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The Commonwealth of Massachusetts

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December 19th, 2024

Steven T. James House Clerk

State House Room 145 Boston, MA 02133

Michael D. Hurley Senate Clerk

State House Room 335 Boston, MA 02133

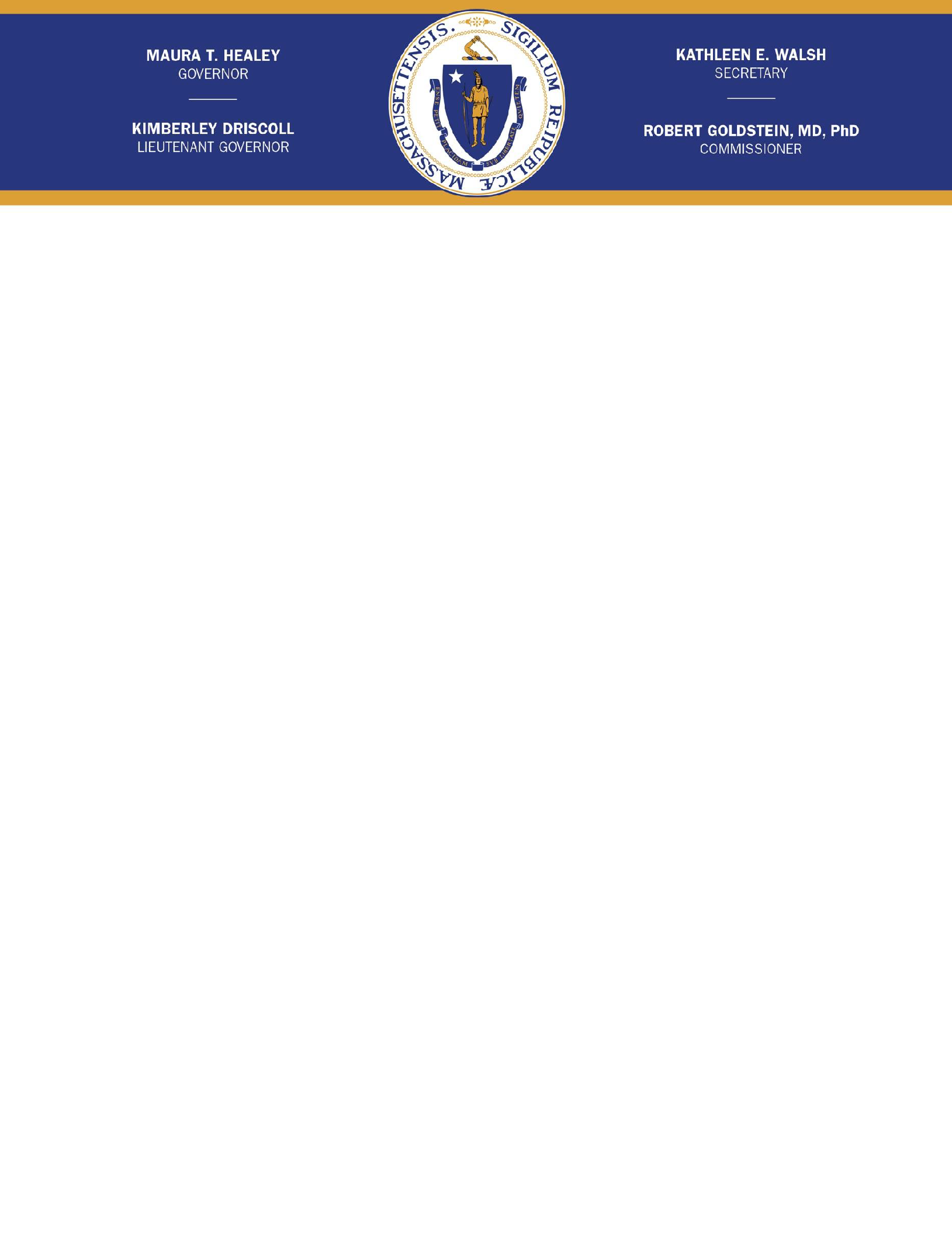
Dear Mr. Clerk,

Pursuant to Section 2 of Chapter 111 of the Massachusetts General Laws*,* please find enclosed a report from the Department of Public Health entitled Massachusetts Deaths 2022.

Sincerely,

Robert Goldstein Commissioner

Department of Public Health



Massachusetts Deaths 2022

**November 2024**

##### Article I. Legislative Mandate

The following report is hereby issued pursuant to Section 2 of Chapter 111 of the Massachusetts General Laws as follows:

***Chapter 111: Section 2. Annual report (specific text bolded below)***

*The commissioner shall administer the laws relative to health and sanitation and the regulations of the department, and shall prepare rules and regulations for the consideration of the council. The secretary of elder affairs and the commissioner shall jointly develop and submit to the council rules and regulations governing the licensure and operation of convalescent or nursing homes, rest homes, infirmaries maintained in a town and charitable homes for the aged. He may direct any executive officer or employee of the department to assist in the study, suppression or prevention of disease in any part of the commonwealth. He shall submit annually to the council a report containing recommendations in regard to health legislation.*

***The commissioner shall prepare from the*** *birth, marriage and* ***death records received by him under the provisions of chapter forty-six****, and from the divorce returns received by him under the provisions of section forty-six of chapter two hundred and eight,* ***such statistical tables as he deems useful, and shall make annual report thereof to the general court****. The commissioner may transmit such information to the appropriate agency of the federal government to participate in the development of a cooperative system for producing uniform statistical information at the federal, state and local level. The commissioner may make further use of such records as he deems useful for administrative and research purposes connected with health programs and population studies. He shall, as soon as is reasonably practicable, cause the birth, marriage and death records to be bound with indexes thereto and shall retain their custody. He shall prepare an alphabetical index of such divorce returns showing the names of the parties, year and number of the judgment and the county in which the divorce occurred.*

*Prior to undertaking any activity or implementing any policy which would affect expenditures for medical assistance under chapter one hundred and eighteen E, including but not limited to the certification and licensure of providers of services under said chapter, the commissioner shall assure that such activity is reviewed by the commissioner of medical assistance.*

*The commissioner shall consult with the commissioner of mental health prior to taking an action substantially affecting the design and implementation of behavioral health services for children under guidelines established by the secretary of health and human services under section 16S of chapter 6A.*

*The commissioner, subject to the approval of the governor, may make such rules and regulations governing the conduct of written and oral examinations by the several boards of registration and examination under the department as shall be necessary to standardize procedures and protect the commonwealth and applicants for registration against fraud. Nothing in this section shall prevent a board from adopting, under authority of other provisions of law, specific rules and regulations that are not in conflict with the rules and regulations authorized by this section.*

Massachusetts Deaths 2022

60%

**Infectious Disease**

**Heart Disease**

**Cancer**

**Injuries**

50%

40%

**Percent of Total Deaths**

30%

20%

10%

0%

1843

1847

1851

1855

1859

1863

1867

1871

1875

1879

1883

1887

1891

1895

1899

1903

1907

1911

1915

1919

1923

1927

1931

1935

1939

1943

1947

1951

1955

1959

1963

1967

1971

1975

1979

[1983](https://www.mass.gov/info-details/deaths-of-massachusetts-residents)

1987

1991

1995

1999

2003

2007

2011

2015

2019

### Year

**Acknowledgments**

Special thanks go to: Karin Barrett, Registrar; Dean DiMartino, Deputy Registrar; Sharon Pagnano, Director of Statistics; Marsha Grabau, Darien Mather, and Ollie Nusbaum; Registry of Vital Records and Statistics.

The Registry of Vital Records and Statistics staff, including Michael Baker, Pamela Corbin, Alex Forman, Denise O'Gara, Margaret Riley, Jennifer Smith, Monica Smith, and Maria Vu, worked to collect the data in this report.

To obtain more information on deaths in Massachusetts and other Department of Public Health data, please visit the Department’s free, Internet-based public health information reports at: [https://www.mass.gov/info-details/deaths-of-massachusetts-residents.](https://www.mass.gov/info-details/deaths-of-massachusetts-residents)

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##### Executive Summary

At the Registry of Vital Records and Statistics, we touch the lives of Commonwealth residents at critical moments: when they are born, get married or divorced, and when they die. Public health is about protecting and promoting the health of the public, and while some may argue that death is too late of an endpoint for intervention, information about mortality is vital to our health promotion and protection efforts. We hope that the information in this report helps inform us of our successes to date in those efforts and maps out where additional efforts are needed.

Four years after COVID-19 first arrived in Massachusetts leading to the highest number of deaths of Massachusetts’ residents recorded in the Commonwealth’s history, we continue our prevention efforts and monitoring of the impact of the pandemic on our communities. In 2022, COVID-19 mortality decreased, but was still the 4th leading cause of death, with more than 3,200 residents lost to the disease. Preliminary 2023 data show COVID-19 deaths decreased to just over 1,000 deaths among Commonwealth residents, similar to the impact of influenza and pneumonia, indicating prevention and treatment efforts have advanced significantly since the first wave of infections.

Despite this reduction, the data are clear: the impact of COVID-19 is more than tallying up deaths directly due to the disease. When we compare non-COVID-19 mortality in 2022 to overall mortality in 2019, it is still elevated for all racial/ethnic groups except for White non- Hispanic residents. It is unclear how various changes may have contributed to this increase in mortality, but delays in care, economic instability, more sedentary lifestyles, and reduced social interactions could have played a part in poorer outcomes. Our recovery efforts should consider the whole person and social determinants of health, not solely vaccinations and access to care.

Additionally, HIV/AIDS deaths among all residents and fatalities from poisoning amongst Black non-Hispanic residents increased in 2022, showing that we must continue to be vigilant in all dimensions of our public health efforts.

##### Selected Takeaways

* After an initial surge of COVID-19-related deaths in 2020, deaths of Massachusetts residents seem to have stabilized: deaths have come down by about 50% of the initial increase in 2020 and were similar for 2021 and 2022. While the all-cause age-adjusted mortality rate (hereafter: mortality rate) decreased from 2021 to 2022 for Asian/Pacific Islander non-Hispanic (4.3%), and for Hispanic (5.4%) residents, the mortality rate increased for American Indian/Alaska Native non-Hispanic (15.0%) and Black non-Hispanic residents (5.4%), while staying roughly the same for White non-Hispanic residents, highlighting the inequities of the pandemic recovery. Additionally, for all racial/ethnic groups, the mortality rates are still elevated over 2019 rates and disproportionately so for residents of color (Table 1).

‒ In 2022, the mortality rate was similar to 2021 but remained above pre-pandemic rates (Table 1). For White non-Hispanic residents, mortality due to all causes other than COVID-19 (672.1 deaths per 100,000 residents) was similar to the overall mortality rate in 2019 (676.3 deaths per 100,000 residents; Table 1 and Figure 5). For residents of color, however, the 2022 mortality rate due to all causes other than COVID-19 remained elevated: for 2022 compared to 2019, the non-COVID mortality rate for American Indian/Alaska Native non-Hispanic residents was 60.5% higher, for Asian/Pacific Islander non-Hispanic residents it was 9.5% higher, for Black non-Hispanic residents it was 25.2% higher, and for Hispanic residents it was 15.9% higher (Table 1 and Figure 5). **The premature mortality rate (PMR) due to all causes other than COVID-19 was higher in 2022 than pre-pandemic PMR for all racial/ethnic groups (Figure 6).**

‒ The average life expectancy of Massachusetts residents slightly increased from 2021 (2021: 80.1 years, 2022: 80.2 years; Table 2), but this is still almost a year less than the 80.9-year life expectancy pre-pandemic in 2019 (Figure 2). American Indian/Alaska Native non-Hispanic individuals experienced a noticeable decline in average life expectancy between 2021 and 2022 (Figure 2). This is also reflected when average life expectancy is examined by gender for American Indian/Alaska Native non-Hispanic people. In 2021, the life expectancy for American Indian/Alaska Native non-Hispanic women was 75.1 years. This life expectancy declined by approximately four years in 2022 to 70.1 years. American Indian/Alaska Native non-Hispanic men’s life expectancies decreased by almost three years between 2021 and 2022 (2021: 72.2 years; 2022: 69.4 years; Table 2). Compared to any other racial and ethnic population groups, life expectancy at birth for American Indian/Alaska Native non-Hispanic individuals has remained the lowest from 2015 to 2022.

‒ COVID-19 deaths continued to decline in 2022 compared to the first two years of the pandemic (3,217 deaths in 2022; 4,888 deaths in 2021; 9,455 deaths in 2020; Table 4), and it dropped to the fourth leading cause of death overall. However, 2022 was the first year COVID-19 was a leading cause of death for infants under 1 year (Table 4).

While the overall infant mortality rate (IMR) for 2022 was the same as 2021, the neonatal IMR decreased in 2022 (2.2 and 2.4 deaths per 1,000 live births, respectively), and post-neonatal IMR increased in 2022(1.1 and 0.9 deaths per 1,000 live births, respectively; Table 5). There is a striking disparity in infant mortality rates by race and ethnicity. Despite the decline in rates from 2002-2022, infant mortality rates have consistently been highest in the Black non-Hispanic population compared to any other racial and ethnic groups. In 2022, the infant mortality rate among the Black non-Hispanic population was 6 per 1,000 live births compared to 1 per 1,000

live births among the Asian/Pacific islander non-Hispanic population. In 2022, the infant mortality rate among the Black non-Hispanic population was almost 1.4 times higher than the state average.

* Many death trends and themes remained the same in 2022 (*e.g.*, cancer as the leading cause of deaths overall and for all racial/ethnic groups except for Hispanic residents; Tables 4 and 9). However, there were some notable differences in 2022:

‒ The mortality rate due to esophageal cancer increased from 3.6 deaths per 100,000 residents in 2021 to 4.2 deaths per 100,000 residents in 2022 (Table 10). The cancers with the greatest change in mortality rate in women were brain and nervous system cancers, which increased from 3.5 deaths per 100,000 female residents in 2021 to 4.2 deaths per 100,000 female residents in 2022. In men, the mortality rate for non- Hodgkins Lymphoma decreased from 6.5 deaths per 100,000 male residents in 2021 to

5.4 deaths per 100,000 male residents in 2022. Additionally, the mortality rate for lung cancer increased from 31.6 deaths per 100,000 male residents in 2021 to 32.8 deaths per 100,000 male residents in 2022 (Table 10).

‒ Deaths due to diabetes, both as an underlying and contributing cause of death, decreased from 2021 (2021: 3,553 deaths contributing cause and 1,539 deaths underlying cause; 2022: 3,415 deaths contributing cause and 1,501 deaths underlying cause; Figure 10) but remained well above pre-pandemic levels (2019: 2,738 deaths with diabetes as a contributing cause and 1,386 deaths with diabetes as an underlying cause; Figure 10). In 2022, there was a huge disparity in diabetes-related deaths by race and ethnicity. While the proportions of diabetes-related deaths were similar across all population groups, diabetes-related death rates were markedly higher in the American Indian/ Alaska Native non-Hispanic and Black non-Hispanic groups compared to White non-Hispanic or Asian/Pacific Islander non-Hispanic groups (Table 14). The diabetes- related death rates in the Black non-Hispanic population and the American Indian/Alaska Native non-Hispanic population were 2 times higher than the diabetes-related death rate in the White non-Hispanic population.

‒ There were 57 deaths due to HIV/AIDS in 2022. This is an increase in number of deaths when compared to 2021, which only had 46 deaths due to HIV/AIDS (Figure 14). The increase in 2022 was driven by an increase in deaths among men of Hispanic and White non-Hispanic race/ethnicity, as well as a slight increase in deaths among Black non- Hispanic men. While HIV deaths increased among men of all race/ethnicities in 2022, there was a decrease in the number of HIV related deaths among Black non-Hispanic women (Table 22).

* In 2022, injury deaths reached an all-time high of 5,742 deaths (9.1% of all deaths; Figure 1, Table 17). Unintentional injuries, suicides, and homicides all increased compared to 2021 (Table 19).

‒ Poisonings, which include opioid overdoses, continued to be the largest cause of injury deaths in 2022 slightly decreasing to 38.0 from 38.1 deaths per 100,000 residents in 2021 (Table 17). Black non-Hispanic residents experienced a sizeable increase in poisonings compared to 2021 (2021: 44.6 deaths per 100,000 Black non-Hispanic

residents; 2022: 64.5 deaths per 100,000 Black non-Hispanic residents; Table 18).

‒ Although suicides have decreased in recent years, in 2022 the suicide rate increased to

8.2 deaths per 100,000 residents from 7.9 in 2021, driven by an increase in suicides among men (Table 19).

‒ The rate of homicides increased to 2.5 homicides per 100,000 in 2022 from 2.3 homicides per 100,000 residents in 2021 (Table 19).

‒ Deaths due to falls increased from 12.5 deaths per 100,000 residents in 2021 to a rate of

13.9 in 2022, driven by an increase for ages 75-84 years, despite a decrease in fall deaths among those 85 years and above (Table 17).

‒ Deaths due to legal intervention decreased from 11 in 2021 to 6 in 2022 (Table 21).

‒ In 2022, deaths due to adverse effects (*i.e.*, therapeutic complications) were cut in half compared to 2021 (56 and 110 deaths, respectively; Table 21). This reverses the increase seen over the past few years and was similar to levels prior to 2018.

##### Note to Readers

This report has been streamlined to remove duplicative statistics available in the Massachusetts Population Health Information Tool Death Dashboard (PHIT; available at <https://www.mass.gov/info-details/deaths-of-massachusetts-residents> ), with the goal of providing high-level population health trends in a more digestible format. The PHIT Death Dashboard provides more detailed breakdowns by city/town and detailed causes of death for users to explore and allows for downloading of the statistics and chart images.

**Please Note:** Collection of vital records is a complex process. The National Center for Health Statistics (NCHS) deems an annual file closed when it has reached a certain level of completeness. In the past, the Massachusetts Department of Public Health has followed their definition to match the national numbers. Starting with the 2013 report, the department is closing our annual file later than the file sent to the NCHS to get more complete reporting of events.

While cause of death information will be more complete due to this change, it may also cause the appearance of an increase in the number of deaths when compared to previous years.

Thus, comparisons between years should be interpreted with caution. This caution should be applied especially for causes of death that are often referred to the Office of the Chief Medical Examiner for determination of underlying causes of death. See Figure 4 for details. Accidental deaths, poisonings, and complex cases are most likely to be impacted by closure dates that differ from year to year.

##### VIP System

The Vitals Information Partnership (VIP) is an electronic registration system designed to streamline and integrate vital event registration, securely, across the Commonwealth. The VIP death application was launched in September 2014, and a revised version of the death certificate was also introduced at that time. Therefore, 2015 was the first full year of data using improved data collection methods and new data items. Changes in data fields promote accuracy and now align with national standards. Changes in data fields impact figures and tables that report trends over time. The reader must use caution when comparing 2022 results to findings from years prior to 2015.

* + For example, families of decedents now report race separately from ethnicity and may choose more than one race from the standard checkbox lists. Previously, families wrote free-form responses in a single field that were often difficult to categorize and may have resulted in some misclassifications.
  + While the new method improves accuracy, an algorithm must still be used to analyze multiple race responses and choose the most appropriate standard race category as used in this report. (See Technical Notes.)

##### Resident deaths

All data in this publication are resident data unless otherwise stated. Resident data include all events that occur to residents of the Commonwealth, wherever they occur.

##### Gender

Data presented by gender are collected as female and male on the death record, but in practice, gender is often what informants report.

##### Suggested Citation

*Massachusetts Deaths 2022*. Boston, MA: Office of Population Health, Registry of Vital Records and Statistics, Massachusetts Department of Public Health. November 2024.

##### Table 1. Trends in Mortality Characteristics, Massachusetts: 2012-2022

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Year** |  | **2012** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** | **2020** | **2021** | **2022** |
| **Resident deaths** | Number | 53,169 | 54,609 | 55,159 | 57,785 | 56,953 | 58,844 | 59,169 | 58,660 | 68,269 | 63,158 | 63,390 |
| Crude rate1,2,3 | 807.1 | 815.9 | 817.7 | 850.5 | 836.1 | 849.7 | 848.1 | 840.9 | 978.7 | 898.4 | 901.7 |
| Age-adjusted rate4 | 669.2 | 664.1 | 662.5 | 684.6 | 668.9 | 675.7 | 662.8 | 654.0 | 756.3 | 689.0 | 691.6 |

**Race/ethnicity of decedent5,6**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| American Indian/ Alaska Native non- | Number | 59 | 68 | 71 | 104 | 131 | 135 | 112 | 94 | 124 | 128 | 141 |
| Hispanic | Age-adjusted rate4 | 539.8 | 587.4 | 610.5 | 876.2 | 1,056.1 | 1,070.7 | 873.0 | 715.1 | 1,052.3 | 1,048.1 | 1,204.8 |
| Asian/Pacific Islander | Number | 811 | 816 | 938 | 1,091 | 1,028 | 1,165 | 1,222 | 1,270 | 1,759 | 1,716 | 1,625 |
| non-Hispanic | Age-adjusted rate4 | 372.4 | 320.5 | 344.7 | 371.8 | 324.7 | 361.1 | 351.8 | 351.4 | 490.0 | 427.6 | 409.0 |
| Black non-Hispanic | Number | 2,318 | 2,446 | 2,390 | 2,349 | 2,504 | 2,636 | 2,717 | 2,760 | 3,925 | 3,419 | 3,589 |
| Age-adjusted rate4 | 701.8 | 675.5 | 630.4 | 589.5 | 612.4 | 641.6 | 625.4 | 626.7 | 894.3 | 779.2 | 821.0 |
| Hispanic | Number | 1,487 | 1,548 | 1,702 | 2,037 | 2,126 | 2,372 | 2,377 | 2,544 | 3,451 | 3,379 | 3,235 |
| Age-adjusted rate4 | 484.9 | 444.9 | 447.9 | 493.0 | 473.2 | 505.7 | 480.4 | 506.3 | 689.3 | 667.0 | 631.3 |
| White non-Hispanic | Number | 48,430 | 49,486 | 49,621 | 51,688 | 50,654 | 52,038 | 52,196 | 51,456 | 58,356 | 53,869 | 54,219 |
| Age-adjusted rate4 | 681.0 | 680.9 | 679.5 | 703.3 | 687.9 | 697.1 | 686.8 | 676.3 | 761.6 | 704.7 | 706.6 |

**Gender of decedent6**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Women | Number | 27,883 | 28,558 | 28,289 | 29,880 | 28,952 | 29,665 | 29,891 | 29,481 | 34,320 | 30,757 | 31,583 |
| Age-adjusted rate4 | 571.1 | 569.5 | 557.9 | 581.2 | 560.2 | 563.2 | 555.1 | 546.9 | 631.6 | 563.9 | 576.9 |
| Men | Number | 25,280 | 26,051 | 26,867 | 27,905 | 28,000 | 29,178 | 29,276 | 29,177 | 33,949 | 32,401 | 31,805 |
| Age-adjusted rate4 | 797.9 | 786.5 | 795.9 | 814.7 | 804.9 | 817.9 | 798.3 | 789.2 | 911.9 | 846.9 | 835.0 |

**Age of decedent6**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| <1 year | Number | 309 | 298 | 321 | 310 | 283 | 263 | 291 | 255 | 263 | 228 | 229 |
| Age-specific rate7 | 426.5 | 416.1 | 446.7 | 433.7 | 396.8 | 372.0 | 421.1 | 368.9 | 395.8 | 329.8 | 329.5 |
| 1-14 years | Number | 99 | 118 | 129 | 119 | 115 | 122 | 111 | 106 | 69 | 108 | 114 |
| Age-specific rate7 | 9.1 | 11.0 | 12.1 | 11.2 | 10.9 | 11.4 | 10.3 | 9.9 | 6.5 | 10.4 | 11.0 |
| 15-24 years | Number | 419 | 449 | 441 | 519 | 526 | 501 | 416 | 389 | 437 | 429 | 429 |
| Age-specific rate7 | 43.9 | 48.0 | 47.0 | 55.0 | 55.0 | 51.0 | 42.0 | 40.0 | 45.0 | 45.1 | 45.1 |
| 25-44 years | Number | 1,880 | 1,993 | 2,234 | 2,475 | 2,742 | 2,788 | 2,751 | 2,646 | 3,019 | 3,086 | 2,959 |
| Age-specific rate7 | 107.6 | 113.5 | 126.3 | 139.2 | 154.3 | 154.8 | 150.4 | 144.0 | 164.3 | 163.8 | 157.1 |
| 45-64 years | Number | 8,791 | 9,013 | 9,214 | 9,348 | 9,270 | 9,516 | 9,350 | 9,417 | 10,359 | 10,550 | 10,064 |
| Age-specific rate7 | 472.9 | 483.8 | 492.2 | 496.4 | 493.6 | 504.3 | 499.3 | 508.9 | 559.8 | 559.9 | 534.1 |
| 65-74 years | Number | 7,891 | 8,259 | 8,678 | 9,038 | 9,332 | 9,719 | 9,918 | 9,974 | 11,945 | 11,775 | 11,496 |
| Age-specific rate7 | 1,541.9 | 1,536.7 | 1,541.9 | 1,535.5 | 1,523.5 | 1,509.3 | 1,497.7 | 1,460.7 | 1,749.4 | 1,702.1 | 1,661.8 |
| 75-84 years | Number | 13,272 | 13,182 | 12,784 | 13,299 | 12,870 | 13,272 | 13,806 | 13,570 | 16,385 | 15,318 | 15,865 |
| Age-specific rate7 | 4,487.4 | 4,453.8 | 4,315.3 | 4,461.8 | 4,252.8 | 4,306.3 | 4,294.6 | 4,089.2 | 4,937.4 | 4,432.8 | 4,591.1 |
| 85+ years | Number | 20,506 | 21,296 | 21,356 | 22,677 | 21,813 | 22,663 | 22,526 | 22,303 | 25,788 | 21,660 | 22,227 |
| Age-specific rate7 | 13,341.5 | 13,661.7 | 13,858.8 | 14,302.0 | 13,735.6 | 13,995.1 | 13,952.1 | 13,817.8 | 15,977.0 | 13,230.2 | 13,576.6 |

1. Deaths per 100,000 residents. 2. See Glossary for further definition of terms and rates. 3. Rate calculations are based on resident population estimates. 4. Rates are age- adjusted per 100,000 residents using the 2000 US standard population. 5. See the Technical Notes in the Appendix for a detailed explanation of categories. 6. Column sum may not equal total because the race, gender or age of some decedents was unknown. 7. Number of deaths per 100,000 residents in each age group.

