# The Commonwealth of Massachusetts
## Executive Office of Health and Human Services
## Department of Public Health
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Commissioner

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January 4, 2023

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. James and Mr. Hurley,

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 2020.

Sincerely,

Margret R. Cooke
Acting Commissioner
Department of Public Health

# Massachusetts Deaths 2020

## January 2023

<u>**Legislative Mandate**</u>

## *Chapter 111: Section 2. Annual report*

*Section 2. 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 2020
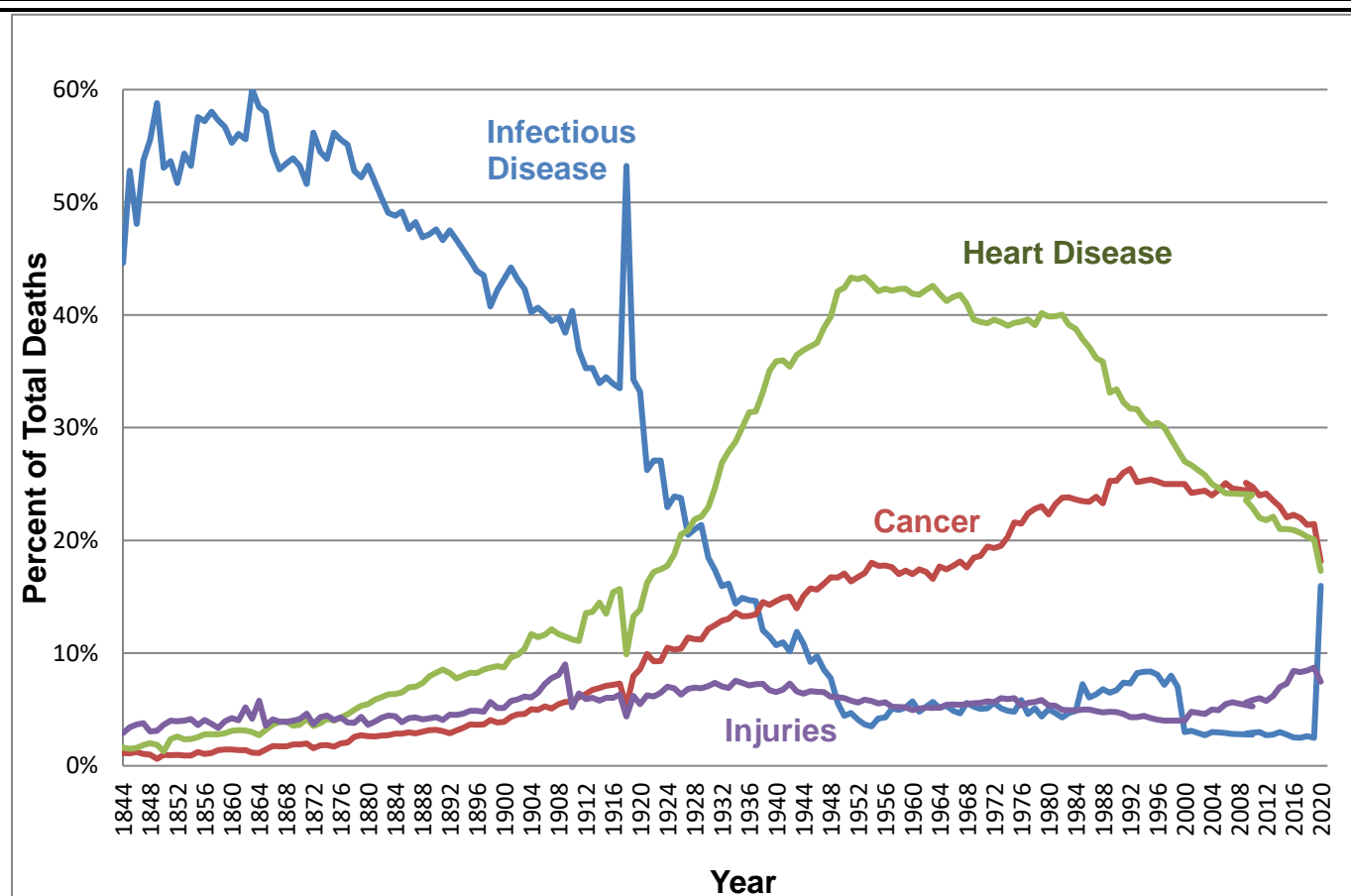


Office of Population Health

Massachusetts Department of Public Health

# Massachusetts Deaths 2020

Charles D. Baker, Governor
Marylou Sudders, Secretary of Health and Human Services
Margret R Cooke, Commissioner of Public Health


Abigail R. Averbach
Assistant Commissioner and Director
Office of Population Health

Karin Barrett
Registrar
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Massachusetts Department of Public Health

November 2022

# Acknowledgments

**To obtain additional copies of this report, contact:**

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Registry of Vital Records and Statistics
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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/orgs/population-health-information-tool-phit.

# TABLE OF CONTENTS

## 2020 Massachusetts Deaths Highlights

- 2020 was an extraordinary year for Massachusetts, the United States, and the world in facing the COVID-19 pandemic. In Massachusetts, 9,455 residents died of COVID in 2020 which was the third leading cause of death overall. Massachusetts had not seen this level of death due to infectious disease since the 1919 Spanish Flu Pandemic (Figure 1 and Table 6). The number of deaths due to COVID-19 had an impact on many other key mortality indicators. Black, Indigenous, Asian/Pacific Islander and Other Communities of Color were disproportionately impacted by COVID-19.
  - From 2019 to 2020, the age-adjusted mortality rate for Massachusetts residents increased 15.6% from 654.0 deaths per 100,000 to 756.3 deaths per 100,000 due to the COVID-19 pandemic (Table 1 and Figure 1). There were disproportionately higher increases in mortality rates among Asian non-Hispanic, Black non-Hispanic, and Hispanic residents compared with White non-Hispanic residents; and among residents ages 65-74 and 75-84 years (Table 1). Deaths to residents ages 1-14 years decreased 34.9% (Table 1).
  - The average life expectancy of Massachusetts residents was 79.2 years in 2020, down from 81.1 years in 2019 and down 1.6 years from 80.8 years in 2010 (Figure 2). This was the largest ten year decrease in life expectancy Massachusetts has experienced since 1900 with a loss of nearly 2 years of life in 2020 alone. Black non-Hispanic residents and Hispanic residents saw the greatest losses in life expectancy (5.0 years for Black women and 5.1 years for Black men; 4.1 years for Hispanic women and 5.5 years for Hispanic men), while the life expectancies for White non-Hispanic women and men dropped only 1.4 and 1.1 years, respectively (Table 3).
  - The age-adjusted mortality rates for COVID-19 and All Other Causes were highest for Black non-Hispanic residents at 186.0 deaths per 100,000 residents for COVID-19 and 708.3 deaths per 100,000 residents for All Other Causes (Figure 5).
  - In 2020, the premature mortality rate (deaths that occur before age 75 per 100,000 residents under age 75) due to COVID-19 was higher for Asian non-Hispanic (26.9), Black non-Hispanic (63.9), and Hispanic (61.7) residents compared with White non-Hispanic residents (20.2). Premature mortality for Black non-Hispanic residents due to all other causes remained high compared to all other racial groups (Figure 6).
  - COVID-19 was in the top ten causes of death for all age groups over age 14. COVID-19 was the leading cause of death for Black non-Hispanic and Hispanic residents; the second leading cause of death (after Cancer) for Asian non-Hispanic residents, and the third leading cause of death (after Cancer and Heart Disease) for White non-Hispanic residents (Table 12).
- In 2020, the rate of infant mortality for Black non-Hispanic residents (7.3 per 1,000 live births) was over two times times higher than the corresponding rate for White non-Hispanic residents (2.9 per 1,000 live births; Table 7).
- Among Massachusetts residents ages 25-64, the death rate for those who completed high school or less was more than three times higher than the corresponding rate among those who completed education above high school. This is most notable in the 25-34 year age group where residents with a high school education or less have a death rate five times higher than those with more than a high school education (Table 5).

- Cancer was the leading cause of death for Massachusetts residents in 2020, followed by heart disease and COVID-19 (Table 6). Lung cancer remained the leading cancerous cause of death for both males and females (Table 14).
- Deaths due to cancer, chronic lower respiratory disease and stroke decreased slightly, while deaths due to Alzheimer's and diabetes increased slightly in 2020 (Table 6). The number of deaths with diabetes as a contributing factor increased 43.1% from 2019 to 2020, (Figure 15).
- Poisonings, which include opioid overdoses, continued to be the largest cause of injury deaths in 2020, and increased from a rate of 33.8 per 100,000 in 2019 to 35.2 per 100,000 in 2020 (Table 22). For all leading causes of injury death, rates were approximately twice as high for men than for women with the exception of firearm deaths which were 11.7 times higher for men than for women (7.0 per 100,000 and 0.6 per 100,000, respectively). The firearm mortality rate was 4.6 times higher for Black non-Hispanic residents than for White non-Hispanic residents (11.4 per 100,000 and 2.5 per 100,000, respectively; Table 23). Overall, injury mortality rates were lowest for Asian non-Hispanic residents (Table 23).
- The rate of homicide for men increased from 3.6 homicides per 100,000 in 2019 to 4.7 homicides per 100,000 in 2020 (Table 26). The homicide rate also increased for Black non-Hispanic and Hispanic men (Table 27). These increases are driven by an increase in firearm homicide (Table 28).
- Deaths due to legal intervention decreased from 7 total (5 firearm, 2 other or unspecified) in 2019 to 2 total (1 firearm, 1 other or unspecified) in 2020 (Table 28).
- The rate of suicide deaths for White non-Hispanic residents (9.6 per 100,000) was almost double the corresponding rates for other groups (4.8 per 100,000 for Asian non-Hispanics, 4.4 per 100,000 for Black non-Hispanics, and 5.3 per 100,000 for Hispanics; Table 27).

## Note to Readers

Please review the information below before reading the report. As required by Chapter 111, Section 2 of the General Laws, this report satisfies the requirement of the annual report on statistics on deaths for calendar year 2020 (Annual Report Vital Statistics of Massachusetts-Deaths, Public Document #1 2020). Public Document #1 information on 2020 births, marriages, and divorces is covered in separate reports.

**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.[1] 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 5 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 2020 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.)

