Massachusetts Deaths 2000

Bureau of Health Statistics, Research and Evaluation

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TECHNICAL FOREWORD

Effective with last year's publication, the *Advance Data: Deaths* series has been renamed *Massachusetts Deaths*.

CHANGES TO MORTALITY DATA, EFFECTIVE 1999

Beginning with data year 1999, two major changes in Federal classification and tabulation procedures have occurred that affect the tabulation and analyses of mortality data over time. First, a new revision for classifying causes of death has been implemented. The International Classification of Diseases, Tenth Revision (ICD-10) has 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 has been implemented.

International Classification of Diseases- Tenth Revision (ICD-10)

What is ICD-10?

ICD-10 is an abbreviation for the International Classification of Diseases - Tenth revision. The International Classification of Diseases is a classification system developed by the World Health Organization (WHO). The United States uses the ICD in accordance with an international agreement. The purpose of an international classification system is to promote international comparability in collecting, classifying and tabulating mortality statistics.

Why has the ICD been revised?

The ICD is revised to reflect advances in medical science. The ICD was first implemented in 1900, and has undergone revisions approximately every ten years, except for the Ninth revision which was in effect between 1979-1998. Beginning with 1999, mortality data are coded according to the Tenth revision of the ICD.

How is ICD-10 different from ICD-9?

ICD-10 has approximately 8,000 categories, about twice as many as in ICD-9. ICD-10 uses an alpha-numeric coding scheme, whereas ICD-9 used a numeric coding scheme only.

Can I compare data classified in ICD-10 to data classified in ICD-9?

Differences in the coding between ICD-9 and ICD-10 make direct comparisons between the two classification systems difficult. Because there have been changes made in the codes that are assigned to causes of death, changes to the rules used to determine the underlying cause of death, and changes in the codes that comprise the leading cause of death categories, direct comparisons of causes of death between 1999 or 2000 and previous years cannot be made. Any comparison needs to take into account these changes in the classification system.

To help make comparisons, the National Center for Health Statistics (NCHS) has provided preliminary **comparability ratios** (CR) for leading causes of death, which will assist in the interpretation of trends between 1998, when ICD-9 was used and 1999 or 2000, when ICD-

10 was used. In addition to comparing 1998 and 1999 or 2000 data, the comparability ratios can be applied to data going back to 1994 so longer term trends can still be examined.

What is a comparability ratio?

A comparability ratio (CR) may be thought of as a multiplier to adjust for changes in how data are classified between the two revisions of the ICD. The purpose of a comparability ratio is to examine whether an increase or decrease in the number of death is "real" or simply due to the changes in the classification system for a specific cause of death. It is defined as the number of deaths coded in the new classification system divided by the number of deaths coded using the old classification system. (Please see the Glossary in the Appendix, page 80, for a more detailed explanation).

How do I use comparability ratios?

Comparability ratios are used to make comparisons between data classified under the new system with data classified under the old system. For example, in 1998, there were 2,897 underlying causes of death classified as influenza and pneumonia using ICD-9 (ICD-9 codes: 480-487). However, changes in the classification and coding of underlying causes of deaths using ICD-10 reduce the assignment of influenza and pneumonia as an underlying cause of death. The preliminary comparability ratio for influenza and pneumonia is 0.6982. Applying the preliminary comparability ratio to the 1998 number yields 2,023 deaths that would have been classified as influenza and pneumonia deaths in 1998, had the ICD-10 classification system and coding rules been in place. We can now compare that comparability modified number for 1998 (2,023 deaths) with the actual number of influenza and pneumonia deaths in 1999 (2,176 deaths). In 1999, there was a slight increase in influenza and pneumonia deaths from what we would have expected if the same classification system were used for 1998.

In all trend tables in this report, comparability modified data are presented, as well as comparability unmodified data. Comparability modified data have been adjusted using the CR. When examining whether a change occurred between 1999 and 1998, comparability modified data should be used.

The comparability ratios used in this report are considered preliminary. The preliminary comparability ratios are based on a national sample of mortality data and may change when the final comparability study is completed by NCHS.

The preliminary comparability ratios used in this report are found on pages 90-91. An example of how to apply the comparability ratios is found on page 80. A more detailed definition of comparability ratio is found in the Glossary on page 82.

<u>New Standard Population for Age-adjusted Rates</u>

What is age adjustment?

Age adjustment is a statistical procedure used to make meaningful comparisons of mortality over time and among populations. Age adjustment (also called age standardization) reduces the effect of having many older individuals in one group (where the risk of mortality is naturally higher) compared to another group which has younger persons. Age-adjusted

death rates should be used only for comparative purposes, and should not be interpreted as an actual or absolute risk of death.

What is a standard population?

A standard population is a set of arbitrary population weights representing the age distribution of a defined population. The standard population weights are used to adjust the age-specific rate for each of the comparison populations of interest (for example, the same population over time, or different geographies or race/ethnicity populations). The resulting weighted age-specific rates are then summed to produce the total age-adjusted rate for the populations of interest.

Why has the standard population changed?

Beginning with 1999, a new standard population is being used. The 2000 US projected population is the new standard population for age-adjustment of mortality rates. Previously, the 1940 US projected population was used by NHCS as the standard population for mortality statistics. However, other Federal agencies used different standard populations such as the 1970 or 1980 US standard population. The new standard has been adopted by Federal agencies to promote uniformity and comparability of data from many organizations. While there is no strong technical argument to be made for the use of the 2000 US population, there are some practical reasons for the adoption of the new standard. For example, the year 2000 standard population more closely resembles the current age distribution of the total populatio, and the year 2000 is a date that data users can relate to. (Please refer to the page 81 for a detailed definition of age-adjusted rates, and for an example of how to calculate an age-adjusted rate).

Why are age-adjusted rates so much higher than previously published?

Changing the standard population from 1940 to the year 2000 has affected the magnitude of age-adjusted death rates. This is because the age structures of the 1940 and 2000 US population are different. In the 2000 standard, older age groups are weighted more heavily than in the 1940 standard. It is important to remember that age-adjusted death rates are not an actual measure of risk of death, rather, age-adjusted death rates are a summary measure used to compare mortality trends over time or between different populations whose age structure differs.

Age-adjusted rates can only be compared to other age-adjusted rates that use the same standard population. Therefore, age-adjusted rates published in this report cannot be compared to previously published age-adjusted rates which use the 1940 US standard population.

What effect will the use of the new standard have on comparing populations?

Applying the 2000 standard population will show relative increases in older population groups and chronic diseases compared to younger population groups and causes of death that affect younger populations. For example, the 1998 age-adjusted heart disease death rate changed from 106.2 per 100,000 using the 1940 US standard population to 231.0 per 100,000 using the 2000 US standard population. In contrast, the 1998 age-adjusted homicide rate changed from 2.1 per 100,000 using the 1940 US standard population to 1.9 per 100,000 using the 2000 US standard population.

Similarly, the 1998 age-adjusted death rate for white, non-Hispanics (an older population) will change from 413.0 using the 1940 US standard population to 808.5 using the 2000 US standard population. The 1998 age-adjusted death rate for black, non-Hispanics (a younger population) will change from 653.3 using the 1940 US standard population to 1,076.6 using the 2000 US standard population. Using the 1940 US standard population, the age-adjusted death rate for black, non-Hispanics was 58% higher than the white, non-Hispanic age-adjusted death rate. However, using the 2000 US standard population, the age-adjusted death rate for black, non-Hispanics is 33% higher than the white, non-Hispanic death rate. This change does not represent a narrowing of the gap, but merely a statistical artifact of using a different standard population.

All age-adjusted rates published in this report have been recalculated using the 2000 US standard population. Again, it is important to note that ONLY RATES THAT ARE CALCULATED USING THE SAME STANDARD POPULATION CAN BE COMPARED!. Therefore, age-adjusted rates published in this report cannot be compared to previously published age-adjusted rates, which used the 1940 US standard population.

CHANGES TO THE PRESENTATION OF RACE AND ETHNICITY DATA

In response to readers' feedback, the presentation of race and ethnicity data beginning with last year's 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 last year's report, race and ethnicity data are now 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/Pacific Islander, non-Hispanic; and Hispanic. In addition, Table A1 in the Appendix contains data according to the Federal definitions so data can be compared to 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).

NEW ADDITIONS TO THIS YEAR'S PUBLICATION

In this year's publication, five new tables and two new figures are provided to give more detailed information on death data to our readers. Table 4b provides information on the cause specific patterns of death among Cape Verdeans while Figure 6 presents the age distribution for Cape Verdean deaths in Massachusetts. Table 5c provides information on the leading causes of deaths among ethnicity subgroups for Hispanics. Table 10b shows the distribution of type of injury deaths by gender, while Table 10c presents the distribution of type of Injury deaths by manner/intent categories. Table 16 provides a comparison of the most recent Massachusetts death data to selected Healthy People 2010 targets for those objectives. Lastly, Figure 3 provides information on the change in age distribution of the population in Massachusetts during the last 100 years.

EXECUTIVE SUMMARY

Executive Summary

Overview

In 2000, 56,591 Massachusetts residents died: 30,465 females and 26,126 males. The number of resident deaths in 2000 increased by 1.5% (828 deaths) from 1999, and constitutes a 7% increase since 1990.

The age-adjusted death rate in 2000 for Massachusetts was 816.5 deaths per 100,000 persons, a 7% decline since 1990 (please note: these rates are age-adjusted to the 2000 US standard population). The 2000 Massachusetts age-adjusted death rate was 6% lower than the preliminary 2000 United States rate, and has been consistently lower than the US rate throughout the 1990's.

For the third year in a row, the largest number of deaths occurred among people ages 85 years and older. In 2000, life expectancy at birth continues to be higher in Massachusetts when compared to the U.S. (78.5 years compared to 76.7 years). In Massachusetts, life expectancy at birth was 75.9 years for men and 80.8 years for women.

In 2000, Massachusetts had the lowest infant mortality rate ever recorded for the state. There were 377 deaths to infants less than one year of age in 2000, which was 10% lower than in 1999, and 42% fewer than in 1990. The 2000 infant mortality rate (IMR) was 4.6 deaths per 1,000 live births, 13% lower than in 1999 (5.2 deaths per 1,000 live births). The Massachusetts IMR was 33% lower than the 2000 United States rate (4.6 deaths compared to 6.9 deaths per 1,000 live births).

There were 226 Massachusetts residents who died from HIV/AIDS in 2000. This represents a continuing downward trend in the number of HIV/AIDS deaths since 1994.

Leading Causes of Death

Heart disease and cancer continue to be the leading causes of death among Massachusetts residents, accounting for 52% of all deaths. In 2000, 15,313 Massachusetts residents died of heart disease, which resulted in an age-adjusted death rate of 218 deaths per 100,000 persons. Cancer was the second leading cause of death, with 14,006 deaths, and age-adjusted death rate of 207 per 100,000.

The top ten leading causes of death accounted for 77% of all deaths in 2000. HIV disease did not rank among the 10 leading causes of death for Massachusetts, although it remained among the leading causes of death for black, non-Hispanics and Hispanics. In 2000, the top 10 leading causes of death remained the same, 8 in the same ranking while Alzheimer's disease increased in rank from 7th to 6th and diabetes dropped from 6th to 7th.

Heart disease was the leading cause of death for Massachusetts residents ages 75 years and older, while cancer was the leading cause of death for persons ages 25-74 years. For the fourth year in a row, HIV/AIDS was not among the four leading causes of death among persons ages 25-44 years. Injury-related deaths were the top four leading causes of death for persons ages 15-24 years and accounted for 70% of the deaths in this age group.

The age-adjusted death rate for many of the leading causes of death continues to be lower for Massachusetts as compared to the United States. Age-adjusted death rates for heart

disease, stroke, accidents (unintentional injuries), diabetes, HIV/AIDS, suicide, homicide, chronic lower respiratory disease, motor vehicle-related deaths, and infant mortality are lower for Massachusetts when compared to preliminary figures for the United States. Age-adjusted death rates for cancer, Alzheimer's disease, nephritis, septicema, and influenza/pneumonia continue to be higher in Massachusetts as compared to the United States.

Patterns by Race and Ethnicity

Age-adjusted mortality rates varied markedly by race and Hispanic ethnicity in Massachusetts in 2000. For the first time, Asian/Pacific Islander, non-Hispanics had the lowest death rate in the state, 418.5 deaths per 100,000 persons; black, non-Hispanics had the highest rate (992.4 per 100,000). In 2000, the death rate for black, non-Hispanics decreased by 0.3% while rates for Hispanics and white, non-Hispanics increased by 17% and 1%, respectively. The 17% increase in the death rate for Hispanics is due mainly to the recalculation of the Hispanic population. The Census 2000 count for Hispanics 65+ years is lower than the number previously estimated. Thus, the death rate (the number of deaths divided by the population) is increased relative to past calculations. The actual number of deaths to persons of Hispanic ethnicity increased only 4% from 1999 to 2000.

The leading causes of death varied by race and ethnicity in 2000 as in previous years. Cancer was the leading cause among Asian/Pacific Islander, non-Hispanics; black, non-Hispanics; and Hispanics in 2000. Heart disease was the leading cause for white, non-Hispanics. HIV/AIDS remained the third leading cause of death among Hispanics, and for the third consecutive year, more Hispanics died of HIV/AIDS than black, non-Hispanics.

Cancer

The overall leading cause of cancer death was lung cancer, followed by colorectal cancer. Lung cancer was also the leading cause of cancer death for both men and women. Among women, the lung cancer mortality rate was 64% higher than the breast cancer mortality rate. The second leading cause of cancer death was breast cancer for females and prostate cancer for males.

Brain cancer was the leading cause of cancer death for all persons under the age of 25 years, while lung cancer was the leading cause of cancer death for persons ages 45 years and older.

HIV/AIDS

There were 226 Massachusetts residents who died from HIV/AIDS in 2000, a decrease of 16 deaths from 1999. This represents a continuing downward trend in the number of HIV/AIDS deaths since 1995, although the rate of decline over the past year was not as great as had been observed in previous years. The decline is due in large part to improved treatment that has resulted in increased longevity of persons living with HIV diseases. The proportion of female HIV/AIDS deaths has increased in 2000 compared to 1999 and previous years. In 2000, there was an increase in the proportion of HIV/AIDS deaths among persons ages 45 years and older when compared to previous years.

Injuries

In 2000, 4% of all deaths to Massachusetts residents were the result of injuries (2,386 deaths). About 57% of injury-related deaths were due to unintentional injuries such as fires, falls, drownings, and motor vehicle-related injuries, while 17% were due to suicide and 5% to homicide. Motor vehicle-related injuries accounted for 21% of all injury-related deaths in 2000.

Approximately 12% of all injury-related deaths occurred among persons ages 15-24 years. However, injuries accounted for over two-thirds of the deaths in this age group. Injury-related death rates are highest among persons ages 85 years and older.

There were 401 suicides in 2000, the lowest number in the past decade. The total number of homicides decreased slightly between 2000 and 1999 (125 compared to 128), the decrease was seen among males (91 in 1999 to 88 in 2000).

In 2000, there were 490 motor vehicle-related deaths, an increase of 13% from 1999. It is likely that this increase may be due to a coding issue that affected the 1999 data previously published. The ICD-10 definition was initially stricter, requiring an explicit mention of the term “motor” or “car/truck/van, etc”. Even though the algorithm did not change, the impact of the definitional change affected the underlying cause of death because “motor vehicle” was no longer being coded in some instances (instead the deaths were being allocated to deaths involving unspecified vehicles). Thus, the ICD-10 definition was changed slightly to assume that the inclusion of the term highway or road meant that the vehicle was a motor vehicle. There are concerns as to whether this change was made to the 1999 data at the state level. We are currently reviewing our mortality file coding for 1999 motor vehicle related deaths. However, data from **WISQARS**™ (the NCHS’ Web-based Injury Statistics Query and Reporting System) indicates that after making this adjustment, the age-adjusted motor vehicle-related death rate for Massachusetts for 1999 is 7.1 deaths per 100,000. Thus the figure for 2000 corresponds to an increase of 7% after taking into account this definitional change in ICD-10.

Although the greatest number of motor vehicle-related deaths occurred to men ages 25-44 years (103 deaths), males ages 85 years and older had the highest rate for motor vehicle-related deaths (25.8 deaths/100,000) followed by males ages 15-24 (21.3 deaths/100,000).

The motor vehicle-related death rate, the suicide death rate, and the homicide death rate varied greatly by gender. The male motor vehicle death rate was more than twice the female rate (11.0 vs. 4.6), and the male suicide rate was three times the suicide rate for females: 9.6 deaths per 100,000 males compared to 3.2 for females. The homicide rate for males was also more than twice the homicide rate for females, 2.8 vs. 1.1 deaths per 100,000 persons.

In 2000, a total of 175 persons died from firearm injuries in Massachusetts. This number was 3.9% lower than the 182 deaths in 1999. Firearm suicide and homicide accounted for 58.9% and 38.3%, respectively, of all firearm deaths in 2000. The rate for all firearm deaths in Massachusetts was about one quarter the rate for the United States (2.7 vs. 10.2 deaths per 100,000).

Causes of Infant Death

In 2000, Massachusetts had the lowest infant mortality rate ever recorded for the state. There were 377 infant deaths (deaths of infants less than one year of age) and 81,582 live births among Massachusetts residents for an infant mortality rate of 4.6 deaths per 1,000 live births (Table 13). The 2000 infant mortality rate decreased 12% from the 1999 rate of 5.2 deaths per 1,000 live births and has decreased 34% from the 1990 rate of 7.0 per 1,000 live births. Disparities continue to exist by race and ethnicity. Black, non-Hispanics had the highest IMR (12.8 deaths per 1,000 live births), while white, non-Hispanics had the lowest IMR (3.8 deaths per 1,000 live births).

The infant mortality rate continues to be lower for Massachusetts when compared to figures for the United States. In 2000, the infant mortality rate for Massachusetts was 33% lower than the figure for the United States (4.6 vs. 6.9, deaths per 1,000 live births). For the second time since 1996, the Massachusetts IMR is lower than the US Hispanic IMR (5.2 vs. 5.6 per 1,000 live births). White and Black infant mortality rates continue to be lower in Massachusetts compared to figures for the United States.

The leading causes of infant death are conditions arising in the perinatal period (61% of all infant deaths) followed by congenital malformations (15% of all infant deaths). Deaths occurring in the neonatal period (less than 28 days after birth) account for 76% of all infant deaths. The leading cause of death in the neonatal period was 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).

Healthy People 2010

In 2000, Massachusetts either achieved or moved in the direction of many of the Healthy People 2010 Mortality Objectives. Out of 40 objectives presented, Massachusetts 2000 death data show that the state has already met 17 of the 2010 targets goals. For eleven objectives, including: lung cancer, oropharyngeal cancer, prostate cancer, stroke deaths, unintentional injuries, drownings, infant mortality rate, neonatal mortality rate, and asthma death rate for person ages 65 years and above, the 2000 Massachusetts indicators are within 25% of the target goals.

However, Massachusetts still needs improvement in the following areas: overall cancer rates, melanoma, colorectal cancer, cirrhosis, HIV/AIDS, SIDS deaths, suicides, fire deaths, drug-induced deaths, and asthma deaths for persons ages 35-64 years. Although these rates are over 25% from the target goals, they are still lower than the rates for the United States overall.

TRENDS

Trends[1]

In 2000, 56,591 Massachusetts residents died (Table 1). The number of resident deaths in 2000 increased by 1.5% (827 deaths) from 1999, and constitutes a 7% increase since 1990. The age-adjusted death rate in 2000 was 816.5 deaths per 100,000 persons, a 7% decline since 1990. (Please note: rates are age-adjusted to the 2000 US standard population.) There were 377 deaths among infants less than one year of age in 2000, 10% less than in 1999 and 35% less than in 1991.

Age-adjusted death rates varied greatly by race/ethnicity in Massachusetts in 2000, and throughout the decade. For the first time since 1990, Asian/Pacific Islander, non-Hispanics had the lowest age-adjusted death rate, followed by Hispanics and white, non-Hispanics. In 2000, the age-adjusted death rate for Hispanics was 418.5 deaths per 100,000 persons, less than half the black, non-Hispanic rate of 992.4 per 100,000. In 2000, death rates for black, non-Hispanics decreased by 0.3% from 1999, while rates for Hispanics and white, non-Hispanics increased by 17% and 1%, respectively. The 17% increase in the death rate for Hispanics is due mainly to the recalculation of the Hispanic population. The Census 2000 count for Hispanics 65 years and older is lower than the number previously estimated. Thus, the death rate (the number of deaths divided by the population) is increased relative to past calculations. The actual number of deaths to persons of Hispanic ethnicity increased only 4% from 1999 to 2000. It is important to note however, that the collection of Hispanic ethnicity on the death certificate did not begin until 1989. Therefore, some of the increase in deaths to persons of Hispanic ethnicity may be due to more complete reporting of Hispanic ethnicity on the death certificate rather than an actual increase in the mortality rate of Hispanics.

The age-adjusted mortality rate for women continues to be substantially lower than for men: 691.6 compared to 996.7. However, men have experienced a larger decline in the age-adjusted rate since 1990 (12%) than women (3%).

The 2000 Massachusetts age-adjusted death rate was 6% lower than the preliminary 2000 United States rate, and has been consistently lower than the US rate throughout the 1990s (Table 2). Massachusetts comparability modified age-adjusted death rates have been consistently lower than the U.S. rates for stroke and unintentional injuries, and higher than the U.S. rates for cancer and pneumonia/influenza.

In 2000, life expectancy at birth continues to be higher in Massachusetts than in the United States (78.5 years compared to 76.9). For men, life expectancy was 75.9 years and for women, 80.8 years. Life expectancy varied by race as well (Figure 1). At birth, white, non-Hispanic women could expect to live 80.9 years; black, non-Hispanic women, 77.2 years; Hispanic women, 84.8 years; white, non-Hispanic men, 76.1 years; black, non-Hispanic men 70.9 years; and Hispanic men, 80.8 years. At age 65, men could expect to live an average of 17 more years, while women could expect to live almost 20 more years.

Massachusetts has a rich history of collecting and reporting vital statistics, as demonstrated by Figure 2, which presents historical mortality trend data for the Commonwealth from 1842

[1] Beginning in 1999, mortality data are coded according to the International Classification of Diseases- Tenth revision (ICD-10). Due to changes in the classification of disease beginning in data year 1999, trends in the cause of death between 1999 or 2000 and previous years must be interpreted with caution.

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 2000, in almost reversal of rank, 27% of the deaths in Massachusetts were due to heart disease, 25% to cancer, 3% to infectious diseases, and 4% were due to intentional and unintentional injuries.

The age composition of the Massachusetts population reflects changes in life expectancy and natural historic trends. From 1900 to 2000, the proportion of Massachusetts residents ages 45 and over increased from 21% to 36%; the increase was greatest in the oldest age group (those 85 years and over) (Figure 3). While persons 85 years and over accounted for 2% of the population in Massachusetts in 2000, for the third year in a row, they had the highest number of deaths in the state.