##### Figure 1. Trends in Percentage of Deaths from Selected Causes, Massachusetts: 1843-2022

60%

50%

### Infectious Disease

**Heart Disease**

**Percent of Total Deaths**

40%

30%

20%

### Cancer



10%

### Injuries

0%

1843

1847

1851

1855

1859

1863

1867

1871

1875

1879

1883

1887

1891

1895

1899

1903

1907

1911

1915

1919

1923

1927

1931

1935

1939

1943

1947

1951

1955

1959

1963

1967

1971

1975

1979

1983

1987

1991

1995

1999

2003

2007

2011

2015

2019

### Year

Note: 1. 57.1% of all Infectious Disease deaths in 2022 (indicated by the red arrow) were due to COVID-19. 2. Infectious Disease percentages were updated to include influenza and pneumonia deaths for 2000-2022.



**Figure 2. Life Expectancy at Birth1 by Race and Hispanic Ethnicity2, Massachusetts: 1900-2022**

100

90

80

70

60

50

State Overall

40

30

American Indian/ Alaska Native non-Hispanic

Asian/Pacific Islander non-Hispanic

Black non-Hispanic

20

Hispanic

10

White non-Hispanic

0

1900 1910 1920 1930 1940 1950 1960 1970 1980 1990 2000 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022

**Year**

**Number of Years**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 2. Life Expectancy at Birth1 by Race and Hispanic Ethnicity2 and Gender, Massachusetts: 2012 – 2022** | | | | | | | | | | | | | |
| **Year** | All | All Women | American Indian/ Alaska Native non-Hispanic  Women | Asian/Pacific Islander non- Hispanic  Women | Black non- Hispanic Women | Hispanic Women | White non- Hispanic Women | All Men | American Indian/ Alaska Native non-  Hispanic Men | Asian/Pacific Islander non- Hispanic  Men | Black non- Hispanic Men | Hispanic Men | White non- Hispanic Men |
| 2012 | 81.1 | 83.2 | 81.6 | 91.9 | 82.4 | 89.8 | 83.0 | 78.7 | 89.0 | 86.7 | 76.6 | 83.2 | 78.4 |
| 2013 | 80.9 | 83.1 | 82.0 | 91.9 | 82.4 | 90.2 | 82.8 | 78.6 | 84.5 | 88.5 | 76.3 | 83.3 | 78.3 |
| 2014 | 80.9 | 83.3 | 83.5 | 90.6 | 83.5 | 89.3 | 83.0 | 78.2 | 79.1 | 87.4 | 76.9 | 83.4 | 77.9 |
| 2015 | 80.4 | 82.8 | 75.0 | 89.0 | 84.3 | 87.5 | 82.5 | 77.9 | 76.8 | 86.2 | 78.1 | 82.0 | 77.6 |
| 2016 | 80.6 | 83.2 | 76.7 | 92.4 | 83.1 | 88.4 | 82.8 | 78.0 | 71.9 | 87.8 | 78.4 | 82.4 | 77.6 |
| 2017 | 80.4 | 83.0 | 75.3 | 90.1 | 83.4 | 88.5 | 82.8 | 77.7 | 69.4 | 87.4 | 77.6 | 81.0 | 77.4 |
| 2018 | 80.6 | 83.0 | 78.4 | 91.6 | 84.0 | 88.1 | 82.6 | 78.0 | 73.8 | 87.4 | 77.4 | 82.3 | 77.7 |
| 2019 | 80.9 | 83.4 | 79.8 | 91.6 | 84.2 | 87.8 | 83.0 | 78.3 | 81.5 | 87.3 | 77.8 | 81.0 | 78.0 |
| 2020 | 79.4 | 82.0 | 75.3 | 87.6 | 78.8 | 83.9 | 81.8 | 76.8 | 68.2 | 84.2 | 72.2 | 75.6 | 76.8 |
| 2021 | 80.1 | 83.0 | 75.1 | 88.3 | 80.6 | 84.6 | 82.7 | 77.2 | 72.2 | 84.1 | 74.2 | 75.9 | 77.1 |
| 2022 | 80.2 | 82.7 | 70.9 | 88.4 | 80.4 | 84.6 | 82.5 | 77.5 | 69.4 | 85.3 | 72.8 | 77.2 | 77.5 |
| 1. Note: Life Expectancy at birth calculated prior to 2010 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); starting in 2021, life expectancy was calculated using the Chiang II method (source: Chiang, Chin Long & World Health Organization. (1979). Life table and mortality analysis / Chin Long Chiang. World Health Organization). Life expectancy calculations from 2010-2020 were re-calculated with the Chiang II method and this report presents these updated estimates. 2. Population estimates are from 2020 bridged population file, see Technical Notes for more information. Race/ethnicity estimates not available prior to 2010 due to population estimates limitations; please see the technical notes for more information on race and ethnicity. | | | | | | | | | | | | | |

15

##### Figure 3. Changes in Age Composition of the Population, Massachusetts: 1900-2020

1900

**27%**

**51%**

**16%**

**5% 0.2%**

1910

**27%**

**51%**

**17%**

**5% 0.2%**

1920

**28%**

**48%**

**19%**

**5% 0.3%**

1930

1940

1950

**Census Year**

**27%**

**22%**

**24%**

**47%**

**44%**

**47%**

**22%**

**23%**

**20%**

**6% 0.3%**

**8% ** **0.3%**

**9% 0.5%**

1960

**29%**

**39%**

**22%**

**10%**

**0.7%**

1970

**28%**

**40%**

**21%**

**10%**

**0.9%**

1980

**20%**

**46%**

**20%**

**11%**

**1.3%**

1990

**19%**

**49%**

**19%**

**12%**

**1.5%**

2000

**20%**

**44%**

**22%**

**12%**

**1.8%**

2010

**19%**

**49%**

**19%**

**12%**

**2.2%**

2020

**16%**

**40%**

**27%**

**15%**

**2.3%**

Under 15

15-44

45-64 65-84 85+

**Age Groups**

Source: US Census Bureau 1900-1999. Resident death data for 2000 are calculated using the Massachusetts (Department of Public Health) Modified Age, Race/Ethnicity, & Sex Estimates 2000 (MMARS00), released October 2006. Population estimates for 2010 are from the NCHS Modified Age, Race/Ethnicity, & Sex Estimates 2009, released July 2010. 2020 Population estimates were generated by the University of Massachusetts Donahue Institute.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 3. Distribution of Deaths by Place of Occurrence, Massachusetts: 2018-2022** | | | | | | | | | | |
| **Type of Place**  **Where Death Occurred** | **2018** | | **2019** | | **2020** | | **2021** | | **2022** | |
| Number | Percent | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| Hospital (inpatient/outpatient) | 21,502 | 36% | 21,267 | 36% | 25,742 | 38 | 25,089 | 40% | 24,933 | 39% |
| Dead on Arrival | 681 | 1% | 515 | 1% | 547 | 1 | 592 | 1% | 580 | 1% |
| Nursing Home | 14,606 | 25% | 13,830 | 24% | 15,168 | 22 | 10,471 | 17% | 11,247 | 18% |
| Hospice | 3,525 | 6% | 3,656 | 6% | 3,090 | 5 | 3,107 | 5% | 3,012 | 5% |
| Assisted Living Facility or Rest Home | 1,864 | 3% | 1,963 | 3% | 2,360 | 3 | 2,072 | 3% | 2,272 | 4% |
| At Home | 15,552 | 26% | 15,888 | 27% | 19,531 | 29 | 19,984 | 32% | 19,499 | 31% |
| Other | 1,438 | 2% | 1,535 | 3% | 1,822 | 3 | 1,837 | 3% | 1,847 | 3% |
| Unknown | 1 | 0% | 6 | 0% | 9 | 0 | 6 | 0% | 0 | 0% |

##### Figure 4. Manner of Death Among Massachusetts Occurrence Deaths Certified by the Medical Examiner, 2022

100%

90%

80%

70%

60%

**Percent**

56.8%

50%

40%

30%

29.9%

20%

10%

0%

7.2%

2.0% 0.7%

2.6% 0.9%

Accident Suicide Homicide Therapeutic

complication

Natural Could not be

determined

Pending investigation

Note: See the Appendix section, “Circumstance for Referral to the Office of the Chief Medical Examiner (OCME)” for a list of circumstances requiring referral to the Medical Examiner’s Office.

Note: 8,108 total cases investigated by the Medical Examiner in 2022.

##### Figure 5. Age-Adjusted Mortality Rate for COVID-19 and All Other Causes by Race and Hispanic Ethnicity1, Massachusetts: 2022

1400

1200

All Other Causes COVID-19

1000

**Age-Adjusted Rate per 100,000**

800

600

400

**657.1**

**1148.0**

**784.8**

**586.8**

**672.1**

200

0

##### 34.4

##### 56.8

**384.8**

##### 24.3

**36.2 44.5 34.5**

Total American Indian/ Alaska Native non-Hispanic

Asian/ Pacific Islander non- Hispanic

Black non- Hispanic

Hispanic White non- Hispanic

##### Race/Ethnicity

**Figure 6. Premature Mortality Rate (PMR)2 for COVID-19 and All Other Causes by Race and Hispanic Ethnicity1, Massachusetts: 2022**

900

**Age-Adjusted Rate per 100,000**

800

700

600

500

400

300

200

**285.0**

**753.1**

**432.5**

**306.2**

All Other Causes COVID-19

**287.0**

100

0

##### 12.7

**52.7**

**130.2**

##### 7.4 17.5 20.8 12.3

Total American Indian/ Alaska Naitve non-Hispanic

Asian/ Pacific Islander non- Hispanic

Black non- Hispanic

Hispanic White non- Hispanic

##### Race/Ethnicity

Note: 1. Please see the technical notes for more information on race and ethnicity. 2. Premature Mortality Rate is defined as deaths that occur before the age of 75 years per 100,000, age-adjusted to the 2000 US standard population under 75 years of age.

##### Figure 7. Daily Mortality Statistics, Massachusetts: 2022

Every day in 2022 in Massachusetts there were on average:

|  |  |  |
| --- | --- | --- |
| 9 COVID-19  Deaths | 3 Influenza & Pneumonia Deaths | 4 Other Infectious Disease Deaths |

15 Infectious Disease Deaths

34 Cancer Deaths

1 Infant Death

34 Heart Disease Deaths

**174 deaths1**

4 Alzheimer’s Deaths

14 Respiratory Deaths

16 Injury Deaths

4 Diabetes Deaths

7 Stroke Deaths

|  |  |  |  |
| --- | --- | --- | --- |
| 6 Opioid Deaths | 4 Fall Deaths | 2 Suicide Deaths | 4 Other Intentional & Unintentional Injury Deaths |

1. Includes 45 deaths due to other causes. Individual categories may not sum to the total due to rounding.

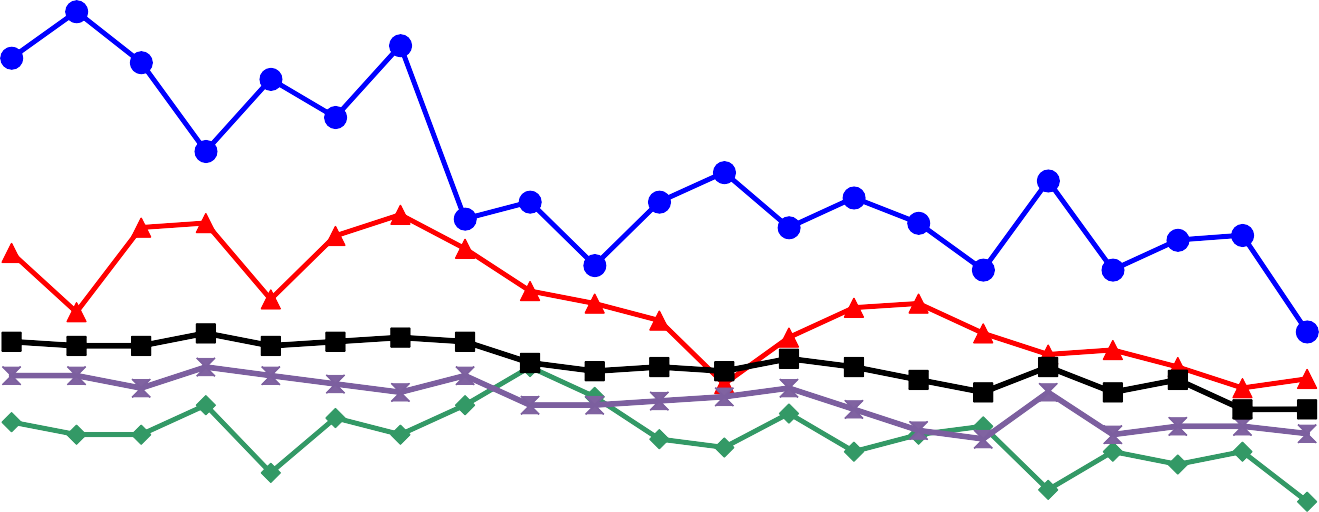
##### Table 4. Top Ten Leading Underlying Causes of Death by Age, Massachusetts: 2022

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Age Groups (number of deaths)** | | | | | | | | |
| **Rank** | **<1 year** | **1-14 years** | **15-24 years** | **25-44 years** | **45-64**  **years** | **65-74**  **years** | **75-84**  **years** | **85+ years** | **All** |
| **1** | Congenital Malformations  (36) | Unintentional Injuries3 (19) | Unintentional Injuries3 (200) | Unintentional Injuries3 (1376) | Cancer (2554) | Cancer (3496) | Cancer (3655) | Heart Disease (5527) | **Cancer (12424)** |
| **2** | Short Gestation and LBW1 (29) | Cancer (16) | Suicide (74) | Cancer (245) | Heart Disease (1633) | Heart Disease (2028) | Heart Disease (2971) | Cancer (2440) | **Heart Disease (12409)** |
| **3** | Pregnancy Complications  (21) | Congenital Malformations (11) | Homicide (30) | Heart Disease (217) | Unintentional Injuries3 (1453) | COVID-19 (627) | COVID-19 (819) | COVID-19 (1265) | **Unintentional Injuries3 (4772)** |
| **4** | SIDS2 (17) | Other Infections (7) | Heart Disease (21) | Suicide (195) | Chronic Liver Disease (451) | Chronic Lower Respiratory  Disease5 (573) | Chronic Lower Respiratory  Disease5 (790) | Stroke (1087) | **COVID-19 (3217)** |
| **5** | Bacterial Sepsis of Newborn (11) | Heart Disease (6) | Cancer (18) | Chronic Liver Disease (97) | COVID-19 (416) | Unintentional Injuries3 (429) | Stroke (679) | Alzheimer’s Disease (1010) | **Stroke (2391)** |
| **6** | Complications of Placenta (9) | COVID-19 (6) | Injuries of Undetermined  Intent3 (10) | Homicide3 (95) | Diabetes (350) | Diabetes (355) | Unintentional Injuries3 (499) | Unintentional Injuries3 (796) | **Chronic Lower Respiratory**  **Disease5 (2374)** |
| **7** | Atelectasis (6) | Influenza & Pneumonia (4) | Congenital Malformations (8) | COVID-19 (72) | Chronic Lower Respiratory  Disease5 (268) | Stroke (341) | Alzheimer’s Disease (457) | Chronic Lower Respiratory  Disease5 (717) | **Alzheimer’s Disease (1598)** |
| **8** | Circulatory System (5) | Ill-defined  Conditions-Signs and Symptoms4 (4) | Ill-defined  Conditions-Signs and Symptoms4 (7) | Ill-defined  Conditions-Signs and Symptoms4 (55) | Stroke (242) | Nephritis (247) | Nephritis (420) | Nephritis (554) | **Diabetes (1501)** |
| **9** | Respiratory Distress (5) | Injuries of Undetermined Intent3 (4) | COVID-19 (7) | Diabetes (39) | Suicide3 (242) | Chronic Liver Disease (222) | Diabetes (375) | Ill-defined Conditions-Signs  and Symptoms4 (461) | **Nephritis (1408)** |
| **10** | COVID-19 (5) | in Situ Neoplasms (3) | Chronic Lower Respiratory Disease5 (6) | Stroke (37) | Nephritis (172) | Septicemia (187) | Parkinsons (320) | Influenza & Pneumonia (434) | **Chronic Liver Disease (949)** |
| **All Causes** | **229** | **114** | **429** | **2,959** | **10,064** | **11,496** | **15,865** | **22,227** | **63,390** |

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

1. LBW: Low birthweight. 2. SIDS: Sudden Infant Death Syndrome. 3. Injuries are subdivided into 4 separate categories by intent: unintentional, homicide, suicide, and injuries of undetermined intent (deaths where investigation has not determined whether injuries were accidental or purposely inflicted). 4. Ill-Defined Conditions: Includes ICD-10 codes R00-R99. 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).

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 5. Trends in Infant, Neonatal, and Post Neonatal Mortality, by Race and Hispanic Ethnicity4, Massachusetts: 2012-2022** | | | | | | | | | | | | |
| **INFANT MORTALITY (less than one year of age)** | | | | | | | | | | | | |
|  | **State Total1** | | **American Indian/ Alaska Native**  **non-Hispanic** | | **Asian/Pacific Islander**  **non-Hispanic** | | **Black**  **non-Hispanic** | | **Hispanic** | | **White**  **non-Hispanic** | |
| **Year** | **#** | **Rate2** | **#** | **Rate2** | **#** | **Rate2** | **#** | **Rate2** | **#** | **Rate2** | **#** | **Rate2** |
| 2012 | 309 | 4.3 | 1 | --3 | 17 | 2.6 | 57 | 8.2 | 71 | 5.4 | 158 | 3.5 |
| 2013 | 298 | 4.2 | 0 | 0.0 | 15 | 2.4 | 63 | 8.9 | 49 | 3.9 | 161 | 3.6 |
| 2014 | 321 | 4.5 | 0 | 0.0 | 20 | 3.2 | 54 | 7.6 | 62 | 5.0 | 169 | 3.8 |
| 2015 | 310 | 4.3 | 2 | --3 | 15 | 2.3 | 59 | 8.3 | 75 | 5.7 | 146 | 3.3 |
| 2016 | 283 | 4.0 | 0 | 0.0 | 18 | 2.7 | 56 | 7.7 | 78 | 5.8 | 119 | 2.8 |
| 2017 | 263 | 3.7 | 1 | --3 | 19 | 2.9 | 49 | 6.6 | 71 | 5.1 | 109 | 2.6 |
| 2018 | 291 | 4.3 | 0 | 0.0 | 9 | 1.4 | 62 | 8.7 | 63 | 4.6 | 148 | 3.7 |
| 2019 | 255 | 3.7 | 0 | 0.0 | 15 | 2.3 | 48 | 6.6 | 67 | 4.7 | 108 | 2.7 |
| 2020 | 263 | 4.0 | 1 | --3 | 13 | 2.0 | 51 | 7.3 | 61 | 4.3 | 111 | 2.9 |
| 2021 | 228 | 3.3 | 0 | 0.0 | 14 | 2.3 | 52 | 7.4 | 55 | 3.8 | 94 | 2.4 |
| 2022 | 229 | 3.3 | 0 | 0.0 | 7 | 1.1 | 38 | 5.1 | 62 | 4.0 | 103 | 2.7 |
| **NEONATAL MORTALITY (birth to 27 days)** | | | | | | | | | | | | |
|  | **State Total1** | | **American Indian/ Alaska Native**  **non-Hispanic** | | **Asian/Pacific Islander**  **non-Hispanic** | | **Black**  **non-Hispanic** | | **Hispanic** | | **White**  **non-Hispanic** | |
| **Year** | **#** | **Rate2** | **#** | **Rate2** | **#** | **Rate2** | **#** | **Rate2** | **#** | **Rate2** | **#** | **Rate2** |
| 2012 | 216 | 3.0 | 0 | 0.0 | 13 | 2.0 | 41 | 5.9 | 46 | 3.5 | 111 | 2.5 |
| 2013 | 221 | 3.1 | 0 | 0.0 | 10 | 1.6 | 45 | 6.3 | 39 | 3.1 | 119 | 2.6 |
| 2014 | 236 | 3.3 | 0 | 0.0 | 15 | 2.3 | 38 | 5.3 | 50 | 3.9 | 122 | 2.7 |
| 2015 | 237 | 3.3 | 0 | 0.0 | 15 | 2.3 | 45 | 6.4 | 59 | 4.5 | 106 | 2.4 |
| 2016 | 214 | 3.0 | 0 | 0.0 | 9 | 1.3 | 47 | 6.5 | 64 | 4.8 | 87 | 2.0 |
| 2017 | 180 | 2.5 | 1 | --3 | 11 | 1.7 | 32 | 4.3 | 52 | 3.7 | 70 | 1.7 |
| 2018 | 224 | 2.7 | 0 | 0.0 | 6 | 0.9 | 54 | 7.6 | 49 | 3.6 | 107 | 2.7 |
| 2019 | 188 | 2.7 | 0 | 0.0 | 11 | 1.7 | 41 | 5.6 | 52 | 3.6 | 69 | 1.7 |
| 2020 | 190 | 2.9 | 1 | --3 | 10 | 1.5 | 39 | 5.6 | 42 | 3.0 | 75 | 2.0 |
| 2021 | 164 | 2.4 | 0 | 0.0 | 13 | 2.1 | 36 | 5.1 | 41 | 2.8 | 65 | 1.6 |
| 2022 | 149 | 2.2 | 0 | 0.0 | 4 | --3 | 21 | 2.8 | 43 | 2.8 | 68 | 1.8 |
| **POST NEONATAL MORTALITY (28-365 days)** | | | | | | | | | | | | |
|  | **State Total1** | | **American Indian/ Alaska Native**  **non-Hispanic** | | **Asian/Pacific Islander**  **non-Hispanic** | | **Black**  **non-Hispanic** | | **Hispanic** | | **White**  **non-Hispanic** | |
| **Year** | **#** | **Rate2** | **#** | **Rate2** | **#** | **Rate2** | **#** | **Rate2** | **#** | **Rate2** | **#** | **Rate2** |
| 2012 | 93 | 1.3 | 1 | --3 | 4 | --3 | 16 | 2.3 | 25 | 1.9 | 47 | 1.0 |
| 2013 | 77 | 1.1 | 0 | 0.0 | 5 | 0.8 | 18 | 2.5 | 10 | 0.8 | 42 | 0.9 |
| 2014 | 85 | 1.2 | 0 | 0.0 | 5 | 0.8 | 16 | 2.2 | 12 | 0.9 | 47 | 1.1 |
| 2015 | 73 | 1.0 | 2 | --3 | 0 | 0.0 | 14 | 2.0 | 16 | 1.2 | 40 | 0.9 |
| 2016 | 69 | 1.0 | 0 | 0.0 | 9 | 1.3 | 9 | 1.2 | 14 | 1.0 | 32 | 0.7 |
| 2017 | 83 | 1.2 | 0 | 0.0 | 8 | 1.2 | 17 | 2.3 | 19 | 1.4 | 39 | 0.9 |
| 2018 | 67 | 1.0 | 0 | 0.0 | 3 | --3 | 8 | 1.1 | 14 | 1.0 | 41 | 1.0 |
| 2019 | 67 | 1.0 | 0 | 0.0 | 4 | --3 | 7 | 1.0 | 15 | 1.0 | 39 | 1.0 |
| 2020 | 73 | 1.1 | 1 | --3 | 3 | --3 | 12 | 1.7 | 19 | 1.3 | 36 | 0.9 |
| 2021 | 64 | 0.9 | 0 | 0.0 | 1 | --3 | 16 | 2.3 | 14 | 1.0 | 29 | 0.7 |
| 2022 | 77 | 1.1 | 0 | 0.0 | 3 | --3 | 17 | 2.3 | 18 | 1.2 | 35 | 0.9 |
| 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. Rates are expressed per 1,000 live births. 3. Calculations based on values 1-4 are excluded. 4. Please see the Technical Notes for more information on race and ethnicity. | | | | | | | | | | | | |



##### Figure 8. Infant Mortality Rates1,2 by Race and Hispanic Ethnicity3, Massachusetts: 2002-2022

Asian/Pacific Islander non-Hispanic Black non-Hispanic

14 Hispanic

White non-Hispanic

12 State Total

10

**Infant Mortality Rates per 1,000 Live Births**

8

6

4

2

0

2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022

**Year**

NOTE: American Indian/ Alaska Native non-Hispanic not presented due to small counts of 0-4.