### 2003 Revisions of the U.S. Standard Certificate of Death
This report includes 2020 data on items that are collected on both the 1989 revision of the Standard Certificate of Death (unrevised) and the 2003 revision of the Standard Certificate of Death (revised). In addition to the collection of new variables, the 2003 revision 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. See "Technical Notes" for detailed information on

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[1] This report uses death record data prepared on 10/3/2017. In a very small number of cases, additional data will be obtained at a later date. Therefore, the statistics presented in this report could change slightly based on any information received after 10/3/2017.

the 2020 multiple-race reporting area and methods used to bridge responses for those who report more than one race to a single race.

**Cabo Verdean Race Categorization**

Prior to launching the VIP death application in September 2014, "Cape Verdean"[2] 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"[2] 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.

**Population Source**

The population source for this report is: State, County, and Small Area Population Estimates 2011-2020, version 2019, 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.

**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.

**Suggested Citation**

*Massachusetts Deaths 2020.* Boston, MA: Office of Population Health, Registry of Vital Records and Statistics, Massachusetts Department of Public Health. November 2022.

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[2] 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, in earlier years and in 2016 the death worksheet still used the name "Cape Verdean".

### Table 1. Trends in Mortality Characteristics, Massachusetts: 2010-2020

| Year | | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Resident deaths** | Number | 52,420 | 53,536 | 53,169 | 54,609 | 55,159 | 57,785 | 56,953 | 58,844 | 59,169 | 58,660 | 68,269 |
| | Crude rate[1,2,3] | 800.6 | 812.7 | 807.1 | 815.9 | 817.7 | 850.5 | 836.1 | 849.7 | 848.1 | 840.9 | 978.7 |
| | Age-adjusted rate[4] | 672.7 | 674.0 | 669.2 | 664.1 | 662.5 | 684.6 | 668.9 | 675.7 | 662.8 | 654.0 | 756.3 |
| **Race/ethnicity of decedent [5,6]** | | | | | | | | | | | | |
| Asian non-Hispanic | Number | 759 | 806 | 811 | 816 | 938 | 1,091 | 1,028 | 1,165 | 1,222 | 1,270 | 1759 |
| | Percent[7] | 1.4 | 1.5 | 1.5 | 1.5 | 1.7 | 1.9 | 1.8 | 2.0 | 2.1 | 2.2 | 2.6 |
| | Age-adjusted rate[4] | 364.8 | 375.2 | 372.4 | 320.5 | 344.7 | 371.8 | 324.7 | 361.1 | 351.8 | 351.4 | 490.0 |
| Black non-Hispanic | Number | 2,278 | 2,333 | 2,318 | 2,446 | 2,390 | 2,349 | 2,504 | 2,636 | 2,717 | 2,760 | 3,925 |
| | Percent[7] | 4.3 | 4.4 | 4.4 | 4.5 | 4.3 | 4.1 | 4.4 | 4.5 | 4.6 | 4.7 | 5.7 |
| | Age-adjusted rate[4] | 702.6 | 707.6 | 701.8 | 675.5 | 630.4 | 589.5 | 612.4 | 641.6 | 625.4 | 626.7 | 894.3 |
| Hispanic | Number | 1,308 | 1,477 | 1,487 | 1,548 | 1,702 | 2,037 | 2,126 | 2,372 | 2,377 | 2,544 | 3,451 |
| | Percent[7] | 2.5 | 2.8 | 2.8 | 2.8 | 3.1 | 3.5 | 3.7 | 4.0 | 4.0 | 4.3 | 5.1 |
| | Age-adjusted rate[4] | 443.9 | 468.9 | 484.9 | 444.9 | 447.9 | 493.0 | 473.2 | 505.7 | 480.4 | 506.3 | 689.3 |
| White non-Hispanic | Number | 48,010 | 48,844 | 48,430 | 49,486 | 49,621 | 51,688 | 50,654 | 52,038 | 52,196 | 51,456 | 58,356 |
| | Percent[7] | 91.6 | 91.2 | 91.1 | 90.6 | 90.0 | 89.4 | 88.9 | 88.4 | 88.2 | 87.7 | 85.5 |
| | Age-adjusted rate[4] | 684.4 | 686.9 | 681.0 | 680.9 | 679.5 | 703.3 | 687.9 | 697.1 | 686.8 | 676.3 | 761.6 |
| **Gender of decedent[6]** | | | | | | | | | | | | |
| Female | Number | 27,368 | 27,983 | 27,883 | 28,558 | 28,289 | 29,880 | 28,952 | 29,665 | 29,891 | 29,481 | 34,320 |
| | Age-adjusted rate[4] | 567.2 | 572.8 | 571.1 | 569.5 | 557.9 | 581.2 | 560.2 | 563.2 | 555.1 | 546.9 | 631.6 |
| Male | Number | 25,051 | 25,553 | 25,280 | 26,051 | 26,867 | 27,905 | 28,000 | 29,178 | 29,276 | 29,177 | 33,949 |
| | Age-adjusted rate[4] | 811.9 | 808.5 | 797.9 | 786.5 | 795.9 | 814.7 | 804.9 | 817.9 | 798.3 | 789.2 | 911.9 |
| **Age of decedent** | | | | | | | | | | | | |
| <1 year | Number | 319 | 310 | 309 | 298 | 321 | 310 | 283 | 263 | 291 | 255 | 263 |
| 1-14 years | Number | 113 | 114 | 99 | 118 | 129 | 119 | 115 | 122 | 111 | 106 | 69 |
| 15-24 years | Number | 453 | 471 | 419 | 449 | 441 | 519 | 526 | 501 | 416 | 389 | 437 |
| 25-44 years | Number | 1,823 | 1,870 | 1,880 | 1,993 | 2,234 | 2,475 | 2,742 | 2,788 | 2,751 | 2,646 | 3,019 |
| 45-64 years | Number | 8,753 | 8,808 | 8,791 | 9,013 | 9,214 | 9,348 | 9,270 | 9,516 | 9,350 | 9,417 | 10,359 |
| 65-74 years | Number | 7,423 | 7,616 | 7,891 | 8,259 | 8,678 | 9,038 | 9,332 | 9,719 | 9,918 | 9,974 | 11,945 |
| 75-84 years | Number | 13,639 | 13,598 | 13,272 | 13,182 | 12,784 | 13,299 | 12,870 | 13,272 | 13,806 | 13,570 | 16,385 |
| 85+ years | Number | 19,888 | 20,747 | 20,506 | 21,296 | 21,356 | 22,677 | 21,813 | 22,663 | 22,526 | 22,303 | 25,788 |

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. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see the Technical Notes in the Appendix for a more detailed explanation. 6. Column sum may not equal total because the race, gender or age of some decedents was unknown. 7. Percent of all resident deaths in that year.

## Table 2. Selected Leading Causes of Death, Age-Adjusted Rates, Massachusetts and United States: 2004-2020

| Year | Age-Adjusted Rates[1,2] | Heart Disease | | Cancer | | Stroke | |
|---|---|---|---|---|---|---|---|
| | | MA | US[3] | MA | US[3] | MA | US[3] |
| 2010 | Rate | 149.4 | 178.5 | 171.0 | 172.5 | 31.2 | 39.0 |
| | % of Total | 22.9 | 24.1 | 24.7 | 23.3 | 4.8 | 5.2 |
| 2011 | Rate | 144.4 | 173.7 | 166.1 | 173.7 | 30.2 | 37.9 |
| | % of Total | 22.1 | 23.7 | 24.0 | 23.7 | 4.6 | 5.1 |
| 2012 | Rate | 141.3 | 170.5 | 166.7 | 166.5 | 28.7 | 36.9 |
| | % of Total | 21.8 | 23.6 | 24.2 | 22.9 | 4.4 | 5.1 |
| 2013 | Rate | 142.2 | 169.8 | 159.5 | 163.2 | 27.7 | 36.2 |
| | % of Total | 22.1 | 23.5 | 23.5 | 22.5 | 4.3 | 5.0 |
| 2014 | Rate | 137.5 | 167.0 | 155.6 | 161.2 | 28.7 | 36.5 |
| | % of Total | 21.5 | 23.4 | 23.2 | 22.5 | 4.5 | 5.1 |
| 2015 | Rate | 138.7 | 167.0 | 152.8 | 161.2 | 28.4 | 36.5 |
| | % of Total | 21.0 | 23.4 | 22.1 | 22.5 | 4.3 | 5.1 |
| 2016 | Rate | 134.8 | 165.5 | 149.8 | 155.8 | 27.9 | 37.3 |
| | % of Total | 20.9 | 23.1 | 22.3 | 21.8 | 4.3 | 5.2 |
| 2017 | Rate | 134.5 | 165.0 | 149.1 | 152.5 | 26.5 | 37.6 |
| | % of Total | 20.7 | 23.0 | 22.0 | 21.3 | 4.0 | 5.2 |
| 2018 | Rate | 131.1 | 163.6 | 142.5 | 149.1 | 27.1 | 37.1 |
| | % of Total | 20.3 | 23.1 | 21.4 | 21.1 | 4.2 | 5.2 |
| 2019 | Rate | 126.9 | 197.2 | 139.5 | 185.4 | 26.6 | 43.7 |
| | % of Total | 20.1 | 23.4 | 21.5 | 22.0 | 4.2 | 5.2 |
| 2020 | Rate | 127.6 | 168.2 | 136.8 | 144.1 | 24.6 | 38.8 |
| | % of Total | 17.3 | 20.6 | 18.1 | 17.8 | 3.3 | 4.7 |

## Table 2. Selected Leading Causes of Death, Age-Adjusted Rates, Massachusetts and United States: 2004-2020

| Year | Age-Adjusted Rates[1,2] | Influenza/Pneumonia | | Unintentional Injuries | | All Causes | |
|---|---|---|---|---|---|---|---|
| | | MA | US[3] | MA | US[4] | MA | US[3] |
| 2010 | Rate | 15.9 | 15.1 | 28.3 | 37.1 | 672.7 | 746.2 |
| | % of Total | 2.5 | 2.0 | 3.9 | 4.8 | | |
| 2011 | Rate | 16.9 | 15.7 | 30.0 | 39.4 | 674.0 | 740.6 |
| | % of Total | 2.6 | 2.0 | 4.1 | 4.9 | | |
| 2012 | Rate | 16.3 | 14.4 | 30.0 | 39.1 | 669.2 | 732.8 |
| | % of Total | 2.6 | 2.0 | 4.1 | 5.0 | | |
| 2013 | Rate | 18.0 | 15.9 | 34.0 | 39.4 | 664.1 | 731.9 |
| | % of Total | 2.8 | 2.2 | 4.6 | 5.0 | | |
| 2014 | Rate | 15.7 | 15.1 | 39.4 | 40.5 | 662.5 | 724.6 |
| | % of Total | 2.5 | 2.1 | 5.2 | 5.2 | | |
| 2015 | Rate | 17.1 | 15.1 | 45.5 | 40.5 | 684.6 | 724.6 |
| | % of Total | 2.6 | 2.1 | 5.8 | 5.2 | | |
| 2016 | Rate | 14.1 | 13.5 | 53.6 | 47.4 | 668.9 | 728.8 |
| | % of Total | 2.2 | 1.9 | 6.8 | 5.9 | | |
| 2017 | Rate | 15.8 | 14.3 | 52.6 | 49.4 | 675.7 | 731.9 |
| | % of Total | 2.4 | 2.0 | 6.7 | 6.0 | | |
| 2018 | Rate | 15.8 | 14.9 | 52.8 | 48 | 662.8 | 723.6 |
| | % of Total | 2.4 | 2.1 | 6.7 | 5.9 | | |
| 2019 | Rate | 13.1 | 17.8 | 53.7 | 49.3 | 654.0 | 844.0 |
| | % of Total | 2.1 | 2.1 | 7.0 | 6.1 | | |
| 2020 | Rate | 14.6 | 13.0 | 54.5 | 57.6 | 756.3 | 835.4 |
| | % of Total | 1.9 | 1.6 | 6.0 | 5.9 | | |

