unspecified	Residual
Other and unspecified	Residual
Events of Undetermined Intent	Y10-Y34, Y87.2, Y89.9
Poisoning	Y10-Y19
Drowning or submersion	Y21
Other and unspecified	Residual
Legal Intervention	Y35-Y36, Y89.0, Y89.1
Firearm	Y35.0
Adverse Effects	Y40-Y59, Y60-Y84, Y88
Drugs	Y40-Y59, Y88.0
Medical Care	Y60-Y84, Y88.1, Y88.2, Y88.3
Terrorism	U01-U02 (homicide), U03 (suicide)

Table A5. ICD-10 Poisoning Codes Used in this Publication

Manner of Death	ICD-10 Code
All Poisoning Deaths	X40-X49, X60-X69, X85-X90, Y10-Y19, Y35.2
Narcotics and psychodysleptics	X42, X62, Y12
Other and unspecified drugs, medicaments, biological substances	X44, X64, X89, Y14
Antiepileptic, sedative-hypnotic, antiparkinsonism & psychotropic	X41, X61, Y11
Gases and vapours	X47, X67, X86, X88, Y17, Y35.2
Nonopioid analgesics, antipyretics & antirheumatics	X40, X60, Y10
Alcohol	X45, X65, Y15
Organic solvents and halogenated hydrocarbons	X46, X66, Y16
Other drugs acting on autonomic nervous system	X43, X63, Y13
Pesticides	X48, X68, X87,Y18
Other and unspecified chemicals and noxious substances	Remaining causes

Table A6. ICD-10 Codes for Selected Healthy People 2010 Mortality Objectives Used in this Publication

(Sorted by Objective Number)

Objective Number	Cause of Death*	ICD-10 Identifying Codes
3-1	Cancer (all sites)	C00-C97
3-2	Lung cancer	C33-C34
3-3	Female breast cancer	C50
3-4	Uterine Cervix cancer	C53
3-5	Colorectal cancer	C18-C21
3-6	Oropharyngeal cancer	C00-C14
3-7	Prostate cancer	C61
3-8	Malignant melanoma	C43
12-1	Coronary heart disease	I11, I20-I25
12-7	Stroke	I60-I69
13-14	HIV infection	B20-B24
15-3	Firearm-related deaths	W32-W34, X72-X74, Y22-Y24, Y35.0, X93-X95
15-8	Poisoning	X40-X49, X60-X69, X85-X90, Y10-Y19, Y35.2
15-9	Hanging, strangulation or suffocation	W75-W84, X70, X91, Y20
15-13	Unintentional injuries (Accidents)	V01-X59, Y85-Y86
15-15	Motor vehicle-related	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2
15-25	Residential fire deaths	X00, X02
15-27	Falls	W00-W19, X80, Y01, Y30
15-29	Drownings	W65-W74, X71, X92, Y21
15-32	Homicides	X85-Y09, Y87.1
16-1f	Birth defects	Q00-Q99
16-1g	Congenital heart and vascular defects	Q20-Q24
16-1h	Sudden infant death syndrome (SIDS)	R95
18-1	Suicide	X60-X84, Y87.0
24-1	Asthma	J45-J46
26-1	Motor-vehicle crash deaths	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2
26-2	Cirrhosis	K74
26-3	Drug induced deaths	F11.0-F11.5, F11.7-F11.9, F12.0-F12.5, F12.7-F12.9, F13.0-F13.5, F13.7-F13.9, F14.0-F14.5, F14.7-F14.9, F15.0-F15.5, F15.7-F15.9, F16.0-F16.5, F16.7-F16.9, F17.0, F17.3-F17.5, F17.7-F17.9, F18.0-F18.5, F18.7-F18.9, F19.0-F19.5, F19.7-F19.9,X40-X44,X60-64, X85,Y10-Y14

These Healthy People 2010 objectives use underlying cause-of-death data.

Table A7. Preliminary Comparability Ratios

Cause of Death	ICD-10 Code	ICD-9 Code (most similar title)	Comparability Ratio
Infectious and parasitic diseases	A00-B99		NA
Septicemia	A40-A41	038	1.1949
Human Immunodeficiency Virus (HIV) disease	B20-B24	042-044	1.0637[1] and 1.1448[2]
Cancer (Malignant Neoplasms)	C00-C97	140-208	1.0068
of esophagus	C15	150	0.9965
of stomach	C16	151	1.0063
of colon, rectum, rectum and anus	C18-C21	153-154	0.9993
of pancreas	C25	157	0.9980
of trachea, bronchus and lung	C33-C34	162	0.9837
of breast	C50	174-175	1.0056
of cervix uteri	C53	180	0.9871
of corpus uteri and uterus, part unspecified	C54-C55	179,182	1.0260
of ovary	C56	183.0	0.9954
of prostate	C61	185	1.0134
of kidney and renal pelvis	C64-C65	189.0-189.1	1.0000
of bladder	C67	188	0.9968
of meninges, brain & other parts of central nervous system	C70-C72	191-192	0.9691
Hodgkin's Disease	C81	201	0.9855
Non-Hodgkin's lymphoma	C82-C85	200, 202	0.9781
Leukemia	C91-C95	204-208	1.0119
Multiple myeloma and immunoproliferative neoplasms	C88, C90	203	1.0383
Diabetes Mellitus	E10-E14	250	1.0082
Alzheimer's Disease	G30	331.0	1.5536
Heart Disease	I00-I09, I11, I13, I20-I51	390-398, 402, 404, 410-429	0.9858
Stroke (Cerebrovascular disease)	I60-I69	430-434, 436-438	1.0588
Influenza and pneumonia	J10-J18	480-487	0.6982
Chronic lower respiratory diseases	J40-J47	490-494,496	1.0478
Chronic liver disease and cirrhosis	K70, K73-K74	571	1.0367
Nephritis	N00-N07, N17-N19, N25-N27	580-589	1.2320
Congenital malformations, deformations, and chromosomal abnormalities	Q00-Q99	740-759	0.8470
Certain conditions originating in the perinatal period (Perinatal Conditions)	P00-P96	760-771.2, 771.4-779	1.0658
External causes of injuries and poisonings (intentional, unintentional and of undetermined intent)	V01-Y89	E800-E999	NA
Accidents (Unintentional Injuries)	V01-X59, Y85-Y86	E800-E869, E880-E929	1.0305
Motor Vehicle-related injuries	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2	E810-E825	0.9754[3]
Non-transport injuries	W00-X59, Y86	E850-E869, E880-E928, E929.2-E929.9	1.0763
Suicide	X60-X84, Y87.0	E950-E959	0.9962
Homicide	X85-Y09, Y87.1	E960-E969	0.9983
Injuries of undetermined intent	Y10-Y34,Y87.2,Y89.9	E980-E989	*