1. Deaths of infants of unknown race are included in the total calculation. 2. Rates are expressed per 1,000 live births. 3. Please see the Technical Notes for more information on race and ethnicity.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 6. Infant, Neonatal, and Post Neonatal Deaths by Cause, Massachusetts: 2022** | | | | | | | |
|  |  | **Infant**  (<1 year) |  | **Neonatal**  (<28 days) | | **Post Neonatal**  (28-365 days) | |
| **Cause of Death1** | **ICD-10 Code** | **#** | **%** | **#** | **%** | **#** | **%** |
| **TOTAL** |  | **229** | **100** | **149** | **100** | **77** | **100** |
| **Infectious and parasitic diseases** | **A00-B99** | **14** | **6.1** | **0** | **0.0** | **14** | **18.2** |
| COVID-19 | U071, B342 | 5 | **1.9** | 0 | 0.0 | 5 | **5.6** |
| **Cancer** | **C00-C97** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** |
| **Diseases of the blood and blood forming organs (anemia)** | **D50-D89** | **1** | **--2** | **0** | **0.0** | **1** | **--2** |
| **Diseases of nervous system and ear** | **G00-G98, H60-H93** | **7** | **3.1** | **3** | **--2** | **4** | **--2** |
| **Diseases of the respiratory system** | **J00-J98** | **2** | **--2** | **0** | **0.0** | **2** | **--2** |
| **Diseases of digestive system** | **K00-K92** | **1** | **--2** | **0** | **0.0** | **1** | **--2** |
| **Congenital malformations** | **Q00-Q99** | **36** | **15.7** | **25** | **16.8** | **11** | **14.3** |
| Congenital malformations of nervous system | Q00-Q07 | 3 | --2 | 2 | --2 | 1 | --2 |
| Anencephaly and similar malformations | Q00 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Congenital malformations of heart | Q20-Q24 | 6 | 2.6 | 3 | --2 | 3 | --2 |
| Other congenital malformations of circulatory system | Q25-Q28 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Congenital malformations of respiratory system | Q30-Q34 | 1 | --2 | 1 | --2 | 0 | 0.0 |
| Congenital malformations of genitourinary system | Q50-Q64 | 6 | 2.6 | 5 | 3.4 | 1 | --2 |
| Congenital malformations of musculoskeletal system | Q65-Q85 | 7 | 3.1 | 4 | --2 | 3 | --2 |
| Chromosomal abnormalities | Q90-Q99 | 4 | --2 | 4 | --2 | 0 | 0.0 |
| **Certain conditions originating in the perinatal period** | **P00-P96** | **127** | **55.5** | **117** | **78.5** | **7** | **9.1** |
| Newborn affected by maternal conditions which may be unrelated to present pregnancy | P00 | 2 | --2 | 2 | --2 | 0 | 0.0 |
| Newborn affected by maternal complications of pregnancy | P01 | 21 | 9.2 | 19 | 12.8 | 0 | 0.0 |
| Newborn affected by complications of placenta, cord and membrane | P02 | 9 | 3.9 | 9 | 6.0 | 0 | 0.0 |
| Newborn affected by other complications of labor and delivery | P03 | 1 | --2 | 0 | 0.0 | 0 | 0.0 |
| Disorders relating to short gestation and low birthweight | P07 | 29 | 12.7 | 29 | 19.5 | 0 | 0.0 |
| Intrauterine hypoxia and birth asphyxia | P20-P21 | 3 | --2 | 3 | --2 | 0 | 0.0 |
| Respiratory distress of newborn | P22 | 5 | 2.2 | 4 | --2 | 1 | --2 |
| Other respiratory conditions of newborn | P23-P28 | 9 | 3.9 | 8 | 5.4 | 1 | --2 |
| Infections specific to the perinatal period | P35-P39 | 14 | 6.1 | 13 | 8.7 | 1 | --2 |
| Neonatal hemorrhage | P50-P52, P54 | 4 | --2 | 4 | --2 | 0 | 0.0 |
| Other and ill-defined conditions originating in the perinatal period | P90-P96 | 11 | 4.8 | 9 | 6.0 | 2 | --2 |
| **Symptoms, signs, and ill-defined conditions** | **R00-R99** | **24** | **10.5** | **2** | **--2** | **22** | **28.6** |
| Sudden Infant Death Syndrome (SIDS) | R95 | 17 | 7.4 | 1 | --2 | 16 | 20.8 |
| **Unintentional Injuries** | **V01-X59** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** |
| **Homicide** | **X85-Y09** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** |
| **All other causes** | **Residual** | **17** | **7.4** | **2** | **--2** | **15** | **19.5** |
|  | | | | | |  | |
| 1. Please see Technical Notes in the Appendix for an explanation of ICD-10 codes. 2. Calculations based on values 1-4 are excluded. | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 7. Infant1 Deaths by Major Causes2, Race and Hispanic Ethnicity4, Massachusetts: 2022** | | | | | | | | | |
|  |  | **Asian/Pacific Islander non- Hispanic** | | **Black non- Hispanic** | | **Hispanic** | | **White non- Hispanic** | |
| **Cause of Death2** | **ICD-10**  **Code** | **#** | **%** | **#** | **%** | **#** | **%** | **#** | **%** |
| **TOTAL** |  | **7** | **100.0%** | **38** | **100.0%** | **62** | **100.0%** | **103** | **100.0%** |
| Certain conditions originating in the perinatal period | P00- P96 | 2 | --3 | 20 | 52.6% | 33 | 53.2% | 55 | 53.4% |
| Congenital malformations | Q00-Q99 | 1 | --3 | 5 | 13.2% | 13 | 21.0% | 17 | 16.5% |
| Symptoms, signs, and ill-defined conditions | R00-R99 | 0 | 0.0% | 3 | --3 | 9 | 14.5% | 12 | 11.7% |
| SIDS | R95 | 0 | 0.0% | 2 | --3 | 8 | 12.9% | 7 | 6.8% |
| Unintentional Injuries | V01-X59 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| All other causes | Residual | 4 | --3 | 10 | 26.3% | 7 | 11.3% | 19 | 18.4% |
| NOTE: There were zero American Indian/Alaska Native non-Hispanic infant deaths in 2022.  1. Deaths less than 1 year of age. 2. Deaths are coded according to ICD-10. 3. Calculations based on values 1-4 are excluded. 4. Please see the Technical Notes for more information on race and ethnicity. | | | | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Table 8. Leading Underlying Causes of Death, Numbers and Age-**  **Specific Rates by Gender, Massachusetts: 2022** | | | | | | | |  |
|  |  |  | **Total** | | **Women** | | **Men** | |  |
|  | Age | Cause of Death1 | Number | Rate2 | Number | Rate2 | Number | Rate2 |  |
|  | **1-14** | **TOTAL** | **114** | **11.0** | **49** | **9.6** | **65** | **12.2** |  |
|  |  | Unintentional Injuries | 19 | 1.8 | 6 | 1.2 | 13 | 2.4 |  |
|  |  | Cancer | 16 | 1.5 | 9 | 1.8 | 7 | 1.3 |  |
|  |  | Congenital Malformations | 11 | 1.1 | 2 | --3 | 9 | 1.7 |  |
|  |  | Other Infections | 7 | 0.7 | 2 | --3 | 5 | 0.9 |  |
|  | **15-24** | **TOTAL** | **429** | **45.1** | **115** | **24.1** | **314** | **66.2** |  |
|  |  | Unintentional Injuries | 200 | 21.0 | 46 | 9.7 | 154 | 32.5 |  |
|  |  | Suicide | 74 | 7.8 | 20 | 4.2 | 54 | 11.4 |  |
|  |  | Homicide | 30 | 3.2 | 8 | 1.7 | 22 | 4.6 |  |
|  |  | Heart Disease | 21 | 2.2 | 6 | 1.3 | 15 | 3.2 |  |
|  | **25-44** | **TOTAL** | **2,959** | **157.1** | **953** | **100.8** | **2,005** | **213.8** |  |
|  |  | Unintentional Injuries | 1,376 | 73.0 | 384 | 40.6 | 992 | 105.8 |  |
|  |  | Cancer | 245 | 13.0 | 131 | 13.8 | 114 | 12.2 |  |
|  |  | Heart Disease | 217 | 11.5 | 58 | 6.1 | 159 | 17.0 |  |
|  |  | Suicide | 195 | 10.4 | 33 | 3.5 | 161 | 17.2 |  |
|  | **45-64** | **TOTAL** | **10,064** | **534.1** | **3,838** | **393.7** | **6,226** | **684.7** |  |
|  |  | Cancer | 2,554 | 135.5 | 1,220 | 125.1 | 1,334 | 146.7 |  |
|  |  | Heart Disease | 1,633 | 86.7 | 486 | 49.8 | 1,147 | 126.1 |  |
|  |  | Unintentional Injuries | 1,453 | 77.1 | 388 | 39.8 | 1,065 | 117.1 |  |
|  |  | Chronic Liver Disease | 451 | 23.9 | 164 | 16.8 | 287 | 31.6 |  |
|  | **65+** | **TOTAL** | **49,588** | **4,128.7** | **26,532** | **3,910.1** | **23,056** | **4,412.6** |  |
|  |  | Heart Disease | 10,526 | 876.4 | 5,308 | 782.2 | 5,218 | 998.6 |  |
|  |  | Cancer | 9,591 | 798.5 | 4,713 | 694.6 | 4,878 | 933.6 |  |
|  |  | COVID-19 | 2,711 | 225.7 | 1,341 | 197.6 | 1,370 | 262.2 |  |
|  |  | Stroke | 2,107 | 175.4 | 1,289 | 190.0 | 818 | 156.6 |  |
|  | **65-74** | **TOTAL** | **11,496** | **1,661.8** | **4,914** | **1,322.1** | **6,582** | **2,056.3** |  |
|  |  | Cancer | 3,496 | 505.4 | 1,615 | 434.5 | 1,881 | 587.6 |  |
|  |  | Heart Disease | 2,028 | 293.2 | 710 | 191.0 | 1,318 | 411.8 |  |
|  |  | COVID-19 | 627 | 90.6 | 255 | 68.6 | 372 | 116.2 |  |
|  |  | Chronic Lower Respiratory Disease | 573 | 82.8 | 287 | 77.2 | 286 | 89.3 |  |
|  | **75-84** | **TOTAL** | **15,865** | **4,591.1** | **7,812** | **3,935.7** | **8,053** | **5,475.6** |  |
|  |  | Cancer | 3,655 | 1,057.7 | 1,804 | 908.9 | 1,851 | 1,258.6 |  |
|  |  | Heart Disease | 2,971 | 859.8 | 1,262 | 635.8 | 1,709 | 1,162.0 |  |
|  |  | COVID-19 | 819 | 237.0 | 368 | 185.4 | 451 | 306.7 |  |
|  |  | Chronic Lower Respiratory Disease | 790 | 228.6 | 444 | 223.7 | 346 | 235.3 |  |
|  | **85+** | **TOTAL** | **22,227** | **13,576.6** | **13,806** | **12,739.6** | **8,421** | **15,215.5** |  |
|  |  | Heart Disease | 5,527 | 3,376.0 | 3,336 | 3,078.3 | 2,191 | 3,958.8 |  |
|  |  | Cancer | 2,440 | 1,490.4 | 1,294 | 1,194.0 | 1,146 | 2,070.6 |  |
|  |  | COVID-19 | 1,265 | 772.7 | 718 | 662.5 | 547 | 988.3 |  |
|  |  | Stroke | 1,087 | 664.0 | 748 | 690.2 | 339 | 612.5 |  |

1. Cause of Death classified using ICD-10 ranked based on number of deaths for all persons at specific age group. See Appendix for a list of ICD-10 codes. 2. Number of deaths per 100,000 residents in each age group. 3. Calculations based on values 1-4 are excluded.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 9. Leading Underlying Causes of Death1 and Age-Adjusted Rates by Race and Hispanic Ethnicity2, Massachusetts: 2022** | | | | | | | | | | | | |  |
| **American Indian/ Alaska Native non-Hispanic** | | **Asian/Pacific Islander non- Hispanic** | | | **Black non-Hispanic** | | | **Hispanic** |  | **White non-Hispanic** | | |
| **Cause3 # Rate4** | | **Cause3 # Rate4** | | | **Cause3 # Rate4** | | | **Cause3 #** | **Rate4** | **Cause3 # Rate4** | | |
| **Total** | **141 1,204.8** | **Total** | **1,625** | **409.0** | **Total** | **3,589** | **821.0** | **Total 3,235** | **631.3** | **Total** | **54,219** | **706.6** |
| Heart Disease | 34 300.9 | Cancer | 403 | 97.9 | Cancer | 651 | 148.2 | Unintentional 548 | 71.4 | Heart Disease | 10,909 | 135.5 |
|  |  |  |  |  |  |  |  | Injuries5 |  |  |  |  |
| Unintentional | 20 208.5 | Heart Disease | 282 | 73.1 | Heart Disease | 623 | 145.2 | Cancer 526 | 108.3 | Cancer | 10,738 | 139.4 |
| Injuries5 |  |  |  |  |  |  |  |  |  |  |  |  |
| Cancer | 16 126.9 | Stroke | 103 | 27.2 | Unintentional | 399 | 80.4 | Heart Disease 445 | 97.0 | Unintentional | 3,643 | 62.4 |
|  |  |  |  |  | Injuries5 |  |  |  |  | Injuries5 |  |  |
| COVID-19 | 8 56.8 | COVID-19 | 95 | 24.3 | Stroke | 176 | 44.3 | COVID-19 206 | 44.5 | COVID-19 | 2,723 | 34.5 |
| Chronic liver | 6 50.3 | Unintentional | 88 | 19.3 | COVID-19 | 154 | 36.2 | Diabetes 124 | 28.7 | Chronic Lower | 2,199 | 27.7 |
| disease |  | Injuries5 |  |  |  |  |  |  |  | Respiratory |  |  |
|  |  |  |  |  |  |  |  |  |  | Disease |  |  |
| Influenza & | 5 36.4 | Diabetes | 64 | 16.6 | Diabetes | 151 | 35.2 | Stroke 106 | 24.6 | Stroke | 1,968 | 24.4 |
| Pneumonia |  |  |  |  |  |  |  |  |  |  |  |  |
| Stroke | 4 --6 | Nephritis | 40 | 10.6 | Nephritis | 123 | 30.5 | Nephritis 93 | 21.2 | Alzheimer's | 1,455 | 17.5 |
|  |  |  |  |  |  |  |  |  |  | Disease |  |  |
| Diabetes | 3 --6 | Chronic Lower | 27 | 7.2 | Chronic Lower | 82 | 20.1 | Chronic liver 86 | 14.3 | Diabetes | 1,148 | 14.9 |
|  |  | Respiratory |  |  | Respiratory |  |  | disease |  |  |  |  |
|  |  | Disease |  |  | Disease |  |  |  |  |  |  |  |
| Alzheimer's | 3 --6 | Septicemia | 26 | 6.3 | Hypertension | 75 | 18.0 | Ill-defined 57 | 8.8 | Nephritis | 1,138 | 14.3 |
| Disease |  |  |  |  |  |  |  | conditions- |  |  |  |  |
|  |  |  |  |  |  |  |  | signs and |  |  |  |  |
|  |  |  |  |  |  |  |  | symptoms |  |  |  |  |
| Nephritis | 3 --6 | Ill-defined | 26 | 6.7 | Homicide | 64 | 12.6 | Septicemia 52 | 10.7 | Influenza & | 842 | 10.6 |
|  |  | conditions-signs |  |  |  |  |  |  |  | Pneumonia |  |  |
|  |  | and symptoms |  |  |  |  |  |  |  |  |  |  |
| **Total**  **Cause3 # Rate4**  **Total 63,390 691.6**  Cancer 12,424 135.2  Heart Disease 12,409 131.5  Unintentional Injuries5 4,772 61.1  COVID-19 3,217 34.4  Stroke 2,391 25.5  Chronic Lower Respiratory Disease 2,374 25.5  Alzheimer’s Disease 1,598 16.7  Diabetes 1,501 16.3  Nephritis 1,408 15.1  Chronic Liver Disease 949 11.0  1. Ranking based on number of deaths. 2. See the technical notes for more information on race and ethnicity. 3. Underlying Cause of Death based on ICD-10. Please see Appendix for a list of ICD-10 codes used. 4. All rates are age-adjusted per 100,000 residents using the 2000 US standard population. 5. Unintentional injuries include injuries such as motor vehicle-related and other transportation related deaths, falls, fires, and drownings that were not intended to occur. 6. Calculations based on values 1-4 are excluded. | | | | | | | | | | | | | |

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##### Figure 9. Selected Causes of Death by Age Group and Gender, Massachusetts: 2022

4,000

3,500

Number of Deaths

3,000

2,500

2,000

1,500

**Heart Disease**

Men Women

1,318

1,709

1,262

3,336

2,191

2,000

1,800

1,600

1,400

Number of Deaths

1,200

1,000

800

**Cancer**

1,040

Men Women

923

1,881 1,851

1,615

1,804

1,294

1,146

1,000

500

0

179 67

291

109

856

377

710

600

400

200

0

129150

294297

< 45 45-54 55-64 65-74 75-84 85+

Age Group (years)

< 45 45-54 55-64 65-74 75-84 85+

Age Group (years)

800

700

600

Number of Deaths

**Stroke**

748

500

Men

Women

400

300

200

100

0

22 20

29 21

100 92

191

150

288

391

339

< 45 45-54 55-64 65-74 75-84 85+

Age Group (years)

28

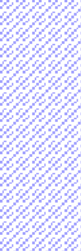
|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 10. Number and Age-Adjusted Rates of Cancer Deaths by Selected Causes and Gender, Massachusetts: 2022** | | | | | | | | |
| **Cause of Death1** | **ICD-10**  **Code** |  | **Total** | | **Women** | | **Men** | |
|  |  | **#** | **Rate2,3** | | **#** | **Rate2** | **#** | **Rate2** |
| **Total Cancer Deaths** | **C00-C97** | **12,424** | | **135.2** | **6,083** | **93.0** | **6,341** | **162.1** |
| Bladder | C67 | 382 | | 4.1 | 113 | 2.1 | 269 | 7.2 |
| Brain and nervous system | C70-C72 | 414 | | 4.7 | 201 | 4.2 | 213 | 5.2 |
| Cervix | C53 | 51 | | 1.1 | 51 | 1.1 | N/A | N/A |
| Colorectal | C18-C21 | 890 | | 9.8 | 450 | 8.6 | 440 | 11.2 |
| Esophagus | C15 | 385 | | 4.2 | 93 | 1.8 | 292 | 7.2 |
| Breast | C50 | 718 | | 14.2 | 718 | 14.2 | N/A | N/A |
| Hodgkin’s disease | C81 | 11 | | 0.1 | 6 | 0.1 | 5 | 0.1 |
| Kidney and other urinary organs | C64, C65 | 267 | | 2.9 | 81 | 1.5 | 186 | 4.8 |
| Leukemia | C91-C95 | 444 | | 4.9 | 183 | 3.4 | 261 | 6.9 |
| Lung | C33, C34 | 2,737 | | 29.5 | 1,420 | 27.2 | 1,317 | 32.8 |
| Melanoma of the skin | C43 | 195 | | 2.2 | 80 | 1.6 | 115 | 3.0 |
| Multiple myeloma | C88, C90 | 252 | | 2.7 | 97 | 1.8 | 155 | 3.9 |
| Non-Hodgkin’s lymphoma | C82-C85 | 409 | | 4.4 | 198 | 3.7 | 211 | 5.4 |
| Ovary | C56 | 330 | | 6.7 | 330 | 6.7 | N/A | N/A |
| Pancreas | C25 | 1,087 | | 11.7 | 514 | 9.8 | 573 | 14.1 |
| Prostate | C61 | 663 | | 17.6 | N/A | N/A | 663 | 17.6 |
| Stomach | C16 | 204 | | 2.3 | 77 | 1.5 | 127 | 3.2 |
| Uterus | C54, C55 | 252 | | 4.8 | 252 | 4.8 | N/A | N/A |
| All other cancers | Residual | 2,733 | | 29.6 | 1,219 | 23.5 | 1,514 | 37.8 |
| 1. Common terms are used to describe the causes of cancer deaths. For detailed terminology of cancer sites, please see the ICD-10 code list in the Appendix. 2. Rates are per 100,000 age-adjusted to the 2000 US standard population. 3. The total resident population is used to calculate all "Total Rates" except for ICD-10 codes C50, C53-C56, which are based on the total female population, and ICD-10 C61, which is based on the total male population. | | | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 11. Selected Causes of Cancer Deaths by Age, Massachusetts: 2022** | | | | |
| **Age** | **Cause of death1** | **ICD-10 Code** | **Number** | **Age-specific rate2** |
| **1 – 14 years** | **Total** |  | **16** | **1.5** |
|  | Brain and nervous system | C70-C72 | 6 | 0.6 |
|  | Leukemia | C91-C95 | 2 | --3 |
|  | Kidney and other urinary organs | C64, C65 | 1 | --3 |
| **15 – 24 years** | **Total** |  | **18** | **1.9** |
|  | Leukemia | C91-C95 | 4 | --3 |
|  | Brain and nervous system | C70-C72 | 2 | --3 |
|  | Ovary | C56 | 1 | --3 |
|  | Kidney and other urinary organs | C64, C65 | 1 | --3 |
| **25 – 44 years** | **Total** |  | **245** | **13.0** |
|  | Female breast4 | C50 | 31 | 3.3 |
|  | Brain and nervous system | C70-C72 | 27 | 1.4 |
|  | Lung | C33, C34 | 25 | 1.3 |
|  | Colorectal | C18-C21 | 24 | 1.3 |
| **45 – 64 years** | **Total** |  | **2,554** | **135.5** |
|  | Lung | C33, C34 | 526 | 27.9 |
|  | Colorectal | C18-C21 | 250 | 13.3 |
|  | Pancreas | C25 | 237 | 12.6 |
|  | Female breast4 | C50 | 201 | 20.6 |
| **65 + years** | **Total** |  | **9,591** | **798.5** |
|  | Lung | C33, C34 | 2,186 | 182.0 |
|  | Pancreas | C25 | 841 | 70.0 |
|  | Colorectal | C18-C21 | 616 | 51.3 |
|  | Prostate5 | C61 | 600 | 114.8 |
| **65 – 74 years** | **Total** |  | **3,496** | **505.4** |
|  | Lung | C33, C34 | 884 | 127.8 |
|  | Pancreas | C25 | 340 | 49.1 |
|  | Colorectal | C18-C21 | 201 | 29.1 |
|  | Female breast4 | C50 | 170 | 45.7 |
| **75 – 84 years** | **Total** |  | **3,655** | **1,057.7** |
|  | Lung | C33, C34 | 873 | 252.6 |
|  | Pancreas | C25 | 331 | 95.8 |
|  | Prostate5 | C61 | 229 | 155.7 |
|  | Colorectal | C18-C21 | 228 | 66.0 |
| **85+ years** | **Total** |  | **2,440** | **1,490.4** |
|  | Lung | C33, C34 | 429 | 262.0 |
|  | Prostate5 | C61 | 230 | 415.6 |
|  | Colorectal | C18-C21 | 187 | 114.2 |
|  | Pancreas | C25 | 170 | 103.8 |
| 1. Common terms are used to describe causes of cancer death. For detailed terminology, please see the ICD-10 codes listed in the Appendix. 2. Number of deaths per 100,000 residents in each age group. 3. Calculations based on values 1-4 are excluded.  4. Calculation based on female population in specified age group. 5. Calculation based on male population in a specified age group. | | | | |

##### Table 12. Leading Causes of Cancer Deaths and Age-Adjusted Rates by Race and Hispanic Ethnicity1, Massachusetts: 2022

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **American Indian/ Alaska Native non- Hispanic** | | | **Asian/Pacific Islander non-Hispanic** | | | **Black non-Hispanic** | | | **Hispanic** | |  | **White non-Hispanic** | | |
| **Cause2** | **#** | **Rate3** | **Cause2** | **#** | **Rate3** | **Cause2** | **#** | **Rate3** | **Cause2** | **#** | **Rate3** | **Cause2** | **#** | **Rate3** |
| Lung | 5 | 33.2 | Lung | 96 | 23.7 | Lung | 121 | 27.7 | Lung | 57 | 12.5 | Lung | 2439 | 31.4 |
| Colorectal | 2 | --6 | Pancreas | 37 | 8.8 | Prostate5 | 60 | 38.6 | Colorectal | 51 | 10.0 | Pancreas | 939 | 12.1 |
| Pancreas | 2 | --6 | Colorectal | 34 | 8.1 | Female Breast4 | 51 | 20.3 | Pancreas | 51 | 10.4 | Colorectal | 747 | 10.0 |
| Esophagus | 1 | --6 | Female Breast4 | 16 | 7.0 | Pancreas | 50 | 11.7 | Female Breast4 | 33 | 10.6 | Female Breast4 | 614 | 14.7 |
| Stomach | 1 | --6 | Brain and  Nervous System | 16 | 3.3 | Colorectal | 47 | 9.7 | Prostate5 | 26 | 16.2 | Prostate5 | 565 | 17.5 |
| **Total Cancer** | **16** | **126.9** | **Total Cancer** | **403** | **97.9** | **Total Cancer** | **651** | **148.2** | **Total Cancer** | **526** | **108.3** | **Total Cancer** | **10738** | **139.4** |

1. See the technical notes for more information on race and ethnicity. 2. ICD-10 codes used. Please see the ICD-10 codes listing in the Appendix for detailed terminology. 3. Rates are per 100,000 age-adjusted to the US standard population. 4. Calculation based on female population. 5. Calculation based on male population. 6. Calculations based on values 1-4 are excluded.



**Figure 10. Diabetes Deaths, Massachusetts: 2012-2022**

6,000

5,000

4,000

**3,918**

**3,553**

3,000

**3,415**

**2,567**

**2,589**

**2,608**

**2,681**

**2,738**

**2,359**

**2,299**

**2,378**

2,000

1,000

**1,098**

**1,149**

**1,214**

**1,404**

**1,267**

**1,323**

**1,392 1,386**

**1,559 1,539 1,501**

0

2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022

**Year**

Underlying Cause Contributing Cause Only

**Diabetes Deaths**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 13. Diabetes Deaths by Gender, Massachusetts: 2022** | | | | | | | |
|  | Proportion of all Deaths (%)1 | | | Number | | | |
| Cause of Death | Men | Women | Total | Men | Women | Total | |
| Underlying | 2.7% | 2.0% | 2.4% | 854 | 647 | 1,501 |  |
| Contributing/Associated | 6.1% | 4.7% | 5.4% | 1,944 | 1,471 | 3,415 |
| **Total Diabetes-Related** | **8.8%** | **6.7%** | **7.8%** | **2,798** | **2,118** | **4,916** |
| 1. Proportions are out of total deaths due to all causes. | | | | | | |



**Figure 11. Age Distribution of Diabetes Deaths, Massachusetts: 2022**

1,800

1,600

1,400

1,200

1,000

800

600

400

Underlying

Contributing

**1,061**

**1,000**

**717**

**423**

200

0

**78**

**44**

**136**

**99**

**251**

**355**

**375**

**377**

15-44

45-54

55-64

65-74

75-84

85+

**Age Groups (years)**

**Table 14. Diabetes Deaths by Race and Hispanic Ethnicity1, Massachusetts: 2022**

1. See the technical notes for more information on race and ethnicity. 2. Proportions are out of total deaths due to all causes. 3.Rates are per 100,000 age-adjusted to the 2000 U.S. standard population. 4. Calculations based on values 1-4 are excluded.