Table 1. Trends in Mortality Characteristics Massachusetts: 1990 - 2000

Year		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Resident deaths[1]												
	Number	53,004	53,011	53,805	55,557	54,914	55,296	55,187	54,634	55,204	55,763	56,591
	Crude rate[2,3,4]	881.0	880.9	891.2	916.2	899.2	900.2	892.4	877.3	877.5	881.9	891.3
	Age-adjusted rate[5]	878.4	884.2	877.4	885.7	868.2	866.2	853.0	834.8	808.8	808.8	816.5
Race/ethnicity of decedent[6,7]												
White, non-Hispanic	Number	50,178	50,142	50,815	52,371	51,600	51,785	51,917	51,398	51,829	52,282	52,959
	Percent[8]	94.7	94.6	94.4	94.3	94.0	93.7	94.1	94.1	93.9	93.8	93.6
	Age-adjusted rate	875.7	882.7	875.5	882.8	864.2	860.1	852.2	835.1	808.5	808.7	816.2
Black, non-Hispanic	Number	1,875	1,887	1,958	1,969	2,079	2,136	2,025	2,033	1,969	2,018	2,109
	Percent	3.5	3.6	3.6	3.5	3.8	3.9	3.7	3.7	3.6	3.6	3.7
	Age-adjusted rate	1,113.7	1,104.6	1,139.2	1,115.3	1,176.7	1,193.0	1,141.1	1,142.1	1,076.6	995.2	992.4
Asian/Pacific Islander, non-Hispanic	Number	294	269	284	360	335	403	398	403	413	449	467
	Percent	0.6	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8
	Age-adjusted rate	570.8	462.7	463.8	613.4	521.2	565.2	534.5	512.0	500.7	422.4	418.5
Hispanic	Number	602	678	713	813	865	936	803	749	924	975	1,014
	Percent	1.1	1.3	1.3	1.5	1.6	1.7	1.5	1.4	1.7	1.7	1.8
	Age-adjusted rate	409.9	435.5	440.5	488.5	482.7	504.7	430.0	391.0	463.8	507.8	596.0[9]
Gender of decedent[7]												
Female	Number	27,491	27,550	27,770	29,109	28,733	29,262	29,152	29,261	29,568	29,786	30,465
	Age-adjusted rate	713.6	720.9	711.1	724.5	712.6	717.6	702.7	699.0	678.0	676.9	691.6
Male	Number	25,513	25,461	26,035	26,448	26,181	26,034	26,035	25,373	25,635	25,977	26,126
	Age-adjusted rate	1,130.3	1,134.1	1,130.2	1,123.5	1,096.9	1,080.6	1,074.0	1,035.0	1,000.8	1,001.6	996.7
Age of decedent[7]												
<1 year	Number	651	577	569	523	499	419	403	425	414	418	377
1-14 years	Number	205	207	226	239	192	204	197	174	128	165	181
15-24 years	Number	586	538	470	464	473	452	434	422	413	407	403
25-44 years	Number	2,682	2,912	3,062	3,055	3,210	3,196	2,720	2,348	2,373	2,397	2,375
45-64 years	Number	8,138	7,877	7973	7,920	7,766	7,611	7,477	7,416	7,501	7,431	7,841
65-74 years	Number	11,707	11,415	11,515	11,509	11,394	10,858	10,711	10,286	10,216	9,782	9,746
75-84 years	Number	15,553	15,506	15,912	16,346	16,092	16,497	16,839	16,884	16,946	17,397	17,554
85+ years	Number	13,482	13,973	14,076	15,494	15,283	16,054	16,400	16,677	17,213	17,765	18,113

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 1991-1995 (released in September 1999), 1996-1997 (released in November 1999), and 1998 (released in September 2000). Residents deaths rates for 1999 have been recalculated using 1999 population estimates. 2000 rates are calculated using 2000 population estimates. 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. 9. The 17% increase in the death rate for Hispanics is due mainly to the recalculation of the Hispanic population. The Census 2000 count for Hispanics 65 years and older is lower than the number previously estimated. Thus, the death rate (the number of deaths divided by the population) is increased relative to past calculations. The actual number of deaths to persons of Hispanic ethnicity increased only 4% from 1999 to 2000.

Table 2*. Five Leading Causes of Death[1] Comparability Unmodified and Comparability Modified Age-Adjusted Rates Massachusetts and United States: 1990-2000

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]
1990	Rate[5]	294.6	NA[6]	325.9	NA	221.5	NA	213.9	NA	55.0	NA	65.5	NA
	% of Total	33.4		33.9		25.3		23.3		6.2		6.7	
1991	Rate	286.0	NA	317.9	NA	230.0	NA	213.7	NA	54.7	NA	63.4	NA
	% of Total	32.2		33.7		26.0		23.5		6.2		6.6	
1992	Rate	277.4	NA	310.5	NA	234.2	NA	212.3	NA	53.7	NA	62.1	NA
	% of Total	31.7		33.5		26.3		23.7		6.2		6.6	
1993	Rate	278.3	NA	314.6	NA	228.1	NA	212.5	NA	52.8	NA	63.2	NA
	% of Total	31.7		33.3		25.2		23.1		6.1		6.6	
1994	Rate	265.3	261.5	304.5	253.2	224.7	226.3	211.0	212.4	51.7	54.7	63.3	60.1
	% of Total	30.8		32.7		25.3		23.2		6.1		6.7	
1995	Rate	259.4	255.7	301.3	250.1	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	243.8	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	237.2	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	269.7	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]		267.8		206.6[7]		202.7		50.2[7]		61.8	
	% of Total	27.9		30.3		24.8		23.0		6.4		7.0	
2000	Rate	218.0[7]		257.5[8]		206.9[7]		200.5[8]		51.2[7]		60.2[8]	
	% of Total	27.1		29.5		24.8		23.0		6.4		6.9	

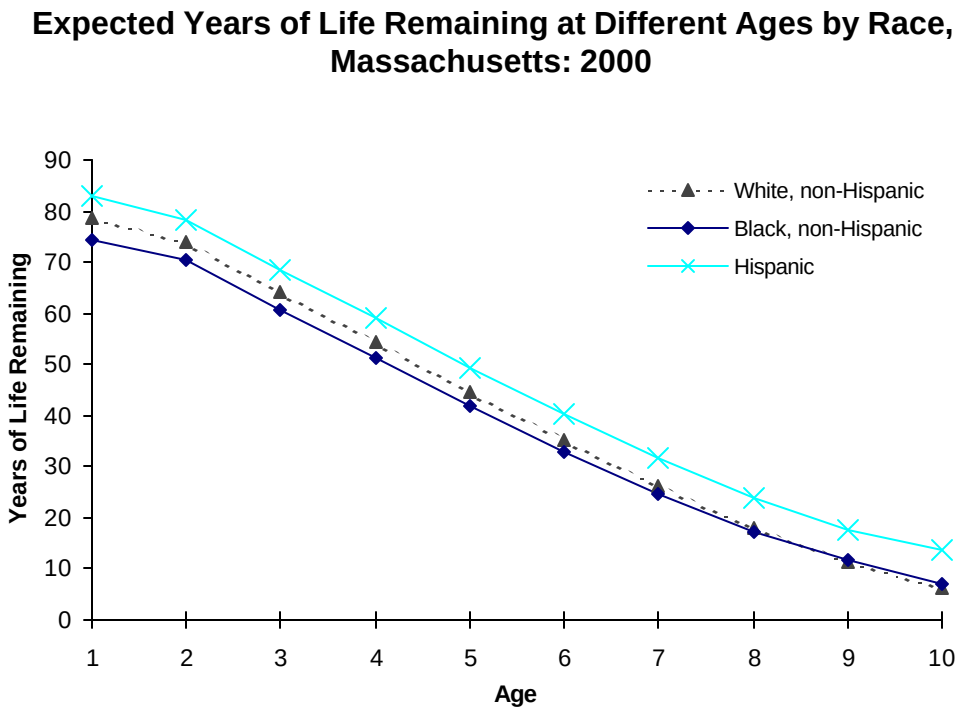
1. Cause of death: the disease or injury that initiated the events leading to death; or the circumstances of the unintentional or intentional injury that resulted in the death. 2. 1990-1998 data coded according to ICD-9. 1999 and 2000 data coded according to ICD-10. ICD-9 and ICD-10 codes used in this 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. US data for years 1990-1998 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 1994 through 2000, please use the comparability modified rates for years 1994-1998. 8. US data for 2000 obtained from NCHS. Deaths: Preliminary Data for 2000. National Vital Statistics Report, Vol. 49, No. 12, October 9, 2001.

Table 2* (continued). Five Leading Causes of Death[1] Comparability Unmodified and Comparability Modified Age-Adjusted Rates, Massachusetts and United States: 1990-2000

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]		
1990	Rate[5]	38.9	NA[6]	35.8	NA	24.8	NA	37.5	NA	878.4	938.0
	% of Total	4.4		3.6		2.9		4.3			
1991	Rate	40.1	NA	34.4	NA	23.1	NA	36.0	NA	884.2	925.2
	% of Total	4.5		3.5		2.7		4.1			
1992	Rate	38.5	NA	32.7	NA	20.6	NA	34.6	NA	877.4	910.7
	% of Total	4.5		3.4		2.4		4.0			
1993	Rate	42.9	NA	34.8	NA	21.3	NA	35.7	NA	885.7	931.3
	% of Total	5.0		3.6		2.4		4.0			
1994	Rate	40.4	28.2	33.4	23.3	20.7	20.6	35.7	35.1	868.2	920.0
	% of Total	4.8		3.5		2.4		4.0			
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		2.2		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		2.4		4.2			
1999	Rate	30.3[7]		23.6		19.3[7]		35.9		808.8	881.9
	% of Total	3.9		2.7		2.3		4.1			
2000	Rate	29.3[7]		24.3[8]		20.3[7]		33.9[8]		816.5	872.4[8]
	% of Total	3.7		2.8		2.4		3.9			

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. 1990-1998 data coded according to ICD-9. 1999 and 2000 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. US data for years 1990-1998 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 1994 through 2000, please use the comparability modified rate for years 1994-1998. 8. US data for 2000 obtained from NCHS. Deaths: Preliminary Data for 2000. National Vital Statistics Report, Vol. 49, No. 12, October 9, 2001.

Figure 1



Years of Life Remaining[1], Massachusetts: 2000

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	78.5	80.8	80.9	77.2	84.8	75.9	76.1	70.9	80.8
1 year old	77.9	80.1	80.2	77.3	84.3	75.3	75.4	70.9	80.2
5 years old	73.9	76.2	76.2	73.4	80.4	71.4	71.5	67.0	76.3
15 years old	64.0	66.3	66.3	63.6	70.5	61.5	61.6	57.3	66.5
25 years old	54.3	56.4	56.4	53.8	60.7	51.9	51.9	48.0	57.0
35 years old	44.6	46.7	46.7	44.3	51.0	42.3	42.3	38.9	47.8
45 years old	35.3	37.1	37.1	35.1	41.7	33.1	33.1	29.8	39.1
55 years old	26.3	28.0	27.9	26.7	32.6	24.3	24.3	22.1	30.6
65 years old	18.2	19.6	19.5	18.9	24.3	16.5	16.4	15.4	23.7
75 years old	11.5	12.4	12.3	12.5	17.7	10.2	10.1	10.1	18.3
85 years old	6.4	6.8	6.7	7.3	13.1	5.7	5.6	6.9	14.9

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.) DPH 2000 Preliminary Population Estimates (released January 2002) are used as the denominator.

Figure 2

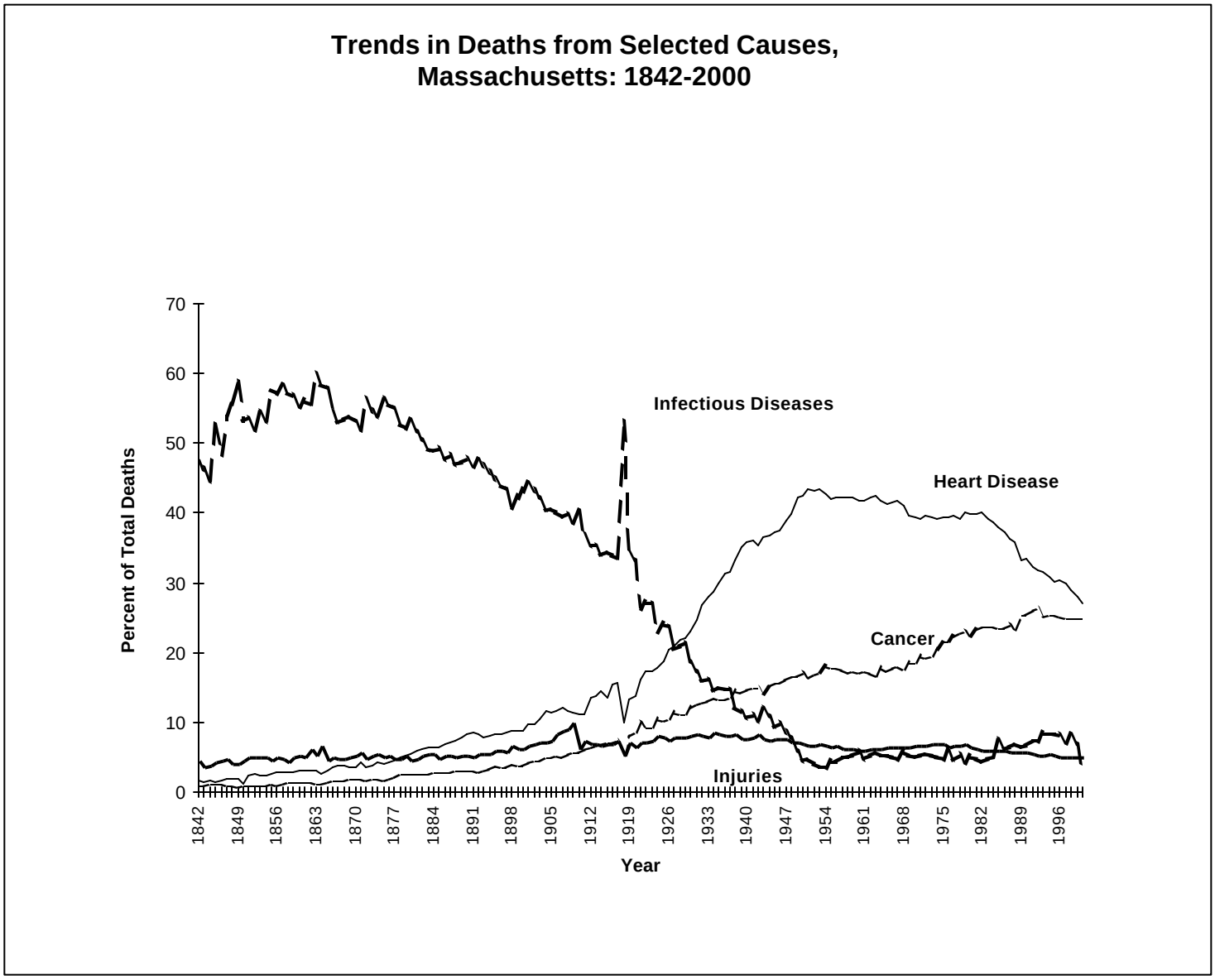
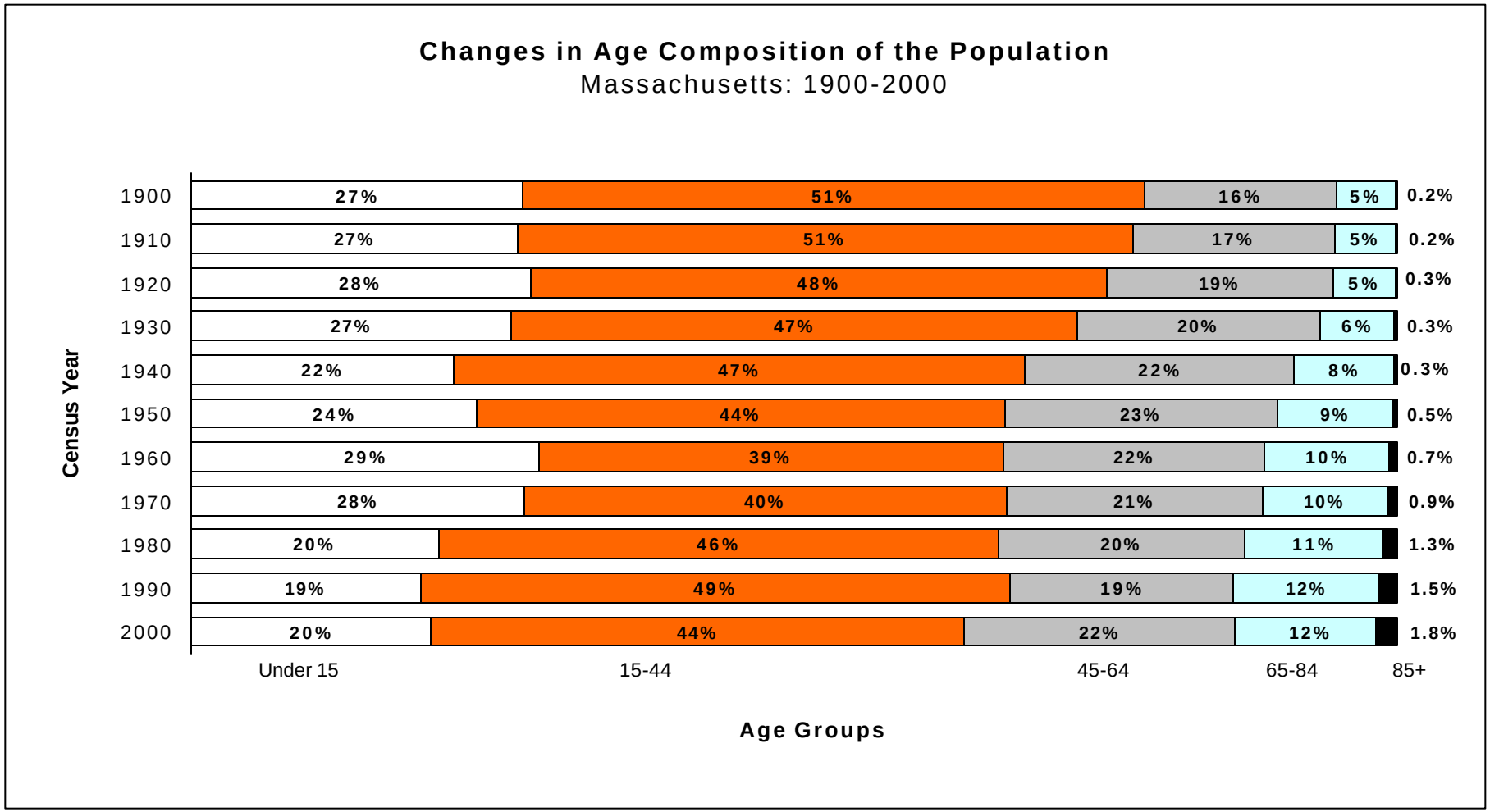

Trends in Deaths from Selected Causes,
Massachusetts: 1842-2000
Percent of Total Deaths
70
60
50
40
30
20
10
0
Infectious Diseases
Heart Disease
Cancer
Injuries
1842
1849
1856
1863
1870
1877
1884
1891
1898
1905
1912
1919
1926
1933
1940
1947
1954
1961
1968
1975
1982
1989
1996
Year

Figure 3



Source: US Census Bureau 1900-2000.
Note: Percentages based on counts with known age.

LEADING CAUSES

Leading Causes

Heart disease and cancer continued to be the leading causes of death among Massachusetts residents, accounting for 52% of all deaths (Figure 4). In 2000, 15,313 Massachusetts residents died of heart disease, which resulted in an age-adjusted death rate of 218.0 per 100,000 persons. Cancer was the second leading cause of death, with 14,006 deaths, and an age-adjusted death rate of 206.9 (Table 2). (Please note: rates are age-adjusted to the 2000 US standard population).

On an average day in 2000, 156 Massachusetts residents died (Figure 5). Approximately 42 of these deaths were due to heart disease, 38 to cancer, 18 to respiratory diseases, 10 to stroke, 7 to injuries, 4 to diabetes, and 4 to Alzheimer's Disease, 1 was an infant death, 1 was an HIV/AIDS death, and 31 were due to other causes.

The lowest number of deaths (181) in the five-age groups was seen among 1-14 year olds (Table 3a). In this group, the leading causes of death were cancer (31), unintentional injuries – excluding motor vehicle-related injuries (29), motor vehicle-related injuries (16), and heart disease (15).

For persons ages 15-24 years, there was a total of 403 deaths. Injuries accounted for over two-thirds of these deaths. Motor vehicle-related deaths accounted for the highest percentage of deaths in this age group (30%), followed by suicide (13%), injuries of undetermined intent (13%), and homicide (11%).

In 2000, cancer remained the number one cause of death for Massachusetts residents ages 25-74 years (36%). Heart disease, injuries of undetermined intent, diabetes, chronic lower respiratory disease, and suicide were other leading causes.

Heart disease was the leading cause of death for Massachusetts residents ages 75 years and older (31%) (Table 3b). As expected, chronic diseases disproportionately affect older populations. For instance, the heart disease death rate among persons 65-74 years was over 4 times higher than the rate for persons 45-64 years (547.2 vs. 119.7 deaths per 100,000).

External causes of death such as motor vehicle-related injuries, unintentional injuries, suicide and homicide varied greatly as a leading cause of death by age. These accounted for 30% of deaths among 1-14 year olds, 70% of deaths to persons ages15-24 years, 32% of deaths to 25-44 years, and only 6% and 1% of deaths to persons ages 45-64 years and persons age 65 years and older, respectively.

The top ten leading causes of death accounted for 77% of all deaths in 2000 (Table 4). HIV/AIDS disease did not rank among the 10 leading causes of death for Massachusetts, although it remained among the leading causes of death for black, non-Hispanics and Hispanics. In 2000, the top 10 leading causes of death remained the same, 8 in the same ranking while Alzheimer's disease increased in rank from 7th to 6th and diabetes dropped from 6th to 7th.

The leading causes of death also varied markedly by race and Hispanic ethnicity in Massachusetts in 2000 as in previous years (Table 4a). Overall age-adjusted death rates for black, non-Hispanics exceeded those of white, non-Hispanics by 22%. Age-adjusted death rates for black, non-Hispanics were higher for most of the leading causes of death.

The 17% increase in the death rate for Hispanics is due mainly to the recalculation of the Hispanic population. The Census 2000 count for Hispanics 65 years and older is lower than the number previously estimated. Thus, the death rate (the number of deaths divided by the population) is increased relative to past calculations. The actual number of deaths to persons of Hispanic ethnicity increased only 4% from 1999 to 2000.

Cancer was the number one cause of death among Asian/Pacific Islander, non-Hispanics and black, non-Hispanics in 2000, followed by heart disease and stroke. Cancer was also the leading cause of death for Hispanics, followed by heart disease and HIV/AIDS. Heart disease was the leading cause of death for white, non-Hispanics followed by cancer and stroke. The leading causes of death for Hispanics also included HIV/AIDS, perinatal conditions, motor vehicle-related, and homicide, all of which occur more frequently among younger people. Chronic lower respiratory disease was also among the leading causes of death for Hispanics.

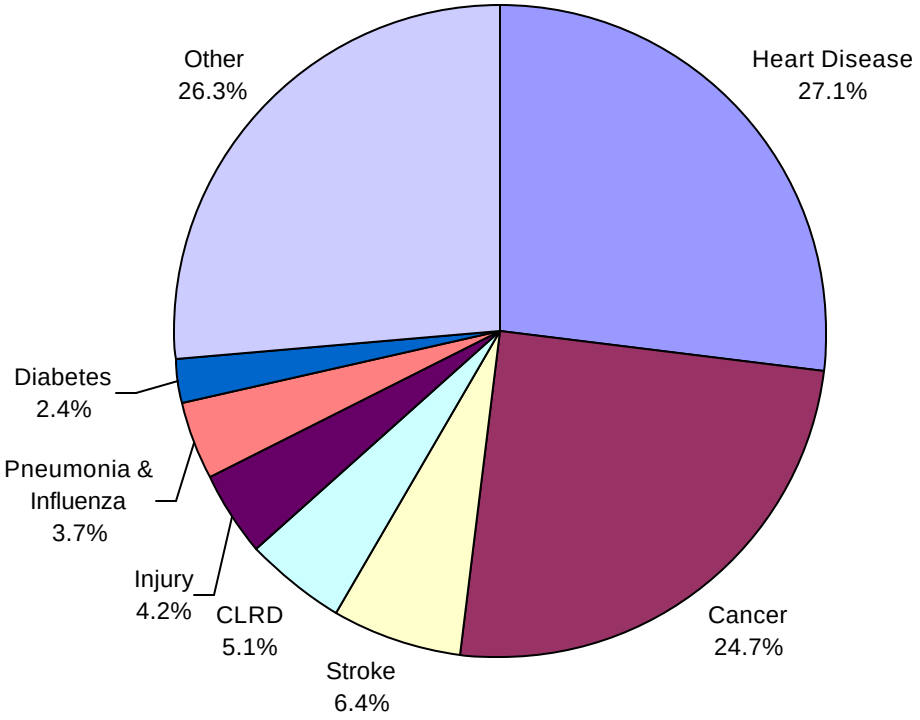
In 2000, cancer and heart disease were the leading causes of death among Cape Verdean, non-Hispanics in Massachusetts, followed by stroke and chronic lower respiratory disease (Table 4b). Small numbers make calculations unreliable beyond the 4th leading cause of death.