Note: Cause of death: the disease or injury that initiated the events leading to death or the circumstances of the unintentional or intentional injury that resulted in the death. 1. Data coded according to ICD-10. ICD-10 codes used in this publication are listed in the Appendix. 2. Rates are age-adjusted per 100,000 residents using the 2000 US standard population.  3. US data for 2020 obtained from NCHS Data Brief Mortality in the United States, 2020.

**Figure 1. Trends in Percentage of Deaths from Selected Causes, Massachusetts: 1844-2020**

1. 86.7% of all Infectious Disease deaths in 2020 (indicated by the red arrow) were due to COVID-19.
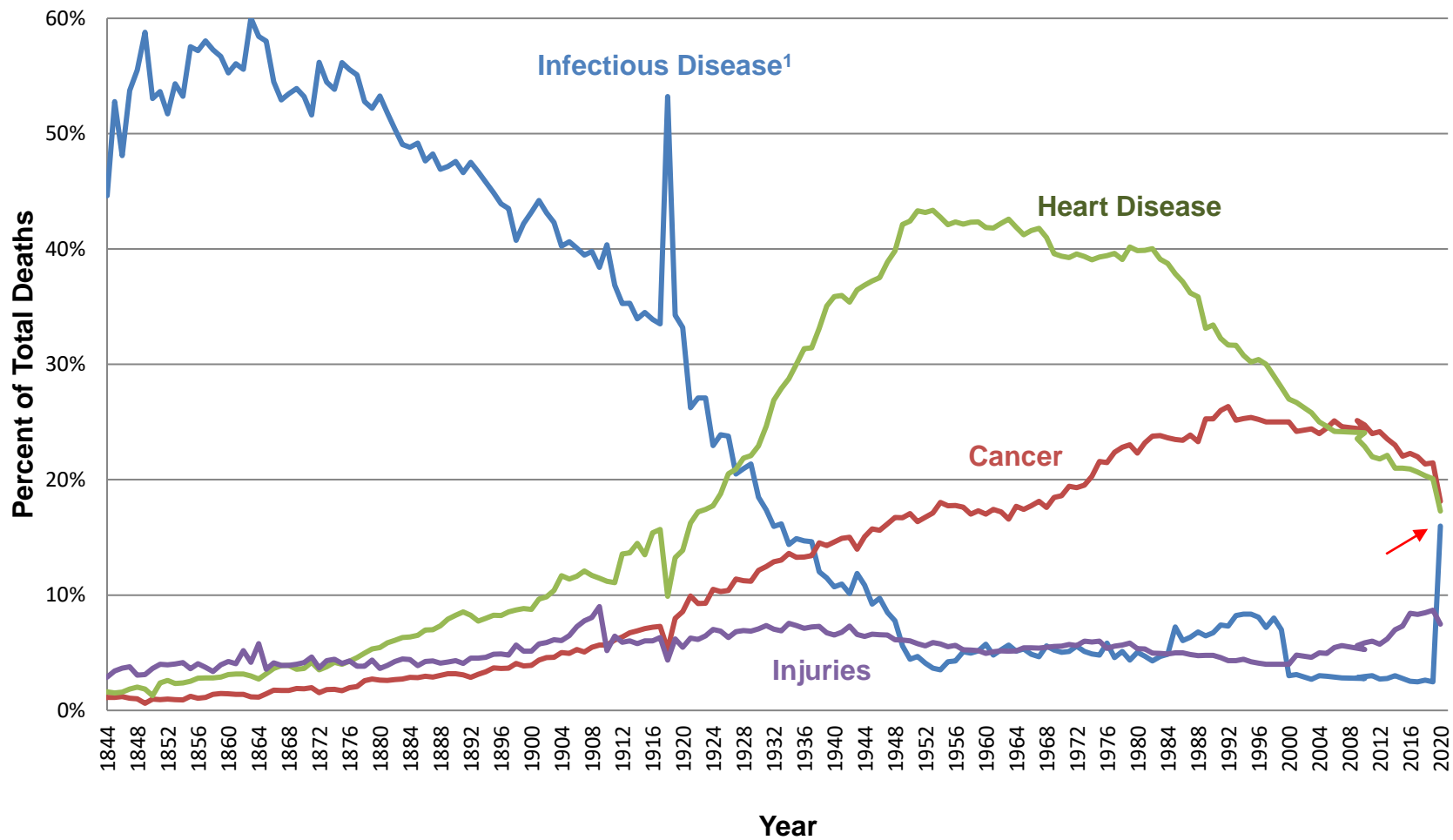
**Figure 2. Life Expectancy at Birth, Massachusetts: 1900-2020**

Note: Life Expectancy at birth calculated using the Greville Abridged Life Table Method (source: Dublin LI. Length of Life - A Study of the Life Table. Ronald Press Co. New York. 1949).

| Year | All | All Females | White non-Hispanic Females | Black non-Hispanic Females | Hispanic Females | All Males | White non-Hispanic Males | Black non-Hispanic Males | Hispanic Males |
|---|---|---|---|---|---|---|---|---|---|
| 2010 | 80.8 | 83.2 | 83.0 | 83.2 | 90.9 | 78.3 | 78.3 | 75.0 | 83.1 |
| 2011 | 80.8 | 83.1 | 82.9 | 81.6 | 89.6 | 78.4 | 78.2 | 76.9 | 83.9 |
| 2012 | 80.9 | 83.0 | 82.9 | 82.3 | 88.8 | 78.6 | 78.6 | 76.5 | 82.3 |
| 2013 | 80.9 | 83.1 | 82.7 | 83.0 | 90.7 | 78.8 | 78.5 | 76.6 | 83.7 |
| 2014 | 80.8 | 83.4 | 83.0 | 84.3 | 89.6 | 78.3 | 78.1 | 77.5 | 84.3 |
| 2015 | 80.4 | 82.8 | 82.6 | 85.1 | 87.9 | 78.1 | 77.8 | 78.7 | 83.0 |
| 2016 | 80.7 | 83.1 | 82.9 | 83.6 | 89.0 | 78.0 | 77.8 | 78.9 | 83.3 |
| 2017 | 80.6 | 83.1 | 82.9 | 83.6 | 89.1 | 77.9 | 77.6 | 77.7 | 81.7 |
| 2018 | 80.8 | 83.2 | 82.7 | 84.0 | 88.8 | 78.2 | 77.8 | 77.4 | 83.1 |
| 2019 | 81.1 | 83.5 | 83.2 | 84.4 | 88.2 | 78.5 | 78.1 | 77.9 | 81.5 |
| 2020 | 79.2 | 81.9 | 81.8 | 79.4 | 84.1 | 76.7 | 77.0 | 72.8 | 76.0 |

**Table 3. Life Expectancy at Birth[1] by Race and Hispanic Ethnicity[2] and Gender, Massachusetts: 2010 – 2020**

1. Note: Life Expectancy at birth calculated using the Greville Abridged Life Table Method (source: Dublin LI. Length of Life - A Study of the Life Table. Ronald Press Co. New York. 1949). 2. Population estimates are from 2019 bridged population file, MARS (Modified Age, Race/Ethnicity, and Sex) file. Please see the technical notes for more information on race and ethnicity.

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

| Census Year | Under 15 | 15-44 | 45-64 | 65-84 | 85+ |
|---|---|---|---|---|---|
| 1900 | 27% | 51% | 16% | 5% | 0.2% |
| 1910 | 27% | 51% | 17% | 5% | 0.2% |
| 1920 | 28% | 48% | 19% | 5% | 0.3% |
| 1930 | 27% | 47% | 20% | 6% | 0.3% |
| 1940 | 22% | 47% | 22% | 8% | 0.3% |
| 1950 | 24% | 44% | 23% | 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% |

**Age Groups**

# Table 4. Distribution of Deaths by Place of Occurrence, Massachusetts: 2016-2020

| Type of Place where Death Occurred | 2016 | | 2017 | | 2018 | | 2019 | | 2020 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Percent | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| Hospital (inpatient/outpatient) | 20,579 | 36% | 21,343 | 36% | 20,579 | 36% | 21,343 | 36% | 25,742 | 38% |
| Dead on Arrival | 732 | 1% | 644 | 1% | 732 | 1% | 644 | 1% | 547 | 1% |
| Nursing Home | 14,800 | 26% | 15,003 | 26% | 14,800 | 26% | 15,003 | 26% | 15,168 | 22% |
| Hospice | 3,137 | 6% | 3,321 | 6% | 3,137 | 6% | 3,321 | 6% | 3,090 | 5% |
| Assisted Living Facility or Rest Home | 1,332 | 2% | 1,646 | 3% | 1,332 | 2% | 1,646 | 3% | 2,360 | 3% |
| At Home | 14,925 | 26% | 15,361 | 26% | 14,925 | 26% | 15,361 | 26% | 19,531 | 29% |
| Other | 1,446 | 3% | 1,520 | 3% | 1,446 | 3% | 1,520 | 3% | 1,822 | 3% |
| Unknown | 2 | 0% | 6 | 0% | 2 | 0% | 6 | 0% | 9 | 0% |