**Diabetes Deaths**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Race/Hispanic Ethnicity1** | | | | | |
| Cause of Death | American Indian/ Alaska Native non-  Hispanic | Asian/ Pacific Islander non- Hispanic | Black non- Hispanic | Hispanic | White non- Hispanic | Total |
|  |  |  | Number |  |  |  |
| Underlying | 3 | 64 | 151 | 124 | 1,148 | 1,501 |
| Contributing/Associated | 9 | 112 | 276 | 236 | 2,744 | 3,415 |
| *Total Diabetes-Related* | 12 | 176 | 427 | 360 | 3,892 | 4,916 |
| ***Total Deaths (All Causes)*** | ***141*** | ***1,625*** | ***3,589*** | ***3,235*** | ***54,219*** | ***63,390*** |
|  |  | Proportion of all deaths (%)2 | | |  |  |
| Underlying | 2.1 | 3.9 | 4.2 | 3.8 | 2.1 | 2.4 |
| Contributing/Associated | 6.4 | 6.9 | 7.7 | 7.3 | 5.1 | 5.4 |
| ***Total Diabetes-Related*** | ***8.5*** | ***10.8*** | ***11.9*** | ***11.1*** | ***7.2*** | ***7.8*** |
|  |  |  | Death Rates3 | |  |  |
| Underlying | --4 | 16.6 | 35.2 | 28.7 | 14.9 | 16.3 |
| Contributing/Associated | 76.2 | 29.7 | 66.2 | 52.5 | 35.5 | 37.3 |
| ***Total Diabetes-Related*** | ***102.8*** | ***46.2*** | ***101.4*** | ***81.2*** | ***50.4*** | ***53.6*** |

##### Figure 12. Diabetes Death Rates, Massachusetts: 2002-2022

Underlying Cause Rate Contributing Cause Rate

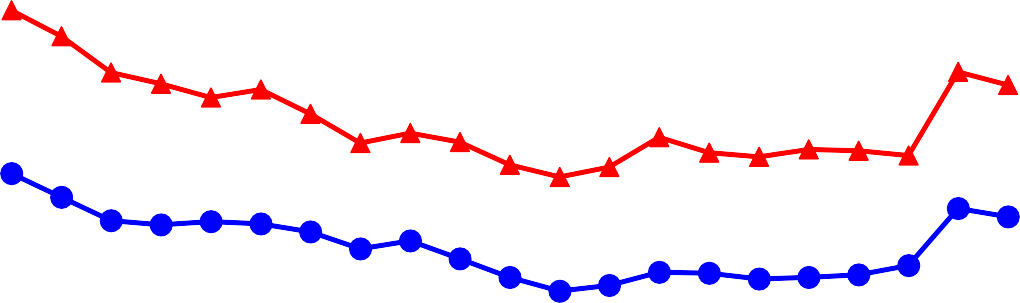
70 Diabetes-Related Rate

60 62.8

50

**Age-Adjusted Death Rates per 100,000 Population**

53.6



40

42.6 37.3

30

20

20.2 16.3

10

0

2002 2004 2006 2008 2010 2012 2014 2016 2018 2020 2022

**Year**

Note: Rates are per 100,000 age-adjusted to the 2000 U.S. standard population.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 15. COVID-19 Deaths by Gender, Massachusetts: 2022** | | | | | | | |
|  | Proportion of all Deaths (%)1 | | | Number | | | |
| Cause of Death | Men | Women | Total | Men | Women | Total | |
| Underlying | 5.2% | 4.9% | 5.1% | 1,662 | 1,555 | 3,217 |  |
| Contributing/Associated | 1.7% | 1.6% | 1.7% | 553 | 511 | 1,064 |
| **Total COVID-19-Related** | **7.0%** | **6.5%** | **6.8%** | **2,215** | **2,066** | **4,281** |
| 1. Proportions are out of total deaths due to all causes. | | | | | | |

**Table 16. COVID-19 Deaths by Race and Hispanic Ethnicity, Massachusetts: 2022**

1. See the technical notes for more information on race and ethnicity. 2. Proportions are out of total deaths due to all causes. 3. Rates are per 100,000 age-adjusted to the 2000 U.S. standard population

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Race/Hispanic Ethnicity1** | | | | | |
| Cause of Death | American Indian/ Alaska Native non-Hispanic | Asian/ Pacific Islander non-  Hispanic | Black non- Hispanic | Hispanic | White non- Hispanic | Total |
|  |  |  | Number |  |  |  |
| Underlying | 8 | 95 | 154 | 206 | 2,723 | 3,217 |
| Contributing/Associated | 5 | 22 | 56 | 52 | 918 | 1,064 |
| *Total COVID-19-Related* | 13 | 117 | 210 | 258 | 3,641 | 4,281 |
| ***Total Deaths (All Causes)*** | ***141*** | ***1,625*** | ***3,589*** | ***3,235*** | ***54,219*** | ***63,390*** |
|  |  | Proportion of all deaths (%)2 | | |  |  |
| Underlying | 5.7 | 5.8 | 4.3 | 6.4 | 5.0 | 5.1 |
| Contributing/Associated | 3.5 | 1.4 | 1.6 | 1.6 | 1.7 | 1.7 |
| ***Total COVID-19-Related*** | ***9.2*** | ***7.2*** | ***5.9*** | ***8.0*** | ***6.7*** | ***6.8*** |
|  |  |  | Death Rates3 | |  |  |
| Underlying | 56.8 | 24.3 | 36.2 | 44.5 | 34.5 | 34.4 |
| Contributing/Associated | 39.2 | 5.9 | 13.8 | 11.5 | 11.7 | 11.5 |
| ***Total COVID-19-Related*** | ***96.0*** | ***30.2*** | ***50.0*** | ***56.0*** | ***46.2*** | ***45.9*** |

##### Figure 13. COVID-19 Age-Specific Death Rates1 by Race/Ethnicity2, Massachusetts: 2020-2022

**Total**

**Black non-Hispanic**

500.0

**Asian/Pacific Islander non-Hispanic**

500.0

500.0

2020 2021 2022 2020 2021 2022 2020 2021 2022

400.0 400.0 400.0

300.0

300.0

300.0

200.0

200.0

200.0

100.0

100.0

100.0

0.0

0.0

0.0

<25 25-44

45-54

Age

55-64 65-74

<25

25-44

45-54

Age

55-64 65-74

<25

25-44

45-54

Age

55-64 65-74

119.6

280.1

497.3

39.4

118.3

179.3

16.0

41.7

59.4

9.0

10.4

13.8

\*

\*

\*

132.9 63.1

249.2

18.3

69

48.7

\*

20.3

13.1

\* 7.1

\*

\*

\*

0.0

90.6

150.5

215.8

31.2

66.5

66.2

12.4

24.7

20.6

3.8

6.6

4.1

0.9

0.8

0.3

Age-Specific Mortality Rate per 100,000

Age-Specific Mortality Rate per 100,000

Age-Specific Mortality Rate per 100,000

\* Calculations based on values 1-4 are excluded.

**Hispanic**

500.0

2020 2021 2022

400.0

300.0

200.0

100.0

0.0

<25

25-44

45-54

Age

55-64 65-74

**White non-Hispanic**

500.0

2020 2021 2022

400.0

300.0

200.0

100.0

0.0

<25

25-44

45-54

Age

55-64 65-74

87.0

132.8

183.8

30.1

55.2

50.0

11.5

18.1

13.1

4.0

5.3

2.2

0.8

0.5

\*

160.2

347.2

486.7

50.7

155.3

178.4

21.9

61.6

53.2

3.2

11.3

8.8

1.6

2.1

\*

Age-Specific Mortality Rate per 100,000

Age-Specific Mortality Rate per 100,000

Note: Data for American Indian/Alaska Native is non-Hispanic not presented due to sparse data points.

1. Number of deaths per 100,000 residents in each age group. 2. See the technical notes for more information on race and ethnicity.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 17. Injury Deaths by Method, Gender, and Age: Numbers, Age-Adjusted, and Age-Specific Rates, Massachusetts: 2022** | | | | | | | | | | | | | | |
|  | **All Injury Deaths1** | | **Poisoning2** | | **Falls** | | **Hanging, Strangulation,**  **or Suffocation** | | **Motor Vehicle- Related3** | | **Firearm** | | **Other4** | |
|  | Number7 | Rate5 | Number7 | Rate5 | Number7 | Rate5 | Number7 | Rate5 | Number7 | Rate5 | Number7 | Rate5 | Number7 | Rate5 |
| **All Persons** | **5,742** | **73.9** | **2,715** | **38.0** | **1,292** | **13.9** | **443** | **5.5** | **477** | **6.2** | **263** | **3.6** | **552** | **6.7** |
| < 1 | 3 | --6 | 0 | 0.0 | 0 | 0.0 | 1 | --6 | 0 | 0.0 | 0 | 0.0 | 2 | --6 |
| 1-14 | 29 | 2.8 | 4 | --6 | 2 | --6 | 5 | 0.5 | 2 | --6 | 1 | --6 | 15 | 1.4 |
| 15-24 | 317 | 33.3 | 120 | 12.6 | 7 | 0.7 | 33 | 3.5 | 80 | 8.4 | 53 | 5.6 | 24 | 2.5 |
| 25-44 | 1,704 | 90.5 | 1,228 | 65.2 | 29 | 1.5 | 84 | 4.5 | 134 | 7.1 | 118 | 6.3 | 111 | 5.9 |
| 45-64 | 1,780 | 94.5 | 1,173 | 62.3 | 126 | 6.7 | 147 | 7.8 | 140 | 7.4 | 55 | 2.9 | 139 | 7.4 |
| 65-74 | 519 | 75.0 | 156 | 22.6 | 149 | 21.5 | 51 | 7.4 | 53 | 7.7 | 15 | 2.2 | 95 | 13.7 |
| 75-84 | 559 | 161.8 | 23 | 6.7 | 346 | 100.1 | 59 | 17.1 | 39 | 11.3 | 12 | 3.5 | 80 | 23.2 |
| 85+ | 828 | 505.8 | 11 | 6.7 | 633 | 386.6 | 63 | 38.5 | 29 | 17.7 | 7 | 4.3 | 85 | 51.9 |
| **All Women** | **1,865** | **42.5** | **772** | **21.2** | **631** | **10.8** | **129** | **2.8** | **132** | **3.2** | **23** | **0.6** | **178** | **3.8** |
| < 1 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| 1-14 | 8 | 1.6 | 2 | --6 | 1 | --6 | 0 | 0.0 | 2 | --6 | 0 | 0.0 | 3 | --6 |
| 15-24 | 76 | 16.0 | 30 | 6.3 | 1 | --6 | 11 | 2.3 | 17 | 3.6 | 8 | 1.7 | 9 | 1.9 |
| 25-44 | 443 | 46.8 | 349 | 36.9 | 5 | 0.5 | 16 | 1.7 | 35 | 3.7 | 9 | 1.0 | 29 | 3.1 |
| 45-64 | 473 | 48.5 | 328 | 33.6 | 33 | 3.4 | 36 | 3.7 | 38 | 3.9 | 4 | --6 | 34 | 3.5 |
| 65-74 | 154 | 41.4 | 46 | 12.4 | 49 | 13.2 | 17 | 4.6 | 14 | 3.8 | 1 | --6 | 27 | 7.3 |
| 75-84 | 231 | 116.4 | 13 | 6.5 | 150 | 75.6 | 24 | 12.1 | 15 | 7.6 | 1 | --6 | 28 | 14.1 |
| 85+ | 480 | 442.9 | 4 | --6 | 392 | 361.7 | 25 | 23.1 | 11 | 10.2 | 0 | 0.0 | 48 | 44.3 |
| **All Men** | **3,876** | **108.1** | **1,942** | **55.5** | **661** | **17.9** | **314** | **8.5** | **345** | **9.5** | **240** | **6.8** | **374** | **10.0** |
| < 1 | 3 | --6 | 0 | 0.0 | 0 | 0.0 | 1 | --6 | 0 | 0.0 | 0 | 0.0 | 2 | --6 |
| 1-14 | 21 | 4.0 | 2 | --6 | 1 | --6 | 5 | 0.9 | 0 | 0.0 | 1 | --6 | 12 | 2.3 |
| 15-24 | 241 | 50.8 | 90 | 19.0 | 6 | 1.3 | 22 | 4.6 | 63 | 13.3 | 45 | 9.5 | 15 | 3.2 |
| 25-44 | 1,260 | 134.4 | 878 | 93.6 | 24 | 2.6 | 68 | 7.3 | 99 | 10.6 | 109 | 11.6 | 82 | 8.7 |
| 45-64 | 1,307 | 143.7 | 845 | 92.9 | 93 | 10.2 | 111 | 12.2 | 102 | 11.2 | 51 | 5.6 | 105 | 11.5 |
| 65-74 | 365 | 114.0 | 110 | 34.4 | 100 | 31.2 | 34 | 10.6 | 39 | 12.2 | 14 | 4.4 | 68 | 21.2 |
| 75-84 | 328 | 223.0 | 10 | 6.8 | 196 | 133.3 | 35 | 23.8 | 24 | 16.3 | 11 | 7.5 | 52 | 35.4 |
| 85+ | 348 | 628.8 | 7 | 12.6 | 241 | 435.5 | 38 | 68.7 | 18 | 32.5 | 7 | 12.6 | 37 | 66.9 |
| 1. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Includes drug overdoses, which account for the largest percentage. 3. Motor vehicle deaths to occupants, pedestrians, motorcyclists, and bicyclists. 4. All remaining injury causes. 5. Number of deaths per 100,000 persons in each age group; rates for all rows except the age group rows are age-adjusted to the 2000 US standard population. 6. Calculations based on values 1-4 are excluded. 7. Age group counts may not add to total due to  deaths with missing ages. | | | | | | | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 18. Injury Deaths by Method, Gender, and Race and Hispanic Ethnicity7: Numbers and Age-Adjusted Rates, Massachusetts: 2022** | | | | | | | | | | | | | | |
|  | **All Injury Deaths**1 | | **Poisoning2** | | **Falls** |  | **Hanging, Strangulation,**  **or Suffocation** | | **Motor Vehicle- Related3** | | **Firearm** | | **Other4** | |
|  | Number | Rate5 | Number | Rate5 | Number | Rate5 | Number | Rate5 | Number | Rate5 | Number | Rate5 | Number | Rate5 |
| **American Indian/ Alaska Native non- Hispanic** | **23** | **237.4** | **14** | **149.5** | **1** | **--6** | **3** | **--6** | **4** | **--6** | **0** | **0.0** | **1** | **--6** |
| Women | 8 | 176.5 | 5 | 119.1 | 1 | --6 | 2 | --6 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Men | 15 | 298.3 | 9 | 182.4 | 0 | 0.0 | 1 | --6 | 4 | --6 | 0 | 0.0 | 1 | --6 |
| **Asian/Pacific Islander non-Hispanic** | **114** | **24.2** | **29** | **4.9** | **40** | **10.2** | **10** | **2.3** | **11** | **2.0** | **10** | **1.8** | **14** | **3.0** |
| Women | 46 | 19.3 | 9 | 3.0 | 18 | 8.5 | 6 | 2.6 | 6 | 2.2 | 1 | --6 | 6 | 2.7 |
| Men | 68 | 29.6 | 20 | 6.9 | 22 | 12.2 | 4 | --6 | 5 | 1.8 | 9 | 3.5 | 8 | 3.3 |
| **Black non-Hispanic** | **516** | **103.4** | **312** | **61.5** | **26** | **6.0** | **26** | **5.3** | **41** | **8.2** | **63** | **12.2** | **48** | **10.0** |
| Women | 124 | 48.6 | 78 | 30.4 | 12 | 4.8 | 8 | 2.9 | 9 | 3.6 | 5 | 2.1 | 12 | 4.7 |
| Men | 392 | 162.9 | 234 | 95.1 | 14 | 6.7 | 18 | 8.8 | 32 | 13.5 | 58 | 22.3 | 36 | 16.4 |
| **Hispanic** | **648** | **83.2** | **418** | **51.0** | **42** | **9.1** | **33** | **4.9** | **60** | **6.9** | **45** | **4.5** | **50** | **6.8** |
| Women | 141 | 37.7 | 89 | 21.4 | 19 | 8.2 | 6 | 1.4 | 11 | 2.6 | 5 | 1.1 | 11 | 3.1 |
| Men | 507 | 131.1 | 329 | 82.4 | 23 | 9.0 | 27 | 9.8 | 49 | 11.4 | 40 | 7.8 | 39 | 10.6 |
| **White non-Hispanic** | **4,345** | **75.1** | **1,893** | **38.9** | **1,179** | **14.8** | **367** | **6.1** | **343** | **6.1** | **137** | **2.6** | **426** | **6.7** |
| Women | 1,522 | 45.6 | 578 | 23.2 | 579 | 11.4 | 106 | 3.0 | 101 | 3.4 | 12 | 0.5 | 146 | 4.0 |
| Men | 2,822 | 107.5 | 1,314 | 55.1 | 600 | 19.1 | 261 | 9.5 | 242 | 9.2 | 125 | 4.8 | 280 | 9.7 |
| 1. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Includes drug overdoses, which account for the largest percentage. 3. Motor vehicle deaths to occupants, pedestrians, motorcyclists, and bicyclists. 4. All remaining injury causes. 5. Number of deaths per 100,000 persons in each group; rates are age-adjusted to the 2000 US standard population. 6. Calculations based on values 1-4 are excluded. 7. See the technical notes for more information on race and ethnicity. | | | | | | | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 19. Injury Deaths by Intent, Gender, and Age: Numbers, Age-Adjusted, and Age-Specific Rates, Massachusetts: 2022** | | | | | | | | | | | | | | |
|  |  |  | **Unintentional Injuries**1 | | | |  |  |  |  | **Intentional Injuries**1 | |  |  |
| **Total** |  | **Poisonings2** | | **Falls** |  | **Motor Vehicle- Related3** | | **Total** |  | **Suicide** | | **Homicide** | |
| Number4 | Rate5 | Number4 | Rate5 | Number4 | Rate5 | Number4 | Rate5 | Number4 | Rate5 | Number4 | Rate5 | Number4 | Rate5 |
| **All Persons** | **4,772** | **61.1** | **2,517** | **35.4** | **1,260** | **13.5** | **477** | **6.2** | **796** | **10.6** | **624** | **8.2** | **172** | **2.5** |
| <1 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-14 | 19 | 1.8 | 1 | --6 | 2 | --6 | 2 | --6 | 5 | 0.5 | 2 | --6 | 3 | --6 |
| 15-24 | 200 | 21.0 | 102 | 10.7 | 4 | --6 | 80 | 8.4 | 104 | 10.9 | 74 | 7.8 | 30 | 3.2 |
| 25-44 | 1,376 | 73.0 | 1167 | 62.0 | 22 | 1.2 | 134 | 7.1 | 290 | 15.4 | 195 | 10.4 | 95 | 5.0 |
| 45-64 | 1,453 | 77.1 | 1091 | 57.9 | 114 | 6.1 | 140 | 7.4 | 269 | 14.3 | 242 | 12.8 | 27 | 1.4 |
| 65-74 | 429 | 62.0 | 139 | 20.1 | 144 | 20.8 | 53 | 7.7 | 63 | 9.1 | 53 | 7.7 | 10 | 1.4 |
| 75-84 | 499 | 144.4 | 13 | 3.8 | 341 | 98.7 | 39 | 11.3 | 41 | 11.9 | 38 | 11.0 | 3 | --6 |
| 85+ | 796 | 486.2 | 4 | --6 | 633 | 386.6 | 29 | 17.7 | 22 | 13.4 | 19 | 11.6 | 3 | --6 |
| **All Women** | **1,646** | **37.0** | **690** | **19.2** | **626** | **10.7** | **132** | **3.2** | **168** | **4.3** | **132** | **3.3** | **36** | **1.0** |
| <1 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-14 | 6 | 1.2 | 1 | --6 | 1 | --6 | 2 | --6 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15-24 | 46 | 9.7 | 24 | 5.0 | 1 | --6 | 17 | 3.6 | 28 | 5.9 | 20 | 4.2 | 8 | 1.7 |
| 25-44 | 384 | 40.6 | 329 | 34.8 | 5 | 0.5 | 35 | 3.7 | 50 | 5.3 | 33 | 3.5 | 17 | 1.8 |
| 45-64 | 388 | 39.8 | 289 | 29.6 | 29 | 3.0 | 38 | 3.9 | 65 | 6.7 | 59 | 6.1 | 6 | 0.6 |
| 65-74 | 133 | 35.8 | 37 | --6 | 48 | 12.9 | 14 | 3.8 | 15 | --6 | 13 | --6 | 2 | --6 |
| 75-84 | 216 | 108.8 | 7 | --6 | 150 | 75.6 | 15 | 7.6 | 8 | --6 | 6 | --6 | 2 | --6 |
| 85+ | 473 | 436.5 | 3 | --6 | 392 | 361.7 | 11 | 10.2 | 2 | --6 | 1 | --6 | 1 | --6 |
| **All Men** | **3,126** | **87.5** | **1827** | **52.3** | **634** | **17.2** | **345** | **9.5** | **627** | **17.4** | **491** | **13.4** | **136** | **3.9** |
| <1 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-14 | 13 | 2.4 | 0 | 0.0 | 1 | --6 | 0 | 0.0 | 5 | 0.9 | 2 | --6 | 3 | --6 |
| 15-24 | 154 | 32.5 | 78 | 16.4 | 3 | --6 | 63 | 13.3 | 76 | 16.0 | 54 | 11.4 | 22 | 4.6 |
| 25-44 | 992 | 105.8 | 838 | 89.4 | 17 | 1.8 | 99 | 10.6 | 239 | 25.5 | 161 | 17.2 | 78 | 8.3 |
| 45-64 | 1,065 | 117.1 | 802 | 88.2 | 85 | 9.3 | 102 | 11.2 | 204 | 22.4 | 183 | 20.1 | 21 | 2.3 |
| 65-74 | 296 | 92.5 | 102 | 31.9 | 96 | 30.0 | 39 | 12.2 | 48 | 15.0 | 40 | 12.5 | 8 | 2.5 |
| 75-84 | 283 | 192.4 | 6 | --6 | 191 | 129.9 | 24 | 16.3 | 33 | 22.4 | 32 | 21.8 | 1 | --6 |
| 85+ | 323 | 583.6 | 1 | --6 | 241 | 435.5 | 18 | 32.5 | 20 | 36.1 | 18 | 32.5 | 2 | --6 |
| 1. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Includes drug overdoses. 3. Motor vehicle deaths to occupants, pedestrians, motorcyclists, and bicyclists.4. Age group counts may not add to total due to deaths with missing ages. 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 values 1-4 are excluded. | | | | | | | | | | | | | | |

##### Table 20. Injury Deaths by Intent, Gender, and Race and Hispanic Ethnicity4: Numbers and Age-Adjusted Rates, Massachusetts: 2022

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Unintentional Injuries**1  **Total Poisonings Falls Motor Vehicle-**  **Related**  Number Rate2 Number Rate2 Number Rate2 Number Rate2 | | | | | | | | **Intentional Injuries**1  **Total Suicide Homicide**  Number Rate2 Number Rate2 Number Rate2 | | | | | |
| **American Indian/** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Alaska Native non- Hispanic**  Women Men | **20**  7  13 | **208.5**  154.4  263.7 | **14**  5  9 | **149.5**  119.1  182.4 | **1**  1  0 | **--3**  **--3**  0.0 | **4**  0  4 | **--3**  0.0  **--3** | **3**  1  2 | **--3**  **--3**  **--3** | **2**  1  1 | **--3**  **--3**  **--3** | **1**  0  1 | **--3**  0.0  **--3** |
| **Asian/Pacific Islander** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **non-Hispanic** | **88** | **19.3** | **27** | **4.5** | **36** | **9.5** | **11** | **2.0** | **22** | **3.9** | **17** | **3.0** | **5** | **0.9** |
| Women | 37 | 15.8 | 8 | 2.7 | 16 | 7.7 | 6 | 2.2 | 7 | 2.4 | 7 | 2.4 | 0 | 0.0 |
| Men | 51 | 23.1 | 19 | 6.5 | 20 | 11.6 | 5 | 1.8 | 15 | 5.7 | 10 | 3.7 | 5 | 1.9 |
| **Black non-Hispanic** | **399** | **80.4** | **302** | **59.6** | **24** | **5.5** | **41** | **8.2** | **99** | **19.6** | **35** | **7.1** | **64** | **12.6** |
| Women | 106 | 41.3 | 76 | 29.6 | 12 | 4.8 | 9 | 3.6 | 14 | 5.6 | 7 | 2.7 | 7 | 2.8 |
| Men | 293 | 123.9 | 226 | 92.0 | 12 | 5.8 | 32 | 13.5 | 85 | 34.2 | 28 | 11.8 | 57 | 22.5 |
| **Hispanic** | **548** | **71.4** | **411** | **50.2** | **38** | **8.3** | **60** | **6.9** | **84** | **9.6** | **47** | **5.8** | **37** | **3.9** |
| Women | 124 | 33.8 | 85 | 20.5 | 19 | 8.2 | 11 | 2.6 | 12 | 2.5 | 6 | 1.3 | 6 | 1.2 |
| Men | 424 | 110.8 | 326 | 81.8 | 19 | 7.3 | 49 | 11.4 | 72 | 17.5 | 41 | 11.0 | 31 | 6.5 |
| **White non-Hispanic** | **3,643** | **62.4** | **1717** | **35.7** | **1157** | **14.4** | **343** | **6.1** | **570** | **10.5** | **515** | **9.4** | **55** | **1.1** |
| Women | 1,353 | 39.7 | 504 | 20.8 | 576 | 11.3 | 101 | 3.4 | 130 | 4.7 | 109 | 3.9 | 21 | 0.9 |
| Men | 2,290 | 87.4 | 1213 | 51.2 | 581 | 18.5 | 242 | 9.2 | 439 | 16.7 | 405 | 15.4 | 34 | 1.4 |

1. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Number of deaths per 100,000 persons in each group; rates are age-adjusted to the 2000 US standard population. 3. Calculations based on values 1-4 are excluded. 4. See the technical notes for more information on race and ethnicity.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 21. Injury Deaths by Intent, Method and Gender: Numbers and Age-Adjusted Rates, Massachusetts: 2022** | | | | | | | |
| **Type of Injury1** | **All Injury Deaths** | | **Women**  **Number** |  | **Men**  **Number** |  |  |
|  | **Number Rate2** | | **Rate2** | **Rate2** |
| **Unintentional Injuries (Accidents)** | **4,772** | **61.1** | **1,646** | **37.0** | **3,126** | **87.5** |
| Motor vehicle-related | 477 | 6.2 | 132 | 3.2 | 345 | 9.5 |
| Injury to pedestrian | 109 | 1.3 | 39 | 0.9 | 70 | 1.8 |
| Injury to pedal cyclist | 8 | 0.1 | 0 | 0.0 | 8 | 0.2 |
| Injury to motorcyclist | 55 | 0.8 | 5 | 0.1 | 50 | 1.4 |
| Injury to occupant | 32 | 0.4 | 8 | 0.2 | 24 | 0.7 |
| Other and unspecified | 273 | 3.6 | 80 | 2.0 | 193 | 5.3 |
| Poisoning | 2,517 | 35.4 | 690 | 19.2 | 1,827 | 52.3 |
| Falls | 1,260 | 13.5 | 626 | 10.7 | 634 | 17.2 |
| Hanging, strangulation or suffocation | 200 | 2.2 | 82 | 1.6 | 118 | 3.1 |
| Cut or pierce Firearm | 2  1 | --3  --3 | 0  0 | 0.0  0.0 | 2  1 | --3  --3 |
| Drowning and submersion | 52 | 0.7 | 5 | 0.1 | 47 | 1.3 |
| Smoke, fire and flames | 34 | 0.4 | 16 | 0.3 | 18 | 0.5 |
| Other and unspecified | 203 | 2.3 | 90 | 1.7 | 113 | 3.0 |
| **Suicide** | **624** | **8.2** | **132** | **3.3** | **491** | **13.4** |
| Poisoning | 142 | 1.8 | 65 | 1.6 | 76 | 2.1 |
| Hanging, strangulation or suffocation | 235 | 3.1 | 44 | 1.2 | 191 | 5.3 |
| Firearm | 148 | 2.0 | 8 | 0.2 | 140 | 3.9 |
| Other and unspecified | 99 | 1.2 | 15 | 0.4 | 84 | 2.2 |
| **Homicide** | **172** | **2.5** | **36** | **1.0** | **136** | **3.9** |
| Firearm | 107 | 1.6 | 15 | 0.4 | 92 | 2.7 |
| Cut or pierce | 34 | 0.5 | 11 | 0.3 | 23 | 0.7 |
| Other and unspecified | 31 | 0.4 | 10 | 0.2 | 21 | 0.6 |
| **Injury Deaths of Undetermined Intent** | **112** | **1.4** | **31** | **0.8** | **81** | **2.2** |
| Poisoning | 53 | 0.7 | 17 | 0.4 | 36 | 1.0 |
| Other and unspecified | 59 | 0.7 | 14 | 0.4 | 45 | 1.1 |
| **Legal Intervention** | **6** | **0.1** | **0** | **0.0** | **6** | **0.2** |
| Firearm | 5 | 0.1 | 0 | 0.0 | 5 | 0.2 |
| Other and unspecified | 1 | --3 | 0 | 0.0 | 1 | --3 |
| **Adverse Effects** | **56** | **0.6** | **20** | **0.4** | **36** | **0.9** |
| Medical care | 49 | 0.6 | 17 | 0.4 | 32 | 0.8 |
| Drugs | 7 | 0.1 | 3 | --3 | 4 | --3 |
| **ALL INJURIES** | **5,742** | **73.9** | **1,865** | **42.5** | **3,876** | **108.1** |
| 1. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Number of deaths per 100,000 persons in each group; rates are age-adjusted to the 2000 US standard population. 3. Calculations based on values 1-4 are excluded. | | | | | | | |

41

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 22. HIV/AIDS Deaths by Gender, Race, and Hispanic Ethnicity1: Numbers, Percent and Age-Adjusted Rates, Massachusetts: 2012-2022** | | | | | | | | | |
|  | **Black non-Hispanic** | | |  | **Hispanic** |  | **White non-Hispanic** | | |
| **Year** | **#** | **Percent** | **Rate2** | **#** | **Percent** | **Rate2** | **#** | **Percent** | **Rate2** |
| 2012 | 26 | 26% | 6.1 | 23 | 23% | 4.6 | 50 | 51% | 0.8 |
| 2013 | 32 | 38% | 6.7 | 18 | 21% | 3.2 | 35 | 41% | 0.5 |
| 2014 | 21 | 26% | 4.4 | 16 | 20% | 3.2 | 41 | 51% | 0.6 |
| 2015 | 28 | 31% | 5.9 | 21 | 23% | 3.6 | 41 | 46% | 0.6 |
| 2016 | 23 | 33% | 4.7 | 11 | 16% | 1.8 | 36 | 51% | 0.5 |
| 2017 | 16 | 21% | 3.8 | 30 | 39% | 1.9 | 31 | 41% | 0.4 |
| 2018 | 22 | 32% | 4.4 | 12 | 17% | 1.8 | 35 | 51% | 0.5 |
| 2019 | 16 | 28% | 3.3 | 20 | 34% | 2.9 | 22 | 38% | 0.3 |
| 2020 | 16 | 31% | 3.2 | 9 | 18% | 1.2 | 26 | 51% | 0.4 |
| 2021 | 16 | 35% | 3.1 | 11 | 24% | 1.6 | 19 | 41% | 0.3 |
| 2022 | 14 | 25% | 2.6 | 18 | 32% | 2.8 | 25 | 44% | 0.4 |
| **MEN** |  |  |  |  |  |  |  |  |  |
| 2012 | 14 | 23% | 7.8 | 12 | 20% | 5.6 | 35 | 57% | 1.2 |
| 2013 | 21 | 21% | 9.8 | 12 | 12% | 4.3 | 24 | 69% | 0.7 |
| 2014 | 14 | 24% | 6.5 | 10 | 17% | 4.7 | 34 | 59% | 1.0 |
| 2015 | 23 | 32% | 10.3 | 17 | 23% | 6.4 | 33 | 45% | 1.0 |
| 2016 | 12 | 26% | 5.7 | 6 | 13% | 2.2 | 28 | 61% | 0.9 |
| 2017 | 12 | 24% | 8.8 | 15 | 31% | 6.6 | 22 | 45% | 0.7 |
| 2018 | 12 | 27% | 5.7 | 7 | 16% | 2.5 | 25 | 57% | 0.7 |
| 2019 | 10 | 25% | 4.8 | 13 | 33% | 4.1 | 17 | 43% | 0.5 |
| 2020 | 10 | 27% | 3.7 | 5 | 14% | 1.3 | 22 | 59% | 0.7 |
| 2021 | 7 | 24% | 3.3 | 7 | 24% | 2.2 | 15 | 52% | 0.4 |
| 2022 | 11 | 24% | 4.5 | 13 | 29% | 4.7 | 21 | 47% | 0.6 |
| **WOMEN** |  |  |  |  |  |  |  |  |  |
| 2012 | 12 | 32% | 4.9 | 11 | 29% | 3.9 | 15 | 39% | 0.4 |
| 2013 | 11 | 11% | 4.4 | 6 | 6% | 2.1 | 11 | 11% | 0.3 |
| 2014 | 7 | 35% | 2.7 | 6 | 30% | 2.0 | 7 | 35% | 0.2 |
| 2015 | 5 | 29% | 2.1 | 4 | --3 | --3 | 8 | 47% | 0.3 |
| 2016 | 11 | 46% | 4.0 | 5 | 21% | 1.5 | 8 | 33% | 0.2 |
| 2017 | 4 | --3 | --3 | 15 | 54% | 2.3 | 9 | 32% | 0.2 |
| 2018 | 10 | 40% | 3.6 | 5 | 20% | 1.3 | 10 | 40% | 0.2 |
| 2019 | 6 | 33% | 2.2 | 7 | 39% | 1.9 | 5 | 28% | 0.1 |
| 2020 | 6 | 43% | 2.5 | 4 | --3 | --3 | 4 | --3 | --3 |
| 2021 | 9 | 53% | 3.1 | 4 | --3 | --3 | 4 | --3 | --3 |
| 2022 | 3 | --3 | --3 | 5 | 42% | 1.5 | 4 | --3 | --3 |
| NOTE: There were no HIV/AIDS deaths for American Indian/Alaska Native non-Hispanic or Asian/Pacific Islander non-Hispanic residents in 2022.  1. See the Technical Notes for a more information on race and ethnicity. 2. Number of deaths per 100,000 persons; rates are age- adjusted to the 2000 US standard population. 3. Calculations based on values 1-4 are excluded | | | | | | | | | |

**Figure 14. HIV/AIDS Deaths by Age, Massachusetts: 2002-2022**

250

200

<25 years

25-44 years

150

45-54 years

55-64 years

65+ years

100

50

0

200220032004200520062007200820092010201120122013201420152016201720182019202020212022

Year

HIV/AIDS Deaths

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 23. Number and Age-Specific Rates for Leading Underlying Causes of Death by Race and Hispanic Ethnicity1, Massachusetts: 2022** | | | | | | | | | | | | |
| **Selected Causes2** | **Total**  **# Rate3** | | **American Indian/ Alaska Asian/PI non- Black non- Hispanic White non-**  **Native non-Hispanic Hispanic Hispanic Hispanic**  **# Rate3 # Rate3 # Rate3 # Rate3 # Rate3** | | | | | | | | | |
| **Age: 1-14, TOTAL** | **114** | **1.0** | **0** | **0.0** | **9** | **0.8** | **24** | **1.7** | **33** | **1.6** | **42** | **0.3** |
| Unintentional Injuries4 | 19 | 0.2 | 0 | 0.0 | 2 | --6 | 4 | --6 | 6 | 0.3 | 6 | 0.0 |
| Cancer | 16 | 0.1 | 0 | 0.0 | 0 | 0.0 | 3 | --6 | 7 | 0.3 | 5 | 0.0 |
| Congenital Malformations | 11 | 0.1 | 0 | 0.0 | 2 | --6 | 1 | --6 | 1 | --6 | 7 | 0.1 |
| Other Infections | 7 | 0.1 | 0 | 0.0 | 0 | 0.0 | 2 | --6 | 2 | --6 | 3 | --6 |
| **Age: 15-24, TOTAL** | **429** | **4.0** | **6** | **31.5** | **19** | **2.4** | **64** | **7.4** | **95** | **6.1** | **236** | **3.3** |
| Unintentional Injuries4 | 200 | 1.9 | 4 | --6 | 6 | 0.8 | 22 | 2.6 | 47 | 3.0 | 116 | 1.6 |
| Suicide | 74 | 0.7 | 1 | --6 | 6 | 0.8 | 7 | 0.8 | 9 | 0.6 | 48 | 0.7 |
| Homicide | 30 | 0.3 | 0 | 0.0 | 1 | --6 | 14 | 1.6 | 10 | 0.6 | 5 | 0.1 |
| Heart Disease | 21 | 0.2 | 1 | --6 | 0 | 0.0 | 4 | --6 | 7 | 0.4 | 9 | 0.1 |
| **Age: 25-44, TOTAL** | **2,959** | **15.0** | **13** | **38.5** | **95** | **5.4** | **361** | **23.8** | **481** | **18.2** | **1,941** | **14.5** |
| Unintentional Injuries4 | 1,376 | 7.0 | 8 | 23.7 | 30 | 1.7 | 140 | 9.2 | 245 | 9.3 | 919 | 6.8 |
| Cancer | 245 | 1.2 | 0 | 0.0 | 24 | 1.4 | 31 | 2.0 | 31 | 1.2 | 155 | 1.2 |
| Heart Disease | 217 | 1.1 | 1 | --6 | 11 | 0.6 | 26 | 1.7 | 30 | 1.1 | 145 | 1.1 |
| Suicide | 195 | 1.0 | 1 | --6 | 6 | 0.3 | 21 | 1.4 | 27 | 1.0 | 137 | 1.0 |
| **Age: 45-64, TOTAL** | **10,064** | **49.0** | **37** | **104.2** | **261** | **25.5** | **934** | **76.2** | **926** | **62.5** | **7,788** | **47.1** |
| Cancer | 2,554 | 12.4 | 4 | --6 | 102 | 10.0 | 191 | 15.6 | 177 | 11.9 | 2,052 | 12.4 |
| Heart Disease | 1,633 | 8.0 | 8 | 22.5 | 35 | 3.4 | 171 | 14.0 | 124 | 8.4 | 1,274 | 7.7 |
| Unintentional Injuries4 | 1,453 | 7.1 | 6 | 16.9 | 13 | 1.3 | 167 | 13.6 | 202 | 13.6 | 1,039 | 6.3 |
| Chronic Liver Disease | 451 | 2.2 | 5 | 14.1 | 9 | 0.9 | 18 | 1.5 | 49 | 3.3 | 369 | 2.2 |
| **Age: 65+, TOTAL** | **49,588** | **428.6** | **85** | **534.0** | **1,234** | **309.2** | **2,168** | **443.3** | **1,637** | **359.9** | **44,103** | **435.4** |
| Heart Disease | 10,526 | 91.0 | 24 | 150.8 | 235 | 58.9 | 420 | 85.9 | 283 | 62.2 | 9,473 | 93.5 |
| Cancer | 9,591 | 82.9 | 12 | 75.4 | 276 | 69.2 | 424 | 86.7 | 309 | 67.9 | 8,513 | 84.1 |
| COVID-19 | 2,711 | 23.4 | 4 | --6 | 79 | 19.8 | 108 | 22.1 | 137 | 30.1 | 2,357 | 23.3 |
| Stroke | 2,107 | 18.2 | 3 | --6 | 88 | 22.0 | 141 | 28.8 | 75 | 16.5 | 1,772 | 17.5 |
| **Age: 65-74, TOTAL** | **11,496** | **1,661.8** | **34** | **3,683.6** | **263** | **873.8** | **746** | **2,348.0** | **562** | **1,667.8** | **9,783** | **1,678.8** |
| Cancer | 3,496 | 505.4 | 6 | 650.1 | 91 | 302.3 | 196 | 616.9 | 142 | 421.4 | 3,033 | 520.5 |
| Heart Disease | 2,028 | 293.2 | 7 | 758.4 | 50 | 166.1 | 152 | 478.4 | 96 | 284.9 | 1,704 | 292.4 |
| COVID-19 | 627 | 90.6 | 3 | --6 | 19 | 63.1 | 38 | 119.6 | 54 | 160.2 | 507 | 87.0 |
| Chronic Lower Respiratory Disease5 | 573 | 82.8 | 1 | --6 | 3 | --6 | 16 | 50.4 | 9 | 26.7 | 540 | 92.7 |
| **Age: 75-84, TOTAL** | **15,865** | **4,591.1** | **25** | **5,760.4** | **413** | **2,829.7** | **694** | **4,797.1** | **570** | **4,011.8** | **14,059** | **4,736.8** |
| Cancer | 3,655 | 1,057.7 | 4 | --6 | 123 | 842.8 | 137 | 947.0 | 115 | 809.4 | 3,260 | 1,098.4 |
| Heart Disease | 2,971 | 859.8 | 9 | 2,073.7 | 70 | 479.6 | 128 | 884.8 | 88 | 619.4 | 2,650 | 892.8 |
| COVID-19 | 819 | 237.0 | 0 | 0.0 | 21 | 143.9 | 34 | 235.0 | 31 | 218.2 | 727 | 244.9 |
| Chronic Lower Respiratory Disease5 | 790 | 228.6 | 1 | --6 | 6 | 41.1 | 25 | 172.8 | 16 | 112.6 | 740 | 249.3 |
| **Age: 85+, TOTAL** | **22,227** | **13,576.6** | **26** | **12,206.6** | **558** | **9,982.1** | **728** | **12,419.0** | **505** | **9,654.0** | **20,261** | **13,984.9** |
| Heart Disease | 5,527 | 3,376.0 | 8 | 3,755.9 | 115 | 2,057.2 | 140 | 2,388.3 | 99 | 1,892.6 | 5,119 | 3,533.3 |
| Cancer | 2,440 | 1,490.4 | 2 | --6 | 62 | 1,109.1 | 91 | 1,552.4 | 52 | 994.1 | 2,220 | 1,532.3 |
| COVID-19 | 1,265 | 772.7 | 1 | --6 | 39 | 697.7 | 36 | 614.1 | 52 | 994.1 | 1,123 | 775.1 |
| Stroke | 1,087 | 664.0 | 0 | 0.0 | 43 | 769.2 | 57 | 972.4 | 27 | 516.2 | 947 | 653.7 |
| 1. See the Technical Notes for more information on race and ethnicity. 2. Deaths are coded according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 3. Number of deaths per 100,000 persons in each age group. 4. Unintentional injuries include injuries such as motor vehicle-related and other transportation related deaths, falls, fires, and drownings that were not intended to occur. 5. 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. Calculations based on values 1-4 are excluded. | | | | | | | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 24. Selected Causes of Death by Community, Massachusetts: 2022** | | | | | | | | |
| **CITY/TOWN** | **Total Deaths** | **Age-Adjusted Death Rate1** | **Lung Cancer** | **Breast Cancer** | **Motor Vehicle** | **Homicide** | **Suicide** | **Opioid- related3** |
| **Massachusetts** | 63,390 | 691.6 | 2,737 | 718 | 477 | 172 | 624 | 2,314 |
|  |  |  |  |  |  |  |  |  |
| Abington | 143 | 802.8 | 9 | 3 | 0 | 0 | 1 | 5 |
| Acton | 161 | 624.8 | 12 | 1 | 3 | 0 | 1 | 4 |
| Acushnet | 98 | 867.7 | 3 | 0 | 3 | 0 | 0 | 5 |
| Adams | 123 | 1,353.4 | 1 | 4 | 1 | 0 | 1 | 3 |
| Agawam | 407 | 1,281.7 | 16 | 4 | 1 | 0 | 4 | 8 |
| Alford | 5 | 1,598.8 | 0 | 0 | 0 | 0 | 0 | 0 |
| Amesbury | 150 | 860.2 | 14 | 1 | 1 | 1 | 1 | 7 |
| Amherst | 162 | 579.2 | 2 | 1 | 0 | 0 | 4 | 1 |
| Andover | 248 | 516.6 | 9 | 1 | 1 | 0 | 1 | 4 |
| Aquinnah | 3 | --2 | 1 | 0 | 1 | 0 | 0 | 0 |
| Arlington | 337 | 485.2 | 11 | 7 | 1 | 0 | 3 | 10 |
| Ashburnham | 36 | 492.6 | 2 | 0 | 1 | 0 | 1 | 3 |
| Ashby | 34 | 994.9 | 3 | 0 | 0 | 0 | 0 | 0 |
| Ashfield | 23 | 1,269.4 | 2 | 1 | 0 | 0 | 0 | 0 |
| Ashland | 119 | 472.8 | 2 | 1 | 2 | 0 | 1 | 4 |
| Athol | 167 | 1,360.9 | 8 | 3 | 2 | 0 | 4 | 9 |
| Attleboro | 489 | 949.9 | 34 | 8 | 8 | 1 | 5 | 21 |
| Auburn | 199 | 1,066.1 | 5 | 2 | 1 | 0 | 2 | 7 |
| Avon | 47 | 943.7 | 3 | 0 | 0 | 0 | 0 | 1 |
| Ayer | 103 | 1,027.7 | 4 | 0 | 2 | 0 | 0 | 3 |
| Barnstable | 622 | 1,287.5 | 29 | 7 | 4 | 1 | 12 | 22 |
| Barre | 41 | 725.0 | 3 | 1 | 0 | 0 | 0 | 0 |
| Becket | 22 | 1,518.3 | 1 | 2 | 0 | 0 | 0 | 0 |
| Bedford | 132 | 672.4 | 5 | 1 | 1 | 0 | 1 | 1 |
| Belchertown | 132 | 802.6 | 7 | 0 | 0 | 0 | 3 | 2 |
| Bellingham | 153 | 748.7 | 2 | 4 | 1 | 0 | 1 | 4 |
| Belmont | 181 | 432.5 | 6 | 3 | 2 | 0 | 1 | 2 |
| Berkley | 65 | 955.6 | 4 | 1 | 0 | 0 | 2 | 3 |
| Berlin | 45 | 1,508.1 | 5 | 0 | 1 | 0 | 0 | 1 |
| Bernardston | 21 | 1,242.7 | 3 | 0 | 0 | 0 | 0 | 0 |
| Beverly | 448 | 813.9 | 16 | 7 | 2 | 1 | 3 | 7 |
| Billerica | 375 | 707.9 | 15 | 3 | 5 | 0 | 1 | 7 |
| Blackstone | 83 | 1,010.8 | 4 | 3 | 0 | 0 | 1 | 4 |
| Blandford | 9 | 531.0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bolton | 25 | 439.9 | 0 | 0 | 0 | 0 | 1 | 0 |
| Boston | 4,167 | 484.0 | 161 | 54 | 28 | 37 | 44 | 247 |
| Bourne | 269 | 1,358.1 | 15 | 1 | 2 | 0 | 4 | 11 |
| Boxborough | 26 | 559.9 | 2 | 1 | 1 | 0 | 0 | 1 |
| Boxford | 43 | 511.8 | 0 | 0 | 0 | 0 | 0 | 0 |
| Boylston | 32 | 645.2 | 2 | 1 | 0 | 0 | 0 | 0 |
| Braintree | 422 | 762.4 | 10 | 3 | 3 | 0 | 3 | 10 |
| Brewster | 159 | 1,514.7 | 6 | 1 | 0 | 0 | 4 | 2 |
| Bridgewater | 208 | 616.1 | 9 | 5 | 2 | 0 | 4 | 3 |
| Brimfield | 49 | 1,190.1 | 5 | 1 | 1 | 0 | 0 | 1 |
| Brockton | 955 | 832.2 | 35 | 13 | 10 | 8 | 9 | 61 |
| Brookfield | 38 | 941.0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Brookline | 276 | 277.5 | 6 | 6 | 2 | 1 | 1 | 3 |
| Buckland | 16 | 602.0 | 1 | 0 | 0 | 0 | 0 | 1 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 24. Selected Causes of Death by Community, Massachusetts: 2022 (cont.)** | | | | | | | | |
| **CITY/TOWN** | **Total Deaths** | **Age-Adjusted Death Rate1** | **Lung Cancer** | **Breast Cancer** | **Motor Vehicle** | **Homicide** | **Suicide** | **Opioid- related3** |
| Burlington | 269 | 654.5 | 9 | 1 | 0 | 1 | 1 | 2 |
| Cambridge | 506 | 302.1 | 14 | 11 | 4 | 0 | 5 | 32 |
| Canton | 224 | 622.2 | 9 | 3 | 0 | 0 | 0 | 3 |
| Carlisle | 26 | 314.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Carver | 139 | 1,270.3 | 7 | 1 | 2 | 0 | 3 | 5 |
| Charlemont | 13 | 1,316.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Charlton | 159 | 1,044.2 | 10 | 3 | 0 | 0 | 2 | 3 |
| Chatham | 149 | 2,593.0 | 3 | 1 | 0 | 1 | 0 | 1 |
| Chelmsford | 313 | 712.0 | 11 | 3 | 0 | 0 | 8 | 13 |
| Chelsea | 266 | 490.1 | 8 | 1 | 3 | 0 | 3 | 17 |
| Cheshire | 40 | 1,437.0 | 3 | 2 | 0 | 0 | 1 | 1 |
| Chester | 7 | 543.3 | 0 | 0 | 0 | 0 | 0 | 0 |
| Chesterfield | 11 | 959.4 | 1 | 0 | 0 | 0 | 0 | 0 |
| Chicopee | 641 | 1,100.0 | 33 | 4 | 11 | 5 | 5 | 34 |
| Chilmark | 11 | 478.4 | 0 | 0 | 0 | 0 | 0 | 0 |
| Clarksburg | 22 | 1,383.0 | 1 | 1 | 1 | 1 | 1 | 0 |
| Clinton | 129 | 730.5 | 7 | 0 | 0 | 0 | 0 | 5 |
| Cohasset | 68 | 733.4 | 1 | 1 | 0 | 0 | 0 | 0 |
| Colrain | 14 | 1,178.7 | 0 | 0 | 0 | 0 | 1 | 0 |
| Concord | 176 | 717.0 | 5 | 1 | 0 | 0 | 2 | 1 |
| Conway | 13 | 750.3 | 2 | 1 | 0 | 0 | 0 | 0 |
| Cummington | 5 | 672.9 | 0 | 0 | 0 | 0 | 0 | 1 |
| Dalton | 73 | 898.7 | 5 | 2 | 0 | 0 | 0 | 1 |
| Danvers | 403 | 1,082.5 | 11 | 5 | 1 | 0 | 1 | 8 |
| Dartmouth | 348 | 857.3 | 20 | 1 | 1 | 1 | 4 | 11 |
| Dedham | 303 | 768.7 | 6 | 3 | 1 | 0 | 2 | 8 |
| Deerfield | 35 | 684.0 | 0 | 1 | 1 | 0 | 1 | 2 |
| Dennis | 246 | 2,208.9 | 13 | 1 | 1 | 1 | 1 | 7 |
| Dighton | 64 | 775.7 | 2 | 0 | 0 | 0 | 0 | 0 |
| Douglas | 56 | 696.5 | 3 | 0 | 1 | 0 | 1 | 1 |
| Dover | 29 | 396.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dracut | 334 | 854.1 | 11 | 4 | 4 | 1 | 7 | 9 |
| Dudley | 120 | 941.7 | 7 | 1 | 1 | 0 | 1 | 4 |
| Dunstable | 17 | 614.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Duxbury | 142 | 893.6 | 11 | 2 | 1 | 0 | 0 | 2 |
| East Bridgewater | 172 | 1,059.0 | 8 | 4 | 0 | 0 | 2 | 5 |
| East Brookfield | 18 | 756.5 | 0 | 1 | 0 | 0 | 0 | 0 |
| East Longmeadow | 246 | 1,203.0 | 8 | 2 | 5 | 0 | 0 | 2 |
| Eastham | 66 | 1,774.3 | 2 | 1 | 2 | 0 | 0 | 0 |
| Easthampton | 157 | 836.3 | 11 | 2 | 3 | 0 | 1 | 6 |
| Easton | 231 | 853.7 | 19 | 3 | 1 | 2 | 2 | 2 |
| Edgartown | 49 | 830.9 | 0 | 1 | 1 | 0 | 3 | 0 |
| Egremont | 10 | 676.8 | 0 | 0 | 0 | 0 | 0 | 0 |
| Erving | 16 | 1,067.7 | 1 | 0 | 0 | 0 | 0 | 0 |
| Essex | 24 | 590.1 | 2 | 0 | 0 | 0 | 0 | 0 |
| Everett | 294 | 472.9 | 15 | 3 | 1 | 1 | 1 | 20 |
| Fairhaven | 226 | 1,206.5 | 16 | 0 | 0 | 0 | 4 | 8 |
| Fall River | 1,112 | 1,091.5 | 51 | 7 | 10 | 5 | 13 | 77 |
| Falmouth | 501 | 1,520.1 | 25 | 5 | 5 | 4 | 3 | 13 |
| Fitchburg | 424 | 967.1 | 15 | 5 | 2 | 1 | 5 | 19 |
| Florida | 10 | 1,889.0 | 0 | 1 | 1 | 0 | 0 | 0 |
| Foxborough | 146 | 623.7 | 8 | 1 | 2 | 0 | 3 | 1 |