Source: National Center for Health Statistics, Preliminary Comparability Study. February 2001. NA: not available *: not reliable

Please refer to the Appendix for an example of how to apply comparability ratios. 1. Comparability Modified number and rate based on preliminary comparability ratios (CR) from NCHS based on 1996 data (February 2001). 2. Comparability Modified number and rate based on preliminary comparability ratios (CR) from NCHS based on 1998 data (revised June 2001). 3. This is the revised comparability ratio for motor vehicle-related injuries, effective May 2001.

Table A8. Preliminary Comparability Ratios Causes of Infant Death

Cause of Death	ICD-10 Code	ICD-9 Code (most similar title)	Comparability Ratio
Certain infectious and parasitic diseases	A00-B99	001-033, 034.1-134, 136-139, 771.3	0.7339
Septicemia	A40-A41	038	1.3802
Human Immunodeficiency Virus (HIV) disease	B20-B24	042-044	1.0455
Cancer (Malignant Neoplasms)	C00-C97	140-208	1.0435
Influenza and pneumonia	J10-J18	480-487	0.7624
Certain conditions originating in the perinatal period (Perinatal Conditions)	P00-P96	760-771.2, 771.4-779	1.0581
Newborn affected by maternal complications of pregnancy	P01	761	1.0295
Newborn affected by complications of placenta, cord and membranes	P02	762	1.0470
Disorders relating to short gestation and low birthweight	P07	765	1.1060
Intrauterine hypoxia and birth asphyxia	P20-P21	768	1.4477
Respiratory distress of newborn	P22	769	1.0257
Other respiratory conditions originating in perinatal period	P23-P28	770	0.8455
Infections specific to the perinatal period	P35-P39	771.0-771.2, 771.4-771.8	1.0199
Neonatal hemorrhage	P50-P52, P54	772	1.4369
Congenital malformations, deformations, and chromosomal abnormalities	Q00-Q99	740-759	0.9064
Anecephaly and similar malformations	Q00	740	1.0000
Congenital malformations of heart	Q20-Q24	745-746	0.9951
Congenital malformations of respiratory system	Q30-Q34	748	0.6322
Congenital malformations of digestive system	Q35-Q45	749-751	*
Congenital malformations of genitourinary system	Q50-Q64	752-753	0.9432
Congenital malformations of musculoskeletal system	Q65-Q85	754-757	0.8650
Sudden Infant Death Syndrome (SIDS)	R95	798.0	1.0362
External causes of injuries and poisonings (intentional, unintentional and of undetermined intent)	V01-Y89	E800-E999	NA
Accidents (Unintentional Injuries)	V01-X59	E800-E869, E880-E929	1.0246
Motor Vehicle-related injuries	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2	E810-E825	0.9167
Homicide	X85-Y09	E960-E969	0.9481
Injuries of undetermined intent	Y10-Y34,Y87.2,Y89.9	E980-E989	*

Source: National Center for Health Statistics, Preliminary Comparability Study. February 2001. NA: not available *: not reliable
Please refer to the Appendix for an example of how to apply comparability ratios.

Table A9. Population Estimates for Massachusetts Community Health Network Areas (CHNA) and Counties, 2005[1]