The differences in the 10 leading causes of death by race and ethnicity result from a combination of factors. Younger age distributions within the Massachusetts black, non-Hispanic and Hispanic populations yield higher proportions of deaths from causes typically affecting the young. Also, among the younger age groups, black, non-Hispanics and Hispanics have higher age-specific death rates for such causes as injuries, suicide and homicide as compared to white, non-Hispanics. Among persons over the age of 44 years, Hispanics and Asian/Pacific Islander, non-Hispanics have lower age-specific rates of death from heart disease and cancer as compared to white, non-Hispanics and black, non-Hispanics (Tables 5a and 5b).

Among Hispanic ethnicity subgroups, the majority of deaths occurred among Puerto Ricans (71%), the largest Hispanic group in Massachusetts. The leading causes of death vary by ethnicity among Hispanics groups. Cancer is the leading cause of death for Central Americans, South Americans and Other Hispanics. Heart disease is the leading cause of death for Puerto Ricans, Dominicans, and Cubans. HIV/AIDS is the third leading cause of death among Puerto Ricans, while stroke is the third leading cause of death for Dominicans and South Americans (Table 5c).

Figure 4

Percent Distribution of Leading Causes of Death[1]
Massachusetts: 2000



[1] Total Number of Deaths = 56,591
Causes of Death are classified according to ICD-10

Figure 5. Daily Death Statistics
Massachusetts: 2000

Every day in 2000, residents of Massachusetts experienced an average of the following:

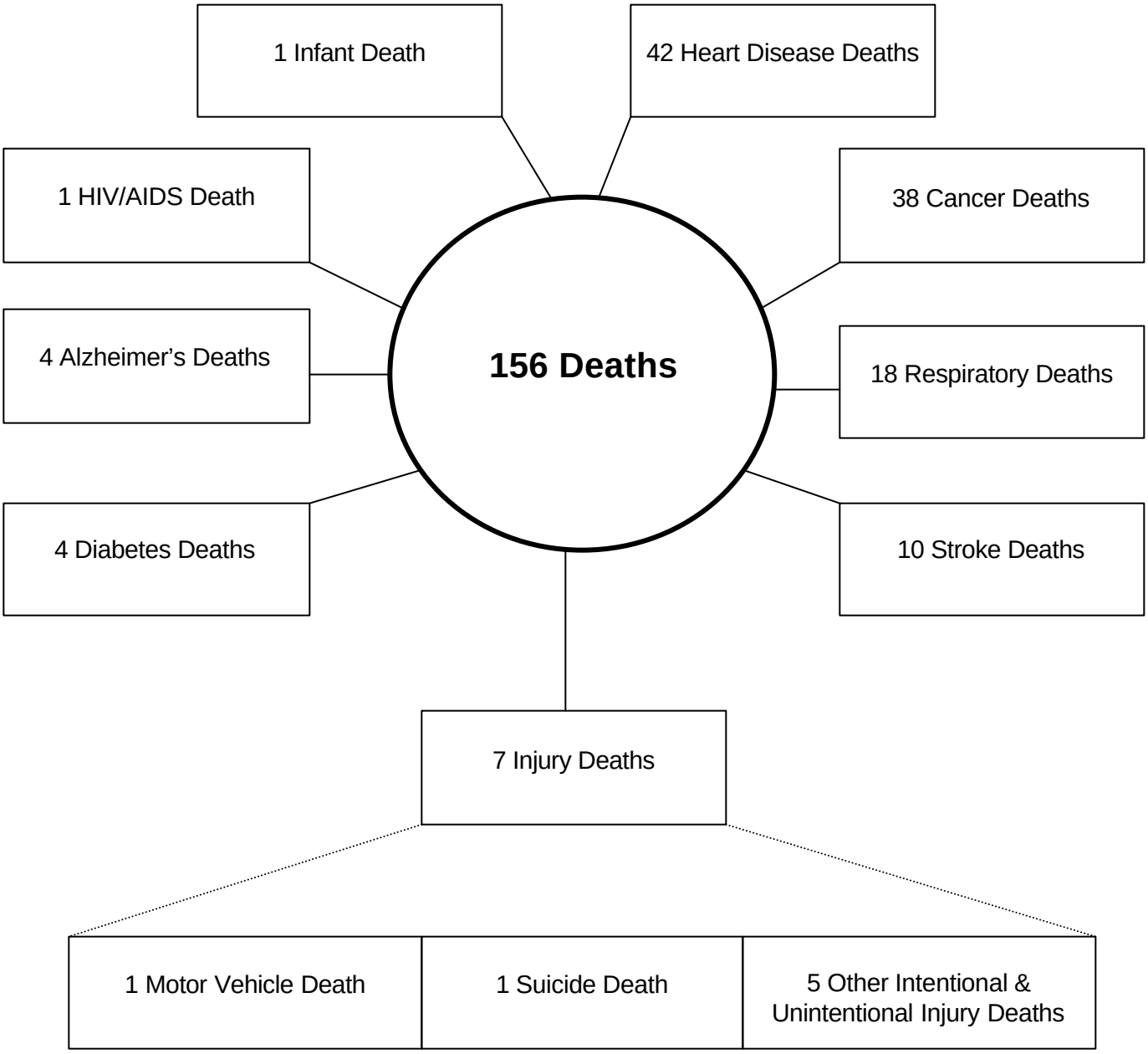


Table 3a. Leading Causes of Death, Numbers and Age-Specific Rates, Massachusetts: 2000

Age	Cause of death[1]	Deaths	
		Number	Rate[2]
1 – 14 years	**TOTAL**	**181**	**15.3**
	Cancer	31	2.6
	Unintentional non-transport injuries[3]	29	2.5
	Motor vehicle-related injuries	16	1.4
	Heart Disease	15	1.3
15 - 24 years	**TOTAL**	**403**	**49.1**
	Motor vehicle-related injuries	121	14.8
	Suicide	53	6.5
	Injuries of undetermined intent[4]	51	6.2
	Homicide	45	5.5
25 – 44 years	**TOTAL**	**2,375**	**119.4**
	Cancer	456	22.9
	Heart Disease	329	16.5
	Injuries of undetermined intent[4]	285	14.3
	Suicide	178	8.9
45 – 64 years	**TOTAL**	**7,841**	**552.3**
	Cancer	3,108	218.9
	Heart Disease	1,699	119.7
	Chronic Lower Respiratory Disease[5]	267	18.8
	Diabetes	245	17.3
65 + years[6]	**TOTAL**	**45,413**	**5,279.6**
	Heart Disease	13,235	1,538.7
	Cancer	10,376	1,206.3
	Stroke	3,371	391.9
	Chronic Lower Respiratory Disease[5]	2,619	304.5

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. Unintentional non-transport injuries include injuries such as falls, fires, and drownings that were not intended to occur. Motor vehicle-related injuries and other transportation-related injuries are not included in these numbers. 4. Injuries of undetermined intent include deaths from drug overdoses, falls, and fires where the investigation has not determined whether the injuries were unintentional or purposely inflicted. 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. See Table 3b for leading causes of death for detailed age groups for persons ages 65+ years.

Table 3b. Leading Causes of Death Among the Oldest Age Groups, Numbers and Age-Specific Rates, Massachusetts: 2000

Age	Cause of death[1]	Deaths: Number	Deaths: Rate[2]
65-74 years	**TOTAL**	**9,746**	**2,278.0**
	Cancer	3,639	850.6
	Heart Disease	2,341	547.2
	Chronic Lower Respiratory Disease[3]	674	157.5
	Stroke	438	102.4
75-84 years	**TOTAL**	**17,554**	**5,561.4**
	Heart Disease	4,826	1,529.0
	Cancer	4,493	1,423.5
	Stroke	1,254	397.3
	Chronic Lower Respiratory Disease[3]	1,171	371.0
85+ years	**TOTAL**	**18,113**	**15,522.1**
	Heart Disease	6,068	5,200.0
	Cancer	2,244	1,923.0
	Stroke	1,679	1,438.8
	Influenza and Pneumonia	1,161	994.9

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 4a. Leading Causes of Death[1] and Age-Adjusted Death Rates by Race and Hispanic Ethnicity, Massachusetts: 2000

White, non-Hispanic[2]

Cause[3]	#	Rate[4]
Total	**52,959**	**816.2**
Heart disease	14,573	220.0
Cancer	13,154	209.1
Stroke	3,426	50.7
Chronic Lower Resp. Disease[5]	2,810	43.0
Influenza and Pneumonia	2,031	29.7
Alzheimer's Disease	1,391	20.1
Diabetes	1,211	18.8
Nephritis	1,115	16.8
Septicemia	816	12.5
Unintentional non-transport injuries[6]	773	12.1

Black, non-Hispanic[2]

Cause	#	Rate
Total	**2,109**	**992.4**
Cancer	535	252.3
Heart Disease	470	235.4
Stroke	118	64.5
Nephritis	83	42.3
Diabetes	72	35.9
HIV/AIDS	61	19.5
Septicemia	54	25.9
Chronic Lower Resp. Disease[5]	52	27.5
Perinatal Conditions	46	12.1
Influenza and Pneumonia	45	26.5

Asian/Pacific Islander, non-Hispanic[2]

Cause	#	Rate
Total	**467**	**418.5**
Cancer	125	103.2
Heart Disease	91	89.1
Stroke	47	52.6
Motor Vehicle related injuries	20	8.1
Chronic Lower Resp. Disease[5]	14	16.6
Diabetes	12	12.1
Unintentional non-transport injuries[6]	12	9.7
Perinatal Conditions	10	3.8
Septicemia	8	8.6
Influenza and Pneumonia	8	7.8

Hispanic

Cause	#	Rate
Total	**1,014**	**596.0[7]**
Cancer	185	126.0
Heart Disease	167	117.8
HIV/AIDS	59	17.7
Diabetes	56	42.1
Stroke	51	45.9
Motor Vehicle-related injuries	39	10.1
Chronic Lower Resp. Disease[5]	35	25.2
Perinatal Conditions	35	5.4
Injuries of Undetermined Intent	35	7.7
Homicide	27	5.3

Total

Cause	#	Rate
Total	**56,591**	**816.5**
Heart disease	15,313	218.0
Cancer	14,006	206.9
Stroke	3,645	51.2
Chronic Lower Respiratory Disease[5]	2,911	41.9
Influenza and Pneumonia	2,110	29.3
Alzheimer's Disease	1,427	19.7
Diabetes	1,353	19.7
Nephritis	1,230	17.6
Septicemia	896	12.9
Unintentional non-transport injuries[6]	842	12.2

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 falls, fires, and drownings that were not intended to occur. Motor-vehicle-related injuries and other transportation-related injuries are not included in these numbers. 7. The Census 2000 count for Hispanics 65+ years is lower than the number previously estimated. Thus, the death rate (the number of deaths divided by the population) is increased relative to past calculations.

Table 4b. Number of Deaths for Leading Causes of Death[1] for Cape Verdean, non-Hispanics*, Massachusetts: 2000

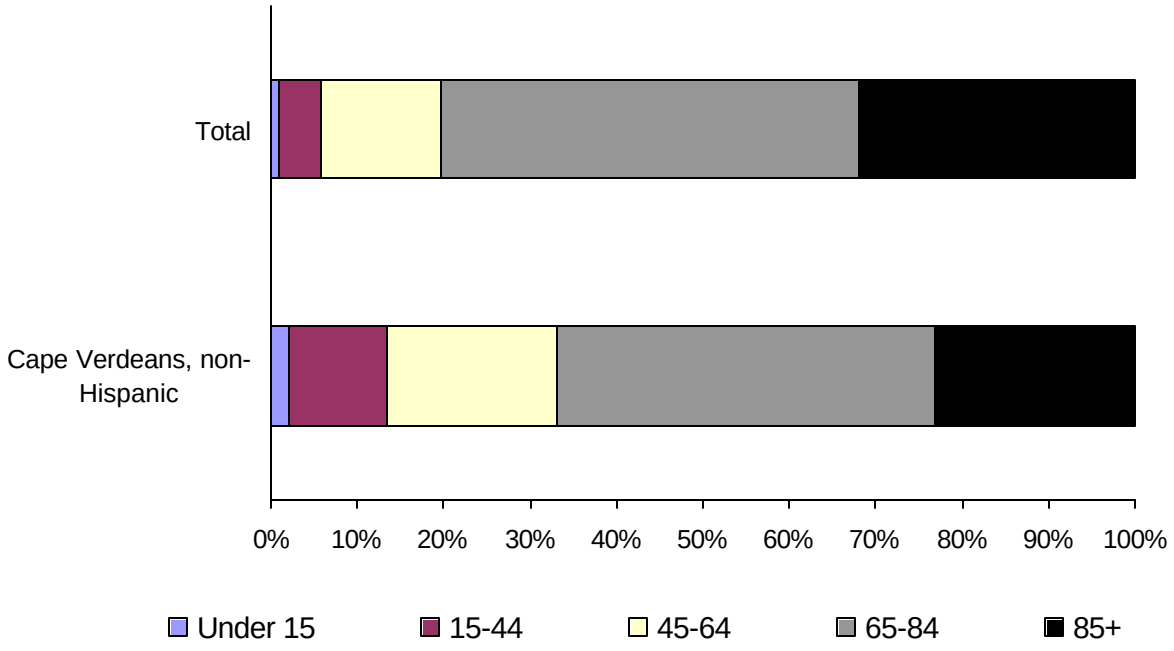
	Number	Percent
Cancer	35	24.6
Heart Disease	35	24.6
Stroke	10	7.0
Chronic Lower Respiratory Disease[2]	6	4.2
Influenza & Pneumonia	5	3.5
Nephritis	5	3.5
HIV/AIDS	4	--[5]
Homicide	4	--[5]
Diabetes	3	--[5]
Motor vehicle-related	3	--[5]
Unintentional non-transport[3]	2	--[5]
Suicide	2	--[5]
Injuries of Undetermined intent[4]	2	--[5]
Other	26	18.3
All Deaths	**142**	**100%**

1. Deaths are coded according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. 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). 3. Unintentional non-transport injuries include injuries such as falls, fires, and drownings that were not intended to occur. Motor vehicle-related injuries and other transportation- related injuries are not included in these numbers. 4. Injuries of undetermined intent include deaths from falls, fires, drownings, and drug overdoses, where the investigation has not determined whether the injuries were accidental or purposely inflicted. 5. Calculations based on fewer than five events are excluded.

* Historically, we have followed federal definitions of race and ethnicity and have 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/Pacific Islander, non-Hispanic; and Hispanic. Here, we separate Cape Verdeans from the Black, non-Hispanic group.

Figure 6

Age Distribution of Deaths for Cape Verdean, non-Hispanics and State Total, Massachusetts: 2000



* Historically, we have followed federal definitions of race and ethnicity and have 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/Pacific Islander, non-Hispanic; and Hispanic. Here, we separate Cape Verdeans from the Black, non-Hispanic group.

Table 5a. Number and Age-Specific Rates for Selected Causes of Death by Race and Hispanic Ethnicity, Massachusetts: 2000

Selected Causes[2]	Total #	Total Rate[3]	White, non-Hispanic[1] #	White, non-Hispanic[1] Rate	Black, non-Hispanic[1] #	Black, non-Hispanic[1] Rate	Asian/Pacific Islander, non-Hispanic[1] #	Asian/Pacific Islander, non-Hispanic[1] Rate	Hispanic #	Hispanic Rate
Age: 1-14, TOTAL	**181**	**15.3**	**125**	**13.6**	**27**	**32.8**	**5**	**10.4**	**24**	**19.1**
Cancer	31	2.6	24	2.6	2	--[5]	1	--[5]	4	--[5]
Unintentional non-transport Injuries[4]	29	2.5	18	2.0	5	6.1	2	--[5]	4	--[5]
Motor Vehicle-related Injuries	16	1.4	12	1.3	2	--[5]	0	0.0	2	--[5]
Heart Disease	15	1.3	11	1.2	3	--[5]	0	0.0	1	--[5]
Age: 15-24, TOTAL	**403**	**49.1**	**286**	**45.1**	**51**	**93.5**	**14**	**30.5**	**51**	**61.1**
Motor Vehicle-related Injuries	121	14.8	89	14.0	8	14.7	6	13.1	17	20.4
Suicide	53	6.5	41	6.5	4	--[5]	0	0.0	8	9.6
Injuries of Undetermined Intent[6]	51	6.2	43	6.8	2	--[5]	1	--[5]	5	6.0
Homicide	45	5.5	11	1.7	21	38.5	3	--[5]	10	12.0
Age: 25-44, TOTAL	**2,375**	**119.4**	**1,887**	**115.3**	**217**	**196.1**	**44**	**46.2**	**224**	**156.4**
Cancer	456	22.9	391	23.9	33	29.8	11	11.5	21	14.7
Heart Disease	329	16.5	265	16.2	29	26.2	4	--[5]	31	21.7
Injuries of Undetermined Intent[6]	285	14.3	238	14.5	19	17.2	2	--[5]	26	18.2
Suicide	178	8.9	155	9.5	8	7.2	3	--[5]	12	8.4
Age: 45-64, TOTAL	**7,841**	**552.3**	**6,888**	**545.0**	**562**	**933.0**	**108**	**272.8**	**271**	**506.4**
Cancer	3,108	218.9	2,800	221.5	193	320.4	42	106.1	71	132.7
Heart Disease	1,699	119.7	1,498	118.5	131	217.5	24	60.6	44	82.2
Chronic Lower Respiratory Disease[7]	267	18.8	246	19.5	10	16.6	2	--[5]	9	16.8
Diabetes	245	17.3	203	16.1	21	34.9	1	--[5]	19	35.5
Age: 65+, TOTAL[8]	**45,413**	**5,279.6**	**43,540**	**5,382.0**	**1,176**	**5,025.6**	**277**	**2,114.2**	**396**	**2,868.9[9]**
Heart Disease	13,235	1,538.7	12,771	1,578.6	303	1,294.9	62	473.2	89	644.8
Cancer	10,376	1,206.3	9,909	1,224.9	304	1,299.1	70	534.3	88	637.5
Stroke	3,371	391.9	3,194	394.8	98	418.8	39	297.7	37	268.1
Chronic Lower Respiratory Disease[7]	2,619	304.5	2,549	315.1	38	162.4	12	91.6	20	144.9

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 non-transport injuries include injuries such as falls, fires, and drownings that were not intended to occur. Motor vehicle-related injuries and other transportation- related injuries are not included in these numbers. 5. Calculations based on fewer than five events are excluded. 6. Injuries of undetermined intent include deaths from falls, fires, drownings, and drug overdoses, where the investigation has not determined whether the injuries were accidental or purposely inflicted. 7. 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). 8. Please see Table 5b for causes of death for detailed age groups for persons ages 65+ years. 9. The Census 2000 count for Hispanics 65+ years is lower than the number previously estimated. Thus, the death rate (the number of deaths divided by the population) is increased relative to past calculations.

Table 5b. Number and Age-Specific Rates for Selected Causes of Death Among the Oldest Age Groups by Race and Hispanic Ethnicity, Massachusetts: 2000

	Total		White, non-Hispanic[1]		Black, non-Hispanic[1]		Asian/Pacific Islander, non-Hispanic[1]		Hispanic	
Selected Causes[2]	**#**	**Rate[3]**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**
Age: 65-74, TOTAL	**9,746**	**2,278.0**	**9,077**	**2,289.5**	**402**	**2,943.8**	**92**	**1,094.1**	**166**	**1,883.2**
Cancer	3,639	850.6	3,418	862.1	144	1,054.5	35	416.2	39	442.4
Heart Disease	2,341	547.2	2,181	550.1	99	725.0	20	237.8	40	453.8
Chronic Lower Respiratory Disease[4]	674	157.5	654	165.0	9	65.9	2	--[5]	9	102.1
Stroke	438	102.4	388	97.9	28	205.0	10	118.9	11	124.8
Age: 75-84, TOTAL	**17,554**	**5,561.4**	**16,851**	**5,608.7**	**450**	**6,065.5**	**100**	**2,704.9**	**143**	**3,766.1**
Heart Disease	4,826	1,529.0	4,654	1,549.1	117	1,577.0	22	595.1	27	711.1
Cancer	4,493	1,423.5	4,313	1,435.6	120	1,617.5	25	676.2	33	869.1
Stroke	1,254	397.3	1,182	393.4	41	552.6	14	378.7	16	421.4
Chronic Lower Respiratory Disease[4]	1,171	371.0	1,140	379.4	17	229.1	5	135.2	9	237.0
Age: 85+, TOTAL	**18,113**	**15,522.1**	**17,612**	**15,711.4**	**324**	**13,935.5**	**85**	**8,534.1**	**87**	**7,304.8**
Heart Disease	6,068	5,200.0	5,936	5,295.4	87	3,741.9	20	2,008.0	22	1,847.2
Cancer	2,244	1,923.0	2,178	1,943.0	40	1,720.4	10	1,004.0	16	1,343.4
Stroke	1,679	1,438.8	1,624	1,448.7	29	1,247.3	15	1,506.0	10	839.6
Influenza and Pneumonia	1,161	994.9	1,134	1,011.6	20	860.2	2	--[5]	5	419.8

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 5c. Number of Deaths for Leading Causes of Death[1] by Hispanic Ethnicity, Massachusetts: 2000

Ethnicity	Cancer	Heart Disease	HIV/ AIDS	Diabetes	Stroke	Motor Vehicle-related injuries	Chronic Lower Respiratory Disease[2]	Perinatal Conditions	Injuries of Undetermined Intent	Homicide	ALL DEATHS
Puerto Rican	112	114	55	44	27	23	28	22	34	21	723
Dominican	18	20	1	4	11	2	3	8	0	3	96
Central American	15	4	0	2	3	6	2	3	1	2	55
Cuban	12	13	1	4	3	2	1	0	0	0	50
South American	18	6	2	1	5	3	1	1	0	0	50
Mexican	3	6	0	0	1	3	0	1	0	1	24
Other/Unknown	7	4	0	1	1	0	0	0	0	0	16
All Hispanics	**185**	**167**	**59**	**56**	**51**	**39**	**35**	**35**	**35**	**27**	**1,014**

[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).

HEART DISEASE AND CANCER

Heart Disease and Cancer

Heart disease and cancer continued to be the first and second leading causes of death among Massachusetts residents in 2000: 15,313 heart disease deaths and 14,006 cancer deaths, yielding age-adjusted rates of 218.0 and 206.9 deaths per 100,000 persons respectively (Table 2). Heart disease and cancer accounted for 52% of all deaths in Massachusetts in 2000. Cancer was the leading cause of death for persons ages 25-74 years, while heart disease was the leading cause of death for Massachusetts residents ages 75 years and older (Table 3).

The introduction of a new revision of the ICD can create major discontinuities in trend data. The extent of this discontinuity is measured using a "comparability ratio", which measures the level of agreement between both classification systems. The National Center for Health Statistics (NCHS) has calculated preliminary comparability ratios using a large sample of national mortality data. When comparing 1999 or 2000 data to previous years, the comparability modified data should be used.

In Massachusetts, the age-adjusted comparability modified death rates for heart disease have declined since 1995 for both white, non-Hispanic males and females (15%, Table 6). Black, non-Hispanic females experienced an overall decline in age-adjusted rates of 15% between 1995 and 2000, but these rates have fluctuated during this period. After experiencing increases in heart disease death rates between 1995 and 1998, the heart disease death rate among black, non-Hispanic males in 2000 has decreased 16% from 1999. Age-adjusted comparability modified heart disease death rates have fluctuated for Asian/Pacific Islander, non-Hispanics as well as Hispanics for both genders. In 2000, Hispanics were the only group to experience an overall increase in heart disease death rates (9%), while black, non-Hispanics, Asian/Pacific Islander, non-Hispanics , and white, non-Hispanics experienced a decrease of 5%, 6% and 2%, respectively from 1999. The increase in Hispanic rates may also be due to population discontinuity. The Census 2000 count for Hispanics 65 years and older is lower than the number previously estimated. Thus, the death rate (the number of deaths divided by the population) is increased relative to past calculations.

Age-adjusted comparability modified cancer death rates have decreased for white, non-Hispanic males since 1995, with a decline of 10%. After undergoing declines each year since 1995, white, non-Hispanic females experienced a slight increase in cancer rates in 2000 (3%). Black, non-Hispanic males experienced an increase of 10% while black, non-Hispanic females experienced a decrease of 9% over this time period. In 2000, black, non-Hispanics continue to have higher cancer death rates than white, non-Hispanics of both genders. In 2000 there were 369 cancer deaths per 100,000 black, non-Hispanic males compared to 260 per 100,000 white, non-Hispanic males. Black, non-Hispanic females had a comparable cancer death rate as white, non-Hispanic females (178 vs. 179 deaths per 100,000).