# Figure 4. Manner of Death Among Massachusetts Occurrence Deaths Certified by the Medical Examiner, 2020



**Manner of Death**
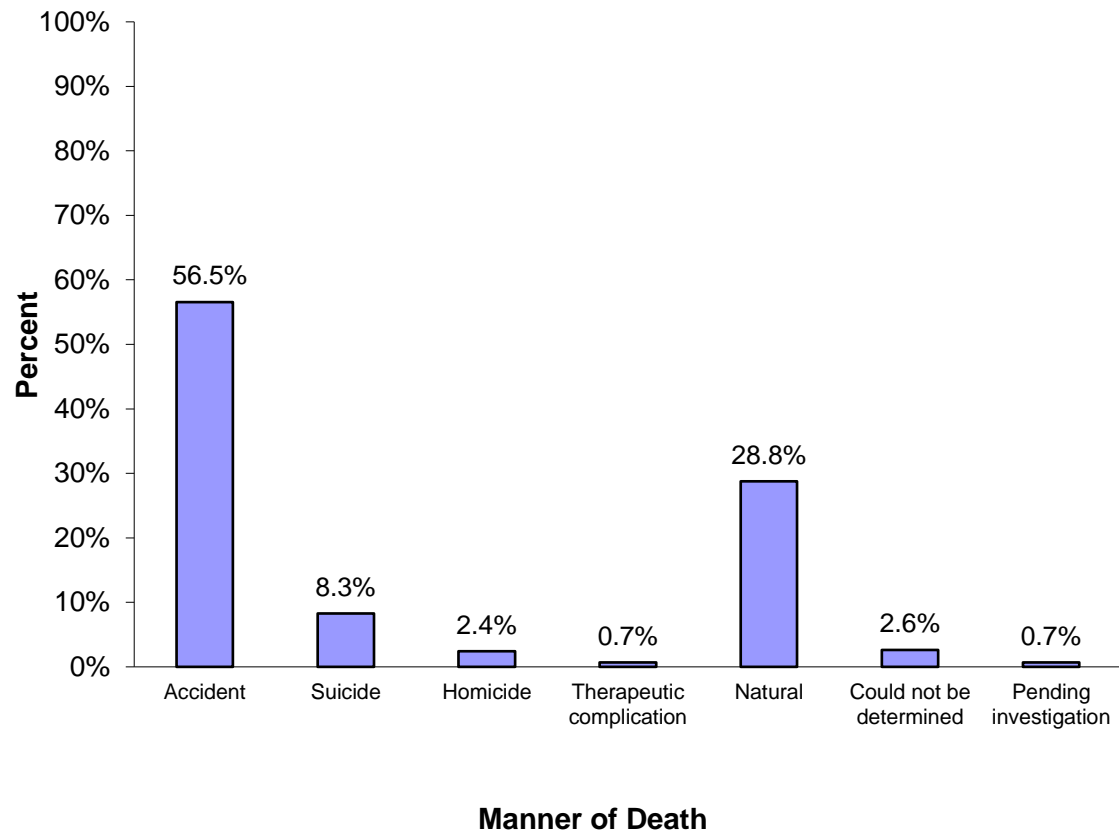
Note: See the Appendix section, "Circumstance for Referral to the Office of the Chief Medical Examiner (OCME)" for a list of circumstances requiring referral to the Medical Examiner's Office.

Note: 7511 total cases investigated by the Medical Examiner=7511.

**Figure 5. Age-Adjusted Mortality Rate for COVID-19 and All Other Causes by Race and Hispanic Ethnicity, Massachusetts: 2020**
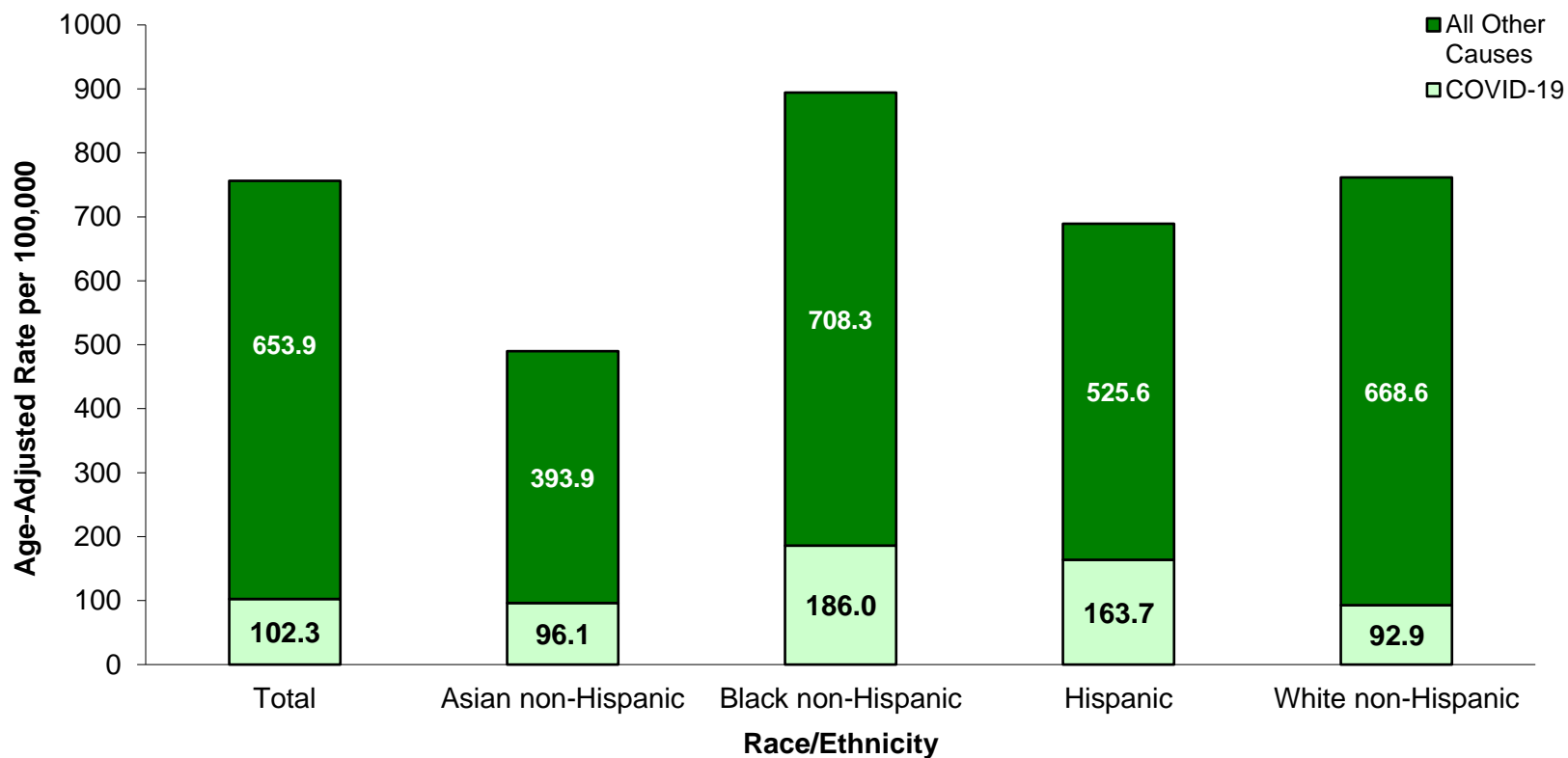
Note: The ICD-10 codes used for COVID-19 deaths were U07.1 and B34.2. Please see the technical notes for more information on race and ethnicity

Figure 6. Premature Mortality Rate (PMR) for COVID-19 and All Other Causes by Race and Hispanic Ethnicity, Massachusetts: 2020
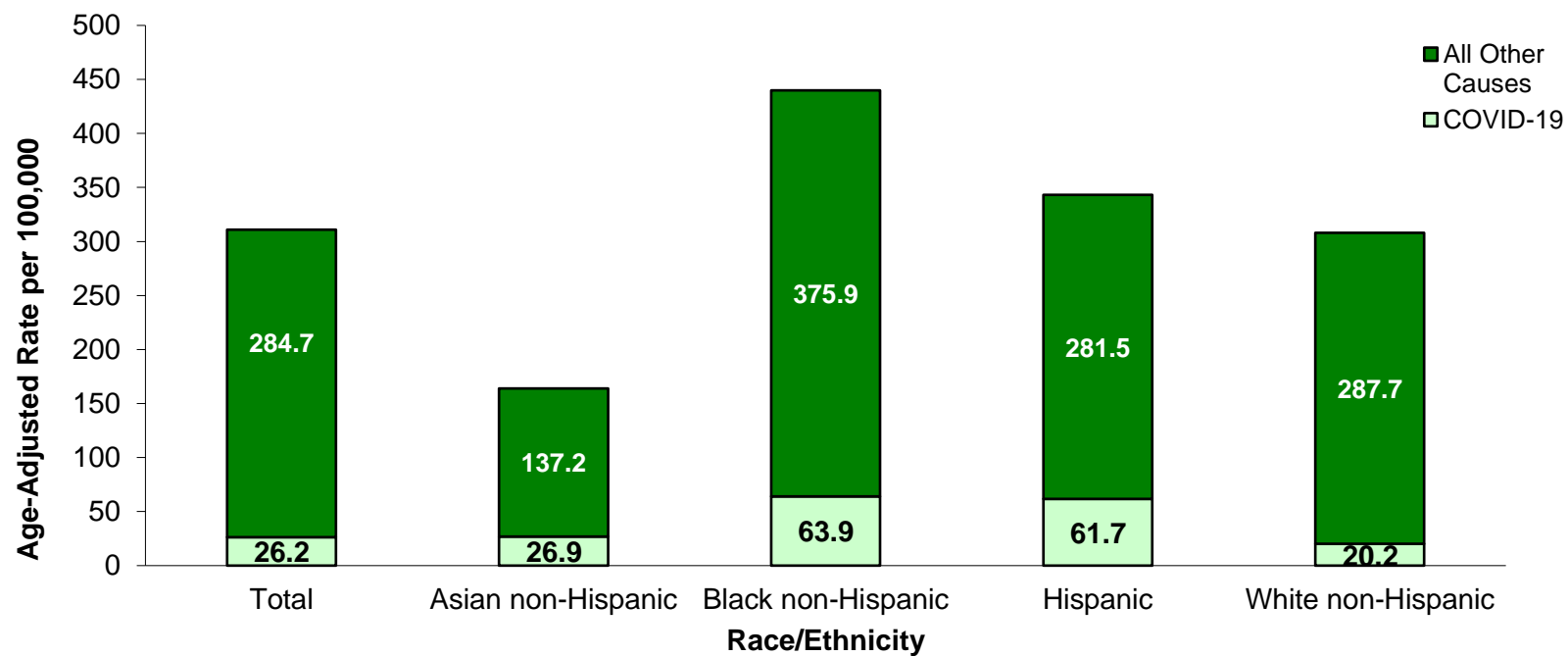
Note: Premature Mortality Rate is defined as deaths that occur before the age of 75 years per 100,000, age-adjusted to the 2000 US standard population under 75 years of age. The ICD-10 codes used for COVID-19 deaths were U07.1 and B34.2. Please see the technical notes for more information on race and ethnicity.