CHNA	POPULATION	COUNTY	POPULATION
1. Community Health Network of Berkshire County	131,965	Barnstable	226,505
2. Upper Valley Health Web (Franklin County)	88,506	Berkshire	131,965
3. Partnership for Health in Hampshire County (Northampton)	151,801	Bristol	547,711
4. The Community Health Connection (Springfield)	299,490	Dukes	15,605
5. Community Health Network of Southern Worcester County	119,141	Essex	750,463
6. Community Partners for Health (Milford)	160,521	Franklin	72,415
7. Community Health Network of Greater Metro West (Framingham)	379,658	Hampden	466,739
8 .Community Wellness Coalition (Worcester)	303,669	Hampshire	153,981
9. Fitchburg/Gardner Community Health Network	261,369	Middlesex	1,464,179
10. Greater Lowell Community Health Network	272,893	Nantucket	10,095
11. Greater Lawrence Community Health Network	195,176	Norfolk	656,472
12. Greater Haverhill Community Health Network	148,557	Plymouth	497,687
13. Community Health Network North (Beverly/Gloucester)	119,378	Suffolk	655,181
14. North Shore Community Health Network	287,352	Worcester	787,943
15. Greater Woburn/Concord/Littleton Community Health Network	209,597		
16. North Suburban Health Alliance (Medford/Malden/Melrose)	257,235	**STATE**	**6,436,940**
17. Greater Cambridge/Somerville Community Health Network	273,883		
18. West Suburban Health Network (Newton/Waltham)	253,138		
19. Alliance for Community Health (Boston/Chelsea/Revere/Winthrop)	711,603		
20. Blue Hills Community Health Alliance (Greater Quincy)	372,309		
21. Four (For) Communities (Holyoke, Chicopee, Ludlow, Westfield)	161,454		
22. Greater Brockton Community Health Network	242,404		
23. South Shore Community Partners in Prevention (Plymouth)	188,787		
24. Greater Attleboro-Taunton Health & Education Response	252,919		
25. Partners for a Healthier Community (Fall River)	141,977		
26. Greater New Bedford Health & Human Services Coalition	199,955		
27. Cape and Islands Community Health Network	252,204		

1. Massachusetts (Department of Public Health) Modified Age, Race/Ethnicity, & Sex Estimates 2005 (MMARS05), released October, 2006.

Table A 10. Population Estimates for Massachusetts Communities, 2005

TOWN NAME	COUNTY	CHNA	POPULATION
Abington	Plymouth	22	16,305
Acton	Middlesex	15	20,539
Acushnet	Bristol	26	10,535
Adams	Berkshire	1	8,456
Agawam	Hampden	4	28,547
Alford	Berkshire	1	400
Amesbury	Essex	12	16,617
Amherst	Hampshire	3	34,721
Andover	Essex	11	32,838
Aquinnah (Gay Head)	Dukes	27	362
Arlington	Middlesex	17	41,273
Ashburnham	Worcester	9	5,970
Ashby	Middlesex	9	2,926
Ashfield	Franklin	2	1,824
Ashland	Middlesex	7	15,431
Athol	Worcester	2	11,690
Attleboro	Bristol	24	43,364
Auburn	Worcester	8	16,393
Avon	Norfolk	22	4,345
Ayer	Middlesex	9	7,212
Barnstable	Barnstable	27	47,902
Barre	Worcester	9	5,375
Becket	Berkshire	1	1,783
Bedford	Middlesex	15	12,486
Belchertown	Hampshire	3	13,897
Bellingham	Norfolk	6	15,735
Belmont	Middlesex	17	23,453
Berkley	Bristol	24	6,352
Berlin	Worcester	9	2,683
Bernardston	Franklin	2	2,237
Beverly	Essex	13	39,833
Billerica	Middlesex	10	39,812
Blackstone	Worcester	6	9,051
Blandford	Hampden	4	1,266
Bolton	Worcester	9	4,428
Boston	Suffolk	19	558,435
Bourne	Barnstable	27	19,355
Boxborough	Middlesex	15	5,032
Boxford	Essex	12	8,162
Boylston	Worcester	8	4,253
Braintree	Norfolk	20	33,658
Brewster	Barnstable	27	10,242
Bridgewater	Plymouth	22	25,769
Brimfield	Hampden	5	3,627
Brockton	Plymouth	22	100,366
Brookfield	Worcester	5	3,096
Brookline	Norfolk	19	56,422
Buckland	Franklin	2	1,995
Burlington	Middlesex	15	23,265
Cambridge	Middlesex	17	101,529
Canton	Norfolk	20	21,481
Carlisle	Middlesex	15	4,823
Carver	Plymouth	23	11,552
Charlemont	Franklin	2	1,387
Charlton	Worcester	5	12,447
Chatham	Barnstable	27	6,833
Chelmsford	Middlesex	10	33,728
Chelsea	Suffolk	19	34,128
Cheshire	Berkshire	1	3,356
Chester	Hampden	21	1,320
Chesterfield	Hampshire	3	1,271
Chicopee	Hampden	21	54,599
Chilmark	Dukes	27	944
Clarksburg	Berkshire	1	1,663
Clinton	Worcester	9	13,997
Cohasset	Norfolk	20	7,219
Colrain	Franklin	2	1,858
Concord	Middlesex	15	16,858
Conway	Franklin	2	1,902
Cummington	Hampshire	3	986
Dalton	Berkshire	1	6,697
Danvers	Essex	14	25,999
Dartmouth	Bristol	26	31,371
Dedham	Norfolk	18	23,681
Deerfield	Franklin	2	4,786
Dennis	Barnstable	27	15,914
Dighton	Bristol	24	6,648
Douglas	Worcester	6	7,861
Dover	Norfolk	18	5,634
Dracut	Middlesex	10	28,805
Dudley	Worcester	5	10,787
Dunstable	Middlesex	10	3,142
Duxbury	Plymouth	23	14,655
East Bridgewater	Plymouth	22	13,832
East Brookfield	Worcester	5	2,111
East Longmeadow	Hampden	4	14,845
Eastham	Barnstable	27	5,550
Easthampton	Hampshire	3	15,994
Easton	Bristol	22	22,995
Edgartown	Dukes	27	3,934
Egremont	Berkshire	1	1,355
Erving	Franklin	2	1,542
Essex	Essex	13	3,342
Everett	Middlesex	16	37,100
Fairhaven	Bristol	26	16,223
Fall River	Bristol	25	92,117
Falmouth	Barnstable	27	33,620
Fitchburg	Worcester	9	40,514
Florida	Berkshire	1	666
Foxborough	Norfolk	7	16,288
Framingham	Middlesex	7	65,651
Franklin	Norfolk	6	30,748
Freetown	Bristol	26	8,963
Gardner	Worcester	9	20,955
Georgetown	Essex	12	8,023
Gill	Franklin	2	1,392
Gloucester	Essex	13	30,671
Goshen	Hampshire	3	956
Gosnold	Dukes	27	86
Grafton	Worcester	8	16,783
Granby	Hampshire	3	6,332
Granville	Hampden	4	1,644
Great Barrington	Berkshire	1	7,440
Greenfield	Franklin	2	17,888
Groton	Middlesex	9	10,396
Groveland	Essex	12	6,591
Hadley	Hampshire	3	4,820
Halifax	Plymouth	23	7,805
Hamilton	Essex	13	8,334
Hampden	Hampden	4	5,312
Hancock	Berkshire	1	1,018
Hanover	Plymouth	23	14,077
Hanson	Plymouth	23	9,915
Hardwick	Worcester	9	2,655
Harvard	Worcester	9	6,116
Harwich	Barnstable	27	12,673
Hatfield	Hampshire	3	3,280
Haverhill	Essex	12	60,032
Hawley	Franklin	2	345
Heath	Franklin	2	805
Hingham	Plymouth	20	21,470
Hinsdale	Berkshire	1	1,811
Holbrook	Norfolk	22	10,765
Holden	Worcester	8	16,571