Asian/Pacific Islander, non-Hispanic males and females had decreases in age-adjusted comparability modified cancer death rates from 1995 to 2000. Age-adjusted comparability modified cancer death rates have fluctuated for Hispanics for both genders.

In 2000, there were 14,006 cancer deaths (Table 7). The overall leading cause of cancer death was lung cancer (27%), followed by colorectal cancer (11%). Lung cancer was also

the leading cause of cancer death for both men (29%) and women (25%). Among women, the lung cancer mortality rate was 64% higher than the breast cancer mortality rate. The second leading cause of cancer death was breast cancer for females (15%) and prostate cancer for males (11%). The overall cancer death rate was 1.5 times higher for men when compared to women. Men also had higher death rates than women for site-specific cancers of the bladder (8.0 vs. 2.8), esophagus (9.7 vs. 2.0), lung (73.5 vs. 44.5), stomach (8.8 vs. 3.3), colorectal (28.2 vs. 18.0) and leukemia (10.0 vs. 5.7) among others.

The lowest number of cancer deaths was seen among persons under the age of 25 (Table 8). Brain cancer was the leading cause of cancer death for all persons under the age of 25. Lung and colorectal cancer accounted for 38% of all cancer deaths among persons ages 65 and older. Lung cancer was the leading cause of cancer death for all persons ages 25 and older. However, among females ages 25-44 years, breast cancer was the leading cause of cancer death (62 deaths) followed by lung cancer (30 deaths).

Lung cancer was the leading cause of cancer death for all race and ethnicity groups (Table 9). However, the other leading causes of cancer death vary by race and ethnicity. Colorectal cancer was the second leading cause for white, non-Hispanics and black, non-Hispanics, and the third leading cause of cancer death for Hispanics. Female breast cancer was the third leading cause of cancer deaths for white, non-Hispanics, black, non-Hispanics; and Asian/Pacific Islander, non Hispanics, and the fourth leading cause of cancer death for Hispanics. Prostate cancer was the third leading cause of cancer deaths among black, non-Hispanics, and fifth leading cause of cancer death among white, non-Hispanics. Prancreatic cancer was the fourth leading cause of cancer deaths for white, non-Hispanics and the fifth leading cause of cancer deaths of black, non-Hispanics and Asian/Pacific Islander, non-Hispanics.

Black, non-Hispanics have the highest age-adjusted death rates for many cancer types. The age-adjusted prostate cancer death rate for black, non-Hispanics was twice the rate for white, non-Hispanics.

Table 6. Heart Disease and Cancer Deaths by Race and Gender, Comparability Unmodified and Comparability Modified Age-Adjusted Rates,[1] Massachusetts: 1990, 1995-2000

Heart Disease

Year	White, non-Hispanic[2]						Black, non-Hispanic[2]					
	Male		Female		Total		Male		Female		Total	
	Comparability Unmodified[3]	Comparability Modified[4]	Comparability Unmodified	Comparability Modified	Comparability Unmodified	Comparability Modified	Comparability Unmodified	Comparability Modified	Comparability Unmodified	Comparability Modified	Comparability Unmodified	Comparability Modified
1990	357.4	NA[5]	223.7	NA	281.2	NA	398.4	NA	226.8	NA	294.0	NA
1995	338.0	333.2	208.9	205.9	262.6	258.9	333.4	328.7	246.1	242.6	282.5	278.5
1996	337.0	332.2	207.0	204.1	260.5	256.8	340.0	335.2	234.4	231.1	281.2	277.2
1997	323.5	318.9	202.3	199.4	252.1	248.5	356.3	351.2	238.5	235.1	291.3	287.2
1998	300.0	295.7	186.6	184.0	233.2	229.9	357.2	352.1	242.8	239.4	286.9	282.8
1999[6]	289.8[7]		178.4[7]		224.3[7]		296.5[7]		211.5[7]		248.0[7]	
2000[6]	284.1[7]		174.8[7]		220.0[7]		249.8[7]		215.6[7]		235.4[7]	

Year	Asian/Pacific Islander, non-Hispanic[2]						Hispanic					
	Male		Female		Total		Male		Female		Total	
	Comparability Unmodified[3]	Comparability Modified[4]	Comparability Unmodified	Comparability Modified	Comparability Unmodified	Comparability Modified	Comparability Unmodified	Comparability Modified	Comparability Unmodified	Comparability Modified	Comparability Unmodified	Comparability Modified
1990	111.6	NA[5]	86.7	NA	100.8	NA	100.2	NA	77.8	NA	88.2	NA
1995	120.8	119.1	97.9	96.5	105.8	104.3	130.9	129.0	79.5	78.4	101.8	100.4
1996	153.9	151.7	86.9	85.7	115.2	113.6	135.9	134.0	78.9	77.8	102.6	101.1
1997	150.4	148.3	67.7	66.7	105.1	103.6	132.7	130.8	78.7	77.6	101.0	99.6
1998	150.6	148.5	98.5	97.1	121.0	119.3	114.0	112.4	71.3	70.3	91.3	90.0
1999[6]	119.6[7]		73.7[7]		94.7[7]		143.4[7]		83.5[7]		108.2[7]	
2000[6]	116.6[7]		68.0[7]		89.1[7]		124.4[7,8]		108.4[7,8]		117.8[7,8]	

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. 3. Comparability unmodified rate: this rate has not been modified. 4. Comparability modified rate: this rate has been adjusted using the preliminary comparability ratio (CR) provided by the NCHS (February 2001). Please refer to the Appendix for a more detailed explanation. 5. NA: comparability ratio is not applicable for years prior to 1994. 6. 1999 and 2000 are coded according to ICD-10. 7. When comparing data over time between 1994 through 2000, please use the comparability modified rate for years 1994-1998. 8. The Census 2000 count for Hispanics 65+ years is lower than the number previously estimated. Thus, the death rate (the number of deaths divided by the population) is increased relative to past calculations.

Table 6 (continued). Heart Disease and Cancer Deaths by Race and Gender, Comparability Unmodified and Comparability Modified Age-Adjusted Rates,[1] Massachusetts: 1990, 1995-2000

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	
	Comparability Unmodified[3]	Comparability Modified[4]	Comparability Unmodified	Comparability Modified	Comparability Unmodified	Comparability Modified	Comparability Unmodified	Comparability Modified	Comparability Unmodified	Comparability Modified	Comparability Unmodified	Comparability Modified
1990	273.9	NA[5]	187.5	NA	220.5	NA	308.1	NA	187.1	NA	233.4	NA
1995	286.1	288.0	191.3	192.6	226.5	228.0	394.0	396.7	245.0	246.7	303.8	305.9
1996	283.8	285.7	187.0	188.3	222.5	224.0	361.6	364.1	243.1	244.8	291.9	293.9
1997	269.5	271.3	186.6	187.9	216.9	218.4	396.2	398.9	235.5	237.1	297.1	299.1
1998	264.1	265.9	177.8	179.0	210.0	211.4	380.2	382.8	218.1	219.6	280.1	282.0
1999[6]	263.4[7]		174.3[7]		207.7[7]		337.2[7]		195.7[7]		251.5[7]	
2000[6]	259.5[7]		178.9[7]		209.1[7]		369.4[7]		177.7[7]		252.3[7]	

Year	Asian/Pacific Islander, non-Hispanic[2] Male		Asian/Pacific Islander, non-Hispanic[2] Female		Asian/Pacific Islander, non-Hispanic[2] Total		Hispanic Male		Hispanic Female		Hispanic Total	
	Comparability Unmodified[3]	Comparability Modified[4]	Comparability Unmodified	Comparability Modified	Comparability Unmodified	Comparability Modified	Comparability Unmodified	Comparability Modified	Comparability Unmodified	Comparability Modified	Comparability Unmodified	Comparability Modified
1990	126.3	NA	70.8	NA	96.3	NA	64.7	NA	51.7	NA	57.3	NA
1995	198.6	200.0	161.6	162.7	179.2	180.4	121.5	122.3	84.1	84.7	99.4	100.1
1996	192.7	194.0	156.6	157.7	172.6	173.8	136.5	137.4	54.6	55.0	90.0	90.6
1997	185.1	186.4	133.0	133.9	156.7	157.8	107.7	108.4	54.1	54.5	75.8	76.3
1998	143.5	144.5	103.7	104.4	120.2	121.0	160.2	161.3	89.5	90.1	117.2	118.0
1999[6]	162.8[7]		116.9[7]		136.7[7]		141.8[7]		92.5[7]		113.8[7]	
2000[6]	109.5[7]		95.7[7]		103.2[7]		155.0[7,8]		106.2[7,8]		126.0[7,8]	

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. 3. Comparability unmodified rate: this rate has not been modified. 4. Comparability modified rate: this rate has been adjusted using the preliminary comparability ratio (CR) provided by the NCHS (February 2001). Please refer to the Appendix for a more detailed explanation. 5. NA: comparability ratio is not applicable for years prior to 1994. 6. 1999 and 2000 are coded according to ICD-10. 7. When comparing data over time between 1994 through 2000, please use the comparability modified rate for years 1994-1998. The Census 2000 count for Hispanics 65+ years is lower than the number previously estimated. Thus, the death rate (the number of deaths divided by the population) is increased relative to past calculations.

Table 7. Number and Age-Adjusted Rates of Cancer Deaths by Selected Causes and Gender, Massachusetts: 2000

Cause of Death[1]	ICD-10 Code	Total		Female		Male	
		#	Rate[2,3]	#	Rate	#	Rate
Total Cancer Deaths	**C00-C97**	**14,006**	**206.9**	**7,021**	**175.7**	**6,985**	**258.3**
Bladder	C67	328	4.8	120	2.8	208	8.0
Brain and nervous system	C70-C72	309	4.7	137	3.7	172	5.9
Cervix	C53	72	2.0	72	2.0	0	0.0
Colorectal	C18-C21	1,511	22.0	761	18.0	750	28.2
Esophagus	C15	352	5.3	80	2.0	272	9.7
Female breast	C50[5]	1,055	27.0	1,055	27.0	0	0.0
Hodgkin's disease	C81	22	0.3	15	0.4	7	0.2
Kidney and other urinary organs	C64, C65	281	4.2	98	2.4	183	6.6
Leukemia	C91-C95	504	7.5	230	5.7	274	10.0
Lung	C33, C34	3,763	56.2	1,733	44.5	2,030	73.5
Melanoma of the skin	C43	227	3.4	94	2.5	133	4.7
Multiple myeloma	C88, C90	243	3.6	126	3.1	117	4.4
Non-Hodgkin's lymphoma	C82-C85	509	7.5	269	6.6	240	8.8
Ovary	C56	352	9.1	352	9.1	0	0.0
Pancreas	C25	794	11.7	437	10.7	357	12.9
Prostate	C61	765	31.0	0	0.0	765	31.0
Stomach	C16	376	5.5	142	3.3	234	8.8
Uterus	C54, C55	176	4.5	176	4.5	0	0.0
All other cancers	Residual	2,367	34.9	1,124	27.4	1,243	45.4

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. Calculations based on fewer than five events are excluded. 5. Includes only female breast cancer.

Table 8. Selected Causes of Cancer Deaths by Age, Massachusetts: 2000

Age	Cause of death[1]	ICD-10 Code	Number	Age-specific rate[2]
1 – 14 years	**TOTAL**		**31**	**2.6**
	Brain and nervous system	C70-C72	12	1.0
	Leukemia	C91-C95	9	0.8
	Kidney and other urinary organs	C64, C65	1	--[3]
	Non-Hodgkin's lymphoma	C82-C85	1	--[3]
15 - 24 years	**TOTAL**		**31**	**3.8**
	Brain and nervous system	C70-C72	5	0.6
	Non-Hodgkin's lymphoma	C82-C85	4	--[3]
	Melanoma of the Skin	C43	3	--[3]
	Leukemia	C91-C95	3	--[3]
25 – 44 years	**TOTAL**		**456**	**22.9**
	Lung	C33, C34	67	3.4
	Female breast[4]	C50	62	6.1
	Brain and nervous system	C70-C72	37	1.9
	Colorectal	C18-C21	31	1.6
45 – 64 years	**TOTAL**		**3,108**	**218.9**
	Lung	C33, C34	933	65.7
	Female breast[4]	C50	314	42.7
	Colorectal	C18-C21	265	18.7
	Pancreas	C25	174	12.3
65 + years	**TOTAL**		**10,376**	**1,206.3**
	Lung	C33, C34	2,761	321.0
	Colorectal	C18-C21	1,214	141.1
	Prostate[5]	C61	712	208.5
	Female breast[4]	C50	679	130.9
65-74 years	**TOTAL**		**3,639**	**850.6**
	Lung	C33, C34	1,203	281.2
	Colorectal	C18-C21	334	78.1
	Female Breast[4]	C50	213	89.7
	Pancreas	C25	206	48.1
75-84 years	**TOTAL**		**4,493**	**1,423.5**
	Lung	C33, C34	1,184	375.1
	Colorectal	C18-C21	540	171.1
	Prostate[5]	C61	332	276.0
	Pancreas	C25	278	88.1
85+ years	**TOTAL**		**2,244**	**1,923.0**
	Lung	C33, C34	374	320.5
	Colorectal	C18-C21	340	291.4
	Prostate[5]	C61	236	762.6
	Female Breast[4]	C50	207	241.4

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 9. Leading Causes of Cancer Deaths and Age-Adjusted Rates by Race & Hispanic Ethnicity, Massachusetts: 2000

White, non-Hispanic[1]			Black, non-Hispanic[1]			Asian/Pacific Islander, non-Hispanic[1]			Hispanic		
Cause[2]	**#**	**Rate[3]**	**Cause**	**#**	**Rate**	**Cause**	**#**	**Rate**	**Cause**	**#**	**Rate**
Lung	3,575	57.5	Lung	134	62.1	Lung	25	21.1	Lung	29	20.3
Colorectal	1,439	22.4	Colorectal	48	24.3	Leukemia	10	8.6	Stomach	17	9.9
Female Breast	988	27.3	Female Breast	42	31.6	Female Breast	9	12.2	Colorectal	16	13.2
Pancreas	746	11.8	Prostate	42	64.8	Colorectal	8	7.3	Female Breast	14	13.3
Prostate	714	30.7	Pancreas	34	15.5	Pancreas	7	5.8	Non-Hodgkin's	10	6.4
Total Cancer	**13,154**	**209.1**	**Total Cancer**	**535**	**252.3**	**Total Cancer**	**125**	**103.2**	**Total Cancer**	**185**	**126.0**

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.

INJURIES

Injuries

In 2000, 4% of all deaths among Massachusetts residents were the result of injuries (2,386 deaths). Approximately 57% of injury deaths were due to falls, fires, drownings and other injuries, while 17% were due to suicide, 21% to motor vehicle-related injuries and 5% to homicide. For all types of injuries, age-adjusted death rates for males were higher than for females irrespective of race and ethnicity (Table 10).

In 2000, there were 490 motor vehicle-related deaths, an increase of 13% from 1999. It is likely that this increase may be due to a coding issue that affected the 1999 data previously published. The ICD-10 definition was initially stricter, requiring an explicit mention of the term "motor" or "car/truck/van, etc". Even though the algorithm did not change, the impact of the definitional change affected the underlying cause of death because "motor vehicle" was no longer being coded in some instances (instead the deaths were being allocated to deaths involving unspecified vehicles). Thus, the ICD-10 definition was changed slightly to assume that the inclusion of the term highway or road meant that the vehicle was a motor vehicle. There are concerns as to whether this change was made to the 1999 data at the state level. We are currently reviewing our mortality file coding for 1999 motor vehicle related deaths. However, data from **WISQARS**™ (the NCHS' Web-based Injury Statistics Query and Reporting System) indicates that after making this adjustment, the age-adjusted motor vehicle-related death rate for Massachusetts for 1999 is 7.1 deaths per 100,000. Thus the figure for 2000 corresponds to an increase of 7% after taking into account this definitional change in ICD-10.

The motor vehicle-related death rate varied by gender, with the male rate almost three times the female rate (11.0 vs. 4.6 deaths/100,000). Although the greatest number of motor vehicle- related deaths occurred to men ages 25-44 years (103), males ages 85 years and older had the highest rate for motor vehicle-related deaths (25.8 deaths/100,000) followed by males ages 15-24 (21.3 deaths/100,000).

Intentional injuries (suicide and homicide) comprised 22% of all injury-related deaths in 2000. Overall, suicide accounted for 76% of the intentional injury deaths. However, there were racial and ethnic variations, suicide accounted for 23% of the black, non-Hispanic intentional injury deaths, 39% of the Hispanic intentional injury deaths, and 88% of the white, non-Hispanic intentional injury deaths.

The suicide rate for males continues to be approximately four times the suicide rate for females: 9.6 deaths per 100,000 males compared with 3.2 for females. White, non-Hispanic and black, non-Hispanic males had the highest suicide rates among race-gender groups (10.1 and 7.4 deaths/100,000, respectively). Persons ages 25-44 years had the highest suicide rate among age groups (8.9 deaths/100,000).

The number of homicides has declined in Massachusetts in the 1990s: there were less than half as many homicides in 2000 (125) as there were in 1990 (270), and a 2% decrease (3 deaths) from 1999 to 2000. The decrease in homicides was seen among males. The homicide rate for males was more than twice the homicide rate for females, 2.8 per 100,000 males vs. 1.2 per 100,000 females. In addition, there were large differences in homicide rates by race and ethnicity: the rates for black, non-Hispanics (10.1 per 100,000) and Hispanics (5.3 per 100,000) were substantially higher than for white, non-Hispanics (1.0 per 100,000). The homicide rate among black, non-Hispanic males (17.0 per 100,000) was over 6 times higher than the overall male homicide rate.

The rate of all injury-related deaths was almost three times greater for males than females (52.1 deaths per 100,000 compared to 22.4). For other injuries (such as drownings, fires, falls and drug overdoses among others), the age-specific death rates were dramatically higher for persons ages 75 years and older, and especially for the oldest old, ages 85 years and older. For females, the other injury death rate among women 85 years and older was 223.9 per 100,000 females, about 17 times higher than the rate for all females. For males, the other injury death rate was about twelve times higher among men over the age of 85 years compared to the rate for all males.

Although only 12% of all injury-related deaths occurred among persons ages 15-24 years, injuries accounted for 70% of all deaths in that age group. In fact the 4 leading causes of death in this age group are injury related: MV related, suicide, other injuries of undetermined intent, and homicide.

Among suicide deaths, the majority involved hanging or strangulation (34%), followed by firearm (26%) and poisoning (25%). Almost 94% of deaths of undetermined intent involved poisoning or drug overdoses (Table 10b and Table 10c). In Massachusetts, death rates for most types of injuries were higher for males than females in 2000, and males were twice as likely to die from self-inflected firearm wounds than females.

In 2000, a total of 175 persons died from firearm injuries in Massachusetts. This number was 3.9% lower than the 182 deaths in 1999. Firearm suicide and homicide, the 2 major component causes, accounted for 58.9% and 38.3%, respectively, of all firearm deaths in 2000. The other components –firearm accidents, firearm deaths of undetermined intent, and, legal intervention involving firearm accounted for 1.7% (3 deaths), 0.6% (1 death), and 0.6% (1 death), respectively (Table 10c). The rate of all firearm-related deaths in the state was about one quarter the rate of firearm injuries in the United States (2.7 deaths per 100,000 compared to 10.2).

Table 10. Injury Deaths by Gender, Age, Race and Hispanic Ethnicity: Numbers, Age-Adjusted, and Age-Specific Rates, Massachusetts: 2000

Cause of Death[1]	All Injuries		Motor Vehicle[2]		Suicide		Homicide		Other Injuries[3]	
Age/Gender	#[4]	Rate[5]	#	Rate	#	Rate	#	Rate	#	Rate
All Persons	**2,386**	**36.1**	**490**	**7.6**	**401**	**6.2**	**125**	**2.0**	**1,370**	**20.3**
<1	8	10.1	0	0.0	0	0.0	2	--[6]	6	7.6
1-14	54	4.6	16	1.4	3	--[6]	4	--[6]	31	2.6
15-24	283	34.5	121	14.8	53	6.5	45	5.5	64	7.8
25-44	763	38.3	137	6.9	178	8.9	60	3.0	388	19.5
45-64	497	35.0	110	7.7	123	8.7	12	0.8	252	17.7
65+	781	90.8	106	12.3	44	5.4	2	--[6]	629	73.1
65-74	167	39.0	40	9.3	18	4.2	2	--[6]	107	25.0
75-84	297	94.1	53	16.8	20	6.3	0	0.0	224	71.0
85+	317	271.7	13	11.1	6	5.1	0	0.0	298	255.4
All Females	**853**	**22.4**	**158**	**4.6**	**106**	**3.2**	**37**	**1.1**	**552**	**13.5**
<1	4	--[6]	0	0.0	0	0.0	0	0.0	4	--[6]
1-14	20	3.5	5	0.9	1	--[6]	2	--[6]	12	2.1
15-24	68	16.6	34	8.3	8	1.9	5	1.2	21	5.1
25-44	209	20.7	34	3.4	50	4.9	24	2.4	101	10.0
45-64	146	19.9	38	5.2	39	5.3	4	--[6]	65	8.8
65+	406	78.3	47	9.1	8	1.5	2	--[6]	349	67.3
65-74	64	26.9	11	4.6	4	--[6]	2	--[6]	47	19.8
75-84	145	74.2	31	15.9	4	--[6]	0	0.0	110	56.3
85+	197	229.8	5	5.8	0	0.0	0	0.0	192	223.9
All Males	**1,533**	**52.1**	**332**	**11.0**	**295**	**9.6**	**88**	**2.8**	**818**	**28.6**
<1	4	--[6]	0	0.0	0	0.0	2	--[6]	2	--[6]
1-14	34	5.6	11	1.8	2	--[6]	2	--[6]	19	3.1
15-24	215	52.5	87	21.3	45	11.0	40	9.8	43	10.5
25-44	554	56.6	103	10.5	128	13.1	36	3.7	287	29.3
45-64	351	51.3	72	10.5	84	12.3	8	1.2	187	27.3
65+	375	109.8	59	17.3	36	10.5	0	0.0	280	82.0
65-74	103	54.1	29	15.2	14	7.4	0	0.0	60	31.5
75-84	152	126.4	22	18.3	16	13.3	0	0.0	114	94.8
85+	120	387.7	8	25.8	6	19.4	0	0.0	106	342.5

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. Motor vehicle deaths to occupants, pedestrians, motorcyclists and bicyclists. 3. Other Injuries include deaths such as drownings, fires, falls and drug overdoses. This category includes deaths from unintentional injuries and injuries of undetermined intent (deaths where investigation has not determined whether the injuries were accidental or purposely inflicted). 4. Column sum may not equal total because age or race of some decedents was not known. 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. 7. Race categories presented in this report differ from previously published data. 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) Injury Deaths by Gender, Age, Race and Hispanic Ethnicity: Numbers, Age-Adjusted, and Age-Specific Rates, Massachusetts: 2000

Cause of Death[1]	All Injuries		Motor Vehicle[2]		Suicide		Homicide		Other Injuries[3]	
Race/Gender[7]	**#[4]**	**Rate[5]**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**
White, non-Hispanic	**2,041**	**35.2**	**406**	**7.4**	**357**	**6.5**	**53**	**1.0**	**1,225**	**20.3**
Females	757	22.2	134	4.5	93	3.3	23	0.8	507	13.6
Males	1,284	50.6	272	10.7	264	10.1	30	1.2	718	28.6
Black, non-Hispanic	**149**	**47.3**	**24**	**7.4**	**17**	**4.9**	**39**	**10.1**	**69**	**24.8**
Females	45	28.2	6	3.6	5	2.6	6	3.4	28	18.6
Males	104	68.3	18	11.4	12	7.4	33	17.0	41	32.6
Asian, non-Hispanic	**47**	**23.7**	**20**	**8.1**	**5**	**3.0**	**6**	**1.9**	**16**	**10.8**
Females	18	18.5	8	6.9	2	--[6]	1	--[6]	7	9.3
Males	29	29.2	12	9.3	3	--[6]	5	3.5	9	11.9
Hispanics	**147**	**36.9**	**39**	**10.1**	**22**	**4.4**	**27**	**5.3**	**59**	**17.1**
Females	33	16.5	10	5.5	6	3.1	7	2.7	10	5.2
Males	114	59.9	29	14.8	16	5.5	20	8.0	49	31.5