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| **Table 24. Selected Causes of Death by Community, Massachusetts: 2022 (cont.)** | | | | | | | | |
| **CITY/TOWN** | **Total Deaths** | **Age-Adjusted Death Rate1** | **Lung Cancer** | **Breast Cancer** | **Motor Vehicle** | **Homicide** | **Suicide** | **Opioid- related3** |
| Framingham | 619 | 598.6 | 13 | 2 | 2 | 1 | 3 | 17 |
| Franklin | 249 | 543.6 | 12 | 5 | 1 | 1 | 2 | 3 |
| Freetown | 77 | 954.5 | 6 | 1 | 1 | 0 | 0 | 1 |
| Gardner | 282 | 1,204.7 | 11 | 4 | 7 | 1 | 3 | 15 |
| Georgetown | 54 | 534.4 | 3 | 1 | 0 | 0 | 0 | 0 |
| Gill | 16 | 938.4 | 3 | 0 | 0 | 0 | 0 | 0 |
| Gloucester | 355 | 1,159.1 | 16 | 3 | 1 | 0 | 4 | 9 |
| Goshen | 11 | 1,210.0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Gosnold | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Grafton | 126 | 482.1 | 7 | 0 | 3 | 0 | 0 | 3 |
| Granby | 77 | 1,269.6 | 1 | 1 | 0 | 0 | 3 | 2 |
| Granville | 20 | 1,364.7 | 1 | 1 | 0 | 0 | 0 | 0 |
| Great Barrington | 109 | 1,327.2 | 3 | 0 | 1 | 0 | 3 | 1 |
| Greenfield | 253 | 1,226.2 | 12 | 5 | 1 | 0 | 2 | 9 |
| Groton | 77 | 630.1 | 1 | 1 | 1 | 0 | 2 | 0 |
| Groveland | 73 | 878.9 | 4 | 0 | 0 | 0 | 0 | 0 |
| Hadley | 84 | 1,311.8 | 1 | 0 | 0 | 0 | 1 | 3 |
| Halifax | 76 | 1,065.9 | 5 | 0 | 0 | 0 | 0 | 3 |
| Hamilton | 45 | 546.7 | 1 | 1 | 1 | 0 | 1 | 1 |
| Hampden | 62 | 1,320.5 | 1 | 1 | 1 | 0 | 4 | 0 |
| Hancock | 4 | --2 | 1 | 0 | 0 | 0 | 0 | 0 |
| Hanover | 136 | 789.4 | 6 | 0 | 1 | 0 | 3 | 2 |
| Hanson | 102 | 783.1 | 1 | 0 | 0 | 0 | 1 | 2 |
| Hardwick | 22 | 884.4 | 0 | 1 | 0 | 0 | 1 | 1 |
| Harvard | 37 | 474.7 | 3 | 0 | 0 | 1 | 0 | 1 |
| Harwich | 218 | 1,762.4 | 12 | 2 | 1 | 0 | 3 | 5 |
| Hatfield | 38 | 1,354.4 | 1 | 0 | 0 | 0 | 0 | 0 |
| Haverhill | 666 | 850.9 | 28 | 9 | 7 | 1 | 5 | 22 |
| Hawley | 4 | --2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Heath | 4 | --2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Hingham | 319 | 856.3 | 6 | 3 | 0 | 0 | 4 | 3 |
| Hinsdale | 27 | 1,925.6 | 2 | 0 | 0 | 0 | 0 | 0 |
| Holbrook | 117 | 807.1 | 3 | 2 | 1 | 0 | 3 | 4 |
| Holden | 144 | 609.7 | 3 | 1 | 1 | 0 | 1 | 3 |
| Holland | 24 | 994.3 | 1 | 0 | 2 | 0 | 0 | 1 |
| Holliston | 110 | 595.9 | 2 | 1 | 1 | 0 | 2 | 0 |
| Holyoke | 480 | 1,138.9 | 14 | 2 | 7 | 2 | 5 | 27 |
| Hopedale | 52 | 557.4 | 4 | 2 | 0 | 0 | 1 | 0 |
| Hopkinton | 111 | 509.2 | 3 | 2 | 1 | 0 | 4 | 1 |
| Hubbardston | 34 | 1,012.4 | 4 | 0 | 0 | 0 | 0 | 0 |
| Hudson | 180 | 629.7 | 9 | 3 | 0 | 0 | 3 | 0 |
| Hull | 122 | 1,301.5 | 5 | 2 | 1 | 1 | 1 | 3 |
| Huntington | 20 | 738.1 | 0 | 0 | 0 | 0 | 0 | 3 |
| Ipswich | 135 | 891.1 | 3 | 1 | 0 | 0 | 3 | 2 |
| Kingston | 165 | 1,187.1 | 13 | 1 | 1 | 1 | 4 | 3 |
| Lakeville | 107 | 963.3 | 7 | 0 | 2 | 0 | 3 | 4 |
| Lancaster | 70 | 664.1 | 7 | 2 | 1 | 0 | 0 | 0 |
| Lanesborough | 29 | 1,246.2 | 0 | 1 | 0 | 1 | 1 | 0 |
| Lawrence | 514 | 546.2 | 14 | 2 | 4 | 3 | 3 | 59 |
| Lee | 79 | 1,089.3 | 4 | 1 | 0 | 0 | 0 | 0 |
| Leicester | 128 | 1,008.1 | 7 | 0 | 3 | 0 | 0 | 3 |
| Lenox | 114 | 1,631.7 | 1 | 1 | 0 | 0 | 1 | 1 |

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| **Table 24. Selected Causes of Death by Community, Massachusetts: 2022 (cont.)** | | | | | | | | |
| **CITY/TOWN** | **Total Deaths** | **Age-Adjusted Death Rate1** | **Lung Cancer** | **Breast Cancer** | **Motor Vehicle** | **Homicide** | **Suicide** | **Opioid- related3** |
| Leominster | 465 | 967.8 | 19 | 6 | 2 | 1 | 2 | 14 |
| Leverett | 19 | 708.5 | 3 | 0 | 0 | 0 | 0 | 0 |
| Lexington | 250 | 603.3 | 6 | 3 | 4 | 0 | 3 | 6 |
| Leyden | 4 | --2 | 1 | 0 | 0 | 0 | 0 | 0 |
| Lincoln | 74 | 464.6 | 0 | 2 | 1 | 0 | 1 | 0 |
| Littleton | 75 | 570.3 | 5 | 1 | 1 | 0 | 1 | 1 |
| Longmeadow | 157 | 682.7 | 7 | 1 | 1 | 0 | 1 | 0 |
| Lowell | 903 | 676.4 | 31 | 9 | 6 | 4 | 11 | 53 |
| Ludlow | 238 | 876.7 | 14 | 1 | 1 | 1 | 1 | 8 |
| Lunenburg | 87 | 657.1 | 7 | 0 | 1 | 0 | 0 | 1 |
| Lynn | 808 | 728.5 | 36 | 7 | 4 | 6 | 10 | 73 |
| Lynnfield | 129 | 855.3 | 7 | 0 | 0 | 0 | 0 | 3 |
| Malden | 440 | 485.6 | 24 | 7 | 3 | 0 | 1 | 24 |
| Manchester | 47 | 953.2 | 2 | 0 | 0 | 0 | 0 | 0 |
| Mansfield | 178 | 644.3 | 4 | 1 | 2 | 0 | 1 | 6 |
| Marblehead | 185 | 857.2 | 5 | 4 | 3 | 0 | 2 | 0 |
| Marion | 51 | 671.1 | 1 | 1 | 0 | 0 | 1 | 0 |
| Marlborough | 375 | 678.1 | 11 | 2 | 3 | 0 | 4 | 10 |
| Marshfield | 256 | 928.7 | 12 | 2 | 1 | 2 | 3 | 5 |
| Mashpee | 207 | 1,354.4 | 9 | 3 | 2 | 0 | 2 | 8 |
| Mattapoisett | 62 | 1,233.0 | 2 | 1 | 0 | 0 | 0 | 2 |
| Maynard | 94 | 792.2 | 7 | 1 | 1 | 0 | 1 | 4 |
| Medfield | 85 | 583.9 | 3 | 0 | 1 | 0 | 1 | 0 |
| Medford | 476 | 504.5 | 25 | 5 | 1 | 0 | 5 | 20 |
| Medway | 117 | 739.5 | 6 | 1 | 0 | 0 | 1 | 1 |
| Melrose | 276 | 637.3 | 7 | 2 | 1 | 0 | 0 | 7 |
| Mendon | 43 | 729.8 | 4 | 0 | 1 | 0 | 0 | 3 |
| Merrimac | 74 | 1,142.3 | 6 | 0 | 0 | 0 | 0 | 2 |
| Methuen | 476 | 750.0 | 27 | 9 | 2 | 2 | 3 | 13 |
| Middleborough | 296 | 1,237.8 | 11 | 2 | 6 | 0 | 6 | 6 |
| Middlefield | 3 | --2 | 0 | 0 | 0 | 0 | 1 | 0 |
| Middleton | 74 | 621.0 | 4 | 2 | 0 | 0 | 1 | 1 |
| Milford | 284 | 682.9 | 7 | 4 | 0 | 0 | 2 | 9 |
| Millbury | 148 | 909.1 | 9 | 2 | 1 | 1 | 2 | 4 |
| Millis | 69 | 832.5 | 1 | 0 | 0 | 0 | 1 | 2 |
| Millville | 27 | 592.7 | 1 | 0 | 0 | 0 | 1 | 0 |
| Milton | 213 | 719.3 | 5 | 6 | 2 | 0 | 2 | 2 |
| Monroe | 1 | --2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Monson | 93 | 1,206.2 | 4 | 2 | 2 | 0 | 1 | 1 |
| Montague | 115 | 1,420.8 | 8 | 3 | 1 | 0 | 1 | 8 |
| Monterey | 2 | --2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Montgomery | 7 | 926.4 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mount Washington | 2 | --2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nahant | 32 | 889.6 | 1 | 1 | 1 | 0 | 0 | 1 |
| Nantucket | 85 | 429.5 | 3 | 2 | 1 | 0 | 2 | 2 |
| Natick | 247 | 426.1 | 4 | 1 | 1 | 0 | 1 | 6 |
| Needham | 227 | 534.0 | 8 | 3 | 2 | 0 | 1 | 1 |
| New Ashford | 4 | --2 | 0 | 0 | 0 | 0 | 0 | 0 |
| New Bedford | 1,136 | 1,028.4 | 63 | 9 | 11 | 3 | 17 | 81 |
| New Braintree | 4 | --2 | 0 | 0 | 0 | 0 | 0 | 0 |
| New Marlborough | 17 | 1,458.2 | 0 | 0 | 0 | 0 | 0 | 0 |
| New Salem | 8 | 649.9 | 0 | 0 | 0 | 0 | 0 | 0 |

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| **Table 24. Selected Causes of Death by Community, Massachusetts: 2022 (cont.)** | | | | | | | | |
| **CITY/TOWN** | **Total Deaths** | **Age-Adjusted Death Rate1** | **Lung Cancer** | **Breast Cancer** | **Motor Vehicle** | **Homicide** | **Suicide** | **Opioid- related3** |
| Newbury | 60 | 853.8 | 3 | 0 | 0 | 0 | 0 | 0 |
| Newburyport | 214 | 914.8 | 6 | 2 | 1 | 0 | 1 | 6 |
| Newton | 570 | 446.8 | 15 | 5 | 2 | 1 | 3 | 10 |
| Norfolk | 77 | 464.6 | 3 | 1 | 0 | 0 | 3 | 1 |
| North Adams | 174 | 1,300.3 | 13 | 3 | 0 | 2 | 1 | 7 |
| North Andover | 273 | 677.5 | 6 | 5 | 1 | 2 | 2 | 6 |
| North Attleborough | 262 | 692.5 | 16 | 3 | 5 | 0 | 0 | 10 |
| North Brookfield | 46 | 1,020.7 | 2 | 0 | 0 | 0 | 0 | 0 |
| North Reading | 113 | 567.7 | 5 | 1 | 0 | 0 | 0 | 2 |
| Northampton | 324 | 934.0 | 16 | 3 | 1 | 2 | 3 | 7 |
| Northborough | 135 | 662.0 | 4 | 1 | 0 | 0 | 0 | 1 |
| Northbridge | 160 | 891.2 | 7 | 2 | 1 | 0 | 2 | 3 |
| Northfield | 29 | 747.0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Norton | 150 | 729.1 | 8 | 2 | 0 | 0 | 1 | 4 |
| Norwell | 100 | 1,033.6 | 3 | 1 | 3 | 0 | 2 | 0 |
| Norwood | 329 | 760.2 | 16 | 4 | 2 | 0 | 1 | 8 |
| Oak Bluffs | 54 | 929.1 | 5 | 3 | 0 | 0 | 0 | 5 |
| Oakham | 19 | 939.7 | 1 | 0 | 1 | 0 | 0 | 0 |
| Orange | 103 | 1,255.0 | 3 | 0 | 1 | 0 | 2 | 4 |
| Orleans | 111 | 2,333.9 | 5 | 1 | 1 | 0 | 2 | 2 |
| Otis | 21 | 1,244.8 | 0 | 0 | 1 | 0 | 0 | 1 |
| Oxford | 131 | 982.0 | 4 | 1 | 4 | 0 | 1 | 3 |
| Palmer | 152 | 1,323.6 | 5 | 1 | 1 | 2 | 1 | 7 |
| Paxton | 42 | 678.3 | 0 | 3 | 0 | 0 | 0 | 1 |
| Peabody | 778 | 1,080.2 | 22 | 14 | 4 | 1 | 4 | 14 |
| Pelham | 15 | 1,148.1 | 0 | 1 | 0 | 0 | 2 | 0 |
| Pembroke | 190 | 999.5 | 19 | 4 | 0 | 0 | 2 | 3 |
| Pepperell | 111 | 923.2 | 5 | 1 | 0 | 0 | 2 | 2 |
| Peru | 3 | --2 | 1 | 0 | 0 | 0 | 0 | 0 |
| Petersham | 11 | 1,257.0 | 2 | 0 | 0 | 0 | 0 | 1 |
| Phillipston | 21 | 1,544.1 | 0 | 0 | 0 | 0 | 0 | 2 |
| Pittsfield | 602 | 1,276.0 | 24 | 5 | 0 | 2 | 8 | 29 |
| Plainfield | 6 | 1,016.7 | 0 | 0 | 0 | 0 | 0 | 1 |
| Plainville | 74 | 647.7 | 5 | 0 | 1 | 0 | 0 | 2 |
| Plymouth | 689 | 972.8 | 41 | 10 | 9 | 1 | 7 | 19 |
| Plympton | 26 | 1,022.8 | 1 | 0 | 0 | 0 | 0 | 0 |
| Princeton | 22 | 815.6 | 0 | 1 | 0 | 0 | 0 | 1 |
| Provincetown | 52 | 1,994.3 | 2 | 0 | 0 | 0 | 1 | 0 |
| Quincy | 949 | 675.9 | 58 | 13 | 6 | 2 | 11 | 44 |
| Randolph | 344 | 857.3 | 12 | 1 | 3 | 1 | 4 | 18 |
| Raynham | 188 | 1,108.6 | 11 | 1 | 3 | 1 | 1 | 4 |
| Reading | 223 | 571.6 | 13 | 2 | 0 | 0 | 2 | 5 |
| Rehoboth | 120 | 900.5 | 5 | 1 | 0 | 1 | 2 | 1 |
| Revere | 474 | 619.2 | 28 | 4 | 4 | 2 | 2 | 30 |
| Richmond | 8 | 186.2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rochester | 53 | 879.4 | 1 | 0 | 0 | 0 | 2 | 2 |
| Rockland | 205 | 1,077.9 | 10 | 3 | 0 | 2 | 4 | 11 |
| Rockport | 80 | 1,460.2 | 4 | 0 | 2 | 0 | 0 | 1 |
| Rowe | 9 | 2,897.9 | 0 | 0 | 0 | 0 | 1 | 1 |
| Rowley | 42 | 612.6 | 2 | 0 | 0 | 0 | 2 | 1 |
| Royalston | 16 | 1,626.0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Russell | 16 | 918.9 | 1 | 0 | 1 | 0 | 1 | 1 |

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| **Table 24. Selected Causes of Death by Community, Massachusetts: 2022 (cont.)** | | | | | | | | |
| **CITY/TOWN** | **Total Deaths** | **Age-Adjusted Death Rate1** | **Lung Cancer** | **Breast Cancer** | **Motor Vehicle** | **Homicide** | **Suicide** | **Opioid- related3** |
| Rutland | 68 | 733.1 | 8 | 2 | 0 | 1 | 1 | 4 |
| Salem | 372 | 687.3 | 14 | 3 | 3 | 0 | 5 | 18 |
| Salisbury | 112 | 1,309.1 | 7 | 4 | 1 | 1 | 1 | 1 |
| Sandisfield | 13 | 2,705.6 | 1 | 0 | 0 | 0 | 0 | 0 |
| Sandwich | 194 | 969.7 | 14 | 5 | 2 | 0 | 2 | 3 |
| Saugus | 308 | 858.1 | 18 | 6 | 2 | 0 | 1 | 9 |
| Savoy | 4 | --2 | 0 | 1 | 0 | 0 | 0 | 0 |
| Scituate | 150 | 731.0 | 6 | 2 | 1 | 0 | 2 | 3 |
| Seekonk | 128 | 720.2 | 5 | 1 | 0 | 0 | 1 | 1 |
| Sharon | 134 | 531.7 | 2 | 1 | 3 | 0 | 1 | 3 |
| Sheffield | 39 | 1,269.4 | 1 | 1 | 0 | 0 | 0 | 0 |
| Shelburne | 22 | 1,229.9 | 1 | 0 | 1 | 0 | 0 | 0 |
| Sherborn | 39 | 1,016.5 | 3 | 0 | 1 | 0 | 1 | 0 |
| Shirley | 61 | 584.1 | 4 | 1 | 1 | 0 | 0 | 1 |
| Shrewsbury | 316 | 563.0 | 18 | 2 | 2 | 0 | 2 | 6 |
| Shutesbury | 11 | 557.0 | 1 | 0 | 0 | 0 | 1 | 0 |
| Somerset | 246 | 1,011.0 | 8 | 1 | 2 | 0 | 1 | 5 |
| Somerville | 400 | 353.4 | 15 | 6 | 3 | 0 | 11 | 22 |
| South Hadley | 202 | 919.1 | 9 | 1 | 1 | 1 | 2 | 3 |
| Southampton | 48 | 894.1 | 6 | 1 | 0 | 0 | 1 | 0 |
| Southborough | 48 | 547.9 | 2 | 1 | 0 | 0 | 0 | 2 |
| Southbridge | 192 | 1,086.8 | 13 | 1 | 3 | 0 | 1 | 9 |
| Southwick | 86 | 840.8 | 7 | 1 | 0 | 0 | 0 | 7 |
| Spencer | 135 | 1,057.9 | 8 | 1 | 1 | 0 | 2 | 3 |
| Springfield | 1,532 | 942.4 | 63 | 18 | 23 | 14 | 8 | 106 |
| Sterling | 76 | 1,005.8 | 1 | 1 | 1 | 0 | 0 | 5 |
| Stockbridge | 20 | 1,200.5 | 1 | 0 | 0 | 0 | 2 | 0 |
| Stoneham | 255 | 863.8 | 12 | 2 | 3 | 0 | 2 | 6 |
| Stoughton | 297 | 895.0 | 10 | 3 | 5 | 1 | 2 | 9 |
| Stow | 46 | 596.8 | 2 | 0 | 0 | 0 | 1 | 0 |
| Sturbridge | 82 | 592.9 | 3 | 1 | 0 | 1 | 1 | 0 |
| Sudbury | 115 | 696.4 | 5 | 2 | 2 | 0 | 2 | 1 |
| Sunderland | 25 | 868.9 | 1 | 0 | 0 | 0 | 1 | 1 |
| Sutton | 65 | 755.8 | 5 | 2 | 1 | 0 | 1 | 1 |
| Swampscott | 120 | 583.0 | 5 | 1 | 0 | 0 | 1 | 1 |
| Swansea | 199 | 1,038.4 | 13 | 1 | 1 | 1 | 2 | 4 |
| Taunton | 647 | 1,013.6 | 30 | 5 | 5 | 2 | 10 | 24 |
| Templeton | 100 | 1,233.7 | 3 | 0 | 2 | 0 | 0 | 4 |
| Tewksbury | 354 | 897.2 | 17 | 3 | 6 | 0 | 2 | 7 |
| Tisbury | 41 | 655.3 | 2 | 1 | 0 | 0 | 0 | 1 |
| Tolland | 4 | --2 | 1 | 0 | 0 | 0 | 0 | 0 |
| Topsfield | 54 | 971.5 | 3 | 2 | 0 | 0 | 0 | 0 |
| Townsend | 60 | 669.4 | 5 | 1 | 1 | 0 | 1 | 2 |
| Truro | 27 | 1,712.8 | 1 | 0 | 0 | 0 | 2 | 1 |
| Tyngsborough | 89 | 643.8 | 9 | 1 | 1 | 0 | 4 | 1 |
| Tyringham | 8 | 3,052.6 | 0 | 0 | 0 | 0 | 0 | 0 |
| Upton | 51 | 525.5 | 4 | 0 | 0 | 0 | 0 | 1 |
| Uxbridge | 136 | 887.1 | 5 | 3 | 1 | 0 | 1 | 3 |
| Wakefield | 280 | 710.5 | 7 | 5 | 1 | 0 | 1 | 7 |
| Wales | 16 | 892.5 | 1 | 0 | 0 | 0 | 0 | 0 |
| Walpole | 234 | 643.1 | 18 | 3 | 1 | 0 | 2 | 3 |
| Rutland | 68 | 733.1 | 8 | 2 | 0 | 1 | 1 | 4 |