Table A10. Population Estimates for Massachusetts Communities, 2005, continued

TOWN NAME	COUNTY	CHNA	POPULATION
Holland	Hampden	5	2,529
Holliston	Middlesex	7	13,830
Holyoke	Hampden	21	41,089
Hopedale	Worcester	6	6,234
Hopkinton	Middlesex	7	14,048
Hubbardston	Worcester	9	4,340
Hudson	Middlesex	7	18,847
Hull	Plymouth	20	11,279
Huntington	Hampshire	21	2,180
Ipswich	Essex	13	13,285
Kingston	Plymouth	23	12,435
Lakeville	Plymouth	24	10,618
Lancaster	Worcester	9	7,069
Lanesborough	Berkshire	1	2,951
Lawrence	Essex	11	81,591
Lee	Berkshire	1	5,882
Leicester	Worcester	8	10,953
Lenox	Berkshire	1	5,149
Leominster	Worcester	9	42,120
Leverett	Franklin	2	1,769
Lexington	Middlesex	15	30,452
Leyden	Franklin	2	815
Lincoln	Middlesex	15	7,935
Littleton	Middlesex	15	8,561
Longmeadow	Hampden	4	15,556
Lowell	Middlesex	10	105,749
Ludlow	Hampden	21	21,835
Lunenburg	Worcester	9	10,008
Lynn	Essex	14	92,186
Lynnfield	Essex	14	11,540
Malden	Middlesex	16	56,730
Manchester	Essex	13	5,332
Mansfield	Bristol	24	22,933
Marblehead	Essex	14	20,285
Marion	Plymouth	26	5,316
Marlborough	Middlesex	7	37,163
Marshfield	Plymouth	23	24,879
Mashpee	Barnstable	27	14,159
Mattapoisett	Plymouth	26	6,477
Maynard	Middlesex	7	10,221
Medfield	Norfolk	7	12,328
Medford	Middlesex	16	53,801
Medway	Norfolk	6	12,780
Melrose	Middlesex	16	26,366
Mendon	Worcester	6	5,743
Merrimac	Essex	12	6,350
Methuen	Essex	11	44,532
Middleborough	Plymouth	24	21,153
Middlefield	Hampshire	3	549
Middleton	Essex	11	9,077
Milford	Worcester	6	27,523
Millbury	Worcester	8	13,443
Millis	Norfolk	7	7,949
Millville	Worcester	6	2,938
Milton	Norfolk	20	26,243
Monroe	Franklin	2	100
Monson	Hampden	4	8,744
Montague	Franklin	2	8,416
Monterey	Berkshire	1	959
Montgomery	Hampden	4	743
Mt. Washington	Berkshire	1	135
Nahant	Essex	14	3,591
Nantucket	Nantucket	27	10,095
Natick	Middlesex	7	31,895
Needham	Norfolk	18	28,445
New Ashford	Berkshire	1	247
New Bedford	Bristol	26	94,502
New Braintree	Worcester	9	1,090
New Marlborough	Berkshire	1	1,522
New Salem	Franklin	2	986
Newbury	Essex	12	6,990
Newburyport	Essex	12	17,395
Newton	Middlesex	18	83,346
Norfolk	Norfolk	7	10,506
North Adams	Berkshire	1	14,031
North Andover	Essex	11	27,137
North Attleboro	Bristol	24	28,078
North Brookfield	Worcester	5	4,812
North Reading	Middlesex	16	13,930
Northampton	Hampshire	3	28,803
Northborough	Worcester	7	14,652
Northbridge	Worcester	6	14,184
Northfield	Franklin	2	3,226
Norton	Bristol	24	19,106
Norwell	Plymouth	20	10,382
Norwood	Norfolk	20	28,472
Oak Bluffs	Dukes	27	3,794
Oakham	Worcester	9	1,892
Orange	Franklin	2	7,659
Orleans	Barnstable	27	6,459
Otis	Berkshire	1	1,391
Oxford	Worcester	5	13,710
Palmer	Hampden	4	12,895
Paxton	Worcester	8	4,556
Peabody	Essex	14	50,954
Pelham	Hampshire	3	1,415
Pembroke	Plymouth	23	18,069
Pepperell	Middlesex	9	11,386
Peru	Berkshire	1	836
Petersham	Worcester	2	1,282
Phillipston	Worcester	2	1,753
Pittsfield	Berkshire	1	43,949
Plainfield	Hampshire	3	600
Plainville	Norfolk	7	7,994
Plymouth	Plymouth	23	54,781
Plympton	Plymouth	23	2,777
Princeton	Worcester	9	3,520
Provincetown	Barnstable	27	3,444
Quincy	Norfolk	20	90,458
Randolph	Norfolk	20	32,552
Raynham	Bristol	24	13,428
Reading	Middlesex	16	23,161
Rehoboth	Bristol	24	11,229
Revere	Suffolk	19	45,551
Richmond	Berkshire	1	1,618
Rochester	Plymouth	26	5,295
Rockland	Plymouth	23	17,842
Rockport	Essex	13	7,761
Rowe	Franklin	2	350
Rowley	Essex	12	5,832
Royalston	Worcester	2	1,366
Russell	Hampden	4	1,723
Rutland	Worcester	9	7,406
Salem	Essex	14	41,647
Salisbury	Essex	12	8,264
Sandisfield	Berkshire	1	830
Sandwich	Barnstable	27	20,707
Saugus	Essex	14	26,867
Savoy	Berkshire	1	724
Scituate	Plymouth	20	18,119
Seekonk	Bristol	24	13,660
Sharon	Norfolk	20	17,269
Sheffield	Berkshire	1	3,360
Shelburne	Franklin	2	2,054
Sherborn	Middlesex	7	4,220
Shirley	Middlesex	9	7,361