**Table 5. Age-Specific and Age-Adjusted Death Rates for Ages 25-64 Years by Educational Attainment, Massachusetts: 2020**

| Years of School Completed | Age-Specific Rates | | | Age-Adjusted Rates |
|---|---|---|---|---|
| | 25-34 years | 35-44 years | 45-64 years | 25-64 years |
| High School or Less | 363.6 | 525.0 | 1151.4 | **750.3** |
| 13+ Education | 72.0 | 123.4 | 370.0 | **215.3** |

**Figure 7. Daily Mortality Statistics, Massachusetts: 2020**

Every day in 2020 in Massachusetts there were on average:

| 24 COVID-19 Deaths | 4 Other Infectious Disease Deaths |
|---|---|

30 Infectious Disease Deaths

34 Cancer Deaths

1 Infant Death

32 Heart Disease Deaths

5 Alzheimer's Deaths

**187 deaths[1]**

15 Respiratory Deaths

4 Diabetes Deaths

6 Stroke Deaths

14 Injury Deaths

| 7 Poisoning Deaths | 3 Falls Deaths | 2 Suicide Deaths | 2 Other Intentional & Unintentional Injury Deaths |
|---|---|---|---|
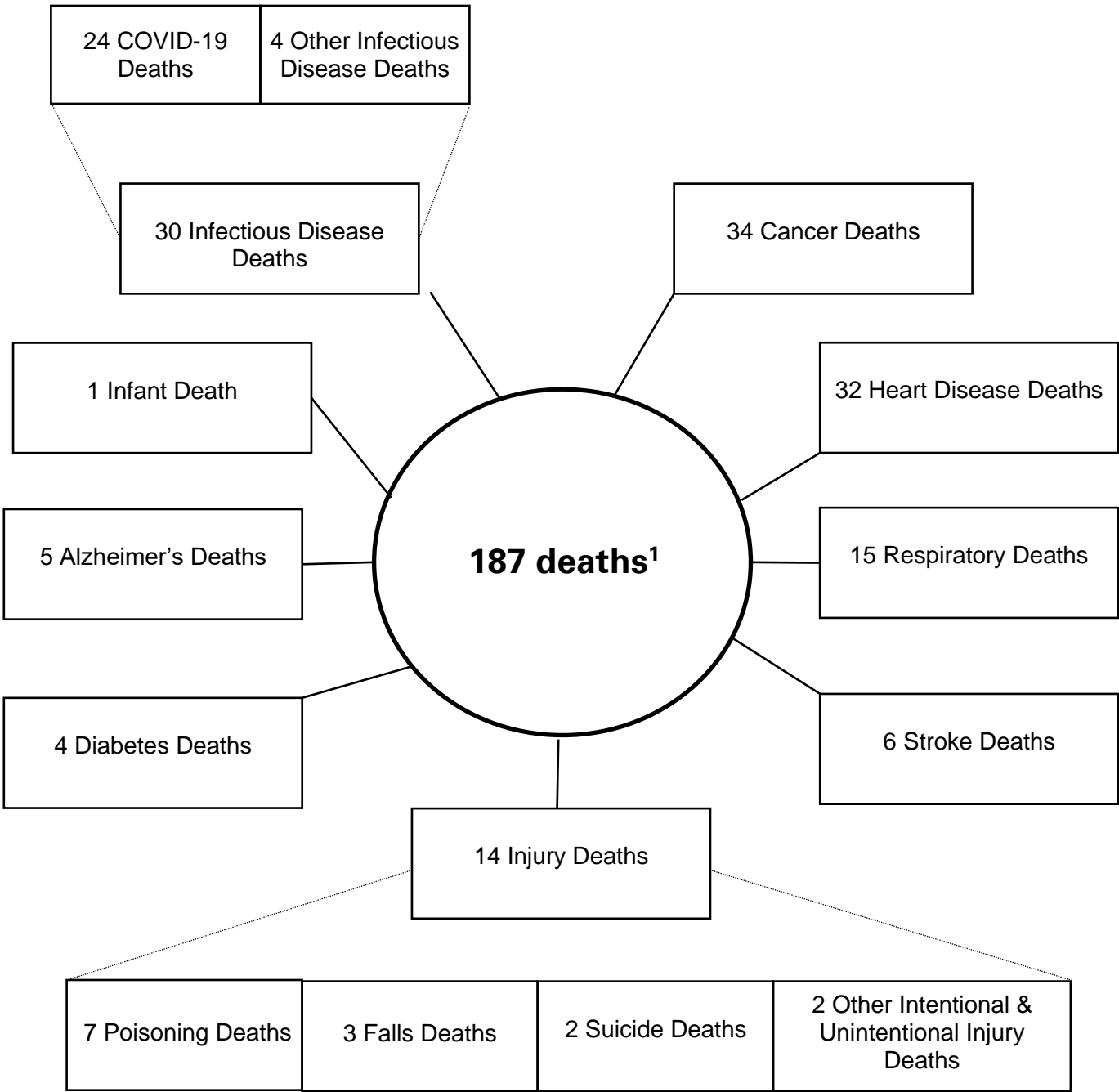
1. Includes 46 deaths due to other causes. Individual categories may not sum to the total due to rounding.

## Table 6. Top Ten Leading Underlying Causes of Death by Age, Massachusetts: 2020

| Rank | Age Groups (number of deaths) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | <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 (49) | Unintentional Injuries[3] (13) | Unintentional Injuries[3] (197) | Unintentional Injuries[3] (1398) | Cancer (2625) | Cancer (3481) | Cancer (3402) | Heart Disease (5320) | **Cancer (12381)** |
| 2 | Short Gestation and LBW[1] (45) | Cancer (10) | Suicide (72) | Cancer (246) | Heart Disease (1648) | Heart Disease (1924) | Heart Disease (2669) | COVID-19 (4477) | **Heart Disease (11797)** |
| 3 | SIDS[2] (23) | Congenital Malformations (5) | Homicide (59) | Heart Disease (221) | Unintentional Injuries[3] (1116) | COVID-19 (1493) | COVID-19 (2571) | Cancer (2592) | **COVID-19 (9455)** |
| 4 | Pregnancy Complications (18) | Heart Disease (4) | Cancer (25) | Suicide (196) | COVID-19 (830) | Chronic Lower Respiratory Disease[5] (566) | Chronic Lower Respiratory Disease[5] (833) | Stroke (1122) | **Unintentional Injuries[3] (4103)** |
| 5 | Complications of Placenta (11) | Suicide (4) | Injuries of Undetermined Intent (9) | Chronic Liver Disease (118) | Chronic Liver Disease (457) | Diabetes (362) | Stroke (589) | Alzheimer's Disease (1114) | **Chronic Lower Respiratory Disease[5] (2546)** |
| 6 | Neonatal Hemorrhage (11) | Ill-defined Conditions-signs and symptoms[4] (3) | Congenital malform (7) | Homicide (81) | Diabetes (370) | Unintentional Injuries[3] (333) | Alzheimer's Disease (457) | Chronic Lower Respiratory Disease[5] (778) | **Stroke (2272)** |
| 7 | Circulatory System (7) | Stroke (2) | Heart Disease (6) | COVID-19 (78) | Chronic Lower Respiratory Disease[5] (343) | Stroke (312) | Diabetes (380) | Unintentional Injuries[3] (680) | **Alzheimer's Disease (1753)** |
| 8 | Respiratory Distress (6) | Chronic Lower Respiratory Disease[5] (2) | COVID-19 (5) | Diabetes (49) | Suicide (229) | Nephritis (209) | Influenza & Pneumonia (363) | Influenza & Pneumonia (612) | **Diabetes (1559)** |
| 9 | Bacterial Sepsis of Newborn (6) | Homicide (2) | Septicemia (4) | Ill-defined Conditions-signs and symptoms[4] (41) | Stroke (225) | Chronic liver disease (201) | Unintentional Injuries[3] (362) | Nephritis (506) | **Influenza & Pneumonia (1331)** |
| 10 | Atelectasis (5) | Injuries of Undetermined Intent (2) | Ill-defined Conditions-signs and symptoms[4] (4) | Injuries of Undetermined Intent (31) | Septicemia (147) | Influenza & Pneumonia (196) | Parkinsons (346) | Diabetes (396) | **Nephritis (1215)** |
| All Causes | 263 | 69 | 437 | 3,019 | 10,359 | 11,945 | 16,385 | 25,788 | 68,269 |

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 7. Trends in Infant, Neonatal, and Post Neonatal Mortality, by Race and Hispanic Ethnicity[5], Massachusetts: 2010-2020

## INFANT MORTALITY (less than one year of age)

| Year | State Total[1] # | Rate[3] | Asian non-Hispanic # | Rate[3] | Black non-Hispanic # | Rate[3] | Hispanic # | Rate[3] | White non-Hispanic # | Rate[3] | Other[2] # | Rate[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2010 | 319 | 4.4 | 25 | 4.3 | 56 | 8.2 | 65 | 6.1 | 163 | 3.4 | 7 | 4.4 |
| 2011 | 310 | 4.2 | 22 | 3.6 | 47 | 6.7 | 75 | 5.8 | 158 | 3.4 | 6 | 4.2 |
| 2012 | 309 | 4.3 | 17 | 2.6 | 57 | 8.2 | 71 | 5.4 | 158 | 3.5 | 4 | --[4] |
| 2013 | 298 | 4.2 | 15 | 2.4 | 63 | 8.9 | 49 | 3.9 | 161 | 3.6 | 3 | --[4] |
| 2014 | 321 | 4.5 | 20 | 3.2 | 54 | 7.6 | 62 | 5.0 | 169 | 3.8 | 8 | 10.5 |
| 2015 | 310 | 4.3 | 15 | 2.3 | 59 | 8.3 | 75 | 5.7 | 146 | 3.3 | 14 | 21.8 |
| 2016 | 283 | 4.0 | 18 | 2.7 | 56 | 7.7 | 78 | 5.8 | 119 | 2.8 | 10 | 13.7 |
| 2017 | 263 | 3.7 | 19 | 2.9 | 49 | 6.6 | 71 | 5.1 | 109 | 2.6 | 12 | 17.1 |
| 2018 | 291 | 4.3 | 9 | 1.4 | 62 | 8.7 | 63 | 4.6 | 148 | 3.7 | 4 | --[4] |
| 2019 | 255 | 3.7 | 15 | 2.3 | 48 | 6.6 | 67 | 4.7 | 108 | 2.7 | 7 | 8.3 |
| 2020 | 263 | 4.0 | 13 | 2.0 | 51 | 7.3 | 61 | 4.3 | 111 | 2.9 | 12 | 15.3 |