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| **Table 24. Selected Causes of Death by Community, Massachusetts: 2022 (cont.)** | | | | | | | | |
| **CITY/TOWN** | **Total Deaths** | **Age-Adjusted Death Rate1** | **Lung Cancer** | **Breast Cancer** | **Motor Vehicle** | **Homicide** | **Suicide** | **Opioid- related3** |
| Waltham | 446 | 496.0 | 20 | 10 | 3 | 1 | 3 | 23 |
| Ware | 122 | 1,165.3 | 2 | 0 | 0 | 0 | 0 | 6 |
| Wareham | 361 | 1,707.0 | 24 | 3 | 1 | 2 | 3 | 24 |
| Warren | 64 | 1,284.0 | 3 | 1 | 0 | 0 | 2 | 3 |
| Warwick | 4 | --2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Washington | 4 | --2 | 2 | 0 | 0 | 0 | 0 | 0 |
| Watertown | 292 | 480.0 | 11 | 4 | 0 | 0 | 3 | 3 |
| Wayland | 91 | 418.0 | 3 | 3 | 0 | 0 | 1 | 0 |
| Webster | 264 | 1,366.0 | 20 | 4 | 3 | 1 | 1 | 8 |
| Wellesley | 176 | 544.2 | 5 | 3 | 0 | 0 | 1 | 0 |
| Wellfleet | 31 | 873.8 | 1 | 1 | 0 | 0 | 1 | 1 |
| Wendell | 9 | 1,167.2 | 1 | 0 | 0 | 0 | 0 | 0 |
| Wenham | 35 | 845.1 | 2 | 0 | 0 | 0 | 0 | 0 |
| West Boylston | 81 | 714.6 | 3 | 1 | 0 | 0 | 0 | 1 |
| West Bridgewater | 97 | 1,213.6 | 3 | 2 | 1 | 0 | 1 | 4 |
| West Brookfield | 56 | 1,142.2 | 3 | 0 | 2 | 0 | 0 | 0 |
| West Newbury | 31 | 650.4 | 1 | 2 | 0 | 0 | 0 | 0 |
| West Springfield | 323 | 1,019.8 | 20 | 7 | 7 | 3 | 5 | 11 |
| West Stockbridge | 16 | 1,489.5 | 0 | 0 | 0 | 0 | 1 | 1 |
| West Tisbury | 13 | 523.9 | 0 | 0 | 0 | 0 | 1 | 0 |
| Westborough | 139 | 429.7 | 7 | 1 | 1 | 0 | 1 | 0 |
| Westfield | 395 | 878.9 | 11 | 4 | 1 | 0 | 5 | 13 |
| Westford | 166 | 643.8 | 8 | 2 | 0 | 0 | 2 | 1 |
| Westhampton | 12 | 726.7 | 1 | 0 | 0 | 0 | 0 | 2 |
| Westminster | 68 | 812.5 | 5 | 1 | 0 | 0 | 0 | 1 |
| Weston | 89 | 662.8 | 2 | 1 | 0 | 0 | 0 | 1 |
| Westport | 197 | 1,109.3 | 11 | 0 | 0 | 0 | 4 | 5 |
| Westwood | 137 | 763.7 | 8 | 2 | 0 | 0 | 0 | 0 |
| Weymouth | 609 | 861.7 | 30 | 3 | 3 | 1 | 5 | 24 |
| Whately | 14 | 943.7 | 0 | 0 | 1 | 0 | 0 | 0 |
| Whitman | 135 | 809.1 | 8 | 4 | 0 | 0 | 1 | 8 |
| Wilbraham | 168 | 1,051.6 | 6 | 4 | 1 | 0 | 0 | 2 |
| Williamsburg | 23 | 783.4 | 2 | 0 | 0 | 0 | 0 | 0 |
| Williamstown | 77 | 1,137.8 | 1 | 1 | 0 | 0 | 1 | 1 |
| Wilmington | 224 | 761.9 | 9 | 4 | 4 | 0 | 2 | 8 |
| Winchendon | 123 | 1,160.1 | 8 | 1 | 2 | 0 | 2 | 4 |
| Winchester | 169 | 562.6 | 4 | 2 | 0 | 0 | 1 | 1 |
| Windsor | 12 | 1,944.2 | 0 | 1 | 0 | 0 | 1 | 0 |
| Winthrop | 181 | 790.3 | 7 | 4 | 0 | 0 | 2 | 6 |
| Woburn | 435 | 802.1 | 20 | 6 | 5 | 2 | 5 | 14 |
| Worcester | 1819 | 753.1 | 57 | 14 | 18 | 11 | 14 | 139 |
| Worthington | 10 | 536.7 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wrentham | 139 | 1,023.1 | 4 | 3 | 1 | 0 | 3 | 2 |
| Yarmouth | 431 | 1,586.1 | 20 | 1 | 1 | 0 | 1 | 10 |
| 1. Rates are per 100,000 population age-adjusted to the 2000 US Standard Population and calculated using MDPH population estimates for 2020, which are the most up-to-date information available on the number of persons by age, race, and sex at the sub-state level. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Rates based on 1 to 4 deaths are not calculated. 3. The term opioid designates a class of drugs derived naturally from the opium poppy (opium, morphine, codeine), synthesized or derived from a natural opiate (heroin, oxycodone, hydrocodone), or manufactured synthetically with a chemical structure similar to opium (fentanyl, methadone). (Opioid Overdose Response Strategies in Massachusetts, MDPH, 2014). This report combines all opioid overdoses since classification of specific drugs can be difficult. For example, many deaths related to heroin cannot be specifically coded as such due to the fast  metabolism of heroin into morphine, as well as the possible interaction of multiple drugs. | | | | | | | | |

|  |  |  |
| --- | --- | --- |
| **Table 25. Premature Mortality1 Rates by County, Massachusetts: 2022** | | |
| **County** | **Number of Deaths2** | **PMR3**  (per 100,000 population) |
| **Massachusetts** | **25,291** | **297.7** |
| Barnstable | 1,031 | 932.4 |
| Berkshire | 676 | 893.5 |
| Bristol | 2,642 | 711.8 |
| Dukes | 70 | 553.7 |
| Essex | 2,946 | 557.3 |
| Franklin | 344 | 785.7 |
| Hampden | 2,337 | 764.6 |
| Hampshire | 541 | 557.6 |
| Middlesex | 4,399 | 363.8 |
| Nantucket | 32 | 318.4 |
| Norfolk | 2,138 | 433.7 |
| Plymouth | 2,233 | 697.1 |
| Suffolk | 2,411 | 349.1 |
| Worcester | 3,489 | 618.1 |
| 1. Premature mortality is death before 75 years of age. 2. County deaths may not add to total due to deaths with missing ages.  3. Rates are per 100,000 population age-adjusted to the 2000 US Standard Population for persons ages 0-74 years. | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 26. Selected Causes of Death by County, Massachusetts: 2022** | | | | | | | | | | | | | | | |
| **County** | **Total Deaths** | **Age- Adjusted Death Rate1** | **Heart Disease** | **Total Cancer** | **Lung Cancer** | **Breast Cancer** | **Stroke** | **CLRD2** | **Diabetes** | **Influenza & Pneumonia** | **COVID-19** | **Motor Vehicle** | **Homicide** | **Suicide** | **Opioids- related3** |
| **Massachusetts** | **63,390** | **691.6** | **12,409** | **12,424** | **2,737** | **718** | **2,391** | **2,374** | **1,501** | **934** | **3,217** | **477** | **172** | **624** | **2,314** |
| Barnstable | 3,281 | 690.3 | 685 | 647 | 157 | 30 | 116 | 133 | 62 | 39 | 150 | 21 | 7 | 38 | 86 |
| Berkshire | 1,693 | 763.0 | 356 | 339 | 66 | 27 | 64 | 81 | 41 | 27 | 82 | 5 | 6 | 22 | 46 |
| Bristol | 6,161 | 807.9 | 1,174 | 1,223 | 329 | 46 | 241 | 261 | 158 | 78 | 390 | 53 | 17 | 70 | 273 |
| Dukes | 171 | 503.5 | 33 | 41 | 8 | 5 | 13 | 9 | 2 | 2 | 6 | 2 | 0 | 4 | 6 |
| Essex | 7,462 | 682.5 | 1,538 | 1,354 | 302 | 93 | 291 | 239 | 191 | 105 | 394 | 42 | 18 | 55 | 269 |
| Franklin | 801 | 743.6 | 177 | 168 | 43 | 12 | 33 | 36 | 22 | 12 | 35 | 6 | 0 | 11 | 26 |
| Hampden | 5,132 | 845.4 | 1,020 | 890 | 219 | 54 | 199 | 195 | 109 | 65 | 274 | 66 | 27 | 41 | 229 |
| Hampshire | 1,462 | 711.7 | 306 | 279 | 60 | 10 | 53 | 58 | 31 | 23 | 81 | 5 | 3 | 21 | 37 |
| Middlesex | 12,337 | 608.9 | 2,441 | 2,435 | 467 | 144 | 447 | 407 | 298 | 206 | 577 | 86 | 12 | 123 | 375 |
| Nantucket | 85 | 505.0 | 14 | 23 | 3 | 2 | 6 | 3 | 0 | 0 | 4 | 1 | 0 | 2 | 2 |
| Norfolk | 6,244 | 619.2 | 1,185 | 1,259 | 254 | 75 | 259 | 224 | 122 | 90 | 299 | 41 | 7 | 54 | 157 |
| Plymouth | 5,457 | 762.3 | 1,083 | 1,128 | 264 | 69 | 212 | 229 | 109 | 111 | 261 | 42 | 17 | 69 | 188 |
| Suffolk | 5,091 | 641.8 | 880 | 1,032 | 204 | 63 | 209 | 161 | 144 | 44 | 247 | 35 | 39 | 51 | 300 |
| Worcester | 8,011 | 749 | 1,517 | 1,606 | 361 | 88 | 248 | 338 | 212 | 132 | 417 | 72 | 19 | 63 | 320 |
| 1. Rates are per 100,000 population age-adjusted to the 2000 US Standard Population. Data presented in this table are classified 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. The term opioid designates a class of drugs derived naturally from the opium poppy (opium, morphine, codeine), synthesized or derived from a natural opiate (heroin, oxycodone, hydrocodone), or manufactured synthetically with a chemical structure similar to opium (fentanyl, methadone). (Opioid Overdose Response Strategies in Massachusetts, MDPH, 2014). This report combines all opioid overdoses since classification of specific drugs can be difficult. For example, many deaths related to heroin cannot be specifically coded as such due to the fast metabolism of heroin into morphine, as well as the possible interaction of multiple drugs. | | | | | | | | | | | | | | | |

# APPENDIX

**Technical Notes Glossary**

#### TECHNICAL NOTES

**RACE AND ETHNICITY DATA**

The 2003 revision of the Standard Certificate of Death allows the reporting of more than one race in accordance with the revised standards issued by the Office of Management and Budget (OMB) in 1997. The revised standards require federal data collection programs to allow respondents to select *one or more categories in the race and ethnicity sections (see “Decedent Race” and “Decedent Ethnicity” sections below)*. In order to provide uniformity and comparability of the data during the transition period, before multiple-race data are available for all reporting areas, it is necessary to “bridge” the responses of those who reported more than one race to a single-race. The method used to bridge responses for those who report more than one race to a single race is based on a procedure whereby multiple races are assigned to the smallest minority group first (i.e., Asian and White becomes Asian, or Black and Native American becomes Native American). All respondents reporting Hispanic/Latino ethnicity are included in the Hispanic/Latino category regardless of race. Even though we bridge responses down to seven categories (American Indian / Alaska Native NH, Asian/Pacific Islander NH, Black NH, Hispanic, White NH, Other NH, and Unknown) not all categories are used in each table or figure that compares race and ethnicity data. There are well-known difficulties in calculating accurate mortality rates for smaller populations such as Asian/Pacific Islanders and Native Americans.

Please use caution when interpreting these small numbers. When numbers are below a certain threshold, they are suppressed to protect privacy and ensure statistical stability (see “Limitations of Small Numbers” below). Not all race groups are presented in the tables and graphs due to small numbers of events.

**Note on Cabo Verdean Race Categorization:** Prior to launching the VIP death application in September 2014, “Cape Verdean” [20](#_bookmark47) was an option that could be selected for a decedent’s race. Decedents of Cabo Verdean race were then reclassified as non-Hispanic Black for Death Report analyses for consistency with NCHS standards. However, in the VIP death application “Cape Verdean”1 is considered an ethnicity and is collected separately from race. For this reason, decedents of Cabo Verdean ethnicity are now classified according to their reported race and may be distributed to any one of the five Massachusetts Department of Public Health (MDPH) race/ethnicity categories (non-Hispanic White, non-Hispanic Black, non-Hispanic Asian and Pacific Islander, non-Hispanic American Indian and Alaska Native, or Hispanic). This change in categorization may result in fewer non-Hispanic Black deaths and may particularly impact rates stratified by race/ethnicity that are based on smaller counts.

**Decedent Race**

|  |  |
| --- | --- |
| American Indian/Alaska Native (specify tribal nation):  Asian Black  Guamanian or Chamorro Hispanic/Latino/Black Hispanic/Latino/White  Hispanic/Latino/Other(specify): | Native Hawaiian Samoan  White  Other Pacific Islander (specify): Other race not listed (specify): Refused  Not obtainable  Unknown |

1 The U.S. Board on Geographic Names approved the change of the country name from “Cape Verde” to “Cabo Verde” on December 9, 2013. However, the death worksheet still used the name “Cape Verdean”.

**Decedent Race**

Enter race to appear on death certificate:

**Decedent Ethnicity**

|  |  |
| --- | --- |
| African (specify): African-American  American Asian Indian Brazilian Cambodian Cape Verdean  Caribbean Islander (specify): Chinese  Colombian Cuban Dominican  European (specify): Filipino  Guatemalan Haitian Honduran Japanese  Korean | Laotian  Mexican, Mexican American, Chicano Middle Eastern (specify):  Native American (specify tribal nation(s)): Portuguese  Puerto Rican Russian Salvadoran Vietnamese  Other Asian (specify):  Other Central American (specify): Other Pacific Islander (specify): Other Portuguese (specify): Other South American (specify):  Other ethnicity (ies) not listed (specify): Refused  Not obtainable  Unknown |

#### DATA SOURCES

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

#### CHANGES TO MORTALITY DATA, EFFECTIVE 1999

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

#### POPULATION ESTIMATES

State, County, and Small Area Population Estimates 2011-2020, version 2020, Massachusetts Department of Public Health, Bureau of Environmental Health. Population estimates used for years following the decennial census were developed by the University of Massachusetts Donahue Institute (UMDI) in partnership with the Massachusetts Department of Public Health, Bureau of Environmental Health. Detailed population estimates at fine levels of geography are prone to estimation error. Estimated error was best described by age and population size and was used to adjust final population numbers, however a margin of error exists for all estimates.

#### LIMITATIONS OF SMALL NUMBERS

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

#### APPLYING COMPARABILITY RATIOS TO EXAMINE TRENDS IN MORTALITY

Beginning with 1999, mortality data are coded according to the International Classification of Diseases Tenth Revision (ICD-10). Due to the changes in coding rules, comparison of mortality trends over time using different revisions of ICD is challenging. A method was devised to assess if changes in causes of death are “real” changes, or due to the new classification system. Using this method, death data for 1996 were coded twice; once according to ICD-9 and again according to ICD-10. A comparability ratio (CR) was then calculated by dividing the number of deaths coded according to ICD-10 by the number of deaths coded according to the most similar codes in ICD-9 (Please refer to Table A4. Preliminary Comparability Ratios for a list of codes and CR used in this publication).

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

##### EXAMPLE: Influenza and Pneumonia1 Deaths: Massachusetts, 1996-2000

|  |  |  |  |
| --- | --- | --- | --- |
| **Year** | **Age-adjusted rate2** | **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   1. Influenza 2. Age-adju | 29.3  and pneumonia define sted to the 2000 US sta | d as ICD-9: 480-487 for years 1 ndard population, per 100,000. | 996-1998 and ICD-10: J10-J18 for year 1999 and 2000. |

Looking 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 the 1999 or 2000 rate. We see that deaths to influenza and pneumonia have remained 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 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 with age-adjusted rates previously published that 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 number of deaths for a specific age group by its population for that year. The numerator and denominator refer to the same age group.

Number of deaths among residents ages 25-34 in a given year

Age-specific death = X 100,000 rate (ages 25-34) population

ages 25-34 in that year

##### 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 forward.

##### Comparability Ratio (CR)

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

More specifically, the CRs used in this report were calculated by the National Center for Health Statistics (NCHS) based on a national sample of death records. Death records for 1996 were double coded, once according to ICD-9 and again according to ICD-10. Secondly, the leading causes of death were grouped according to ICD-10 titles, using the ICD-10 codes for data coded in ICD-10, and the most similar ICD-9 titles for data coded in ICD-9. Finally, the number of deaths coded in ICD-10 were divided by the number of deaths in ICD-9 to produce a CR 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 than 1.00 results from 1) a decrease in the number of deaths assigned to a cause in ICD-10 compared with ICD-9 or 2) the cause described in ICD-10 is only a part of the ICD-9 title to which it is being compared.

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

Preliminary comparability ratios supplied by the National Center for Health Statistics (NCHS) in February 2001 are used in this report (see Table A4 and A5).

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:

Number of resident deaths in a year

Crude death rate = X 100,000

Number of residents

##### Death Certificate

A vital record can be signed by a licensed physician doctor (which includes medical examiners) or a Nurse Practitioner. Starting in 2016 Physician Assistants (PA) could also sign. Some data elements found on the death certificate are cause of death, decedent's name, gender, birth date, place of residence, and place of occurrence. (A copy of the

Massachusetts death certificate used is in the Appendix). In a properly completed death certificate, the immediate cause of death is recorded on line 29a. The other mentioned causes are written on lines 29 b-d. The underlying cause of death is the disease or injury that initiated the events leading to the death. All causes of death are data entered and processed by a software program supplied by NCHS. This software assigns the appropriate ICD-10 codes. Trained nosologists review the ICD-10 codes assigned.

##### International Classification of Diseases, Ninth Revision (ICD-9)

The International Classification of Diseases (ICD) classifies mortality information for statistical purposes. The ICD was first used in 1900 and has since been revised about every 10 years, use except for the ICD-9, which was used between 1979-1998. Mortality data in this report was coded using ICD-10 codes, though a comparison between these ICD-10 codes and their corresponding ICD-9 codes is presented in Tables A1-A6.

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

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

Since 1999, the tenth revision of the International Classification of Diseases has been used to code mortality data. For a list of ICD-10 codes used in the publication, please see Tables A1, A4, and A5.

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

##### Life Expectancy at Birth

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

#### NCHS

National Center for Health Statistics (US 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, Washington, D.C., Canada, the US Virgin Islands, and Guam provides for exchanges of copies of birth and death records. These out-of-state records are used for statistical purposes only and allow each state or province to track the births and deaths of residents.

##### Opioid

The term opioid designates a class of drugs derived naturally from the opium poppy (opium, morphine, codeine), synthesized or derived from a natural opiate (heroin, oxycodone, hydrocodone), or manufactured synthetically with a chemical structure similar to opium (fentanyl, methadone). (Opioid Overdose Response Strategies in Massachusetts, MDPH, 2014)

This report combines all opioid overdoses since classification of specific drugs can be difficult. For example, many deaths related to heroin cannot be specifically coded as such due to the fast metabolism of heroin into morphine, as well as the possible interaction of multiple drugs.

##### Other and Unspecified Narcotics (T40.6)

The Injury Surveillance Workgroup (ISW7) Consensus Recommendations for national and state poisoning surveillance (Safe States Alliance, 2012) states that this category is intended for other and unspecified drugs classified pharmacologically as narcotics (opioids/opiates).

However, in practice it may also be used for drugs classified legally as narcotics such as cocaine. The proportion of this category made up by opioids/opiates varies by jurisdiction, so inclusion of this code depends on more detailed analysis of death certificate text and/or medical examiner records. Reviews in Massachusetts indicate that most deaths classified as T40.6 were opioid-related overdose deaths. For that reason, we include T40.6 in our opioid- related definition.

##### Premature Mortality Rate

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

##### 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, Washington, DC, Canada, the US Virgin Islands, and Guam 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.

##### 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 except for diabetes mortality.

|  |  |  |  |
| --- | --- | --- | --- |
| **Table A1. ICD-10 and ICD-9 Codes Used in this Publication and Comparability Ratios** | | | |
| **Cause of Death** | **ICD-10 Code** | **ICD-9 Code** | **Comparability Ratio** |
| **Infectious and Parasitic Diseases** | A00-B99 | 001-139 | **N/A** |
| Septicemia | A40-A41 | 038 | 1.1949 |
| Human Immunodeficiency Virus (HIV) disease | B20-B24 | 042-044 | 1.06371 and 1.14482 |
| **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, 159.9 | 0.9993 |
| of pancreas | C25 | 157 | 0.9980 |
| of trachea, bronchus and lung | C33-C34 | 162 | 0.9837 |
| of female breast | C50 | 174 | 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 Disease | C81 | 201 | 0.9855 |
| Non-Hodgkin lymphoma | C82-C85 | 200, 202 (except  202.4) | 0.9781 |
| Leukemia | C91-C95 | 202.4, 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--29 | 0.9858 |
| **Stroke (Cerebrovascular Disease)** | I60-I69 | 430-38 | 1.0588 |
| **Influenza and Pneumonia** | J10-J18 | 480--87 | 0.6982 |
| **COVID-19** | U071, B342 | N/A | N/A |
| **Chronic Lower Respiratory Diseases3** | J40-J47 | 490--96 | 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 | 760-779 | 1.0658 |
| **Ill-defined Conditions** | R00-R99 | 780-797, 798.1-  798.9, 799 | N/A |
| Sudden infant death syndrome (SIDS) | R95 | 798.0 | N/A |
| **External Causes of Injuries and Poisonings (intentional, unintentional and of undetermined intent)** | V01-Y89 | E800-E999 | N/A |
| Accidents (Unintentional Injuries) | V01-X59, Y85- Y86 | E800-E949 | 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, | E810-E825 | 0.97544 |

|  |  |  |  |
| --- | --- | --- | --- |
|  | V88.0-V88.8, V89.0, V89.2 |  |  |
| Injury to pedestrian | V02-V04, V09.0, V09 |  | N/A |
| Injury to pedal cyclist | V12-V14, V19.0,  V19.2, V19.4, V19.5, V19.6 |  | N/A |
| Injury to motorcyclist | V20-V29 |  | N/A |
| Injury to occupant | V30-V79, V80.3, V80.4, V80.5,  V81.0,V81.1,  V82.0, V82.1, V83-V86 |  | N/A |
| Other and unspecified | Residual |  | N/A |
| Unintentional non-transport injuries | W00-X59, Y86 | E850-E869,  E880-E928, E929.2-E929.9 | 1.0763 |
| Falls | W00-W19 |  | N/A |
| Hanging, strangulation or suffocation | W75-W84 |  | N/A |
| Drowning or submersion | W65-W74 |  | N/A |
| Smoke, fire and flames and contact with heat and hot substances | X00-X19 |  | N/A |
| Poisoning | X40-X49 |  | N/A |
| Firearm | W32-W34 |  | N/A |
| Other and unspecified | Residual |  | N/A |
| Suicide | X60-X84, Y87.0 | E950-E959 | 0.9962 |
| Poisoning | X60-X69 |  | N/A |
| Hanging, strangulation or suffocation | X70 |  | N/A |
| Firearm | X72-X74 |  | N/A |
| Other and unspecified | Residual |  | N/A |
| Homicide | X85-Y09, Y87.1 | E960-E969 | 0.9983 |
| Poisoning | Y10-Y19 |  | N/A |
| Drowning or submersion | Y21 |  | N/A |
| Other and unspecified | Residual |  | N/A |
| Injuries of undetermined intent | Y10- Y34,Y87.2,Y89.9 | E980-E989 | \* |
| Poisoning | Y10-Y19 |  | N/A |
| Drowning or submersion | Y21 |  | N/A |
| Other and unspecified | Residual |  | N/A |
| Legal Intervention | Y35-Y36, Y89.0, Y89.1 |  | N/A |
| Firearm | Y35.0 |  | N/A |
| Adverse Effects | Y40-Y59, Y60- Y84, Y88 |  | N/A |
| Drugs | Y40-Y59, Y88.0 |  | N/A |
| Medical Care | Y60-Y84, Y88.1, Y88.2, Y88.3 |  | N/A |

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

\*: not reliable

Note. Please refer to Appendix for an example of how to apply comparability ratios.