Table A10. Population Estimates for Massachusetts Communities, 2005, continued

TOWN NAME	COUNTY	CHNA	POPULATION	TOWN NAME	COUNTY	CHNA	POPULATION
Shrewsbury	Worcester	8	33,171	Warwick	Franklin	2	763
Shutesbury	Franklin	2	1,843	Washington	Berkshire	1	546
Somerset	Bristol	25	18,564	Watertown	Middlesex	17	32,255
Somerville	Middlesex	17	75,372	Wayland	Middlesex	7	13,015
South Hadley	Hampshire	3	17,071	Webster	Worcester	5	16,853
Southampton	Hampshire	3	5,828	Wellesley	Norfolk	18	26,975
Southborough	Worcester	7	9,511	Wellfleet	Barnstable	27	2,821
Southbridge	Worcester	5	17,503	Wendell	Franklin	2	1,035
Southwick	Hampden	4	9,512	Wenham	Essex	13	4,643
Spencer	Worcester	5	12,087	West Boylston	Worcester	8	7,708
Springfield	Hampden	4	156,358	West Bridgewater	Plymouth	22	6,819
Sterling	Worcester	9	7,761	West Brookfield	Worcester	5	3,896
Stockbridge	Berkshire	1	2,256	West Newbury	Essex	12	4,301
Stoneham	Middlesex	16	21,594	West Springfield	Hampden	4	27,938
Stoughton	Norfolk	22	26,782	West Stockbridge	Berkshire	1	1,450
Stow	Middlesex	7	6,159	West Tisbury	Dukes	27	2,666
Sturbridge	Worcester	5	8,825	Westborough	Worcester	7	18,781
Sudbury	Middlesex	7	17,035	Westfield	Hampden	21	40,432
Sunderland	Franklin	2	3,853	Westford	Middlesex	10	21,369
Sutton	Worcester	6	8,974	Westhampton	Hampshire	3	1,566
Swampscott	Essex	14	14,283	Westminster	Worcester	9	7,358
Swansea	Bristol	25	16,243	Weston	Middlesex	18	11,591
Taunton	Bristol	24	56,348	Westport	Bristol	25	15,053
Templeton	Worcester	9	7,474	Westwood	Norfolk	18	13,902
Tewksbury	Middlesex	10	28,990	Weymouth	Norfolk	20	53,708
Tisbury	Dukes	27	3,819	Whately	Franklin	2	1,584
Tolland	Hampden	4	446	Whitman	Plymouth	22	14,424
Topsfield	Essex	13	6,178	Wilbraham	Hampden	4	13,960
Townsend	Middlesex	9	9,273	Williamsburg	Hampshire	3	2,433
Truro	Barnstable	27	2,162	Williamstown	Berkshire	1	8,276
Tyngsborough	Middlesex	10	11,297	Wilmington	Middlesex	15	21,431
Tyringham	Berkshire	1	352	Winchendon	Worcester	9	10,085
Upton	Worcester	6	6,374	Winchester	Middlesex	15	21,139
Uxbridge	Worcester	6	12,377	Windsor	Berkshire	1	858
Wakefield	Middlesex	16	24,553	Winthrop	Suffolk	19	17,067
Wales	Hampden	5	1,818	Woburn	Middlesex	15	37,074
Walpole	Norfolk	7	23,067	Worcester	Worcester	8	179,839
Waltham	Middlesex	18	59,564	Worthington	Hampshire	3	1,291
Ware	Hampshire	3	9,988	Wrentham	Norfolk	7	11,066
Wareham	Plymouth	26	21,274	Yarmouth	Barnstable	27	24,663
Warren	Worcester	5	5,040				

1. Massachusetts (Department of Public Health) Modified Age, Race/Ethnicity, & Sex Estimates 2005 (MMARS05), released October, 2006.