## NEONATAL MORTALITY (birth to 27 days)

| Year | State Total[1] # | Rate[3] | Asian non-Hispanic # | Rate[3] | Black non-Hispanic # | Rate[3] | Hispanic # | Rate[3] | White non-Hispanic # | Rate[3] | Other[2] # | Rate[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2010 | 238 | 3.3 | 20 | 3.4 | 43 | 6.3 | 47 | 4.4 | 121 | 2.5 | 5 | 4.6 |
| 2011 | 230 | 3.1 | 19 | 3.1 | 33 | 4.7 | 60 | 4.7 | 111 | 2.4 | 3 | --[4] |
| 2012 | 216 | 3.0 | 13 | 2.0 | 41 | 5.9 | 46 | 3.5 | 111 | 2.5 | 3 | --[4] |
| 2013 | 221 | 3.1 | 10 | 1.6 | 45 | 6.3 | 39 | 3.1 | 119 | 2.6 | 0 | 0.0 |
| 2014 | 236 | 3.3 | 15 | 2.3 | 38 | 5.3 | 50 | 3.9 | 122 | 2.7 | 6 | 9.5 |
| 2015 | 237 | 3.3 | 15 | 2.3 | 45 | 6.4 | 59 | 4.5 | 106 | 2.4 | 11 | 17.1 |
| 2016 | 214 | 3.0 | 9 | 1.3 | 47 | 6.5 | 64 | 4.8 | 87 | 2.0 | 5 | 6.8 |
| 2017 | 180 | 2.5 | 11 | 1.7 | 32 | 4.3 | 52 | 3.7 | 70 | 1.7 | 12 | 17.1 |
| 2018 | 224 | 2.7 | 6 | 0.9 | 54 | 7.6 | 49 | 3.6 | 107 | 2.7 | 4 | --[4] |
| 2019 | 188 | 2.7 | 11 | 1.7 | 41 | 5.6 | 52 | 3.6 | 69 | 1.7 | 5 | 5.9 |
| 2020 | 190 | 2.9 | 10 | 1.5 | 39 | 5.6 | 42 | 3.0 | 75 | 2.0 | 10 | 12.7 |

## POST NEONATAL MORTALITY (28-365 days)

| Year | State Total[1] # | Rate[3] | Asian non-Hispanic # | Rate[3] | Black non-Hispanic # | Rate[3] | Hispanic # | Rate[3] | White non-Hispanic # | Rate[3] | Other[2] # | Rate[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2010 | 81 | 1.1 | 5 | 0.9 | 13 | 1.9 | 18 | 1.7 | 42 | 0.9 | 2 | --[4] |
| 2011 | 80 | 1.1 | 3 | --[4] | 14 | 2.0 | 15 | 1.2 | 47 | 1.0 | 3 | --[4] |
| 2012 | 93 | 1.3 | 4 | --[4] | 16 | 2.3 | 25 | 1.9 | 47 | 1.0 | 1 | --[4] |
| 2013 | 77 | 1.1 | 5 | 0.8 | 18 | 2.5 | 10 | 0.8 | 42 | 0.9 | 1 | --[4] |
| 2014 | 85 | 1.2 | 5 | 0.8 | 16 | 2.2 | 12 | 0.9 | 47 | 1.1 | 2 | --[4] |
| 2015 | 73 | 1.0 | 0 | 0.0 | 14 | 2.0 | 16 | 1.2 | 40 | 0.9 | 3 | --[4] |
| 2016 | 69 | 1.0 | 9 | 1.3 | 9 | 1.2 | 14 | 1.0 | 32 | 0.7 | 5 | 6.8 |
| 2017 | 83 | 1.2 | 8 | 1.2 | 17 | 2.3 | 19 | 1.4 | 39 | 0.9 | 0 | 0.0 |
| 2018 | 67 | 1.0 | 3 | --[4] | 8 | 1.1 | 14 | 1.0 | 41 | 1.0 | 0 | 0.0 |
| 2019 | 67 | 1.0 | 4 | --[4] | 7 | 1.0 | 15 | 1.0 | 39 | 1.0 | 2 | --[4] |
| 2020 | 73 | 1.1 | 3 | --[4] | 12 | 1.7 | 19 | 1.3 | 36 | 0.9 | 2 | --[4] |

1. Deaths of infants of unknown race are included in the total calculation. For rate computations, births of infants of unknown race are allocated into the race categories according to the distribution of births of known race. 2. Other: American Indian and Other races. 3. Rates are expressed per 1,000 live births. 4. Calculations based on values 1-4 are excluded. 5. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see the Technical Notes for more information on race and ethnicity.

**Figure 8. Infant Mortality Rates by Race and Hispanic Ethnicity, Massachusetts: 2000-2020**
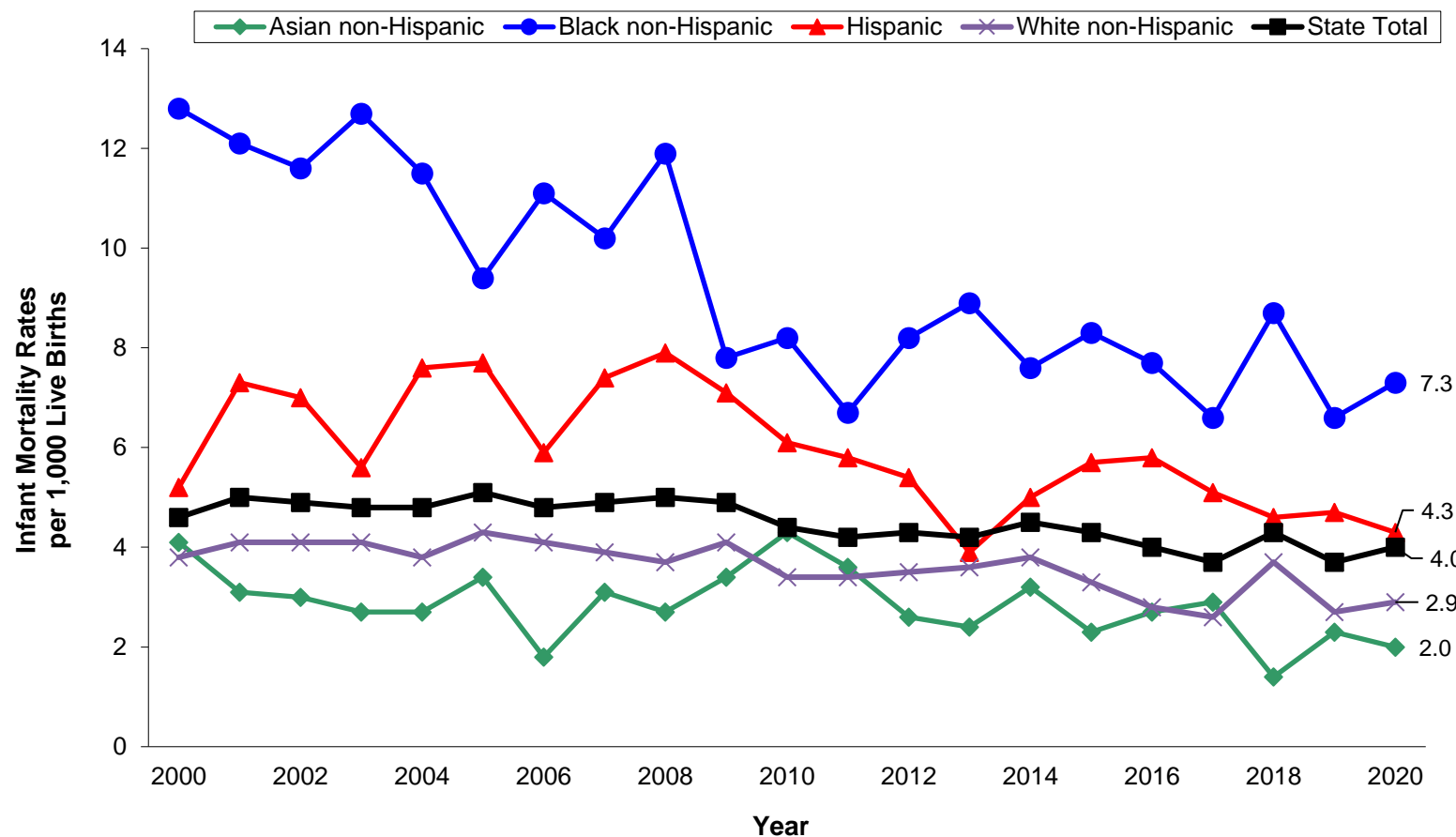
1. Deaths of infants of unknown race are included in the total calculation. For rate computations, births of infants of unknown race are allocated into the race categories according to the distribution of births of known race.  2. Rates are expressed per 1,000 live births.  3. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see the Technical Notes for  more information on race and ethnicity.