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. Motor vehicle deaths to occupants, pedestrians, motorcyclists and bicyclists. 3. Other Injuries include deaths such as drownings, fires, falls and drug overdoses. This category includes deaths from unintentional injuries and injuries of undetermined intent (deaths where investigation has not determined whether the injuries were accidental or purposely inflicted). 4. Column sum may not equal total because age or race of some decedents was not known. 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. 7. 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 10b. Type of Injury[1] Deaths by Gender: Number and Age-Adjusted Rates[2], Massachusetts: 2000

Type of Injury	All		Female		Male	
	Number	Rate	Number	Rate	Number	Rate
Suicide	**401**	**6.2**	**106**	**3.2**	**295**	**9.6**
Poisoning	101	1.5	57	1.7	44	1.4
Hanging, strangulation or suffocation	135	2.1	24	0.7	111	3.6
Firearm	103	1.6	9	0.3	94	3.1
Other and unspecified	62	1.0	16	0.5	46	1.5
Homicide	**125**	**2.0**	**37**	**1.1**	**88**	**2.8**
Firearm	67	1.1	13	0.4	54	1.7
Cut or pierce	29	0.5	9	0.3	20	0.7
Other and unspecified	29	0.4	15	0.4	14	0.4
Unintentional Injuries (Accidents)	**1,361**	**20.3**	**568**	**13.9**	**793**	**28.3**
Falls	200	2.9	87	2.0	113	4.4
Hanging, strangulation or suffocation	125	1.8	60	1.4	65	2.5
Drowning or submersion	42	0.7	12	0.4	30	1.0
Smoke, fire and flames	59	0.9	24	0.7	35	1.2
Poisoning	47	0.7	11	0.3	36	1.2
Firearm	3	--[3]	1	--[3]	2	--[3]
Motor Vehicle-related	490	7.6	158	4.6	332	11.0
Injury to pedestrian	79	1.2	23	0.6	56	1.9
Injury to pedal cyclist	8	0.1	0	0.0	8	0.3
Injury to motorcyclist	31	0.5	2	--[3]	29	0.9
Injury to occupant	80	1.3	29	0.8	51	1.7
Other and unspecified	292	4.6	104	3.1	188	6.2
Other and unspecified	395	5.6	215	4.6	180	7.0
Events of Undetermined Intent	**466**	**7.2**	**127**	**3.8**	**339**	**10.6**
Poisoning	438	6.7	116	3.5	322	10.1
Drowning or submersion	10	0.2	2	--[3]	8	0.3
Other and unspecified	18	0.3	9	0.3	9	0.3
Legal Intervention	**1**	**--[3]**	**0**	**0.0**	**1**	**--[3]**
Firearm	1	--[3]	0	0.0	1	--[3]
Adverse Effects	**32**	**0.5**	**15**	**0.4**	**17**	**0.7**
Drugs	3	--[3]	0	0.0	3	--[3]
Medical Care	29	0.4	15	0.4	14	0.5
ALL INJURIES	**2,386**	**36.1**	**853**	**22.4**	**1,533**	**52.1**

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. 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 10c. Type of Injury[1] Deaths by Manner / Intent Categories: Number and Age-Adjusted Rates[2], Massachusetts: 2000

Manner	Intent											
	ALL		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	586	9.0	47	0.7	101	1.5	0	0.0	438	6.7	0	0.0
Transport Injuries												
Motor vehicle-related	490	7.6	490	7.6	0	0.0	0	0.0	0	0.0	0	0.0
Injury to pedestrian	79	1.2	79	1.2	0	0.0	0	0.0	0	0.0	0	0.0
Injury to pedal cyclist	8	0.1	8	0.1	0	0.0	0	0.0	0	0.0	0	0.0
Injury to motorcyclist	31	0.5	31	0.5	0	0.0	0	0.0	0	0.0	0	0.0
Injury to occupant	80	1.3	80	1.3	0	0.0	0	0.0	0	0.0	0	0.0
Other and unspecified	292	4.6	292	4.6	0	0.0	0	0.0	0	0.0	0	0.0
Other transport	29	0.4	29	0.4	0	0.0	0	0.0	0	0.0	0	0.0
Hanging, strangulation or suffocation	268	4.1	125	1.8	135	2.1	7	0.1	1	--[4]	0	0.0
Falls	222	3.2	200	2.9	21	0.3	0	0.0	1	--[4]	0	0.0
Firearm	175	2.7	3	--[4]	103	1.6	67	1.1	1	--[4]	1	--[4]
Drowning and submersion	60	0.9	42	0.7	8	0.1	0	0.0	10	0.2	0	0.0
Smoke, fire and flames	60	0.9	59	0.9	0	0.0	0	0.0	1	--[4]	0	0.0
Cut or pierce	39	0.6	0	0.0	9	0.1	29	0.5	1	--[4]	0	0.0
Other and unspecified	425	6.1	366	5.2	24	0.4	22	0.3	13	0.2	0	0.0
Adverse Effects	32	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ALL INJURIES	**2,386**	**36.1**	**1,361**	**20.3**	**401**	**6.2**	**125**	**2.0**	**466**	**7.2**	**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.

HIV/AIDS

HIV/AIDS

In 2000, there were 226 Massachusetts residents who died from HIV/AIDS (Table 11a). This represents a continuing downward trend in the number of HIV/AIDS deaths since 1994, although the rate of decline over the past year was not as great as had been observed in previous years. From 1999 to 2000 there was a 7% decline in the number of HIV/AIDS deaths as compared to a 78% decline between 1994 and 2000.

Almost half (46%) of all HIV/AIDS deaths occurred among persons ages 35-44 years (Table 11b). In 2000, 41% of HIV/AIDS deaths were among persons ages 45 years and older. The percentage of HIV/AIDS deaths among persons ages 45 years and older has been increasing since1995. The number of HIV/AIDS deaths to persons ages 45 years and older increased 8% from 1999. This percentage increase can be partially explained by an increase among black, non-Hispanics ages 45 years and older (14 deaths in 1999 compared to 30 deaths in 2000).

In 2000, there was a continuing increase in the proportion of female HIV/AIDS deaths, accounting for 29% of all HIV/AIDS deaths, a 7% increase from the previous year. This increase is partially due to an increase in deaths among black, non-Hispanic females who accounted for 34% of all female HIV/AIDS deaths in 2000 (data not shown). Overall, the majority of HIV/AIDS deaths are among White, non-Hispanics (46%). The proportion of deaths to Black, non-Hispanics and Hispanics is about the same (27% and 26%, respectively).

In 2000, HIV/AIDS was the third leading cause of death for Hispanics and sixth leading cause of death for black, non-Hispanics. It was the 26th leading cause of death for white, non-Hispanics and the 24th leading cause of death overall. HIV/AIDS was the sixth leading cause of death for Massachusetts residents ages 25-44 years; just five years ago, it was the leading cause of death in this age group. HIV/AIDS remained the leading cause of death for persons of Hispanic ethnicity ages 25-44 years. For black, non-Hispanics in this same age group, HIV/AIDS was the second leading cause of death.

The 2000 age-specific HIV/AIDS death rate among 25-44 year-olds varied considerably by race, Hispanic ethnicity, and gender (Table 12). The highest rates occurred among black, non-Hispanic and Hispanic males (31.9 and 28.4 deaths per 100,000, respectively) and the lowest rate occurred among white, non-Hispanic females (2.5 deaths per 100,000). The rate for white, non-Hispanic females increased slightly by 9% between 1999 and 2000. The largest decline in death rates for persons 25-44 years from 1999 to 2000 was among Hispanic men (a 39% decline from 46.2 to 28.4 deaths/100,000).

Table 11a. HIV/AIDS[1] Deaths by Place of Occurrence, Massachusetts: 1988-2000

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]
1988	#	315	NA	67	NA	234	NA	7	NA	7	NA
	%	100.0		21.3		74.3		2.2		2.2	
1989	#	404	NA	79	NA	313	NA	7	NA	5	NA
	%	100.0		19.6		77.5		1.7		1.2	
1990	#	447	NA	90	NA	284	NA	9	NA	64	NA
	%	100.0		20.1		63.5		2.1		14.3	
1991	#	632	NA	159	NA	338	NA	4	NA	131	NA
	%	100.0		25.2		53.5		-		20.7	
1992	#	701	NA	171	NA	394	NA	14	NA	122	NA
	%	100.0		24.4		56.2		2.0		17.4	
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	-	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	-	-	16.4	16.4
1999	#	242[4]		55[4]		142[4]		2[4]		43[4]	
	%	100.0		22.7		58.7		-		17.8	
2000	#	226[4]		48[4]		145[4]		0[4]		33[4]	
	%	100.0		21.2		64.2		0.0		14.6	

**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 1987-1998 were coded according to the ICD-9 classification schedule, which began with 1987 death data (codes 042-044). Deaths for 1999 and 2000 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 2000, please use the comparability modified number for years 1994-1998. Please see Appendix for a detailed explanation.

Table 11b. HIV/AIDS[1] Deaths by Age, Massachusetts: 1988-2000

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]
1988	#	5	NA	12	NA	111	NA	127	NA	60	NA
	%	1.6		3.8		35.2		40.3		19.1	
1989	#	3	NA	16	NA	146	NA	167	NA	72	NA
	%	-		4.0		36.1		41.3		17.8	
1990	#	3	NA	4	NA	147	NA	197	NA	96	NA
	%	-		-		32.8		44.1		21.5	
1991	#	9	NA	19	NA	214	NA	298	NA	92	NA
	%	1.4		3.0		33.8		47.2		14.6	
1992	#	6	NA	5	NA	243	NA	304	NA	143	NA
	%	0.8		0.7		34.7		43.4		20.4	
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	-	-	14.5	14.4	55.8	56.0	27.3	27.4
1998	#	0	0	0	0	47	54	106	121	60	69
	%	0.0	0.0	0.0	0.0	22.1	22.1	49.8	50.0	28.2	28.3
1999	#	2[4]		9[4]		34[4]		112[4]		85[4]	
	%	-		3.7		14.0		46.3		35.1	
2000	#	4[4]		0[4]		26[4]		104[4]		92[4]	
	%	-		0.0[4]		11.5[4]		46.0[4]		40.7[4]	

**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 1987-1998 were coded according to the ICD-9 classification schedule, which began with 1987 death data (codes 042-044). Deaths for 1999 and 2000 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 2000, please use the comparability modified number for years 1994-1998. Please see Appendix for a detailed explanation.

Table 11c. HIV/AIDS[1] Deaths by Gender and Race/Ethnicity, Massachusetts: 1988-2000

		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													
1988	#	281	NA	34	NA	NA	NA	NA	NA	NA	NA	NA	NA
	%	89.2		10.8									
1989	#	359	NA	45	NA	290	NA	76	NA	NA	NA	37	NA
	%	88.9		11.1		71.8		18.8				9.2	
1990	#	390	NA	57	NA	301	NA	94	NA	1	NA	50	NA
	%	87.2		12.8		67.5		21.1		-		11.2	
1991	#	535	NA	97	NA	439	NA	118	NA	0	NA	74	NA
	%	84.6		15.4		69.5		18.7		0.0		11.7	
1992	#	605	NA	96	NA	463	NA	141	NA	2	NA	95	NA
	%	86.3		13.7		66.0		20.1		-		13.6	
1993	#	663	NA	114	NA	518	NA	160	NA	5	NA	94	NA
	%	85.3		14.7		66.7		20.6		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	0.0	0.0	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	0.0	0.0	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		-		26.0	
2000	#	161[6]		65[6]		104[6]		61[6]		2[6]		59[6]	
	%	71.2		28.8		46.0		27.0		-		26.1	

**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 1987-1998 were coded according to the ICD-9 classification schedule, which began with 1987 death data (codes 042-044). Deaths for 1999 and 2000 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/Pacific Islander, non-Hispanics, American Indian, non-Hispanics, and Cape Verdean, 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. NA=not available. 6. When comparing data over time between 1994 through 2000, please use the comparability modified number for years 1994-1998. Please see Appendix for a detailed explanation.

Table 12. HIV/AIDS[1] Deaths by Race, Hispanic Ethnicity, and Gender
Persons Ages 25-44, Massachusetts: 1990 – 2000

	White, non-Hispanic[2]				Black, non-Hispanic[2]				Hispanic			
TOTAL												
Year	**#**	**Rate[3]**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**
	Comparability Unmodified		Comparability Modified[4]		Comparability Unmodified		Comparability Modified[4]		Comparability Unmodified		Comparability Modified[4]	
1990	230	13.0	NA	NA	73	76.5	NA	NA	40	42.4	NA	NA
1991	357	20.1	NA	NA	99	102.9	NA	NA	55	55.6	NA	NA
1992	362	20.5	NA	NA	105	111.0	NA	NA	79	78.3	NA	NA
1993	391	22.3	NA	NA	122	130.4	NA	NA	76	73.0	NA	NA
1994	451	25.6	480	27.2	152	162.0	162	172.3	127	118.3	135	125.8
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[6]	3.7			28[6]	25.3			40[6]	27.9
MALE												
1990	212	24.3	NA	NA	50	107.2	NA	NA	36	77.2	NA	NA
1991	322	36.7	NA	NA	71	150.7	NA	NA	39	79.5	NA	NA
1992	328	37.6	NA	NA	79	170.0	NA	NA	64	127.7	NA	NA
1993	350	40.3	NA	NA	91	197.6	NA	NA	57	110.3	NA	NA
1994	388	44.5	413	47.3	113	244.3	120	259.9	93	174.2	99	185.3
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[6]	4.8			17[6]	31.9			27[6]	28.4
FEMALE												
1990	18	2.0	NA	NA	23	47.1	NA	NA	4	--[5]	NA	NA
1991	35	3.9	NA	NA	28	57.1	NA	NA	16	32.0	NA	NA
1992	34	3.8	NA	NA	26	54.0	NA	NA	15	29.5	NA	NA
1993	41	4.6	NA	NA	31	65.2	NA	NA	19	36.3	NA	NA
1994	63	7.1	67	7.6	39	82.0	41	87.2	34	63.0	36	67.0
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[6]	2.5			11[6]	19.2			13[6]	17.8

1. AIDS and HIV disease deaths for years 1989-1998 coded using ICD-9: 042-044; 1999 and 2000 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 2000, please use comparability modified data for years 1994-1998.

INFANT DEATHS

Causes of Infant Death

In 2000, Massachusetts had the lowest infant mortality rate (IMR) ever recorded for the state. There were a total of 377 infant deaths (deaths of infants less than one year of age) and 81,582 live births among Massachusetts residents for an infant mortality rate of 4.6 per 1,000 live births (Table 13). The 2000 infant mortality rate decreased 12% from the 1999 rate of 5.2 deaths per 1,000 live births and has decreased 34% from the 1990 rate of 7.0 per 1,000 live births. Massachusetts' infant mortality rate for 2000 was 33% lower than the infant mortality rate for the United States (6.9 deaths per 1,000 live births). For the second time since 1996, the Massachusetts Hispanic IMR is lower than the US Hispanic IMR (5.2 vs. 5.6 per 1,000 live births). White and Black infant mortality rates continue to be lower in Massachusetts compared to figures for the United States. (Please note: more information on 2000 births can be found in *Massachusetts Births: 2000*, published in February 2002, or online at www.state.ma.us/dph/bhsre/resep/.

Infant mortality continues to vary by race and ethnicity. In 2000, the IMR for white, non-Hispanics was 3.8/1,000 live births compared to 12.8 for black, non-Hispanics, 5.2 for Hispanics, and 4.1 for Asian/Pacific Islander, non-Hispanics (Table 13).

In 2000, the overall leading causes of infant death were conditions arising in the perinatal period (229) and congenital malformations (57) (Table 14). Other causes of infant death were sudden infant death syndrome (SIDS) (26), diseases of the nervous system and ear (10), diseases of the digestive system (8), and unintentional injuries (6).

The vast majority (76%) of infant deaths occurred in the neonatal period (birth to 27 days). Causes of infant death vary by age of infant. Disorders relating to short gestation and low birthweight was the leading cause in the neonatal period, while SIDS was the leading cause of death in the post neonatal period (28-365 days).

Conditions originating in the perinatal period and congenital malformations were the leading causes of death for all race and ethnicity groups (Table 15). However, the distribution of these causes varied among race and ethnicity groups. Close to 61% of all black, non-Hispanic infant deaths were due to conditions originating in the perinatal period compared to 59% of all white, non-Hispanic infant deaths, and 71% of all Hispanic infant deaths.

Table 13. Trends in Infant, Neonatal, and Post Neonatal Mortality, by Race and Hispanic Ethnicity, Massachusetts: 1991-2000

INFANT MORTALITY (less than one year of age)

	State Total[1]		White, non-Hispanic		Black, non-Hispanic		Hispanic		Asian/Pacific Islander, non-Hispanic		Other[2]	
Year	**#**	**Rate[3]**	**#**	**Rate[3]**	**#**	**Rate[3]**	**#**	**Rate[3]**	**#**	**Rate[3]**	**#**	**Rate[3]**
1991	577	6.5	381	5.5	101	15.0	80	9.4	14	4.2	1	--[4]
1992	569	6.5	371	5.5	110	16.4	67	7.9	16	4.9	5	5.1
1993	523	6.2	346	5.3	84	13.1	77	9.3	13	3.9	3	--[4]
1994	499	6.0	343	5.3	79	12.6	64	7.6	8	2.4	5	5.3
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	0.0
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]

NEONATAL MORTALITY (birth to 27days)

	State Total[1]		White, non-Hispanic		Black, non-Hispanic		Hispanic		Asian/Pacific Islander, non-Hispanic		Other[2]	
Year	**#**	**Rate[3]**	**#**	**Rate[3]**	**#**	**Rate[3]**	**#**	**Rate[3]**	**#**	**Rate[3]**	**#**	**Rate[3]**
1991	401	4.5	266	3.9	72	10.7	53	6.2	10	3.0	0	0.0
1992	415	4.8	274	4.0	76	11.4	51	6.0	10	3.0	4	--[4]
1993	375	4.4	245	3.7	64	10.0	55	6.7	9	2.7	2	--[4]
1994	349	4.2	240	3.7	58	9.3	40	4.7	7	2.1	4	--[4]
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	0.0
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]

POST NEONATAL MORTALITY (28-365 days)

	State Total[1]		White, non-Hispanic		Black, Non-Hispanic		Hispanic		Asian/Pacific Islander, non-Hispanic		Other[2]	
Year	**#**	**Rate[3]**	**#**	**Rate[3]**	**#**	**Rate[3]**	**#**	**Rate[3]**	**#**	**Rate[3]**	**#**	**Rate[3]**
1991	176	2.0	115	1.7	29	4.3	27	3.2	4	--[4]	1	--[4]
1992	154	1.8	97	1.4	34	5.1	16	1.9	6	1.8	1	--[4]
1993	148	1.7	101	1.5	20	3.1	22	2.7	4	--[4]	1	--[4]
1994	150	1.8	103	1.6	21	3.3	24	2.8	1	--[4]	1	--[4]
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	0.0
1999	86	1.1	59	1.0	14	2.4	10	1.1	3	--[4]	0	0.0
2000	89	1.1	55	0.9	17	2.9	11	1.2	5	1.1	1	--[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 14. Infant, Neonatal, and Post Neonatal Deaths by Cause, Massachusetts: 2000

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		**377**	**100%**	**288**	**100%**	**89**	**100%**
Infectious and parasitic diseases	**A00-B99**	**5**	**1.3**	**2**	**--**	**3**	**--**
Cancer	**C00-C97**	**4**	**--**	**0**	**0.0**	**4**	**--**
Diseases of the blood and blood forming organs (anemia)	**D50-D89**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**
Diseases of nervous system and ear	**G00-G98, H60-H93**	**10**	**2.7**	**0**	**0.0**	**10**	**11.2**
Diseases of the respiratory system	**J00-J98**	**5**	**1.3**	**1**	**--**	**4**	**--**
Diseases of digestive system	**K00-K92**	**8**	**2.1**	**0**	**0.0**	**8**	**9.0**
Congenital malformations	**Q00-Q99**	**57**	**15.1**	**43**	**14.9**	**14**	**15.7**
Congenital malformations of nervous system	Q00-Q07	9	2.4	6	2.1	3	--
Anencephalus and similar malformations	Q00	5	1.3	5	1.7	0	0.0
Congenital malformations of eye, ear, face, and neck	Q10-Q18	0	0.0	0	0.0	0	0.0
Congenital malformations of heart	Q20-Q24	15	4.0	9	3.1	6	6.7
Other congenital malformations of circulatory system	Q25-Q28	4	--	3	--	1	--
Congenital malformations of respiratory system	Q30-Q34	8	2.1	8	2.8	0	0.0
Cleft palate and other digestive tract malformations	Q35-Q45	0	0.0	0	0.0	0	0.0
Congenital malformations of genitourinary system	Q50-Q64	3	--	3	--	0	0.0
Congenital malformations of musculoskeletal system	Q65-Q85	2	--	2	--	0	0.0
Chromosomal abnormalities	Q90-Q99	13	3.5	9	3.1	4	--
Certain conditions originating in the perinatal period	**P00-P96**	**229**	**60.7**	**227**	**78.8**	**2**	**--**
Newborn affected by maternal conditions which may be unrelated to present pregnancy	P00	0	0.0	0	0.0	0	0.0
Newborn affected by maternal complications of pregnancy	P01	31	8.2	31	10.8	0	0.0
Newborn affected by complications of placenta, cord and membrane	P02	9	2.4	9	3.1	0	0.0
Newborn affected by other complications of labor and delivery	P03	4	--	4	--	0	0.0
Disorders relating to short gestation and low birthweight	P07	80	21.2	80	27.8	0	0.0
Birth trauma	P10-P15	0	**0.0**	0	0.0	0	0.0
Intrauterine hypoxia and birth asphyxia	P20-P21	12	3.2	12	4.2	0	0.0
Respiratory distress of newborn	P22	14	3.7	14	4.9	0	0.0
Other respiratory conditions of newborn	P23-P28	20	5.3	19	6.6	1	--
Infections specific to the perinatal period	P35-P39	9	2.4	9	3.1	0	0.0
Neonatal hemorrhage	P50-P52, P54	10	2.7	10	3.5	0	0.0
Other and ill-defined conditions originating in the perinatal period	P90-P96	4	--	4	--	0	0.0
Symptoms, signs, and ill-defined conditions	**R00-R99**	**30**	**8.0**	**4**	**--**	**26**	**29.2**
Sudden Infant Death Syndrome (SIDS)	R95	26	6.9	3	--	23	25.8
Unintentional Injuries	**V01-X59**	**6**	**1.6**	**1**	**--**	**5**	**5.6**
Homicide	**X85-Y09**	**2**	**--**	**1**	**--**	**1**	**--**
All other causes	**Residual**	**21**	**5.6**	**9**	**3.1**	**12**	**13.5**

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 15. Infant Deaths by Major Causes, Race and Hispanic Ethnicity, Massachusetts: 2000

Cause of Death[2]	ICD-10 Code	White, non-Hispanic[1] #	White, non-Hispanic[1] %	Black, non-Hispanic[1] #	Black, non-Hispanic[1] %	Asian/Pacific Islander, non-Hispanic[1] #	Asian/Pacific Islander, non-Hispanic[1] %	Hispanic #	Hispanic %
TOTAL		**232**	**100%**	**74**	**100%**	**19**	**100%**	**48**	**100%**
Congenital malformations	Q00-Q99	37	15.9	12	16.2	3	--[3]	4	--[3]
Certain conditions originating in the perinatal period	P00-P96	137	59.1	45	60.8	10	52.6	34	70.8
Symptoms, signs, and ill-defined conditions	R00-R99	17	7.3	7	9.5	2	--[3]	4	--[3]
Unintentional Injuries	V01-X59	2	--[3]	4	--[3]	0	0.0	0	0.0
Homicide	X85-Y09	2	--[3]	0	0.0	0	0.0	0	0.0
All other causes	Residual	37	15.9	6	8.1	4	--[3]	6	12.5

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. Please refer to Appendix for comparability ratios. 3. Calculations based on fewer than five events are excluded.

HEALTHY PEOPLE 2010

Healthy People 2010 Objectives

In January 2000, the 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. In its report, the U.S. Department of Health and Human Services set mortality target objectives to be met by the year 2010. These objectives have two overarching goals: 1) to increase quality and years of healthy life, and 2) to eliminate health disparities.