Table A11. 2005 Massachusetts Population Estimates[1] By Age Group, Gender, Race and Hispanic Ethnicity[2] (mutually exclusive)

AGE	GENDER	TOTAL	WHITE non-Hispanic	BLACK non-Hispanic	ASIAN non-Hispanic	HISPANIC
UNDER 1	MALE	40,780	29,060	3,681	2,379	5,605
	FEMALE	38,831	27,746	3,331	2,387	5,294
	TOTAL	79,611	56,806	7,012	4,766	10,899
1 TO 4	MALE	162,304	116,689	14,175	9,331	21,870
	FEMALE	154,813	111,378	13,360	9,120	20,704
	TOTAL	317,117	228,067	27,535	18,451	42,574
5 TO 14	MALE	410,735	311,258	32,181	19,514	46,748
	FEMALE	391,193	295,066	30,853	19,694	44,574
	TOTAL	801,928	606,324	63,034	39,208	91,322
15 TO 24	MALE	432,415	327,719	32,814	23,489	47,155
	FEMALE	418,260	317,116	32,090	24,725	43,090
	TOTAL	850,675	644,835	64,904	48,214	90,245
25 TO 34	MALE	428,556	311,465	29,529	35,643	50,866
	FEMALE	439,791	322,370	31,130	36,700	48,515
	TOTAL	868,347	633,835	60,659	72,343	99,381
35 TO 44	MALE	498,198	401,394	29,201	27,847	38,574
	FEMALE	512,746	412,427	31,349	27,434	40,329
	TOTAL	1,010,944	813,821	60,550	55,281	78,903
45 TO 54	MALE	460,062	395,585	23,351	17,238	22,742
	FEMALE	485,064	415,221	25,182	18,185	25,327
	TOTAL	945,126	810,806	48,533	35,423	48,069
55 TO 64	MALE	321,040	286,247	13,026	9,599	11,474
	FEMALE	351,129	310,327	15,859	10,254	13,950
	TOTAL	672,169	596,574	28,885	19,853	25,424
65 TO 74	MALE	175,999	159,256	6,394	5,142	4,871
	FEMALE	214,003	192,152	9,015	5,756	6,750
	TOTAL	390,002	351,408	15,409	10,898	11,621
75 TO 84	MALE	127,036	118,796	3,199	2,530	2,295
	FEMALE	193,452	180,798	5,802	3,225	3,375
	TOTAL	320,488	299,594	9,001	5,755	5,670
85 +	MALE	43,895	41,255	1,083	684	794
	FEMALE	98,441	93,460	2,248	1,109	1,457
	TOTAL	142,336	134,715	3,331	1,793	2,251
ALL AGES	MALE	3,101,020	2,498,724	188,634	153,396	252,994
	FEMALE	3,297,723	2,678,061	200,219	158,589	253,365
	TOTAL	6,398,743	5,176,785	388,853	311,985	506,359

1. National Center for Health Statistics. Estimates of the July 1, 2000-July 1, 2005, United States resident population from the Vintage 2005 postcensal series by year, county, age, sex, race, and Hispanic origin, prepared under a collaborative arrangement with the U.S. Census Bureau. Available on the Internet from: http://www.cdc.gov/nchs/about/major/dvs/popbridge/popbridge.htm. August 16, 2006. 2. Persons of Hispanic ethnicity are NOT included in the race categories. These estimates are used to calculate population based rates in published in this report, except for Table A1.

Table A12. 2005 Massachusetts Population Estimates[1] By Age Group, Gender, Race and Hispanic Ethnicity [2]

AGE	GENDER	TOTAL	WHITE	BLACK	ASIAN	HISPANIC ETHNICITY
UNDER 1	MALE	40,780	33,114	5,177	2,418	5,605
	FEMALE	38,831	31,508	4,791	2,450	5,294
	TOTAL	79,611	64,622	9,968	4,868	10,899
1 TO 4	MALE	162,304	132,722	19,807	9,481	21,870
	FEMALE	154,813	126,648	18,586	9,266	20,704
	TOTAL	317,117	259,370	38,393	18,747	42,574
5 TO 14	MALE	410,735	349,685	39,177	20,148	46,748
	FEMALE	391,193	331,788	37,423	20,330	44,574
	TOTAL	801,928	681,473	76,600	40,478	91,322
15 TO 24	MALE	432,415	367,274	39,011	24,132	47,155
	FEMALE	418,260	352,883	38,154	25,346	43,090
	TOTAL	850,675	720,157	77,165	49,478	90,245
25 TO 34	MALE	428,556	355,380	35,086	36,301	50,866
	FEMALE	439,791	363,289	37,432	37,347	48,515
	TOTAL	868,347	718,669	72,518	73,648	99,381
35 TO 44	MALE	498,198	434,066	34,116	28,244	38,574
	FEMALE	512,746	446,020	36,935	27,969	40,329
	TOTAL	1,010,944	880,086	71,051	56,213	78,903
45 TO 54	MALE	460,062	414,458	26,599	17,513	22,742
	FEMALE	485,064	436,174	28,864	18,495	25,327
	TOTAL	945,126	850,632	55,463	36,008	48,069
55 TO 64	MALE	321,040	295,786	14,664	9,725	11,474
	FEMALE	351,129	322,073	17,709	10,419	13,950
	TOTAL	672,169	617,859	32,373	20,144	25,424
65 TO 74	MALE	175,999	163,328	7,079	5,201	4,871
	FEMALE	214,003	197,718	10,037	5,840	6,750
	TOTAL	390,002	361,046	17,116	11,041	11,621
75 TO 84	MALE	127,036	120,747	3,492	2,564	2,295
	FEMALE	193,452	183,641	6,265	3,255	3,375
	TOTAL	320,488	304,388	9,757	5,819	5,670
85 +	MALE	43,895	41,944	1,156	704	794
	FEMALE	98,441	94,690	2,432	1,133	1,457
	TOTAL	142,336	136,634	3,588	1,837	2,251
ALL AGES	MALE	3,101,020	2,708,504	225,364	156,431	252,994
	FEMALE	3,297,723	2,886,432	238,628	161,850	253,365
	TOTAL	6,398,743	5,594,936	463,992	318,281	506,359