# Table 8. Infant, Neonatal, and Post Neonatal Deaths by Cause, Massachusetts: 2020

| Cause of Death[4] | ICD-10 Code | Infant (<1 year) # | Infant (<1 year) % | Neonatal (<28 days) # | Neonatal (<28 days) % | Post Neonatal (28-365 days) # | Post Neonatal (28-365 days) % |
|---|---|---|---|---|---|---|---|
| **TOTAL** | | **263** | **100** | **190** | **100** | **73** | **100** |
| **Infectious and parasitic diseases** | **A00-B99** | **0** | **0.0** | **0** | **0.0** | **5** | **6.8** |
| **Cancer** | **C00-C97** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** |
| **Diseases of the blood and blood forming organs (anemia)** | **D50-D89** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** |
| **Diseases of nervous system and ear** | **G00-G98, H60-H93** | **4** | **--[2]** | **0** | **0.0** | **4** | **--[2]** |
| **Diseases of the respiratory system** | **J00-J98** | **3** | **--[2]** | **0** | **0.0** | **3** | **--[2]** |
| **Diseases of digestive system** | **K00-K92** | **3** | **--[2]** | **1** | **--[2]** | **2** | **--[2]** |
| **Congenital malformations** | **Q00-Q99** | **49** | **18.6** | **36** | **18.9** | **13** | **17.8** |
| Congenital malformations of nervous system | Q00-Q07 | 7 | 2.7 | 5 | 2.6 | 2 | --[2] |
| Anencephalus and similar malformations | Q00 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Congenital malformations of heart | Q20-Q24 | 13 | 4.9 | 10 | 5.3 | 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 | 7 | 2.7 | 7 | 3.7 | 0 | 0.0 |
| Congenital malformations of genitourinary system | Q50-Q64 | 7 | 2.7 | 5 | 2.6 | 2 | --[2] |
| Congenital malformations of musculoskeletal system | Q65-Q85 | 5 | 1.9 | 3 | --[2] | 2 | --[2] |
| Chromosomal abnormalities | Q90-Q99 | 8 | 3.0 | 6 | 3.2 | 2 | --[2] |
| **Certain conditions originating in the perinatal period** | **P00-P96** | **151** | **57.4** | **144** | **75.8** | **7** | **9.6** |
| 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 | 18 | 6.8 | 18 | 9.5 | 0 | 0.0 |
| Newborn affected by complications of placenta, cord and membrane | P02 | 11 | 4.2 | 11 | 5.8 | 0 | 0.0 |
| Newborn affected by other complications of labor and delivery | P03 | 2 | --[2] | 2 | --[2] | 0 | 0.0 |
| Disorders relating to short gestation and low birthweight | P07 | 45 | 17.1 | 45 | 23.7 | 0 | 0.0 |
| Intrauterine hypoxia and birth asphyxia | P20-P21 | 4 | --[2] | 4 | --[2] | 0 | 0.0 |
| Respiratory distress of newborn | P22 | 6 | 2.3 | 6 | 3.2 | 0 | 0.0 |
| Other respiratory conditions of newborn | P23-P28 | 13 | 4.9 | 10 | 5.3 | 3 | --[2] |
| Infections specific to the perinatal period | P35-P39 | 7 | 2.7 | 6 | 3.2 | 1 | --[2] |
| Neonatal hemorrhage | P50-P52, P54 | 11 | 4.2 | 11 | 5.8 | 0 | 0.0 |
| Other and ill-defined conditions originating in the perinatal period | P90-P96 | 6 | 2.3 | 6 | 3.2 | 0 | 0.0 |
| **Symptoms, signs, and ill-defined conditions** | **R00-R99** | **33** | **12.5** | **5** | **2.6** | **28** | **38.4** |
| Sudden Infant Death Syndrome (SIDS) | R95 | 23 | 8.7 | 2 | --[2] | 21 | 28.8 |
| **COVID-19** | **U701, B342** | **1** | **--[2]** | **0** | **0.0** | **1** | **--[2]** |
| **Unintentional injuries** | **V01-X59** | **3** | **--[2]** | **0** | **0.0** | **3** | **--[2]** |
| **Homicide** | **X85-Y09** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** |
| **All other causes** | **Residual** | **12** | **4.6** | **4** | **--[2]** | **8** | **11.0** |

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 9. Infant[1] Deaths by Major Causes[2], Race and Hispanic Ethnicity[4], Massachusetts: 2020

| Cause of Death[2] | ICD-10 Code | Asian non-Hispanic | | Black non-Hispanic | | Hispanic | | White non-Hispanic | |
|---|---|---|---|---|---|---|---|---|---|
| | | # | % | # | % | # | % | # | % |
| **TOTAL** | | 13 | 100.0 | 51 | 100.0 | 61 | 100.0 | 111 | 100.0 |
| Certain conditions originating in the perinatal period | P00- P96 | 8 | 61.5 | 29 | 56.9 | 33 | 54.1 | 61 | 55.0 |
| Congenital malformations | Q00-Q99 | 2 | --[3] | 11 | 21.6 | 14 | 23.0 | 18 | 16.2 |
| Symptoms, signs, and ill-defined conditions | R00-R99 | 3 | --[3] | 5 | 9.8 | 8 | 13.1 | 15 | 13.5 |
| SIDS | R95 | 2 | --[3] | 4 | --[3] | 5 | 8.2 | 10 | 9.0 |
| Unintentional Injuries | V01-X59 | 0 | 0.0 | 0 | 0.0 | 1 | --[3] | 2 | --[3] |
| All other causes | Residual | 0 | 0.0 | 6 | 11.8 | 5 | 8.2 | 15 | 13.5 |

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. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see the Technical Notes for more information on race and ethnicity.

## Table 10. Leading Underlying Causes of Death, Numbers and Age-Specific Rates by Gender, Massachusetts: 2020

| | | Total | | Female | | Male | |
|---|---|---|---|---|---|---|---|
| Age | Cause of Death[1] | Number | Rate[2] | Number | Rate[2] | Number | Rate[2] |
| **1-14** | **TOTAL** | **69** | **6.5** | **32** | **6.1** | **37** | **6.8** |
| | Unintentional Injuries | 13 | 1.2 | 8 | 1.5 | 5 | 0.9 |
| | Cancer | 10 | 0.9 | 3 | 0.6 | 7 | 1.3 |
| | Congenital Malformations | 5 | 0.5 | N/A | N/A | 4 | 0.7 |
| | Heart Disease | 4 | –[4] | 2 | –[4] | 2 | –[4] |
| **15-24** | **TOTAL** | **437** | **45** | **136** | **27.9** | **301** | **61.9** |
| | Unintentional Injuries | 197 | 20.2 | 62 | 12.7 | 135 | 27.8 |
| | Suicide | 72 | 7.4 | 22 | 4.5 | 50 | 10.3 |
| | Homicide | 59 | 6.1 | 4 | –[4] | 55 | 11.3 |
| | Cancer | 25 | 2.6 | 11 | 2.3 | 14 | 2.9 |
| **25-44** | **TOTAL** | **3,019** | **164.3** | **956** | **103.7** | **2,063** | **225.2** |
| | Unintentional Injuries | 1,398 | 76.1 | 380 | 41.2 | 1,018 | 111.1 |
| | Cancer | 246 | 13.4 | 124 | 13.4 | 122 | 13.3 |
| | Heart Disease | 221 | 12.0 | 64 | 6.9 | 157 | 17.1 |
| | Suicide | 196 | 10.7 | 50 | 5.4 | 146 | 15.9 |
| **45-64** | **TOTAL** | **10,359** | **559.8** | **3,801** | **397.0** | **6,558** | **734.4** |
| | Cancer | 2,625 | 141.9 | 1,212 | 126.6 | 1,413 | 158.2 |
| | Heart Disease | 1,648 | 89.1 | 434 | 45.3 | 1,214 | 136.0 |
| | Unintentional Injuries | 1,116 | 60.3 | 293 | 30.6 | 823 | 92.2 |
| | COVID-19 | 830 | 44.9 | 297 | 31.0 | 533 | 59.7 |
| **65+[3]** | **TOTAL** | **54,118** | **4601.6** | **29,278** | **4,402.8** | **24,840** | **4,860.4** |
| | Heart Disease | 9,913 | 842.9 | 4,968 | 747.1 | 4,945 | 967.6 |
| | Cancer | 9,475 | 805.7 | 4,654 | 699.9 | 4,821 | 943.3 |
| | COVID-19 | 8,541 | 726.2 | 4,565 | 686.5 | 3,976 | 778.0 |
| | Chronic Lower Respiratory Disease | 2,177 | 185.1 | 1,211 | 182.1 | 966 | 189.0 |

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. See Table 8 for leading causes of death for detailed age groups for persons ages 65+ years. 4. Calculations based on values 1-4 are excluded

# Table 11. Leading Underlying Causes of Death, Numbers and Age-Specific Rates (Ages 65 and Older) by Gender, Massachusetts: 2020

| Age | Cause of Death[1] | Total Number | Total Rate[2] | Female Number | Female Rate[2] | Male Number | Male Rate[2] |
|---|---|---|---|---|---|---|---|
| **65-74** | **TOTAL** | **11,945** | **1,749.4** | **5,038** | **1,372.2** | **6,907** | **2,188.2** |
| | Cancer | 3,481 | 509.8 | 1,613 | 439.3 | 1,868 | 591.8 |
| | Heart Disease | 1,924 | 281.8 | 648 | 176.5 | 1,276 | 404.2 |
| | COVID-19 | 1,493 | 218.7 | 590 | 160.7 | 903 | 286.1 |
| | Chronic Lower Respiratory Disease | 566 | 82.9 | 293 | 79.8 | 273 | 86.5 |
| **75-84** | **TOTAL** | **16,385** | **4,937.4** | **8,072** | **4,229.2** | **8,313** | **5,896.2** |
| | Cancer | 3,402 | 1,025.2 | 1,651 | 865.0 | 1,751 | 1,241.9 |
| | Heart Disease | 2,669 | 804.3 | 1,149 | 602.0 | 1,520 | 1,078.1 |
| | COVID-19 | 2,571 | 774.7 | 1,212 | 635.0 | 1,359 | 963.9 |
| | Chronic Lower Respiratory Disease | 833 | 251.0 | 451 | 236.3 | 382 | 270.9 |
| **85+** | **TOTAL** | **25,788** | **15,977.0** | **16,168** | **15,114.5** | **9,620** | **17,671.6** |
| | Heart Disease | 5,320 | 3,296.0 | 3,171 | 2,964.4 | 2,149 | 3,947.6 |
| | COVID-19 | 4,477 | 2,773.7 | 2,763 | 2,583.0 | 1,714 | 3,148.6 |
| | Cancer | 2,592 | 1,605.9 | 1,390 | 1,299.4 | 1,202 | 2,208.0 |
| | Stroke | 1,122 | 695.1 | 774 | 723.6 | 348 | 639.3 |