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Table A2. Preliminary** **Cause of Death** | **Comparability Ratios: C**  **ICD-10 Code** | | **auses of Infant Death 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 |
| Anencephaly and similar malformations | | Q00 | | 740 | | 1.0000 |
| Congenital malformations of heart | | Q20-Q24 | | 745-746 | | 0.9951 |
| Congenital malformations of respiratory system | | Q30-Q34 | | 748 | | 0.6322 |
| Congenital malformations of digestive system | | Q35-Q45 | | 749-751 | | \* |
| Congenital malformations of genitourinary system | | Q50-Q64 | | 752-753 | | 0.9432 |
| Congenital malformations of musculoskeletal system | | Q65-Q85 | | 754-757 | | 0.8650 |
| **Sudden Infant Death Syndrome (SIDS)** | | R95 | | 798.0 | | 1.0362 |
| **External Causes of Injuries and Poisonings (intentional, unintentional and of undetermined intent)** | | V01-Y89 | | E800-E999 | | NA |
| Accidents (Unintentional Injuries) | | V01-X59 | | E800-E869, E880- E929 | | 1.0246 |
| Motor Vehicle-related injuries | | V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8,  V89.0, V89.2 | | E810-E825 | | 0.9167 |
| Homicide | | X85-Y09 | | E960-E969 | | 0.9481 |
| Injuries of undetermined intent | | Y10-Y34,Y87.2,Y89.9 | | E980-E989 | | \* |
| Source: National Center for Health Statistics, Preliminary Comparability Study. February 2001. NA: not available \*: not reliable Note: Please refer to Appendix for an example of how to apply comparability ratios. | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Table**  **TOWN NAME** | **A3. Popul**  **COUNTY** | **ation E**  **CHNA** | **stimates1 for**  **POPULATION** | **Massachusetts**  **TOWN NAME** | **Communities**  **COUNTY** | **, 2020**  **CHNA** | **POPULATION** |
| Abington | Plymouth | 22 | 17,062 | Concord | Middlesex | 15 | 18,491 |
| Acton | Middlesex | 15 | 24,021 | Conway | Franklin | 2 | 1,761 |
| Acushnet | Bristol | 26 | 10,559 | Cummington | Hampshire | 3 | 829 |
| Adams | Berkshire | 1 | 8,166 | Dalton | Berkshire | 1 | 6,330 |
| Agawam | Hampden | 4 | 28,692 | Danvers | Essex | 14 | 28,087 |
| Alford | Berkshire | 1 | 486 | Dartmouth | Bristol | 26 | 33,783 |
| Amesbury | Essex | 12 | 17,366 | Dedham | Norfolk | 18 | 25,364 |
| Amherst | Hampshire | 3 | 39,263 | Deerfield | Franklin | 2 | 5,090 |
| Andover | Essex | 11 | 36,569 | Dennis | Barnstable | 27 | 14,674 |
| Aquinnah (Gay Head) | Dukes | 27 | 439 | Dighton | Bristol | 24 | 8,101 |
| Arlington | Middlesex | 17 | 46,308 | Douglas | Worcester | 6 | 8,983 |
| Ashburnham | Worcester | 9 | 6,315 | Dover | Norfolk | 18 | 5,923 |
| Ashby | Middlesex | 9 | 3,193 | Dracut | Middlesex | 10 | 32,617 |
| Ashfield | Franklin | 2 | 1,695 | Dudley | Worcester | 5 | 11,921 |
| Ashland | Middlesex | 7 | 18,832 | Dunstable | Middlesex | 10 | 3,358 |
| Athol | Worcester | 2 | 11,945 | Duxbury | Plymouth | 23 | 16,090 |
| Attleboro | Bristol | 24 | 46,461 | East Bridgewater | Plymouth | 22 | 14,440 |
| Auburn | Worcester | 8 | 16,889 | East Brookfield | Worcester | 5 | 2,224 |
| Avon | Norfolk | 22 | 4,777 | East Longmeadow | Hampden | 4 | 16,430 |
| Ayer | Middlesex | 9 | 8,479 | Eastham | Barnstable | 27 | 5,752 |
| Barnstable | Barnstable | 27 | 48,916 | Easthampton | Hampshire | 3 | 16,211 |
| Barre | Worcester | 9 | 5,530 | Easton | Bristol | 22 | 25,058 |
| Becket | Berkshire | 1 | 1,931 | Edgartown | Dukes | 27 | 5,168 |
| Bedford | Middlesex | 15 | 14,383 | Egremont | Berkshire | 1 | 1,372 |
| Belchertown | Hampshire | 3 | 15,350 | Erving | Franklin | 2 | 1,665 |
| Bellingham | Norfolk | 6 | 16,945 | Essex | Essex | 13 | 3,675 |
| Belmont | Middlesex | 17 | 27,295 | Everett | Middlesex | 16 | 49,075 |
| Berkley | Bristol | 24 | 6,764 | Fairhaven | Bristol | 26 | 15,924 |
| Berlin | Worcester | 9 | 3,158 | Fall River | Bristol | 25 | 94,000 |
| Bernardston | Franklin | 2 | 2,102 | Falmouth | Barnstable | 27 | 32,517 |
| Beverly | Essex | 13 | 42,670 | Fitchburg | Worcester | 9 | 41,946 |
| Billerica | Middlesex | 10 | 42,119 | Florida | Berkshire | 1 | 694 |
| Blackstone | Worcester | 6 | 9,208 | Foxborough | Norfolk | 7 | 18,618 |
| Blandford | Hampden | 4 | 1,215 | Framingham | Middlesex | 7 | 72,362 |
| Bolton | Worcester | 9 | 5,665 | Franklin | Norfolk | 6 | 33,261 |
| Boston | Suffolk | 19 | 675,647 | Freetown | Bristol | 26 | 9,206 |
| Bourne | Barnstable | 27 | 20,452 | Gardner | Worcester | 9 | 21,287 |
| Boxborough | Middlesex | 15 | 5,506 | Georgetown | Essex | 12 | 8,470 |
| Boxford | Essex | 12 | 8,203 | Gill | Franklin | 2 | 1,551 |
| Boylston | Worcester | 8 | 4,849 | Gloucester | Essex | 13 | 29,729 |
| Braintree | Norfolk | 20 | 39,143 | Goshen | Hampshire | 3 | 960 |
| Brewster | Barnstable | 27 | 10,318 | Gosnold | Dukes | 27 | 70 |
| Bridgewater | Plymouth | 22 | 28,633 | Grafton | Worcester | 8 | 19,664 |
| Brimfield | Hampden | 5 | 3,694 | Granby | Hampshire | 3 | 6,110 |
| Brockton | Plymouth | 22 | 105,643 | Granville | Hampden | 4 | 1,538 |
| Brookfield | Worcester | 5 | 3,439 | Great Barrington | Berkshire | 1 | 7,172 |
| Brookline | Norfolk | 19 | 63,191 | Greenfield | Franklin | 2 | 17,768 |
| Buckland | Franklin | 2 | 1,816 | Groton | Middlesex | 9 | 11,315 |
| Burlington | Middlesex | 15 | 26,377 | Groveland | Essex | 12 | 6,752 |
| Cambridge | Middlesex | 17 | 118,403 | Hadley | Hampshire | 3 | 5,325 |
| Canton | Norfolk | 20 | 24,370 | Halifax | Plymouth | 23 | 7,749 |
| Carlisle | Middlesex | 15 | 5,237 | Hamilton | Essex | 13 | 7,561 |
| Carver | Plymouth | 23 | 11,645 | Hampden | Hampden | 4 | 4,966 |
| Charlemont | Franklin | 2 | 1,185 | Hancock | Berkshire | 1 | 757 |
| Charlton | Worcester | 5 | 13,315 | Hanover | Plymouth | 23 | 14,833 |
| Chatham | Barnstable | 27 | 6,594 | Hanson | Plymouth | 23 | 10,639 |
| Chelmsford | Middlesex | 10 | 36,392 | Hardwick | Worcester | 9 | 2,667 |
| Chelsea | Suffolk | 19 | 40,787 | Harvard | Worcester | 9 | 6,851 |
| Cheshire | Berkshire | 1 | 3,258 | Harwich | Barnstable | 27 | 13,440 |
| Chester | Hampden | 21 | 1,228 | Hatfield | Hampshire | 3 | 3,352 |
| Chesterfield | Hampshire | 3 | 1,186 | Haverhill | Essex | 12 | 67,787 |
| Chicopee | Hampden | 21 | 55,560 | Hawley | Franklin | 2 | 351 |
| Chilmark | Dukes | 27 | 1,212 | Heath | Franklin | 2 | 723 |
| Clarksburg | Berkshire | 1 | 1,657 | Hingham | Plymouth | 20 | 24,284 |
| Clinton | Worcester | 9 | 15,428 | Hinsdale | Berkshire | 1 | 1,919 |
| Cohasset | Norfolk | 20 | 8,381 | Holbrook | Norfolk | 22 | 11,405 |
| Colrain | Franklin | 2 | 1,606 | Holden | Worcester | 8 | 19,905 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Table A3 (continued). Population Estimates1 for Massachusetts Communities, 2020** | | | | | | | |
| **TOWN NAME** | **COUNTY** | **CHNA** | **POPULATION** | **TOWN NAME** | **COUNTY** | **CHNA** | **POPULATION** |
| Holland | Hampden | 5 | 2,603 | New Marlborough | Berkshire | 1 | 1,528 |
| Holliston | Middlesex | 7 | 14,996 | New Salem | Franklin | 2 | 983 |
| Holyoke | Hampden | 21 | 38,238 | Newbury | Essex | 12 | 6,716 |
| Hopedale | Worcester | 6 | 6,017 | Newburyport | Essex | 12 | 18,289 |
| Hopkinton | Middlesex | 7 | 18,758 | Newton | Middlesex | 18 | 88,923 |
| Hubbardston | Worcester | 9 | 4,328 | Norfolk | Norfolk | 7 | 11,662 |
| Hudson | Middlesex | 7 | 20,092 | North Adams | Berkshire | 1 | 12,961 |
| Hull | Plymouth | 20 | 10,072 | North Andover | Essex | 11 | 30,915 |
| Huntington | Hampshire | 21 | 2,094 | North Attleboro | Bristol | 24 | 30,834 |
| Ipswich | Essex | 13 | 13,785 | North Brookfield | Worcester | 5 | 4,735 |
| Kingston | Plymouth | 23 | 13,708 | North Reading | Middlesex | 16 | 15,554 |
| Lakeville | Plymouth | 24 | 11,523 | Northampton | Hampshire | 3 | 29,571 |
| Lancaster | Worcester | 9 | 8,441 | Northborough | Worcester | 7 | 15,741 |
| Lanesborough | Berkshire | 1 | 3,038 | Northbridge | Worcester | 6 | 16,335 |
| Lawrence | Essex | 11 | 89,143 | Northfield | Franklin | 2 | 2,866 |
| Lee | Berkshire | 1 | 5,788 | Norton | Bristol | 24 | 19,202 |
| Leicester | Worcester | 8 | 11,087 | Norwell | Plymouth | 20 | 11,351 |
| Lenox | Berkshire | 1 | 5,095 | Norwood | Norfolk | 20 | 31,611 |
| Leominster | Worcester | 9 | 43,782 | Oak Bluffs | Dukes | 27 | 5,341 |
| Leverett | Franklin | 2 | 1,865 | Oakham | Worcester | 9 | 1,851 |
| Lexington | Middlesex | 15 | 34,454 | Orange | Franklin | 2 | 7,569 |
| Leyden | Franklin | 2 | 733 | Orleans | Barnstable | 27 | 6,307 |
| Lincoln | Middlesex | 15 | 7,014 | Otis | Berkshire | 1 | 1,634 |
| Littleton | Middlesex | 15 | 10,141 | Oxford | Worcester | 5 | 13,347 |
| Longmeadow | Hampden | 4 | 15,853 | Palmer | Hampden | 4 | 12,448 |
| Lowell | Middlesex | 10 | 115,554 | Paxton | Worcester | 8 | 5,004 |
| Ludlow | Hampden | 21 | 21,002 | Peabody | Essex | 14 | 54,481 |
| Lunenburg | Worcester | 9 | 11,782 | Pelham | Hampshire | 3 | 1,280 |
| Lynn | Essex | 14 | 101,253 | Pembroke | Plymouth | 23 | 18,361 |
| Lynnfield | Essex | 14 | 13,000 | Pepperell | Middlesex | 9 | 11,604 |
| Malden | Middlesex | 16 | 66,263 | Peru | Berkshire | 1 | 814 |
| Manchester | Essex | 13 | 5,395 | Petersham | Worcester | 2 | 1,194 |
| Mansfield | Bristol | 24 | 23,860 | Phillipston | Worcester | 2 | 1,726 |
| Marblehead | Essex | 14 | 20,441 | Pittsfield | Berkshire | 1 | 43,927 |
| Marion | Plymouth | 26 | 5,347 | Plainfield | Hampshire | 3 | 633 |
| Marlborough | Middlesex | 7 | 41,793 | Plainville | Norfolk | 7 | 9,945 |
| Marshfield | Plymouth | 23 | 25,825 | Plymouth | Plymouth | 23 | 61,217 |
| Mashpee | Barnstable | 27 | 15,060 | Plympton | Plymouth | 23 | 2,930 |
| Mattapoisett | Plymouth | 26 | 6,508 | Princeton | Worcester | 9 | 3,495 |
| Maynard | Middlesex | 7 | 10,746 | Provincetown | Barnstable | 27 | 3,664 |
| Medfield | Norfolk | 7 | 12,799 | Quincy | Norfolk | 20 | 101,636 |
| Medford | Middlesex | 16 | 59,659 | Randolph | Norfolk | 20 | 34,984 |
| Medway | Norfolk | 6 | 13,115 | Raynham | Bristol | 24 | 15,142 |
| Melrose | Middlesex | 16 | 29,817 | Reading | Middlesex | 16 | 25,518 |
| Mendon | Worcester | 6 | 6,228 | Rehoboth | Bristol | 24 | 12,502 |
| Merrimac | Essex | 12 | 6,723 | Revere | Suffolk | 19 | 62,186 |
| Methuen | Essex | 11 | 53,059 | Richmond | Berkshire | 1 | 1,407 |
| Middleborough | Plymouth | 24 | 24,245 | Rochester | Plymouth | 26 | 5,717 |
| Middlefield | Hampshire | 3 | 385 | Rockland | Plymouth | 23 | 17,803 |
| Middleton | Essex | 11 | 9,779 | Rockport | Essex | 13 | 6,992 |
| Milford | Worcester | 6 | 30,379 | Rowe | Franklin | 2 | 424 |
| Millbury | Worcester | 8 | 13,831 | Rowley | Essex | 12 | 6,161 |
| Millis | Norfolk | 7 | 8,460 | Royalston | Worcester | 2 | 1,250 |
| Millville | Worcester | 6 | 3,174 | Russell | Hampden | 4 | 1,643 |
| Milton | Norfolk | 20 | 28,630 | Rutland | Worcester | 9 | 9,049 |
| Monroe | Franklin | 2 | 117 | Salem | Essex | 14 | 44,480 |
| Monson | Hampden | 4 | 8,150 | Salisbury | Essex | 12 | 9,236 |
| Montague | Franklin | 2 | 8,580 | Sandisfield | Berkshire | 1 | 989 |
| Monterey | Berkshire | 1 | 1,095 | Sandwich | Barnstable | 27 | 20,259 |
| Montgomery | Hampden | 4 | 819 | Saugus | Essex | 14 | 28,619 |
| Mt. Washington | Berkshire | 1 | 160 | Savoy | Berkshire | 1 | 645 |
| Nahant | Essex | 14 | 3,334 | Scituate | Plymouth | 20 | 19,063 |
| Nantucket | Nantucket | 27 | 14,255 | Seekonk | Bristol | 24 | 15,531 |
| Natick | Middlesex | 7 | 37,006 | Sharon | Norfolk | 20 | 18,575 |
| Needham | Norfolk | 18 | 32,091 | Sheffield | Berkshire | 1 | 3,327 |
| New Ashford | Berkshire | 1 | 250 | Shelburne | Franklin | 2 | 1,884 |
| New Bedford | Bristol | 26 | 101,079 | Sherborn | Middlesex | 7 | 4,401 |
| New Braintree | Worcester | 9 | 996 | Shirley | Middlesex | 9 | 7,431 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Table A3 (continued). Population Estimates1 for Massachusetts Communities, 2020** | | | | | | | |
| **TOWN NAME** | **COUNTY** | **CHNA** | **POPULATION** | **TOWN NAME** | **COUNTY** | **CHNA** | **POPULATION** |
| Shrewsbury | Worcester | 8 | 38,325 | Warwick | Franklin | 2 | 780 |
| Shutesbury | Franklin | 2 | 1,717 | Washington | Berkshire | 1 | 494 |
| Somerset | Bristol | 25 | 18,303 | Watertown | Middlesex | 17 | 35,329 |
| Somerville | Middlesex | 17 | 81,045 | Wayland | Middlesex | 7 | 13,943 |
| South Hadley | Hampshire | 3 | 18,150 | Webster | Worcester | 5 | 17,776 |
| Southampton | Hampshire | 3 | 6,224 | Wellesley | Norfolk | 18 | 29,550 |
| Southborough | Worcester | 7 | 10,450 | Wellfleet | Barnstable | 27 | 3,566 |
| Southbridge | Worcester | 5 | 17,740 | Wendell | Franklin | 2 | 924 |
| Southwick | Hampden | 4 | 9,232 | Wenham | Essex | 13 | 4,979 |
| Spencer | Worcester | 5 | 11,992 | West Boylston | Worcester | 8 | 7,877 |
| Springfield | Hampden | 4 | 155,929 | West Bridgewater | Plymouth | 22 | 7,707 |
| Sterling | Worcester | 9 | 7,985 | West Brookfield | Worcester | 5 | 3,833 |
| Stockbridge | Berkshire | 1 | 2,018 | West Newbury | Essex | 12 | 4,500 |
| Stoneham | Middlesex | 16 | 23,244 | West Springfield | Hampden | 4 | 28,835 |
| Stoughton | Norfolk | 22 | 29,281 | West Stockbridge | Berkshire | 1 | 1,343 |
| Stow | Middlesex | 7 | 7,174 | West Tisbury | Dukes | 27 | 3,555 |
| Sturbridge | Worcester | 5 | 9,867 | Westborough | Worcester | 7 | 21,567 |
| Sudbury | Middlesex | 7 | 18,934 | Westfield | Hampden | 21 | 40,834 |
| Sunderland | Franklin | 2 | 3,663 | Westford | Middlesex | 10 | 24,643 |
| Sutton | Worcester | 6 | 9,357 | Westhampton | Hampshire | 3 | 1,622 |
| Swampscott | Essex | 14 | 15,111 | Westminster | Worcester | 9 | 8,213 |
| Swansea | Bristol | 25 | 17,144 | Weston | Middlesex | 18 | 11,851 |
| Taunton | Bristol | 24 | 59,408 | Westport | Bristol | 25 | 16,339 |
| Templeton | Worcester | 9 | 8,149 | Westwood | Norfolk | 18 | 16,266 |
| Tewksbury | Middlesex | 10 | 31,342 | Weymouth | Norfolk | 20 | 57,437 |
| Tisbury | Dukes | 27 | 4,815 | Whately | Franklin | 2 | 1,607 |
| Tolland | Hampden | 4 | 471 | Whitman | Plymouth | 22 | 15,121 |
| Topsfield | Essex | 13 | 6,569 | Wilbraham | Hampden | 4 | 14,613 |
| Townsend | Middlesex | 9 | 9,127 | Williamsburg | Hampshire | 3 | 2,504 |
| Truro | Barnstable | 27 | 2,454 | Williamstown | Berkshire | 1 | 7,513 |
| Tyngsborough | Middlesex | 10 | 12,380 | Wilmington | Middlesex | 15 | 23,349 |
| Tyringham | Berkshire | 1 | 427 | Winchendon | Worcester | 9 | 10,364 |
| Upton | Worcester | 6 | 8,000 | Winchester | Middlesex | 15 | 22,970 |
| Uxbridge | Worcester | 6 | 14,162 | Windsor | Berkshire | 1 | 831 |
| Wakefield | Middlesex | 16 | 27,090 | Winthrop | Suffolk | 19 | 19,316 |
| Wales | Hampden | 5 | 1,832 | Woburn | Middlesex | 15 | 40,876 |
| Walpole | Norfolk | 7 | 26,383 | Worcester | Worcester | 8 | 206,518 |
| Waltham | Middlesex | 18 | 65,218 | Worthington | Hampshire | 3 | 1,193 |
| Ware | Hampshire | 3 | 10,066 | Wrentham | Norfolk | 7 | 12,178 |
| Wareham | Plymouth | 26 | 23,303 | Yarmouth | Barnstable | 27 | 25,023 |
| Warren | Worcester | 5 | 4,975 |  |  |  |  |
| Shrewsbury | Worcester | 8 | 38,325 |  |  |  |  |
| 1. State, County, and Small Area Population Estimates 2011-2020, version 2020, Massachusetts Department of Public Health, Office of Population Health. Population estimates used for years following the decennial census were developed by the University of Massachusetts Donahue Institute (UMDI) in partnership with the Massachusetts Department of Public Health, Office of Population Health. Detailed population estimates at fine levels of geography are prone to estimation error. Estimated error was best described by age  and population size and was used to adjust final population numbers. However, a margin of error exists for all estimates. | | | | | | | |

##### Table A4. 2020 Massachusetts Population Estimates1 By Age Group, Gender, Race and Hispanic Ethnicity1 (mutually exclusive)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **AGE** | **GENDER** | **TOTAL** | **American Indian/ Alaska**  **Native Non- Hispanic** | **Asian/PI**  **Non- Hispanic** | **Black Non- Hispanic** | **Hispanic** | **White Non- Hispanic** |
| Under 1 | Male | 35,672 | 52 | 2,558 | 2,805 | 7,825 | 18,860 |
| Female | 33,809 | 43 | 2,281 | 2,718 | 7,681 | 17,960 |
| Total | 69,481 | 94 | 4,840 | 5,523 | 15,506 | 36,820 |
| 1 TO 4 | Male | 147,055 | 217 | 10,530 | 11,992 | 31,132 | 80,547 |
| Female | 140,340 | 174 | 9,866 | 11,762 | 30,288 | 76,048 |
| Total | 287,395 | 390 | 20,396 | 23,753 | 61,420 | 156,595 |
| 5 TO 14 | Male | 384,249 | 581 | 28,231 | 31,867 | 73,935 | 217,689 |
| Female | 369,000 | 603 | 27,512 | 30,849 | 71,282 | 208,082 |
| Total | 753,249 | 1,184 | 55,743 | 62,717 | 145,217 | 425,771 |
| 15 TO 24 | Male | 474,461 | 649 | 37,276 | 34,836 | 81,358 | 285,598 |
| Female | 476,372 | 629 | 41,573 | 35,226 | 76,176 | 287,559 |
| Total | 950,832 | 1,278 | 78,849 | 70,062 | 157,535 | 573,157 |
| 25 TO 34 | Male | 510,419 | 783 | 46,840 | 39,872 | 83,365 | 313,282 |
| Female | 504,954 | 717 | 50,972 | 38,413 | 74,644 | 312,597 |
| Total | 1,015,373 | 1,500 | 97,811 | 78,286 | 158,008 | 625,878 |
| 35 TO 44 | Male | 427,388 | 568 | 40,046 | 32,899 | 63,018 | 274,290 |
| Female | 440,898 | 567 | 45,806 | 33,490 | 63,154 | 278,727 |
| Total | 868,285 | 1,136 | 85,852 | 66,390 | 126,172 | 553,016 |
| 45 TO 54 | Male | 443,979 | 640 | 32,698 | 30,208 | 45,517 | 321,119 |
| Female | 472,121 | 649 | 36,200 | 32,100 | 50,275 | 337,433 |
| Total | 916,100 | 1,290 | 68,898 | 62,309 | 95,791 | 658,552 |
| 55 TO 64 | Male | 465,286 | 703 | 23,081 | 26,486 | 30,725 | 373,344 |
| Female | 502,849 | 782 | 26,221 | 29,299 | 34,311 | 399,928 |
| Total | 968,135 | 1,485 | 49,302 | 55,785 | 65,036 | 773,272 |
| 65 TO 74 | Male | 320,091 | 450 | 13,470 | 14,047 | 14,173 | 272,137 |
| Female | 371,695 | 472 | 16,628 | 17,725 | 19,524 | 310,586 |
| Total | 691,786 | 923 | 30,098 | 31,772 | 33,698 | 582,723 |
| 75 TO 84 | Male | 147,071 | 224 | 6,462 | 5,471 | 5,303 | 127,411 |
| Female | 198,490 | 210 | 8,134 | 8,996 | 8,905 | 169,391 |
| Total | 345,561 | 434 | 14,595 | 14,467 | 14,208 | 296,803 |
| 85 + | Male | 55,345 | 102 | 2,334 | 1,926 | 1,699 | 48,643 |
| Female | 108,371 | 111 | 3,256 | 3935 | 3,533 | 96,235 |
| Total | 163,716 | 213 | 5,590 | 5,862 | 5,231 | 144,878 |
| **ALL AGES** | **Male** | 3,411,016 | 4,969 | 243,527 | 232,410 | 438,050 | 2,332,921 |
| **Female** | 3,618,898 | 4,957 | 268,447 | 244,515 | 439,772 | 2,494,546 |
| **Total** | 7,029,914 | 9,927 | 511,973 | 476,925 | 877,822 | 4,827,467 |

1. State, County, and Small Area Population Estimates 2011-2020, version 2020, Massachusetts Department of Public Health, Bureau of Environmental Health. The University of Massachusetts Donahue Institute (UMDI) developed population estimates for years following the decennial census in partnership with the Massachusetts Department of Public Health, Bureau of Environmental Health. Detailed population estimates at fine levels of geography are prone to estimation error. Estimated error was best described by age and population size and was used to adjust final population numbers, however a margin of error exists for all estimates.

## Massachusetts Death Certificate

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *Commonwealth of Massachusetts* | | | | | | | |
|  |  | | *Registry of Vital Records and Statistics*  Certificate of DEATH | | | *State File #* |  |
| *Registered #* |  |
| Form R-301 08012015 | | | | | | | |
| **D E C E D E N T** | *Place of Death* |  |  |  |  |  |  |
| *Date of Death* |  |  | *Age* |  |  | *Sex* |
| *Current Name* |  |  |  |  |  |  |
| *Surname at Birth or Adoption* |  |  |  |  | *SSN* | |
| *AKA* |  |  |  |  |  | |
| *Date of Birth* |  | *Birthplace* |  |  |  |  |
| *Residence* | | | | | | |
| *Race* |  |  | *Education* | |  |  |
| *Marital Status* | *Occupation/Industry* | |  |  |  |  |
| *Last Spouse – Last, First, Middle (Surname at Birth or Adoption)* | | | | *Decedent: U.S. Veteran (Most Recent)* | | |
| *Mother/Parent Name – Last, First Middle (Surname at Birth or Adoption)* | | |  | *Birthplace* | |  |
| *Father/Parent Name – Last, First Middle (Surname at Birth or Adoption)* | | |  | *Birthplace* | |  |
| **M E D I C A L C E R T I F I E R** | *Part I. Cause of Death – Sequentially list immediate cause then antecedent causes then underlying cause* | | | | | | *Interval between onset and death* |
| a. Immediate Cause (Final condition resulting in death) | | | | | |  |
| b. Due to or as a consequence of:. | | | | | |  |
| c. Due to or as a consequence of: | | | | | |  |
| d. Due to or as a consequence of: | | | | | |  |
| *Part II. Other significant conditions contributing to death but not resulting in underlying cause* | | | | | *Manner of Death:* | |
| *Time of Death:* | |
| *Result of Injury:* | |
| *Certifier* |  |  |  |  | *Lic #* | |
| *Addr.* |  |  |  |  |  | |
| **D I S P O S I T I O N** | *Funeral Licensee/ Designee* |  |  |  |  | *Lic #* | |
| *Facility/Addr.* |  |  |  |  |  | |
| *Immediate Disposition* |  |  |  | | | |
| *Date of Immediate Disposition* |  |  |
| *Place/Address* |  |  |
| *Date of Record* | |  |  |
| *Date of Amendment* | |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *If U.S. war veteran, specify war/conflict(s)* | | | | | | | | |  |
|  | *Branch of military (most recent)* | | |  |  | *Rank/organization/outfit(most recent)* | | |
|  | *Date entered(most recent)* | |  | *Date Discharged (most recent)* | | | *Service Number(most recent)* | |
|  | *Place of Death Type* | | | | | *Date of Pronouncement* | | *Time of Pronouncement* |  |
|  | *RN/NP/PA Name of RN/NP/PA Pronouncing Death Lic # Pronouncement?*  *RN/NP/PA Employing Agency or Institution Name of Physician or Medical Examiner notified* | | | | | | | | |
|  | *Was M.E. Notified?* | *Provider in charge of patient’s care, if not certifier* | | | | | | | |
|  | *Autopsy Performed? Findings available for*  *Cause?* | | | | *Tobacco contribute to death?* | | *Pregnancy Status, if female* | | |
|  | *Date of Injury* | | *Time of Injury* | |  | *Injury at Work?* | | *If Transportation Injury, specify:* | |
|  | *Place of Injury* |  |  | |  | *Location/Address of Injury:* | |  |  |
|  | *Describe How Injury Occurred* | | | | | | | | |
|  | *Expanded Race:*  *Ethnicity:* | | | | | | | | |
|  | *Informant Name*  *Addr.* |  |  | |  |  | | *Relationship* |  |
|  | *Date Disposition Permit Issued:*  *State Tracking No.* | | | | | *Board of Health Agent*  *Local Permit No.* | | | |

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

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

#### CHAPTER 38. MEDICAL EXAMINERS AND INQUESTS

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

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

1. death where criminal violence appears to have taken place, regardless of the time interval between the incident and death, and regardless of whether such violence appears to have been the immediate cause of death, or a contributory factor thereto;
2. death by accident or unintentional injury, regardless of time interval between the incident and death, and regardless of whether such injury appears to have been the immediate cause of death, or a contributory factor thereto;
3. suicide, regardless of the time interval between the incident and death;
4. death under suspicious or unusual circumstances;
5. death following an unlawful abortion;
6. death related to occupational illness or injury;
7. death in custody, in any jail or correctional facility, or in any mental health or mental retardation institution;
8. death where suspicion of abuse of a child, family or household member, elder person or disabled person exists;
9. death due to poison or acute or chronic use of drugs or alcohol;
10. skeletal remains;
11. death associated with diagnostic or therapeutic procedures;
12. sudden death when the decedent was in apparent good health;
13. death within twenty-four hours of admission to a hospital or nursing home;
14. death in any public or private conveyance;
15. fetal death, as defined by section two hundred and two of chapter one hundred and eleven, where the period of gestation has been twenty weeks or more, or where fetal weight is three hundred and fifty grams or more;
16. death of children under the age of 18 years from any cause;
17. any person found dead;
18. death in any emergency treatment facility, medical walk-in center, day care center, or under foster care; or
19. deaths occurring under such other circumstances as the chief medical examiner shall prescribe in regulations promulgated pursuant to the provisions of chapter thirty A.

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

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