In this year's report, a new table (Table 16) presents the most recent Massachusetts data for selected HP2010 Mortality Objectives. This report only presents mortality objectives that use underlying cause of death data. Massachusetts either achieved or moved toward many of these targets. Out of 40 objectives presented, Massachusetts 2000 death data show that the state has already met many of the 2010 targets (17 total): Uterine cervix cancer, coronary heart disease, firearm deaths, motor vehicle crashes, fall deaths, homicides, child and adolescent mortality death rates (1-4, 5-9, 10-14,and 15-19 years old), postneonatal deaths, birth defects deaths, congenital heart defect deaths, maternal deaths, and asthma death rates for children under 5 years of age, 5-14 years of age and persons 15-34 years old.

For eleven objectives, the 2000 Massachusetts indicators are within 25% of the target goals. These objectives include: lung cancer, oropharyngeal cancer, prostate cancer, stroke deaths, unintentional injuries, drownings, infant mortality rate, neonatal mortality rate, and asthma death rates for person ages 65 years and above.

The twelve indicators for which Massachusetts is the furthest from the HP2010 targets are: overall cancer death rates (including melanoma and colorectal cancer), cirrhosis deaths, HIV deaths, poisoning deaths, suffocation deaths, fire deaths, suicide deaths, SIDS deaths, drug-induced deaths, and asthma death rates for person ages 35-64 years. Although these rates are over 25% from the target goals, they are still lower than the rates for the United States overall.

Table 16. Target Status for Selected Healthy People 2010 Mortality Objectives

Objective Number	HEALTHY PEOPLE 2010 OBJECTIVE	TARGET 2010[1]	MA 1999[2]	MA 2000[3]	TARGET STATUS
	Age-adjusted rates (per 100,000 population)				
3-1	Cancer death rate	159.9	206.6	206.9	●
3-2	Lung Cancer	44.9	54.2	56.2	○
3-3	Female Breast Cancer (per 100,000 females)	22.3	27.3	27.0	○
3-4	Uterine Cervix (per 100,000 females)	2.0	1.8	2.0	✓
3-5	Colorectal Cancer	13.9	22.4	22.0	●
3-6	Oropharyngeal Cancer	2.7	2.9	2.8	○
3-7	Prostate Cancer (per 100,000 males)	28.8	32.9	31.0	○
3-8	Malignant Melanoma	2.5	2.7	3.4	●
12-1	Coronary Heart Disease deaths	166.0	153.6	149.6	✓
12-7	Stroke deaths	48.0	50.2	51.2	○
13-14	HIV infection deaths	0.7	3.8	3.5	●
26-2	Cirrhosis deaths	3.0	9.1	5.3	●
26-3	Drug-induced deaths	1.0	7.8	8.7	●
	Injury Deaths				
15-3	Firearm- related	4.1	2.8	2.7	✓
15-8	Poisonings	1.5	8.2	9.0	●
15-9	Hanging, strangulation or suffocation	3.0	4.4	4.1	●
15-13	Unintentional injuries (Accidents)	17.5	19.3	20.3	○
15-15	Motor vehicle crashes	9.0	6.7	7.6	✓
15-25	Residential fire deaths	0.2	0.6	0.8	●
15-27	Falls	3.0	3.1	2.9	✓
15-29	Drowning	0.9	0.9	1.0	○
15-32	Homicide	3.0	2.0	2.0	✓
18-1	Suicides	5.0	6.6	6.2	●
	Death Rates (per 1,000 live births)				
16-1c	Infant deaths	4.5	5.2	4.6	○
16-1d	Neonatal deaths	2.9	4.1	3.5	○
16-1e	Postneonatal deaths	1.2	1.1	1.1	✓
16-1f	Birth defects	1.1	0.8	0.7	✓
16-1g	Congenital heart defects	0.38	0.15	0.18	✓
16-1h	Sudden infant death syndrome (SIDS)	0.25	0.30	0.32	●
16-4	Maternal deaths (per 100,000 live births)	3.3	0.0	1.2	✓
	Child and Adolescent Death Rates (per 100,000 population)				
16-2a	1-4 years old	25.0	20.4	22.5	✓
16-2b	5-9 years old	14.3	9.9	12.3	✓
16-3a	10-14 years old	16.8	14.1	13.2	✓
16-3b	15-19 years old	43.2	41.9	39.5	✓
16-3c	20-24 years old	57.3	53.3	59.1	○
24-1	Asthma deaths (per million)				
24-1a	Children under age 5 years	1.0	0.0	--[4]	✓
24-1b	Children aged 5-14 years	1.0	--[4]	--[4]	✓
24-1c	Ages 15-34 years	3.0	6.0	2.9	✓
24-1d	Ages 35-64 years	9.0	14.1	16.5	●
24-1e	Ages 65+ years	60.0	65.0	66.3	○

✓ = 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. Residents death rates for 1999 have been recalculated using 1999 DPH population estimates. 3. 2000 rates are calculated using 2000 population estimates. 4. Calculations based on fewer than 5 events are excluded.

CAUSES OF DEATH BY CITY/TOWN, COMMUNITY HEALTH NETWORK AREA (CHNA), COUNTY

Table 17. Selected Causes of Death by Community, 2000

COMMUNITY	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
Massachusetts	**56,591**	**816.5**	**15,313**	**14,006**	**3,763**	**1,055**	**3,645**	**2,911**	**1,353**	**2,110**	**490**	**125**	**401**
Abington	146	988.0	44	35	5	2	4	9	3	2	3	0	0
Acton	89	666.2	17	22	5	3	14	3	2	3	1	0	1
Acushnet	87	765.1	20	33	13	3	3	2	2	2	1	0	1
Adams	106	739.7	32	19	5	3	15	5	0	7	0	0	1
Agawam	314	791.7	85	67	25	3	18	17	8	15	1	0	3
Alford	6	1,225.1	1	1	1	0	0	0	2	0	0	0	0
Amesbury	143	877.6	42	32	12	2	9	9	7	5	1	1	3
Amherst	149	717.9	30	33	8	3	17	10	3	3	1	0	1
Andover	236	712.2	66	53	10	8	10	8	5	7	2	0	4
Arlington	471	821.0	121	108	22	7	35	22	7	27	2	0	3
Ashburnham	39	1,030.4	13	14	4	0	1	3	1	0	0	0	0
Ashby	17	768.7	4	5	1	0	3	0	0	1	1	0	0
Ashfield	12	677.9	1	3	1	0	1	1	0	1	1	0	0
Ashland	87	815.0	23	21	4	2	5	5	2	1	5	0	1
Athol	146	919.5	41	35	6	1	12	3	4	6	1	0	0
Attleboro	348	801.9	109	91	25	9	21	17	13	8	1	2	4
Auburn	170	755.1	48	41	12	3	7	13	3	9	1	1	0
Avon	51	971.6	13	9	4	1	1	3	1	1	3	0	1
Ayer	87	1,233.2	27	26	10	1	3	2	2	4	0	0	0
Barnstable	535	763.5	148	154	41	16	27	32	9	14	5	0	1
Barre	31	600.9	6	7	2	0	1	2	2	0	1	0	0
Becket	7	423.3	5	1	0	0	0	1	0	0	0	0	0
Bedford	124	653.5	22	31	7	2	10	5	2	8	0	0	0
Belchertown	102	1,145.2	22	33	11	3	6	3	5	1	1	0	2
Bellingham	94	908.9	25	24	4	1	3	7	4	4	0	0	0
Belmont	237	691.3	63	65	10	6	21	6	3	15	0	0	2
Berkley	18	613.5	6	8	1	1	1	0	0	0	1	0	0
Berlin	13	639.0	5	3	0	1	0	0	0	0	0	0	0
Bernardston	22	793.7	7	5	1	0	2	1	1	2	0	0	0
Beverly	433	845.0	107	83	27	5	40	32	12	18	4	2	3
Billerica	249	957.8	62	69	26	4	17	10	2	10	1	0	0
Blackstone	51	714.5	15	10	3	0	3	1	2	5	1	0	1
Blandford	8	977.2	3	1	0	0	0	2	0	1	0	0	0
Bolton	8	448.5	1	2	0	0	0	2	0	0	0	0	0
Boston	4,500	889.3	1,096	1,109	284	83	270	181	98	163	30	42	34

Table 17. Selected Causes of Death by Community, 2000 (continued)

COMMUNITY	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
Bourne	232	964.7	75	48	10	3	15	19	3	6	2	0	1
Boxborough	13	774.3	2	4	1	0	0	1	0	1	0	0	0
Boxford	31	638.8	3	9	2	0	4	3	3	2	1	0	0
Boylston	29	851.5	7	10	4	2	0	3	0	0	0	0	0
Braintree	401	831.0	112	98	30	8	23	16	11	14	5	0	1
Brewster	146	679.2	28	34	13	5	8	6	5	6	0	1	0
Bridgewater	148	844.2	39	43	7	4	10	10	5	6	1	0	0
Brimfield	29	959.7	11	7	2	1	2	1	0	1	0	0	0
Brockton	899	982.0	263	198	61	15	47	50	19	29	12	3	6
Brookfield	20	618.0	6	7	3	0	0	1	2	0	0	0	0
Brookline	397	610.8	99	107	22	9	30	17	6	15	4	0	2
Buckland	17	773.3	4	3	2	0	0	4	0	0	0	0	0
Burlington	150	715.4	39	40	12	2	9	8	10	3	1	0	0
Cambridge	643	827.0	171	155	37	10	38	33	16	19	2	0	7
Canton	236	770.5	58	54	14	4	18	14	5	12	2	0	3
Carlisle	10	345.6	1	3	0	0	1	0	0	0	0	0	0
Carver	89	729.1	22	28	11	0	5	4	5	1	3	0	0
Charlemont	7	516.7	4	0	0	0	1	0	0	0	1	0	0
Charlton	67	772.0	17	13	3	1	3	4	2	4	3	0	0
Chatham	120	678.0	33	33	5	1	5	3	2	6	0	0	1
Chelmsford	287	813.0	82	83	14	14	19	17	3	8	1	0	2
Chelsea	300	910.9	64	70	20	2	20	15	9	15	1	1	4
Cheshire	42	1,137.5	14	10	5	0	3	3	1	0	1	0	0
Chester	6	521.6	3	1	1	0	0	0	0	0	0	0	0
Chesterfield	5	655.6	0	4	1	0	0	0	0	1	0	0	0
Chicopee	658	930.6	199	148	33	8	39	41	14	30	7	0	4
Chilmark	4	--[4]	0	2	1	0	0	0	0	1	0	0	0
Clarksburg	18	1,026.5	4	4	2	1	1	2	2	1	0	0	0
Clinton	141	894.1	43	30	7	3	9	8	3	6	2	0	1
Cohasset	75	883.7	18	18	6	1	4	2	2	4	0	0	0
Colrain	14	874.7	6	3	0	1	1	1	0	0	0	0	0
Concord	133	564.8	33	34	7	6	14	4	3	7	2	0	0
Conway	5	410.2	1	1	0	0	0	0	0	0	0	0	0
Cummington	8	987.0	3	0	0	0	0	1	0	1	0	0	0
Dalton	67	778.5	18	20	8	1	2	2	3	2	0	0	1
Danvers	286	828.9	90	49	16	4	26	21	4	10	1	0	2
Dartmouth	277	737.8	86	74	18	6	16	22	3	9	1	0	2

Table 17. Selected Causes of Death by Community, 2000 (continued)

COMMUNITY	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
Dedham	280	933.4	68	82	25	6	17	14	5	9	0	0	5
Deerfield	53	1,051.7	16	12	3	1	3	1	2	3	1	0	0
Dennis	217	710.1	48	61	16	4	15	11	4	3	3	1	0
Dighton	63	997.6	14	20	10	2	3	3	0	3	3	0	0
Douglas	29	611.4	5	12	4	0	0	2	1	2	0	0	1
Dover	25	575.2	6	9	2	2	0	1	0	0	0	0	0
Dracut	216	896.4	68	66	20	5	12	8	4	9	1	0	1
Dudley	72	721.2	16	23	4	2	5	4	1	1	1	0	3
Dunstable	5	275.9	1	2	1	0	1	0	0	0	1	0	0
Duxbury	115	752.7	24	31	12	1	10	9	0	2	1	0	1
East Bridgewater	96	860.1	26	26	8	1	3	2	0	1	3	0	4
East Brookfield	19	836.4	4	7	4	1	1	3	2	0	0	0	0
East Longmeadow	188	897.1	37	48	9	3	14	8	3	9	2	0	3
Eastham	56	712.7	19	18	1	1	6	1	1	0	0	0	0
Easthampton	159	887.7	50	40	10	3	15	5	6	8	1	0	1
Easton	148	876.0	43	42	12	5	7	4	2	6	1	0	2
Edgartown	22	612.4	7	9	2	1	0	0	0	0	0	0	0
Egremont	7	345.4	0	2	0	0	2	0	0	0	0	0	0
Erving	18	1,121.1	4	8	3	0	2	1	0	1	0	0	0
Essex	27	783.2	8	8	3	0	0	1	0	0	1	0	0
Everett	377	891.7	110	96	24	9	17	24	6	14	1	1	5
Fairhaven	227	882.2	87	49	12	6	12	19	3	6	0	1	0
Fall River	1,159	950.0	332	278	78	15	95	60	19	50	9	0	3
Falmouth	393	748.3	105	93	26	6	34	30	12	10	4	1	3
Fitchburg	389	861.7	102	78	23	5	44	24	11	17	6	2	6
Florida	6	1,238.8	2	1	0	0	1	0	0	0	0	0	0
Foxborough	125	869.1	36	33	5	3	11	7	2	4	5	0	1
Framingham	565	778.7	154	133	34	8	28	21	14	29	11	2	4
Franklin	155	796.1	47	38	10	3	10	7	4	4	1	0	1
Freetown	52	851.3	18	12	4	2	2	3	2	0	0	0	0
Gardner	231	861.8	61	54	15	3	11	15	8	11	1	1	5
Gay Head (Aquinnah)	3	--[4]	1	1	0	0	0	0	0	0	0	0	0
Georgetown	40	714.9	10	15	7	1	1	2	0	1	1	0	0
Gill	14	934.4	5	5	1	0	1	1	0	0	0	0	0
Gloucester	302	824.9	94	86	24	6	18	20	8	4	1	0	2
Goshen	4	--[4]	2	1	0	0	0	0	0	0	0	0	0

Table 17. Selected Causes of Death by Community, 2000 (continued)

COMMUNITY	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
Gosnold	1	--[4]	0	0	0	0	0	1	0	0	0	0	0
Grafton	105	792.5	25	28	8	0	9	10	4	5	3	0	0
Granby	42	822.5	12	10	1	0	3	2	2	1	0	0	0
Granville	12	1,414.9	5	3	1	0	0	0	0	1	0	0	0
Great Barrington	106	870.3	25	24	5	2	5	4	3	2	1	0	0
Greenfield	228	827.6	65	44	12	3	28	15	4	9	2	0	4
Groton	40	737.5	15	11	3	0	1	2	0	1	2	0	0
Groveland	32	669.9	4	15	6	2	2	2	1	0	0	0	0
Hadley	65	898.9	10	18	5	2	8	1	2	1	2	0	1
Halifax	53	697.7	12	16	4	0	4	3	2	2	1	0	0
Hamilton	40	621.4	11	9	1	0	4	1	2	3	0	0	1
Hampden	37	671.4	10	9	3	1	3	1	0	4	0	0	0
Hancock	7	828.4	1	3	3	0	0	3	0	0	0	0	0
Hanover	96	882.8	28	33	13	1	3	4	4	4	0	0	0
Hanson	59	920.6	15	22	6	3	3	2	1	3	0	0	2
Hardwick	28	966.2	4	7	2	0	3	1	1	0	1	0	0
Harvard	36	856.9	9	10	1	1	2	3	0	0	0	0	2
Harwich	183	632.4	47	45	9	3	12	8	9	3	0	0	0
Hatfield	35	846.2	11	8	3	0	5	2	2	1	1	0	0
Haverhill	570	898.9	160	128	35	11	38	27	18	18	6	2	6
Hawley	3	--[4]	1	1	0	0	0	0	0	0	0	0	0
Heath	10	1,915.8	2	4	0	0	0	1	1	0	0	0	0
Hingham	174	742.5	51	34	5	0	9	7	3	7	0	0	0
Hinsdale	9	589.3	1	2	1	1	0	0	0	1	0	0	1
Holbrook	114	938.4	32	35	6	3	2	6	2	3	2	0	0
Holden	118	658.8	32	39	10	8	6	5	2	3	1	1	0
Holland	10	704.8	2	3	0	0	0	0	0	2	0	0	0
Holliston	72	813.6	20	21	7	3	5	6	2	0	1	0	0
Holyoke	522	1,034.3	140	99	35	9	48	38	18	15	3	3	3
Hopedale	56	745.7	7	18	6	1	4	1	1	1	1	0	1
Hopkinton	64	823.0	16	16	2	0	7	6	0	4	0	0	0
Hubbardston	20	973.6	5	5	1	0	2	0	0	0	1	0	0
Hudson	126	755.1	40	32	8	3	5	5	4	6	4	0	2
Hull	72	712.9	18	21	11	0	4	4	1	3	0	0	0

Table 17. Selected Causes of Death by Community, 2000 (continued)

COMMUNITY	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
Huntington	11	651.1	1	0	0	0	3	2	0	1	0	0	0
Ipswich	116	704.1	28	35	9	7	12	4	5	3	1	0	0
Kingston	105	750.4	38	21	7	1	10	3	0	6	4	0	1
Lakeville	76	780.4	16	20	6	2	6	3	2	2	0	4	1
Lancaster	65	1,024.5	12	17	5	3	7	3	2	1	1	0	0
Lanesborough	13	491.1	4	2	1	0	0	4	1	0	1	0	0
Lawrence	546	880.9	152	117	28	9	31	23	20	17	7	4	6
Lee	73	972.1	11	21	7	3	4	5	3	4	0	0	0
Leicester	91	868.1	24	25	6	2	3	13	4	1	0	0	0
Lenox	82	765.6	22	22	6	0	5	7	2	2	1	0	1
Leominster	389	877.2	82	97	30	8	43	30	9	15	3	0	4
Leverett	16	1,150.8	6	3	0	0	0	1	1	0	0	0	1
Lexington	303	603.6	64	75	24	10	26	18	6	13	2	1	0
Leyden	0	0.0	0	0	0	0	0	0	0	0	0	0	0
Lincoln	24	422.9	3	9	0	0	3	1	0	1	1	0	0
Littleton	74	904.2	18	19	4	0	2	6	2	6	1	0	1
Longmeadow	200	802.1	53	44	7	3	16	10	2	7	0	0	1
Lowell	911	991.5	261	207	53	18	44	71	18	34	15	5	5
Ludlow	158	682.1	39	47	12	2	13	6	4	1	2	0	0
Lunenburg	70	815.6	16	25	7	1	3	3	1	1	1	0	1
Lynn	848	940.2	226	214	66	15	46	40	25	31	5	4	9
Lynnfield	88	617.7	24	20	6	2	11	1	3	1	1	1	1
Malden	525	857.4	145	129	39	13	33	24	18	22	6	1	2
Manchester	36	549.5	11	14	3	1	2	0	0	1	1	0	0
Mansfield	102	824.7	28	31	8	2	2	4	2	1	0	1	1
Marblehead	195	775.4	50	60	14	6	12	8	2	5	2	0	0
Marion	60	826.9	19	14	5	1	2	2	2	3	0	0	0
Marlborough	295	827.3	77	68	14	4	25	9	11	13	4	0	2
Marshfield	136	742.2	45	43	7	4	3	9	3	3	1	0	1
Mashpee	105	657.3	28	31	7	2	7	3	2	2	2	0	0
Mattapoisett	50	632.7	15	22	5	1	4	1	1	2	0	0	0
Maynard	80	755.0	23	25	8	2	4	1	2	1	1	0	0
Medfield	63	703.2	14	15	2	0	6	3	1	3	0	0	1
Medford	614	804.4	160	149	40	6	39	29	12	24	4	1	2
Medway	82	900.6	17	29	7	4	3	3	2	6	1	0	1
Melrose	285	759.1	86	68	15	5	21	15	8	16	0	1	0
Mendon	32	894.8	9	11	1	1	3	1	1	1	1	0	1

Table 17. Selected Causes of Death by Community, 2000 (continued)

COMMUNITY	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
Merrimac	41	793.8	8	14	4	2	0	4	1	4	1	0	0
Methuen	418	784.2	119	109	26	9	17	20	19	11	3	0	2
Middleborough	167	938.5	57	39	16	3	8	10	1	4	3	0	0
Middlefield	3	--[4]	1	2	1	0	0	0	0	0	0	0	0
Middleton	34	589.6	5	16	9	0	0	1	1	1	0	0	1
Milford	237	805.9	78	53	14	4	15	6	7	10	2	0	1
Millbury	146	885.5	42	38	14	1	5	6	2	6	2	0	0
Millis	49	898.6	11	18	5	1	2	3	0	1	0	0	0
Millville	19	1,123.3	6	6	1	1	1	0	0	1	0	0	0
Milton	273	766.0	83	68	14	1	19	9	3	12	3	0	1
Monroe	0	0.0	0	0	0	0	0	0	0	0	0	0	0
Monson	79	1,063.7	19	23	4	2	1	6	2	2	1	0	0
Montague	107	1,025.8	35	16	4	0	6	6	2	9	1	0	0
Monterey	5	489.4	1	2	0	0	0	0	0	0	0	0	0
Montgomery	4	--[4]	2	1	0	0	1	0	0	0	0	0	0
Mount Washington	0	0.0	0	0	0	0	0	0	0	0	0	0	0
Nahant	41	726.9	10	10	0	0	3	0	2	2	0	0	0
Nantucket	54	675.3	14	16	8	3	3	5	0	1	0	0	0
Natick	258	705.1	66	72	15	5	12	10	6	6	5	0	1
Needham	299	606.9	82	75	14	4	27	12	4	16	0	0	2
New Ashford	3	--[4]	2	0	0	0	0	0	1	0	0	0	0
New Bedford	1,124	923.2	358	245	56	16	84	55	31	27	9	3	4
New Braintree	5	816.1	1	2	0	0	0	1	0	0	0	0	1
New Marlborough	14	882.8	4	2	0	0	3	1	0	0	0	0	0
New Salem	7	887.6	3	2	0	0	0	1	0	0	0	0	0
Newbury	38	670.7	14	13	4	2	2	1	1	0	0	0	0
Newburyport	180	865.4	51	48	14	5	16	14	6	6	0	0	0
Newton	632	583.9	156	161	34	13	45	27	12	30	5	0	2
Norfolk	35	774.7	5	8	2	1	0	5	0	2	2	0	0
North Adams	187	892.1	67	32	8	1	16	14	4	13	0	1	1
North Andover	220	655.2	68	49	12	4	20	14	2	6	0	0	1
North Attleboro	174	801.8	48	45	15	2	13	9	3	5	3	0	2
North Brookfield	40	893.9	20	9	4	1	4	2	2	0	0	0	0

Table 17. Selected Causes of Death by Community, 2000 (continued)