1. National Center for Health Statistics. Estimates of the July 1, 2000-July 1, 2005, United States resident population from the Vintage 2005 postcensal series by year, county, age, sex, race, and Hispanic origin, prepared under a collaborative arrangement with the U.S. Census Bureau. Available on the Internet from: http://www.cdc.gov/nchs/about/major/dvs/popbridge/popbridge.htm. August 16, 2006. 2. Persons of Hispanic ethnicity are included in the race categories. These estimates are used to calculate population based rates in published in Table A1.

Massachusetts Death Certificate: 2005

[INSTRUCTIONS ON REVERSE SIDE]
FOR USE BY PHYSICIANS AND MEDICAL EXAMINERS

The Commonwealth of Massachusetts

STANDARD CERTIFICATE OF DEATH
REGISTRY OF VITAL RECORDS AND STATISTICS

REGISTERED NUMBER | STATE USE ONLY

STATE USE ONLY
4a PLACE
4c HOSP.
5 TYPE
7 VET.
8 HISP. | RACE
9 EDUC.
10 AGE
11 NATIVITY
12 MARITAL
15 RESID.
15 OUT-STATE
23 DISP.
31-32 AUTOP.
33 MED EXAM.
34 MANNER
35C WORK INJ.
35F PLACE
36-37 CERT.
40A PA PRO.

DECEDENT

1 DECEDENT - NAME: FIRST | MIDDLE | LAST
2 SEX
3 DATE OF DEATH (Mo., Day, Yr.)

4a PLACE OF DEATH (City/Town)
4b COUNTY OF DEATH
4c HOSPITAL OR OTHER INSTITUTION - Name (If not in either, give street and number)

5 PLACE OF DEATH (Check only one):
HOSPITAL: ☐ Inpatient ☐ ER/Outpatient ☐ DOA
OTHER: ☐ Nursing Home ☐ Residence ☐ Other (Specify)

6 SOCIAL SECURITY NUMBER

7 IF US WAR VETERAN SPECIFY WAR

8a WAS DECEDENT OF HISPANIC ORIGIN? (If yes, Specify Puerto Rican, Dominican, Cuban, etc.) ☐ NO ☐ YES
8b RACE (e.g. White, Black, American Indian, etc.) (Specify):

9 DECEDENT'S EDUCATION (Highest Grade Completed): Elem/Sec (0-12) | College (1-4, 5+)

10a AGE - Last Birthday (Yrs.)
b UNDER 1 YEAR: MOS | DAYS
c UNDER 1 DAY: HOURS | MINS
10d DATE OF BIRTH (Mo., Day, Yr.)

11 BIRTHPLACE (City and State or Foreign Country)

12 MARRIED, NEVER MARRIED, WIDOWED OR DIVORCED
13 LAST SPOUSE (If wife, give maiden name)
14a USUAL OCCUPATION (Prior - If retired)
14b KIND OF BUSINESS OR INDUSTRY

15a RESIDENCE - NO. & ST., CITY/TOWN, COUNTY, STATE/COUNTRY
15b ZIP CODE

16 FATHER - FULL NAME
17 STATE OF BIRTH (If not in US, name country)
18 MOTHER - NAME (GIVEN) (MAIDEN)
19 STATE OF BIRTH (If not in US, name country)

INFORMANT

20 INFORMANT'S NAME
21 MAILING ADDRESS - NO. & ST., CITY/TOWN, STATE, ZIP CODE
22 RELATIONSHIP

DISPOSITION

23 METHOD OF DISPOSITION: ☐ BURIAL ☐ CREMATION ☐ ENTOMBMENT ☐ REMOVAL FROM STATE ☐ DONATION ☐ OTH. SPEC:
24 FUNERAL SERVICE LICENSEE
25 LICENSE #

26a PLACE OF DISPOSITION (Name of Cemetery, Crematory or other)
26b LOCATION (City/Town, State)

27 DATE OF DISPOSITION (Mo., Day, Yr.)
28a/b NAME AND ADDRESS OF FACILITY

CERTIFIER

29 PART I - Enter the diseases, injuries, or complications that caused the death. Do not use only the mode of dying, such as cardiac or respiratory arrest, shock or heart failure. List only one cause on each line (a through d). PRINT OR TYPE LEGIBLY.