COMMUNITY	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
North Reading	87	792.8	24	20	9	4	5	1	2	3	2	0	2
Northampton	328	930.8	96	72	21	4	24	13	9	12	1	0	1
Northborough	73	737.3	26	17	3	3	4	3	0	3	0	0	1
Northbridge	152	945.4	34	33	8	1	8	11	5	10	1	0	1
Northfield	14	447.1	4	2	0	0	3	1	0	1	0	0	0
Norton	107	855.1	34	28	11	2	7	5	2	3	2	0	1
Norwell	77	677.9	23	16	3	1	5	3	1	4	0	0	0
Norwood	303	749.8	79	78	19	8	16	25	6	14	1	0	1
Oak Bluffs	39	953.6	16	11	5	1	3	0	1	0	0	0	1
Oakham	5	528.0	2	0	0	0	0	0	2	0	0	0	0
Orange	76	952.2	29	13	3	2	8	4	1	4	1	0	2
Orleans	78	497.2	19	25	6	2	4	2	1	5	1	0	1
Otis	8	647.1	1	2	1	0	2	0	0	0	1	0	0
Oxford	111	962.4	30	31	5	1	8	4	2	5	2	0	1
Palmer	121	784.9	39	20	6	2	8	9	5	5	2	0	0
Paxton	20	444.9	4	8	2	0	1	1	0	0	0	0	0
Peabody	483	776.5	136	122	29	6	40	27	12	19	5	0	1
Pelham	8	842.1	4	0	0	0	1	0	0	0	0	0	0
Pembroke	90	822.3	24	27	4	3	2	7	2	3	1	0	0
Pepperell	41	572.5	9	19	5	1	3	1	0	0	1	0	0
Peru	5	967.9	0	1	0	0	1	1	0	0	0	0	0
Petersham	9	553.0	2	1	0	0	2	0	1	1	0	0	0
Phillipston	7	837.5	2	0	0	0	0	0	0	0	0	0	1
Pittsfield	595	890.1	173	143	50	13	37	44	22	22	4	0	1
Plainfield	6	1,209.2	2	1	0	1	0	0	0	0	0	0	0
Plainville	38	513.8	14	11	4	0	3	1	0	0	0	0	0
Plymouth	438	851.1	135	91	22	3	18	23	12	19	3	2	6
Plympton	5	257.2	2	1	0	0	0	0	0	0	1	0	0
Princeton	12	550.2	1	4	1	0	2	0	0	2	0	0	0
Provincetown	57	1,111.6	14	14	4	2	0	5	3	0	0	0	0
Quincy	952	850.6	252	262	79	19	50	48	16	37	3	2	14
Randolph	310	890.1	91	94	26	4	12	17	4	15	2	0	0
Raynham	111	915.3	33	34	8	3	4	4	2	2	3	0	0
Reading	200	751.7	68	59	18	4	9	7	2	4	0	0	1
Rehoboth	55	677.5	13	14	4	0	2	3	1	0	1	0	0
Revere	486	812.5	130	141	41	10	25	22	9	14	5	1	1
Richmond	15	809.5	5	1	1	0	0	0	1	1	0	0	1
Rochester	29	887.8	9	9	3	0	0	1	1	2	1	0	0

Table 17. Selected Causes of Death by Community, 2000 (continued)

COMMUNITY	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
Rockland	168	956.3	48	52	14	3	7	6	5	4	2	0	0
Rockport	74	552.8	21	21	5	2	5	6	1	3	0	0	0
Rowe	2	--[4]	1	0	0	0	0	0	0	0	0	0	0
Rowley	41	887.4	9	16	2	0	2	3	2	1	1	0	0
Royalston	9	804.9	2	5	3	0	0	0	1	0	0	0	0
Russell	5	448.1	2	1	0	0	0	0	0	1	0	0	1
Rutland	30	672.3	7	8	1	1	2	5	0	3	1	0	0
Salem	366	813.3	97	90	35	9	26	21	8	9	2	1	7
Salisbury	72	1,010.6	23	19	7	2	5	5	1	1	1	0	2
Sandisfield	8	664.0	2	1	0	0	1	2	0	0	0	0	0
Sandwich	161	751.3	48	46	16	3	13	7	0	2	1	0	4
Saugus	272	797.1	68	74	31	1	18	15	10	8	1	0	4
Savoy	6	948.7	2	1	0	0	1	0	0	0	0	0	1
Scituate	146	707.5	44	35	16	1	10	5	4	8	0	0	0
Seekonk	98	734.7	32	29	5	7	8	4	2	3	0	0	0
Sharon	107	686.4	31	27	10	3	4	4	3	10	2	0	0
Sheffield	22	568.6	4	7	0	0	2	0	1	2	1	0	0
Shelburne	22	556.7	2	3	0	0	3	1	1	3	0	0	0
Sherborn	12	333.7	6	0	0	0	0	1	0	0	0	0	0
Shirley	40	873.6	8	16	6	1	3	4	0	0	0	0	0
Shrewsbury	240	701.8	67	61	22	6	18	13	5	7	1	1	0
Shutesbury	8	826.1	4	2	1	0	0	0	0	1	0	0	0
Somerset	220	776.4	62	67	16	4	11	11	6	7	0	0	1
Somerville	578	884.3	162	139	41	9	34	24	11	21	5	0	3
South Hadley	177	765.0	52	41	11	5	13	9	4	9	0	0	1
Southampton	39	852.5	11	10	4	0	6	2	1	3	0	0	1
Southborough	38	757.4	20	7	2	1	2	1	2	0	2	0	0
Southbridge	191	908.0	73	40	12	5	5	6	9	10	1	0	3
Southwick	66	812.5	20	20	7	1	4	4	1	3	0	0	1
Spencer	87	796.6	24	16	4	0	6	6	5	2	1	0	1
Springfield	1,494	1,011.5	347	292	79	25	88	67	52	67	14	10	11
Sterling	34	666.8	8	7	1	0	4	1	1	1	1	0	1
Stockbridge	17	419.7	1	4	2	0	0	4	0	0	0	0	0
Stoneham	254	776.2	73	66	15	5	21	12	4	12	1	1	1
Stoughton	235	735.8	60	63	17	6	10	8	7	13	3	0	3
Stow	32	828.2	8	7	1	0	2	4	0	0	2	0	0
Sturbridge	77	938.1	22	13	4	0	6	3	4	5	1	0	0
Sudbury	108	806.2	20	24	5	1	10	7	1	8	1	0	1

Table 17. Selected Causes of Death by Community, 2000 (continued)

COMMUNITY	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
Sunderland	15	538.9	6	1	0	0	0	0	0	0	1	0	0
Sutton	58	1,036.1	18	18	7	1	2	6	1	2	1	0	0
Swampscott	180	743.8	51	43	13	2	15	11	3	6	2	0	0
Swansea	125	663.4	32	33	10	0	7	4	6	5	3	0	1
Taunton	495	859.4	135	125	37	5	27	28	14	24	7	2	2
Templeton	68	980.5	16	18	6	1	4	4	0	2	1	0	0
Tewksbury	241	944.5	63	67	22	5	11	15	4	13	1	0	3
Tisbury	32	585.8	12	11	3	2	1	1	1	1	0	0	0
Tolland	2	--[4]	0	0	0	0	0	1	0	1	0	0	0
Topsfield	55	789.6	13	14	4	2	3	1	0	2	0	0	0
Townsend	55	1,004.3	15	15	4	2	4	2	1	4	1	0	1
Truro	21	812.9	3	6	2	0	0	1	1	1	1	0	1
Tyngsborough	45	762.8	14	14	2	1	3	2	0	2	0	0	2
Tyringham	5	1,386.5	2	1	0	0	1	0	0	0	0	0	0
Upton	34	733.0	11	11	3	0	3	1	0	0	0	0	0
Uxbridge	90	1,015.2	24	25	9	3	8	4	4	1	1	0	0
Wakefield	248	795.3	70	60	17	4	17	15	4	8	1	0	1
Wales	10	675.2	1	5	2	0	1	1	0	0	0	0	0
Walpole	214	801.2	48	67	18	8	11	9	5	10	3	0	1
Waltham	509	824.9	112	128	30	8	46	24	18	19	3	1	1
Ware	110	960.1	29	39	8	5	4	2	3	2	0	0	1
Wareham	236	944.8	67	67	21	3	7	16	1	14	0	0	1
Warren	39	801.7	12	10	2	2	0	4	0	2	3	0	0
Warwick	4	--[4]	2	0	0	0	0	0	1	0	0	0	0
Washington	2	--[4]	0	1	0	0	0	0	0	0	0	0	0
Watertown	306	706.6	70	97	29	6	23	17	3	13	2	1	4
Wayland	87	612.3	12	26	6	4	4	6	1	1	1	0	1
Webster	223	982.3	70	50	14	5	16	8	6	6	2	0	3
Wellesley	175	559.3	50	42	11	5	12	6	5	4	1	0	0
Wellfleet	41	1,020.9	5	13	4	0	4	3	0	3	2	0	1
Wendell	6	1,449.1	0	2	0	1	0	0	0	0	0	0	0
Wenham	28	596.0	5	8	1	0	2	4	1	1	0	1	0
West Boylston	58	658.3	11	13	3	0	3	5	3	3	1	0	0
West Bridgewater	56	599.1	18	15	4	0	0	3	1	5	0	1	1
West Brookfield	43	549.0	16	11	2	2	5	2	1	1	0	0	1
West Newbury	21	708.7	2	7	2	1	2	3	1	2	0	0	0

Table 17. Selected Causes of Death by Community, 2000 (continued)

COMMUNITY	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
West Springfield	295	878.4	73	82	20	9	14	26	7	5	4	1	3
West Stockbridge	11	571.0	4	4	0	0	0	1	0	0	0	0	0
West Tisbury	24	1,403.8	6	4	0	0	3	1	1	3	2	0	0
Westborough	160	795.7	44	38	10	5	7	7	3	11	0	0	0
Westfield	368	837.3	120	63	9	3	32	16	9	17	0	0	3
Westford	99	756.6	30	21	3	0	5	7	3	2	1	0	0
Westhampton	11	1,163.5	1	3	0	1	3	1	0	1	0	0	0
Westminster	32	568.8	8	7	0	0	0	1	0	2	0	0	1
Weston	101	573.2	20	20	1	5	10	4	2	8	0	0	2
Westport	117	740.7	30	36	10	5	2	8	1	2	1	0	1
Westwood	166	690.5	47	32	9	4	15	12	3	10	0	0	0
Weymouth	487	775.6	136	123	36	6	23	33	10	10	3	1	10
Whately	19	1,194.1	7	3	0	1	1	1	1	0	0	0	0
Whitman	108	974.5	31	31	16	2	5	7	2	1	3	0	1
Wilbraham	143	787.4	35	36	8	6	12	6	2	2	2	0	1
Williamsburg	18	722.7	4	3	0	0	1	2	0	1	0	0	0
Williamstown	91	631.4	22	19	4	2	8	4	1	6	0	0	1
Wilmington	189	1,010.0	51	55	19	4	9	8	6	2	0	0	0
Winchendon	70	854.3	22	11	2	1	4	6	2	3	1	0	0
Winchester	189	577.8	57	38	8	3	29	7	3	12	1	0	0
Windsor	4	--[4]	1	1	0	1	0	0	0	0	0	0	0
Winthrop	191	777.4	49	55	8	4	9	10	1	11	3	0	1
Woburn	356	853.2	101	87	24	7	25	17	14	9	2	0	3
Worcester	1,826	932.6	478	385	106	34	120	92	61	81	13	4	23
Worthington	6	515.3	0	1	0	0	0	2	0	0	0	0	0
Wrentham	89	810.8	26	14	5	2	4	4	1	4	1	0	0
Yarmouth	417	735.4	108	103	23	5	35	12	10	14	4	0	1

1. All rates are age adjusted using the 2000 US standard population. 2. Includes only female breast cancer. 3. The title of this cause of 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. Age-adjusted rates based on fewer than five events are excluded.

Table 18. Selected Causes of Death by Community Health Network Area (CHNA), 2000

CHNA (Name and Number)	Total Deaths	Age-adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Breast Cancer[2]	Stroke	Chronic Lower Respiratory Disease[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide
Massachusetts	**56,591**	**816.5**	**15,313**	**14,006**	**3,763**	**1,055**	**3,645**	**2,911**	**1,353**	**2,110**	**490**	**125**	**401**
Community Health Network of Berkshire (1)	1,547	806.9	431	354	110	28	110	107	47	63	10	1	9
Upper Valley Health Web (Franklin County) (2)	870	839.8	262	177	40	10	74	44	21	41	9	0	8
Partnership for Health in Hampshire County (Northampton) (3)	1,275	853.3	340	319	84	27	106	55	37	45	7	0	9
The Community Health Connection (Springfield) (4)	2,968	915.3	730	647	169	55	179	157	82	123	26	11	24
Community Health Network of Southern Worcester County (5)	1,038	846.5	324	245	65	21	62	49	36	39	14	0	12
Community Partners for Health (Milford) (6)	1,089	843.5	296	288	77	20	63	50	32	47	10	0	8
Community Health Network of Greater Metro West (Framingham) (7)	2,670	757.8	709	673	160	56	157	124	57	107	48	2	16
Community Wellness Coalition (Worcester) (8)	2,803	848.4	738	648	187	56	172	161	84	115	22	7	23
Fitchburg/Gardner Community Health Network (9)	1,996	832.1	502	498	137	33	159	123	46	74	26	3	23
Greater Lowell Community Health Network (10)	2,053	908.2	581	529	141	47	112	130	34	78	21	5	13
Greater Lawrence Community Health Network (11)	1,454	775.2	410	344	85	30	78	66	47	42	12	4	14
Greater Haverhill Community Health Network (12)	1,209	844.7	326	316	95	28	81	73	41	40	12	3	11
Community Health Network North (Beverly/Gloucester) (13)	1,111	755.5	298	278	77	23	86	69	29	35	8	3	6
North Shore Community Health Network (14)	2,759	824.7	752	682	210	45	197	144	69	91	19	6	24
Greater Woburn/Concord/Littleton Community Health Network (15)	1,654	693.5	408	417	111	37	142	78	48	65	11	1	5
North Suburban Health Alliance (Medford/Malden/Melrose) (16)	2,590	812.7	736	647	177	50	162	127	56	103	15	5	14
Greater Cambridge/Somerville Community Health Network (17)	2,235	804.4	587	564	139	38	151	102	40	95	11	1	19
West Suburban Health Network (Newton/Waltham) (18)	2,187	673.5	541	549	126	47	172	100	49	96	9	1	12
Alliance for Community Health (Boston/Chelsea/Revere/Winthrop) (19)	5,874	856.9	1,438	1,482	375	108	354	245	123	218	43	44	42
Blue Hills Community Health Alliance (Greater Quincy) (20)	3,613	795.3	996	928	269	56	197	187	69	150	21	3	30
Four (For) Communities (Holyoke, Chicoppe, Ludlow, Westfield) (21)	1,723	891.8	502	358	90	22	135	103	45	64	12	3	10
Greater Brockton Community Health Network (22)	2,001	898.0	569	497	140	39	89	102	42	67	31	4	18
South Shore Community Partners in Prevention (Plymouth) (23)	1,354	809.5	393	365	100	19	65	70	34	47	17	2	11
Greater Attleboro-Taunton Health & Education Response (24)	1,814	822.8	525	484	146	38	102	90	42	55	24	9	11
Partners for a Healthier Community (Fall River) (25)	1,621	871.8	456	414	114	24	115	83	32	64	13	0	6
Greater New Bedford Health & Human Services Coalition (26)	2,142	866.8	679	525	137	38	130	121	46	65	12	4	8
Cape Cod & Islands Community Health Network (27)	2,941	739.4	784	778	202	60	195	151	65	81	27	3	15

1. All rates are age adjusted using the 2000 US standard population. 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).

Table 19. Selected Causes of Death by County, 2000

County	Total Deaths	Age- adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Breast Cancer[2]	Stroke	Chronic Lower Respiratory Disease[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide
Massachusetts	**56,591**	**816.5**	**15,313**	**14,006**	**3,763**	**1,055**	**3,645**	**2,911**	**1,353**	**2,110**	**490**	**125**	**401**
Barnstable	2,762	741.6	728	724	183	53	185	143	62	75	25	3	14
Berkshire	1,547	806.9	431	354	110	28	110	107	47	63	10	1	9
Bristol	5,107	848.8	1,520	1,294	353	95	327	265	114	163	46	9	25
Dukes	125	761.5	42	38	11	4	7	3	3	5	2	0	1
Essex	6,533	803.6	1,786	1,620	467	126	442	352	186	208	51	16	55
Franklin	699	837.0	215	136	31	9	60	41	15	34	8	0	7
Hampden	4,729	906.7	1,245	1,020	263	78	314	260	127	189	38	14	34
Hampshire	1,286	850.4	341	319	84	27	109	57	37	46	7	0	9
Middlesex	11,840	780.7	3,143	3,003	766	235	792	584	256	477	106	15	69
Nantucket	54	675.3	14	16	8	3	3	5	0	1	0	0	0
Norfolk	5,830	767.5	1,560	1,533	406	117	336	296	112	237	47	3	48
Plymouth	3,894	847.2	1,133	990	292	55	189	203	81	140	43	10	25
Suffolk	5,477	880.2	1,339	1,375	353	99	324	228	117	203	39	44	40
Worcester	6,708	835.4	1,816	1,584	436	126	447	367	196	269	68	10	65

1 All rates are age adjusted using the 2000 US standard population. 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).

APPENDIX

Table A1. Age-Adjusted Death Rates[1] for Selected Causes of Death by Race and Gender, Massachusetts: 2000

Cause	ICD-10 Code	White[2] Total	White[2] Male	White[2] Female	Black[2] Total	Black[2] Male	Black[2] Female
All Deaths		**817.0**	**998.7**	**691.8**	**929.7**	**1,152.6**	**774.2**
Heart Disease	I00-I09, I11, I13, I20-I51	219.1	282.3	174.4	222.1	235.4	203.7
Cancer	C00-C97	207.8	258.1	177.6	235.3	344.9	165.7
Stroke	I60-I69	50.8	49.2	50.9	61.4	65.8	57.0
Chronic Lower Respiratory Disease[3]	J40-J47	42.9	51.1	38.9	25.7	35.9	20.6
Influenza and Pneumonia	J10-J18	29.7	37.6	25.5	25.1	34.9	20.7
Diabetes	E10-E14	19.4	23.6	16.2	34.2	36.0	34.1
Alzheimer's Disease	G30	20.0	15.9	21.6	15.1	22.3	12.1
Nephritis	N00-N07, N17-N19, N25-N27	16.9	23.9	13.2	40.2	52.8	33.8
Septicemia	A40-A41	12.5	14.4	11.1	24.4	31.7	20.3
HIV Diseases	B20-B24	2.7	4.1	1.4	17.4	24.5	11.2
Perinatal Conditions	P00-P96	3.4	3.8	3.0	10.4	10.0	10.9
All Injuries	V01-Y98	36.0	52.1	22.3	43.1	62.8	25.8
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	7.7	11.1	4.6	6.5	9.9	3.1
Suicide	X60-X84, Y87.0	6.5	10.1	3.3	4.5	7.0	2.3
Homicide	X85-Y09, Y87.1	1.4	1.8	1.0	8.9	14.7	3.4

1. Age-adjusted to the 2000 US 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). 4. Rate not calculated, based on fewer than 5 deaths.

Technical Notes

Data Sources

Data for this document are derived from Massachusetts death certificates, Massachusetts birth certificates, Public Document No. 1 (an annual report of Massachusetts vital statistics), the U.S. Census, the Massachusetts Institute for Social and Economic Research (MISER), and the National Center for Health Statistics (NCHS).

Differences from Previously Published Data

Age-Adjusted Rates

A new standard population is used in the calculation of age-adjusted rates. The 2000 US projected population replaces the 1940 US projected population as the standard population for age-adjustment. All age-adjusted rates published in this report have been re-calculated with the new standard population. Age-adjusted rates can only be compared to age-adjusted rates that have been calculated using the same standard population. **Therefore, comparisons of age-adjusted rates published in this report using the 2000 US standard population to age-adjusted rates previously published using the 1940 standard population are not valid!**

Population Estimates

The Massachusetts Department of Public Health (DPH) Population 2000 file is a preliminary file of 2000 population estimates for Massachusetts. It is based upon the U.S. Census 2000 SF1 file (released June, 2001) for Massachusetts, which contains data on population and housing for the 351 towns, 14 counties, and the state overall.

The DPH 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" and "Native American." 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 make the DPH Population 2000 file consistent with previous years' population files, the DPH Population 2000 file maintains the prior race and Hispanic categories. The DPH Population 2000 file used in this report is preliminary. A final file will be released later this year.

1999 rates in this publication are based on the DPH 1999 Population file, which is a linear interpolation between the preliminary draft Population 2000 file and the 1998 MISER population estimates. All 1999 population-based rates in this year's report have been recalculated using the DPH 1999 Population file.

2000 Death Rates

Death rates for 2000 are calculated using the **preliminary DPH Population 2000.**

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 with1999, 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 Appendix pages 90-91 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 to 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* 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 US 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 and examine the changes between the comparability modified rate and the1999 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.

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 US 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 US standard population. These rates should NOT be compared to age-adjusted rates previously published which used the 1940 US 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, the table on pages 93-95 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.

Please see page 80 for an example of how to calculate a comparability modified rate.
See also, comparability ratio.

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 (ie. ICD-10) by the number of deaths for a selected cause of death classified by the old revision (ie. 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 doubled 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 to 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.

Please see page 80 for an example of how to calculate a comparability ratio.
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 2000 is on page 98) In a properly completed death certificate, the immediate cause of death is recorded on the first line, followed by conditions giving rise to the immediate cause. Beginning with 1999, this information is coded according to the International Classification of Diseases, Tenth Revision, then processed by a software program developed by the National Center for Health Statistics. The result of the coding and programming procedures is the determination of the underlying cause of death.

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 pages 86-89.

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 pages 86-89.

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

MISER

MISER is the acronym for Massachusetts Institute for Social and Economic Research, which is the state data center. The 1991-1995 Massachusetts annual population estimates (released in September 1999), 1996-1997 population estimates (released in November 1999) and 1998 population estimates (released in September 2000) used in this publication are from this Institute. All 1999 death rates in last year's publication (*Massachusetts Deaths 1999*) were calculated using 1998 MISER population estimates as denominators (the latest available population estimates at the time of publication). These rates have been recalculated in *Massachusetts Deaths 2000* using the DPH 1999 Population estimates as denominators.

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 and Canada provides for exchanges 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.

Population

Population counts are based on U.S. decennial census counts, and population estimates are calculated for intercensal years. For 1981-1989, population estimates are derived as linear interpolations from the 1980 and 1990 census. For 1991-1995, population estimates are based on MISER's annual estimates released in September 1999. Population estimates for 1996 and 1997 are based on MISER's annual estimates released in November 1999. Population estimates for 1998 population are based on MISER's annual estimates released in September 2000.

The Massachusetts Department of Public Health (DPH) Population 2000 file is a preliminary file of 2000 population estimates for Massachusetts. It is based upon the U.S. Census 2000 SF1 file (released June, 2001) for Massachusetts, which contains data on population and housing for the 351 towns, 14 counties, and the state overall.

The DPH 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” and “Native American.” 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 make the DPH Population 2000 file consistent with previous years’ population files, the DPH Population 2000 file maintains the prior race and Hispanic categories. The DPH Population 2000 file used in this report is preliminary. A final file will be released later this year.

1999 rates in this publication are based on the DPH 1999 Population file, which is a linear interpolation between the preliminary draft Population 2000 file and the 1998 MISER population estimates. All 1999 population-based rates in this year’s report have been recalculated using the DPH 1999 Population file.

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 last year’s 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 1989-2000 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 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
Sudden infant death syndrome (SIDS)	R95	798.0
External causes of injuries and poisonings (intentional, unintentional and of undetermined intent)	V01-Y98	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 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
Unintentional non-transport injuries	W00-X59, Y86	E850-E869, E880-E928, E929.2-E929.9
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
Sudden infant death syndrome (SIDS)	R95	798.0

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	Y93-Y95
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	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

Table A5. 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, Y93-Y95
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
15-29	Drownings	W65-W74, X71, X92, Y21, V90, V92
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 A6. 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-Y98	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 page 80 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 A7. 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-Y98	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 page 80 for an example of how to apply comparability ratios

Table A8. Population Estimates for Massachusetts Community Health Network Areas (CHNA) and Counties, 2000[1]

CHNA	POPULATION	COUNTY	POPULATION
1. Community Health Network of Berkshire	134,953	Barnstable	222,230
2. Upper Valley Health Web (Franklin County)	86,889	Berkshire	134,953
3. Partnership for Health in Hampshire County	150,077	Bristol	534,678
4. The Community Health Connection (Springfield)	291,665	Dukes	14,987
5. Community Health Network of Southern Worcester County	113,702	Essex	723,419
6. Community Partners for Health (Milford Area)	152,117	Franklin	71,535
7. Community Health Network of Greater Metro West	374,478	Hampden	456,228
8. Community Wellness Coalition (Worcester Area)	289,834	Hampshire	152,251
9. Fitchburg/Gardner Area Community Health Network	250,362	Middlesex	1,465,396
10. Greater Lowell Community Health Network	270,083	Nantucket	9,520
11. Greater Lawrence Community Health Network	182,025	Norfolk	650,308
12. Greater Haverhill Community Health Network	144,275	Plymouth	472,822
13. Community Health Network North (Beverly/Gloucester)	118,280	Suffolk	689,807
14. North Shore Community Health Network	278,839	Worcester	750,963
15. Greater Woburn/Concord/Littleton	208,406		
16. North Suburban Health Alliance (Medford/Malden/Melrose)	261,844	**STATE**	**6,349,097**
17. Greater Cambridge/Somerville Community Health Network	278,402		
18. West Suburban Health Network (Newton/Waltham)	253,187		
19. Alliance for Community Health (Boston/Chelsea/Revere/Winthrop)	746,914		
20. Blue Hills Community Health Alliance (Quincy Area)	365,457		
21. Four (For) Communities (Holyoke, Chicopee, Ludlow, Westfield)	159,254		
22. Greater Brockton Community Health Network	232,260		
23. South Shore Community Partners in Prevention (Greater Plymouth Area)	180,609		
24. Greater Attleboro-Taunton Health & Education Response	242,659		
25. Partners for a Healthier Community (Fall River Area)	140,256		
26. Greater New Bedford Health & Human Services Coalition	195,533		
27. Cape and Islands Community Health Network	246,737		

1. MDPH 2000 Preliminary Population Estimates (released January 2002).

Table A9. Population Estimates for Massachusetts Communities, 2000

TOWN NAME	COUNTY	CHNA	POPULATION	TOWN NAME	COUNTY	CHNA	POPULATION
Abington	Plymouth	22	14,605	Conway	Franklin	2	1,809
Acton	Middlesex	15	20,331	Cummington	Hampshire	3	978
Acushnet	Bristol	26	10,161	Dalton	Berkshire	1	6,892
Adams	Berkshire	1	8,809	Danvers	Essex	14	25,212
Agawam	Hampden	4	28,144	Dartmouth	Bristol	26	30,666
Alford	Berkshire	1	399	Dedham	Norfolk	18	23,464
Amesbury	Essex	12	16,450	Deerfield	Franklin	2	4,750
Amherst	Hampshire	3	34,874	Dennis	Barnstable	27	15,973
Andover	Essex	11	31,247	Dighton	Bristol	24	6,175
Arlington	Middlesex	17	42,389	Douglas	Worcester	6	7,045
Ashburnham	Worcester	9	5,546	Dover	Norfolk	18	5,558
Ashby	Middlesex	9	2,845	Dracut	Middlesex	10	28,562
Ashfield	Franklin	2	1,800	Dudley	Worcester	5	10,036
Ashland	Middlesex	7	14,674	Dunstable	Middlesex	10	2,829
Athol	Worcester	2	11,299	Duxbury	Plymouth	23	14,248
Attleboro	Bristol	24	42,068	East Bridgewater	Plymouth	22	12,974
Auburn	Worcester	8	15,901	East Brookfield	Worcester	5	2,097
Avon	Norfolk	22	4,443	East Longmeadow	Hampden	4	14,100
Ayer	Middlesex	9	7,287	Eastham	Barnstable	27	5,453
Barnstable	Barnstable	27	47,821	Easthampton	Hampshire	3	15,994
Barre	Worcester	9	5,113	Easton	Bristol	22	22,299
Becket	Berkshire	1	1,755	Edgartown	Dukes	27	3,779
Bedford	Middlesex	15	12,595	Egremont	Berkshire	1	1,345
Belchertown	Hampshire	3	12,968	Erving	Franklin	2	1,467
Bellingham	Norfolk	6	15,314	Essex	Essex	13	3,267
Belmont	Middlesex	17	24,194	Everett	Middlesex	16	38,037
Berkley	Bristol	24	5,749	Fairhaven	Bristol	26	16,159
Berlin	Worcester	9	2,380	Fall River	Bristol	25	91,938
Bernardston	Franklin	2	2,155	Falmouth	Barnstable	27	32,660
Beverly	Essex	13	39,862	Fitchburg	Worcester	9	39,102
Billerica	Middlesex	10	38,981	Florida	Berkshire	1	676
Blackstone	Worcester	6	8,804	Foxborough	Norfolk	7	16,246
Blandford	Hampden	4	1,214	Framingham	Middlesex	7	66,910
Bolton	Worcester	9	4,148	Franklin	Norfolk	6	29,560
Boston	Suffolk	19	589,141	Freetown	Bristol	26	8,472
Bourne	Barnstable	27	18,721	Gardner	Worcester	9	20,770
Boxborough	Middlesex	15	4,868	Gay Head (Aquinnah)	Dukes	27	344
Boxford	Essex	12	7,921	Georgetown	Essex	12	7,377
Boylston	Worcester	8	4,008	Gill	Franklin	2	1,363
Braintree	Norfolk	20	33,828	Gloucester	Essex	13	30,273
Brewster	Barnstable	27	10,094	Goshen	Hampshire	3	921
Bridgewater	Plymouth	22	25,185	Gosnold	Dukes	27	86
Brimfield	Hampden	5	3,339	Grafton	Worcester	8	14,894
Brockton	Plymouth	22	94,304	Granby	Hampshire	3	6,132
Brookfield	Worcester	5	3,051	Granville	Hampden	4	1,521
Brookline	Norfolk	19	57,107	Great Barrington	Berkshire	1	7,527
Buckland	Franklin	2	1,991	Greenfield	Franklin	2	18,168
Burlington	Middlesex	15	22,876	Groton	Middlesex	9	9,547
Cambridge	Middlesex	17	101,355	Groveland	Essex	12	6,038
Canton	Norfolk	20	20,775	Hadley	Hampshire	3	4,793
Carlisle	Middlesex	15	4,717	Halifax	Plymouth	23	7,500
Carver	Plymouth	23	11,163	Hamilton	Essex	13	8,315
Charlemont	Franklin	2	1,358	Hampden	Hampden	4	5,171
Charlton	Worcester	5	11,263	Hancock	Berkshire	1	721
Chatham	Barnstable	27	6,625	Hanover	Plymouth	23	13,164
Chelmsford	Middlesex	10	33,858	Hanson	Plymouth	23	9,495
Chelsea	Suffolk	19	35,080	Hardwick	Worcester	9	2,622
Cheshire	Berkshire	1	3,401	Harvard	Worcester	9	5,981
Chester	Hampden	21	1,308	Harwich	Barnstable	27	12,386
Chesterfield	Hampshire	3	1,201	Hatfield	Hampshire	3	3,249
Chicopee	Hampden	21	54,653	Haverhill	Essex	12	58,969
Chilmark	Dukes	27	843	Hawley	Franklin	2	336
Clarksburg	Berkshire	1	1,686	Heath	Franklin	2	805
Clinton	Worcester	9	13,435	Hingham	Plymouth	20	19,882
Cohasset	Norfolk	20	7,261	Hinsdale	Berkshire	1	1,872
Colrain	Franklin	2	1,813	Holbrook	Norfolk	22	10,785
Concord	Middlesex	15	16,993	Holden	Worcester	8	15,621

Table A9. Population Estimates for Massachusetts Communities, 2000, continued

TOWN NAME	COUNTY	CHNA	POPULATION
Holland	Hampden	5	2,407
Holliston	Middlesex	7	13,801
Holyoke	Hampden	21	39,838
Hopedale	Worcester	6	5,907
Hopkinton	Middlesex	7	13,346
Hubbardston	Worcester	9	3,909
Hudson	Middlesex	7	18,113
Hull	Plymouth	20	11,050
Huntington	Hampshire	21	2,174
Ipswich	Essex	13	12,987
Kingston	Plymouth	23	11,780
Lakeville	Plymouth	24	9,821
Lancaster	Worcester	9	7,380
Lanesborough	Berkshire	1	2,990
Lawrence	Essex	11	72,043
Lee	Berkshire	1	5,985
Leicester	Worcester	8	10,471
Lenox	Berkshire	1	5,077
Leominster	Worcester	9	41,303
Leverett	Franklin	2	1,663
Lexington	Middlesex	15	30,355
Leyden	Franklin	2	772
Lincoln	Middlesex	15	8,056
Littleton	Middlesex	15	8,184
Longmeadow	Hampden	4	15,633
Lowell	Middlesex	10	105,167
Ludlow	Hampden	21	21,209
Lunenburg	Worcester	9	9,401
Lynn	Essex	14	89,050
Lynnfield	Essex	14	11,542
Malden	Middlesex	16	56,340
Manchester	Essex	13	5,228
Mansfield	Bristol	24	22,414
Marblehead	Essex	14	20,377
Marion	Plymouth	26	5,123
Marlborough	Middlesex	7	36,255
Marshfield	Plymouth	23	24,324
Mashpee	Barnstable	27	12,946
Mattapoisett	Plymouth	26	6,268
Maynard	Middlesex	7	10,433
Medfield	Norfolk	7	12,273
Medford	Middlesex	16	55,765
Medway	Norfolk	6	12,448
Melrose	Middlesex	16	27,134
Mendon	Worcester	6	5,286
Merrimac	Essex	12	6,138
Methuen	Essex	11	43,789
Middleborough	Plymouth	24	19,941
Middlefield	Hampshire	3	542
Middleton	Essex	11	7,744
Milford	Worcester	6	26,799
Millbury	Worcester	8	12,784
Millis	Norfolk	7	7,902
Millville	Worcester	6	2,724
Milton	Norfolk	20	26,062
Monroe	Franklin	2	93
Monson	Hampden	4	8,359
Montague	Franklin	2	8,489
Monterey	Berkshire	1	934
Montgomery	Hampden	4	654
Mt. Washington	Berkshire	1	130
Nahant	Essex	14	3,632
Nantucket	Nantucket	27	9,520
Natick	Middlesex	7	32,170
Needham	Norfolk	18	28,911
New Ashford	Berkshire	1	247
New Bedford	Bristol	26	93,768
New Braintree	Worcester	9	927
New Marlborough	Berkshire	1	1,494
New Salem	Franklin	2	929
Newbury	Essex	12	6,717
Newburyport	Essex	12	17,189
Newton	Middlesex	18	83,829
Norfolk	Norfolk	7	10,460
North Adams	Berkshire	1	14,681
North Andover	Essex	11	27,202
North Attleboro	Bristol	24	27,143
North Brookfield	Worcester	5	4,683
North Reading	Middlesex	16	13,837
Northampton	Hampshire	3	28,978
Northborough	Worcester	7	14,013
Northbridge	Worcester	6	13,182
Northfield	Franklin	2	2,951
Norton	Bristol	24	18,036
Norwell	Plymouth	20	9,765
Norwood	Norfolk	20	28,587
Oak Bluffs	Dukes	27	3,713
Oakham	Worcester	9	1,673
Orange	Franklin	2	7,518
Orleans	Barnstable	27	6,341
Otis	Berkshire	1	1,365
Oxford	Worcester	5	13,352
Palmer	Hampden	4	12,497
Paxton	Worcester	8	4,386
Peabody	Essex	14	48,129
Pelham	Hampshire	3	1,403
Pembroke	Plymouth	23	16,927
Pepperell	Middlesex	9	11,142
Peru	Berkshire	1	821
Petersham	Worcester	2	1,180
Phillipston	Worcester	2	1,621
Pittsfield	Berkshire	1	45,793
Plainfield	Hampshire	3	589
Plainville	Norfolk	7	7,683
Plymouth	Plymouth	23	51,701
Plympton	Plymouth	23	2,637
Princeton	Worcester	9	3,353
Provincetown	Barnstable	27	3,431
Quincy	Norfolk	20	88,025
Randolph	Norfolk	20	30,963
Raynham	Bristol	24	11,739
Reading	Middlesex	16	23,708
Rehoboth	Bristol	24	10,172
Revere	Suffolk	19	47,283
Richmond	Berkshire	1	1,604
Rochester	Plymouth	26	4,581
Rockland	Plymouth	23	17,670
Rockport	Essex	13	7,767
Rowe	Franklin	2	351
Rowley	Essex	12	5,500
Royalston	Worcester	2	1,254
Russell	Hampden	4	1,657
Rutland	Worcester	9	6,353
Salem	Essex	14	40,407
Salisbury	Essex	12	7,827
Sandisfield	Berkshire	1	824
Sandwich	Barnstable	27	20,136
Saugus	Essex	14	26,078
Savoy	Berkshire	1	705
Scituate	Plymouth	20	17,863
Seekonk	Bristol	24	13,425
Sharon	Norfolk	20	17,408
Sheffield	Berkshire	1	3,335
Shelburne	Franklin	2	2,058
Sherborn	Middlesex	7	4,200
Shirley	Middlesex	9	6,373

Table A9. Population Estimates for Massachusetts Communities, 2000, continued

TOWN NAME	COUNTY	CHNA	POPULATION	TOWN NAME	COUNTY	CHNA	POPULATION
Shrewsbury	Worcester	8	31,640	Warwick	Franklin	2	750
Shutesbury	Franklin	2	1,810	Washington	Berkshire	1	544
Somerset	Bristol	25	18,234	Watertown	Middlesex	17	32,986
Somerville	Middlesex	17	77,478	Wayland	Middlesex	7	13,100
South Hadley	Hampshire	3	17,196	Webster	Worcester	5	16,415
Southampton	Hampshire	3	5,387	Wellesley	Norfolk	18	26,613
Southborough	Worcester	7	8,781	Wellfleet	Barnstable	27	2,749
Southbridge	Worcester	5	17,214	Wendell	Franklin	2	986
Southwick	Hampden	4	8,835	Wenham	Essex	13	4,440
Spencer	Worcester	5	11,691	West Boylston	Worcester	8	7,481
Springfield	Hampden	4	152,082	West Bridgewater	Plymouth	22	6,634
Sterling	Worcester	9	7,257	West Brookfield	Worcester	5	3,804
Stockbridge	Berkshire	1	2,276	West Newbury	Essex	12	4,149
Stoneham	Middlesex	16	22,219	West Springfield	Hampden	4	27,899
Stoughton	Norfolk	22	27,149	West Stockbridge	Berkshire	1	1,416
Stow	Middlesex	7	5,902	West Tisbury	Dukes	27	2,467
Sturbridge	Worcester	5	7,837	Westborough	Worcester	7	17,997
Sudbury	Middlesex	7	16,841	Westfield	Hampden	21	40,072
Sunderland	Franklin	2	3,777	Westford	Middlesex	10	20,754
Sutton	Worcester	6	8,250	Westhampton	Hampshire	3	1,468
Swampscott	Essex	14	14,412	Westminster	Worcester	9	6,907
Swansea	Bristol	25	15,901	Weston	Middlesex	18	11,469
Taunton	Bristol	24	55,976	Westport	Bristol	25	14,183
Templeton	Worcester	9	6,799	Westwood	Norfolk	18	14,117
Tewksbury	Middlesex	10	28,851	Weymouth	Norfolk	20	53,988
Tisbury	Dukes	27	3,755	Whately	Franklin	2	1,573
Tolland	Hampden	4	426	Whitman	Plymouth	22	13,882
Topsfield	Essex	13	6,141	Wilbraham	Hampden	4	13,473
Townsend	Middlesex	9	9,198	Williamsburg	Hampshire	3	2,427
Truro	Barnstable	27	2,087	Williamstown	Berkshire	1	8,424
Tyngsborough	Middlesex	10	11,081	Wilmington	Middlesex	15	21,363
Tyringham	Berkshire	1	350	Winchendon	Worcester	9	9,611
Upton	Worcester	6	5,642	Winchester	Middlesex	15	20,810
Uxbridge	Worcester	6	11,156	Windsor	Berkshire	1	875
Wakefield	Middlesex	16	24,804	Winthrop	Suffolk	19	18,303
Wales	Hampden	5	1,737	Woburn	Middlesex	15	37,258
Walpole	Norfolk	7	22,824	Worcester	Worcester	8	172,648
Waltham	Middlesex	18	59,226	Worthington	Hampshire	3	1,270
Ware	Hampshire	3	9,707	Wrentham	Norfolk	7	10,554
Wareham	Plymouth	26	20,335	Yarmouth	Barnstable	27	24,807
Warren	Worcester	5	4,776				

1. MDPH 2000 Preliminary Population Estimates (released January 2002).

Table A10. 2000 Massachusetts Population Estimates[1] By Age Group, Gender, Race[2] and Hispanic Ethnicity[3]

AGE	GENDER	TOTAL	Non-Hispanic WHITE	Non-Hispanic BLACK	Non-Hispanic ASIAN	HISPANIC
UNDER 1	MALE	40,562	31,453	2,688	1,786	4,576
	FEMALE	38,802	29,928	2,573	1,821	4,421
	TOTAL	79,380	61,383	5,272	3,622	8,997
1 TO 4	MALE	162,500	125,841	10,818	7,194	18,326
	FEMALE	155,404	119,721	10,352	7,327	17,689
	TOTAL	317,888	245,560	21,159	14,506	36,015
5 TO 14	MALE	442,313	346,975	31,244	17,177	45,943
	FEMALE	419,795	328,413	30,016	16,581	43,861
	TOTAL	862,108	675,388	61,260	33,758	89,804
15 TO 24	MALE	409,216	316,832	27,274	21,837	42,383
	FEMALE	410,800	317,555	27,300	24,041	41,028
	TOTAL	820,016	634,387	54,574	45,878	83,411
25 TO 34	MALE	455,762	361,176	26,273	27,673	39,796
	FEMALE	471,026	373,241	28,531	27,825	40,578
	TOTAL	926,788	734,417	54,804	55,498	80,374
35 TO 44	MALE	522,345	443,898	27,033	19,958	30,445
	FEMALE	540,650	458,600	28,814	19,825	32,368
	TOTAL	1,062,995	902,498	55,847	39,783	62,813
45 TO 54	MALE	424,234	376,230	17,982	12,471	16,738
	FEMALE	449,119	395,740	20,049	13,419	19,089
	TOTAL	873,353	771,970	38,031	25,890	35,827
55 TO 64	MALE	260,345	235,352	9,868	6,739	7,968
	FEMALE	286,062	256,633	12,339	6,963	9,717
	TOTAL	546,407	491,985	22,207	13,702	17,685
65 TO 74	MALE	190,298	176,813	5,695	3,892	3,654
	FEMALE	237,532	219,645	7,961	4,517	5,161
	TOTAL	427,830	396,458	13,656	8,409	8,815
75 TO 84	MALE	120,293	114,513	2,650	1,555	1,454
	FEMALE	195,347	185,929	4,769	2,142	2,343
	TOTAL	315,640	300,442	7,419	3,697	3,797
85 +	MALE	30,948	29,488	669	352	418
	FEMALE	85,744	82,609	1,656	644	773
	TOTAL	116,692	112,097	2,325	996	1,191
ALL AGES	MALE	3,058,816	2,558,571	162,194	120,634	211,701
	FEMALE	3,290,281	2,768,014	174,360	125,105	217,028
	TOTAL	6,349,097	5,326,585	336,554	245,739	428,729

1. MDPH 2000 Preliminary Population Estimates (released January 2002). 2. The age-gender-race distributions from the 2000 US Census (MARS) file were applied to the1999 population estimates to separate Asians from the combined category of Asian and American Indian. 3. 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 A11. 2000 Massachusetts Population Estimates[1] By Age Group, Gender, Race[2] and Hispanic Ethnicity [3]

AGE	GENDER	TOTAL	WHITE	BLACK	ASIAN	HISPANIC ETHNICITY
UNDER 1	MALE	40,562	35,280	3,318	1,831	4,576
	FEMALE	38,802	33,621	3,169	1,861	4,421
	TOTAL	79,380	68,901	6,487	3,692	8,997
1 TO 4	MALE	162,500	141,131	13,332	7,373	18,326
	FEMALE	155,404	134,518	12,730	7,520	17,689
	TOTAL	317,888	275,649	26,062	14,893	36,015
5 TO 14	MALE	442,313	385,148	37,674	17,584	45,943
	FEMALE	419,795	364,731	36,206	17,023	43,861
	TOTAL	862,108	749,879	73,880	34,607	89,804
15 TO 24	MALE	409,216	352,490	32,755	22,266	42,383
	FEMALE	410,800	351,768	32,912	24,476	41,028
	TOTAL	820,016	704,258	65,667	46,742	83,411
25 TO 34	MALE	455,762	395,029	31,113	28,059	39,796
	FEMALE	471,026	407,402	33,858	28,197	40,578
	TOTAL	926,788	802,431	64,971	56,256	80,374
35 TO 44	MALE	522,345	469,686	30,889	20,213	30,445
	FEMALE	540,650	485,760	33,110	20,143	32,368
	TOTAL	1,062,995	955,446	63,999	40,356	62,813
45 TO 54	MALE	424,234	390,340	20,191	12,608	16,738
	FEMALE	449,119	411,880	22,503	13,582	19,089
	TOTAL	873,353	802,220	42,694	26,190	35,827
55 TO 64	MALE	260,345	242,128	10,862	6,800	7,968
	FEMALE	286,062	264,891	13,578	7,038	9,717
	TOTAL	546,407	507,019	24,440	13,838	17,685
65 TO 74	MALE	190,298	179,918	6,168	3,920	3,654
	FEMALE	237,532	224,004	8,647	4,562	5,161
	TOTAL	427,830	403,922	14,815	8,482	8,815
75 TO 84	MALE	120,293	115,787	2,798	1,569	1,454
	FEMALE	195,347	187,978	5,030	2,158	2,343
	TOTAL	315,640	303,765	7,828	3,727	3,797
85 +	MALE	30,948	29,856	705	359	418
	FEMALE	85,744	83,280	1,735	656	773
	TOTAL	116,692	113,136	2,440	1,015	1,191
ALL AGES	MALE	3,058,816	2,736,793	189,805	122,582	211,701
	FEMALE	3,290,281	2,949,833	203,478	127,216	217,028
	TOTAL	6,349,097	5,686,626	393,283	249,798	428,729

1. MDPH 2000 Preliminary Population Estimates (released January 2002). 2. The age-gender-race distributions from the 2000 US Census (MARS) file were applied to the1999 population estimates to separate Asians from the combined category of Asian and American Indian, and to add Hispanics back into the estimates of white, black, and Asian populations. 3. Persons of Hispanic ethnicity are also included in the race categories, consistent with NCHS and US Census population classification of race and ethnicity. These estimates are used to calculate population based rates in Table A1.

Massachusetts Death Certificate: 2000

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

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 RN PRO

The Commonwealth of Massachusetts
STANDARD CERTIFICATE OF DEATH
REGISTRY OF VITAL RECORDS AND STATISTICS

REGISTERED NUMBER | STATE USE ONLY

DECEDENT

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

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

PLACE OF DEATH (Check only one): HOSPITAL: ☐ Inpatient ☐ ER/Outpatient ☐ DOA (5) | OTHER: ☐ Nursing Home ☐ Residence ☐ Other (Specify) | SOCIAL SECURITY NUMBER (6) | IF US WAR VETERAN SPECIFY WAR (7)

WAS DECEDENT OF HISPANIC ORIGIN? (If yes, Specify Puerto Rican, Dominican, Cuban, etc.) ☐ NO ☐ YES (8a) Specify: | RACE (e.g. White, Black, American Indian, etc.) (Specify): (8b) | DECEDENT'S EDUCATION (Highest Grade Completed) Elem/Sec (0-12) | College (1-4, 5+) (9)

AGE - Last Birthday (Yrs.) (10a) | UNDER 1 YEAR: MOS (b) DAYS | UNDER 1 DAY: HOURS MINS (c) | DATE OF BIRTH (Mo., Day, Yr.) (10d) | BIRTHPLACE (City and State or Foreign Country) (11)

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

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

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

INFORMANT

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

DISPOSITION

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

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

DATE OF DISPOSITION (Mo., Day, Yr.) (27) | NAME AND ADDRESS OF FACILITY (26a/b)

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.

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. _____

Approximate Interval Between Onset and Death

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

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

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

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)

DATE SIGNED (Mo., Day, Yr.) (36b) | HOUR OF DEATH (36c) M

NAME OF ATTENDING PHYSICIAN IF NOT CERTIFIER (36d)

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)

DATE SIGNED (Mo., Day, Yr.) (37b) | HOUR OF DEATH (37c) M

PRONOUNCED DEAD (Mo., Day, Yr.) (37d) | PRONOUNCED DEAD (Hr.) (37e) M

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

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

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

SAMPLE

BLACK INK ONLY

R-301-89

Massachusetts Deaths: 2000 Evaluation Form

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In an attempt to better serve our users, we are enclosing this evaluation form. Please take the time to complete this questionnaire and return it to the address at the bottom of the page. Thank you.

What tables and charts do you find most useful?
What tables and charts do you find least useful?
Are there other tables and charts that you would like added to this publication? If yes, please describe them in detail.
Do you have other comments or suggestions?
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Malena Orejuela, MPH
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Boston, MA 02108-4619