Approximate Interval Between Onset and Death

IMMEDIATE CAUSE (Final disease or condition resulting in death) → a. _____ DUE TO (OR AS A CONSEQUENCE OF)

Sequentially list conditions, if any leading to immediate cause. Enter UNDERLYING CAUSE (disease or injury that initiated events resulting in death) LAST.
b. _____ DUE TO (OR AS A CONSEQUENCE OF)
c. _____ DUE TO (OR AS A CONSEQUENCE OF)
d. _____

30 PART II - Other significant conditions contributing to death but not resulting in underlying cause given in Part I.
31 WAS AUTOPSY PERFORMED? (Yes or No)
32 WERE AUTOPSY FINDINGS AVAILABLE PRIOR TO COMPLETION OF CAUSE OF DEATH? (Yes or No)

33 WAS CASE REFERRED TO M.E.? (Yes or No)
34 MANNER OF DEATH: ☐ NATURAL ☐ HOMICIDE ☐ COULD NOT BE DETERMINED ☐ ACCIDENT ☐ SUICIDE ☐ PENDING INVESTIGATION
35a DATE OF INJURY (Mo., Day, Yr.)
35b TIME OF INJURY M
35c INJURY AT WORK (Yes or No)

35d DESCRIBE HOW INJURY OCCURRED
35e PLACE OF INJURY - At home, farm, street, factory, office bldg., etc. Specify:
35f LOCATION (No. & St., City/Town, State)

To be Completed by CERTIFYING PHYSICIAN Only
36a To the best of my knowledge, death occurred at the time, date, and place and due to the cause(s) stated (Signature and Title)
36b DATE SIGNED (Mo., Day, Yr.)
36c HOUR OF DEATH M
36d NAME OF ATTENDING PHYSICIAN IF NOT CERTIFIER

To Be Completed by MEDICAL EXAMINER Only
37a On the basis of examination and/or investigation in my opinion death occurred at the time, date, and place and due to the cause(s) stated (Signature and Title)
37b DATE SIGNED (Mo., Day, Yr.)
37c HOUR OF DEATH M
37d PRONOUNCED DEAD (Mo., Day, Yr.)
37e PRONOUNCED DEAD (Hr.) M

38 NAME AND ADDRESS OF CERTIFYING PHYSICIAN OR MEDICAL EXAMINER (Type or Print)
39 LICENSE NO. OF CERTIFIER

40a WAS THERE AN R.N. PRONOUNCEMENT? Yes or No
40b IF YES, DATE PRONOUNCED
40c IF YES, TIME PRONOUNCED M
40d NAME OF PRONOUNCING REGISTERED NURSE
NAME

41 DATE BURIAL PERMIT ISSUED:
SIGNATURE - BD. OF HEALTH AGENT
42 RECEIVED IN THE CITY/TOWN OF:
CLERK'S SIGNATURE
43 DATE OF RECORD

SAMPLE

BLACK INK ONLY

R-301-89

Circumstance for Referral to the Office of the Chief Medical Examiner (OCME)

http://www.mass.gov/legis/laws/mgl/38-3.htm

CHAPTER 38. MEDICAL EXAMINERS AND INQUESTS

Chapter 38: Section 3. Duty to report deaths; failure to report

Section 3. It shall be the duty of any person having knowledge of a death which occurs under the circumstances enumerated in this paragraph immediately to notify the office of the chief medical examiner, or the medical examiner designated to the location where the death has occurred, of the known facts concerning the time, place, manner, circumstances and cause of such death:

(1) death where criminal violence appears to have taken place, regardless of the time interval between the incident and death, and regardless of whether such violence appears to have been the immediate cause of death, or a contributory factor thereto;

(2) death by accident or unintentional injury, regardless of time interval between the incident and death, and regardless of whether such injury appears to have been the immediate cause of death, or a contributory factor thereto;

(3) suicide, regardless of the time interval between the incident and death;

(4) death under suspicious or unusual circumstances;

(5) death following an unlawful abortion;

(6) death related to occupational illness or injury;

(7) death in custody, in any jail or correctional facility, or in any mental health or mental retardation institution;

(8) death where suspicion of abuse of a child, family or household member, elder person or disabled person exists;

(9) death due to poison or acute or chronic use of drugs or alcohol;

(10) skeletal remains;

(11) death associated with diagnostic or therapeutic procedures;

(12) sudden death when the decedent was in apparent good health;

(13) death within twenty-four hours of admission to a hospital or nursing home;

(14) death in any public or private conveyance;

(15) fetal death, as defined by section two hundred and two of chapter one hundred and eleven, where the period of gestation has been twenty weeks or more, or where fetal weight is three

hundred and fifty grams or more;

(16) death of children under the age of 18 years from any cause;

(17) any person found dead;

(18) death in any emergency treatment facility, medical walk-in center, day care center, or under foster care; or

(19) deaths occurring under such other circumstances as the chief medical examiner shall prescribe in regulations promulgated pursuant to the provisions of chapter thirty A.

A physician, police officer, hospital administrator, licensed nurse, department of social services social worker, or licensed funeral director, within the commonwealth, who, having knowledge of such an unreported death, fails to notify the office of the chief medical examiner of such death shall be punished by a fine of not more than five hundred dollars. Such failure shall also be reported to the appropriate board of registration, where applicable.

Massachusetts Deaths: 2005 Evaluation Form

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Are there other tables and charts that you would like added to this publication? If yes, please describe them in detail.
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