1. Cause of Death classified according to 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.

### Table 12. Leading Underlying Causes of Death[1] and Age-Adjusted Rates by Race and Hispanic Ethnicity, Massachusetts: 2020

| Asian non-Hispanic[2] | | | Black non-Hispanic[2] | | | Hispanic[2] | | | White non-Hispanic[2] | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Cause[3] | # | Rate[4] | Cause[3] | # | Rate[4] | Cause[3] | # | Rate[4] | Cause[3] | # | Rate[4] |
| Total | 1,759 | 490.0 | Total | 3,925 | 894.3 | Total | 3,451 | 689.3 | Total | 58,356 | 761.6 |
| Cancer | 374 | 99.6 | COVID-19 | 760 | 186.0 | COVID-19 | 711 | 163.7 | Cancer | 10,784 | 140.7 |
| COVID-19 | 331 | 96.1 | Cancer | 643 | 143.7 | Heart Disease | 447 | 96.1 | Heart Disease | 10,395 | 130.3 |
| Heart Disease | 253 | 72.2 | Heart Disease | 604 | 140.1 | Cancer | 445 | 92.4 | COVID-19 | 7,527 | 92.9 |
| Stroke | 83 | 24.4 | Unintentional Injuries[5] | 289 | 56.2 | Unintentional Injuries[5] | 426 | 54.0 | Unintentional Injuries[5] | 3,247 | 57.2 |
| Unintentional Injuries[5] | 64 | 14.9 | Diabetes | 146 | 33.1 | Diabetes | 118 | 23.8 | Chronic Lower Respiratory Disease | 2,350 | 30.2 |
| Diabetes | 56 | 16.1 | Stroke | 145 | 35.1 | Stroke | 104 | 24.0 | Stroke | 1,910 | 23.8 |
| Nephritis | 46 | 14.0 | Nephritis | 96 | 22.9 | Chronic liver disease | 77 | 13.6 | Alzheimer"s Disease | 1,600 | 19.4 |
| Influenza & Pneumonia | 40 | 11.7 | Chronic Lower Respiratory Disease | 79 | 18.7 | Alzheimer"s Disease | 60 | 16.4 | Diabetes | 1,217 | 16.0 |
| Septicemia | 37 | 10.3 | Homicide | 71 | 12.7 | Chronic Lower Respiratory Disease | 60 | 13.4 | Influenza & Pneumonia | 1,154 | 14.7 |
| Chronic Lower Respiratory Disease | 37 | 11.3 | Hypertension | 68 | 15.4 | Nephritis | 59 | 12.8 | Nephritis | 994 | 12.6 |

| Total | | |
|---|---|---|
| Cause[3] | # | Rate[4] |
| Total | 68,269 | 756.3 |
| Cancer | 12,381 | 136.8 |
| Heart Disease | 11,797 | 127.5 |
| COVID-19 | 9,455 | 102.3 |
| Unintentional Injuries | 4,103 | 54.5 |
| Chronic Lower Respiratory Disease | 2,546 | 28.1 |
| Stroke | 2,272 | 24.6 |
| Alzheimer"s Disease | 1,753 | 18.6 |
| Diabetes | 1,559 | 17.4 |
| Influenza & Pneumonia | 1,331 | 14.6 |
| Nephritis | 1,215 | 13.3 |

1. Ranking based on number of deaths.  2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see 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.

**Figure 9. Number of Heart Disease Deaths by Age Group and Gender, Massachusetts: 2020**
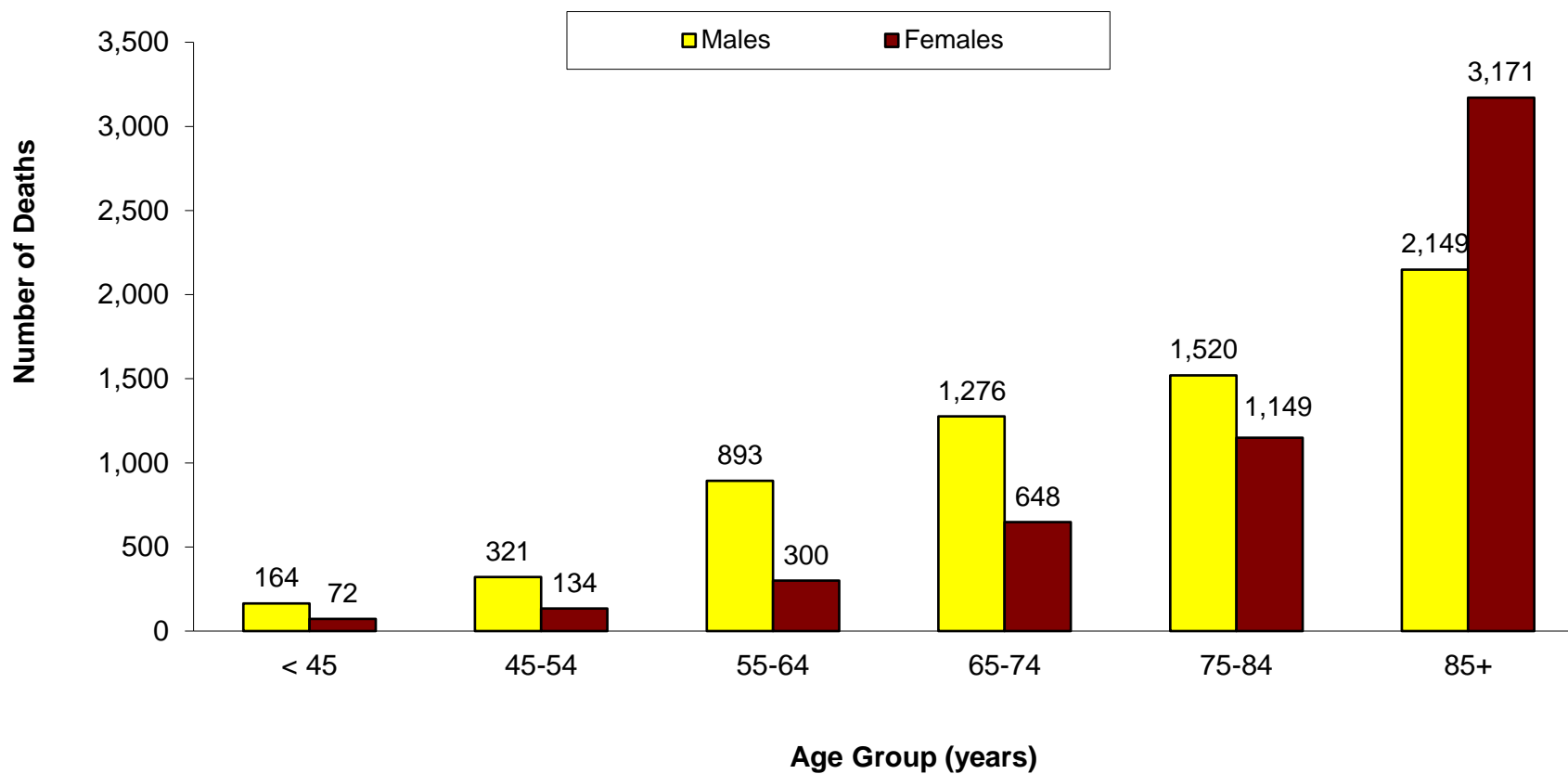
Note: The ICD-10 codes used for heart disease deaths were I00-I09, I11, I13, and I20-I51.

**Figure 10. Age Distribution by Race and Hispanic Ethnicity for Heart Disease Deaths, Massachusetts: 2020**
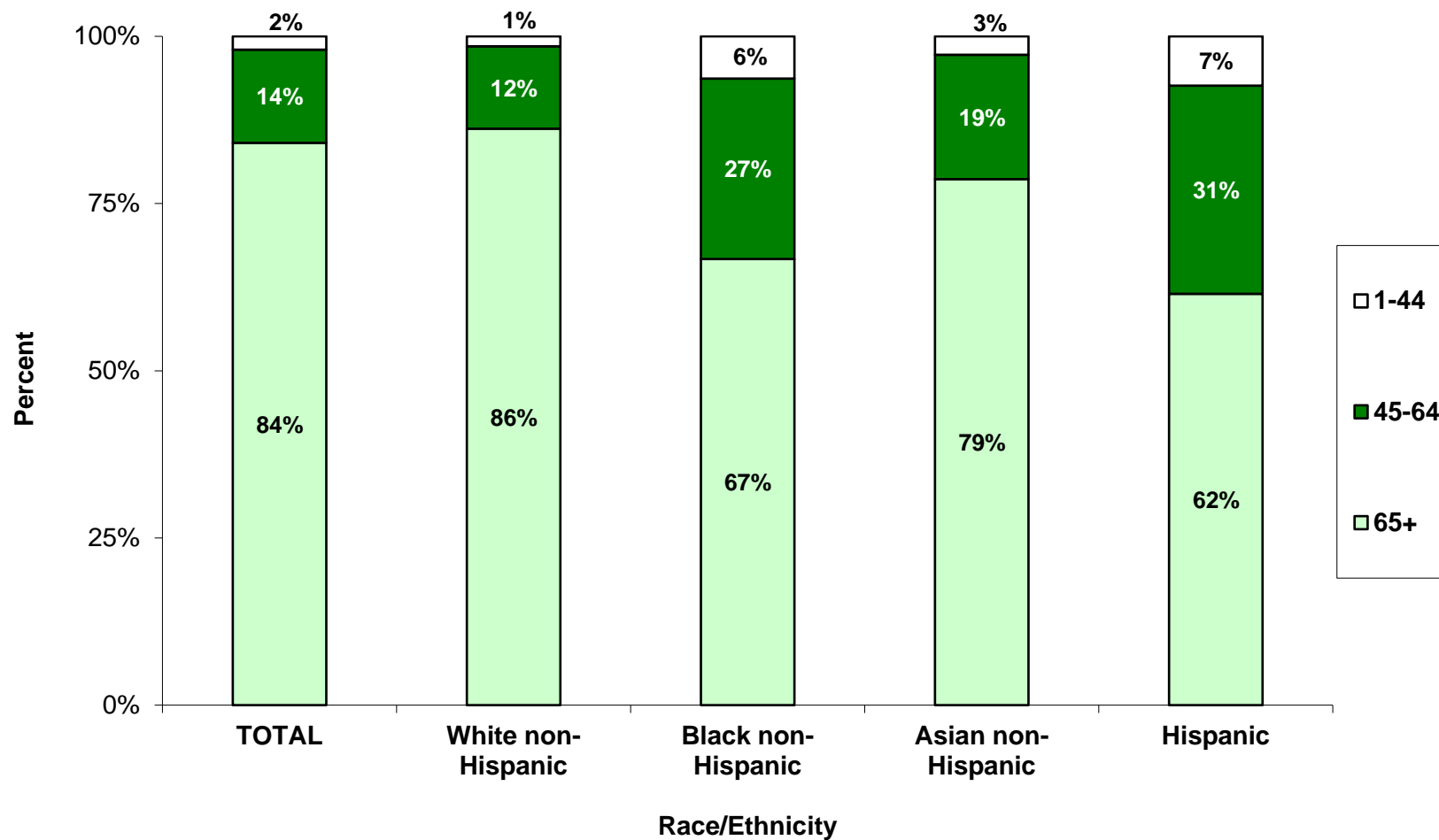


Note: The ICD-10 codes used for heart disease deaths were I00-I09, I11, I13, and I20-I51.  Please see the technical notes for more information on race and ethnicity

**Figure 11. Number of Cancer Deaths by Age Group and Gender, Massachusetts: 2020**
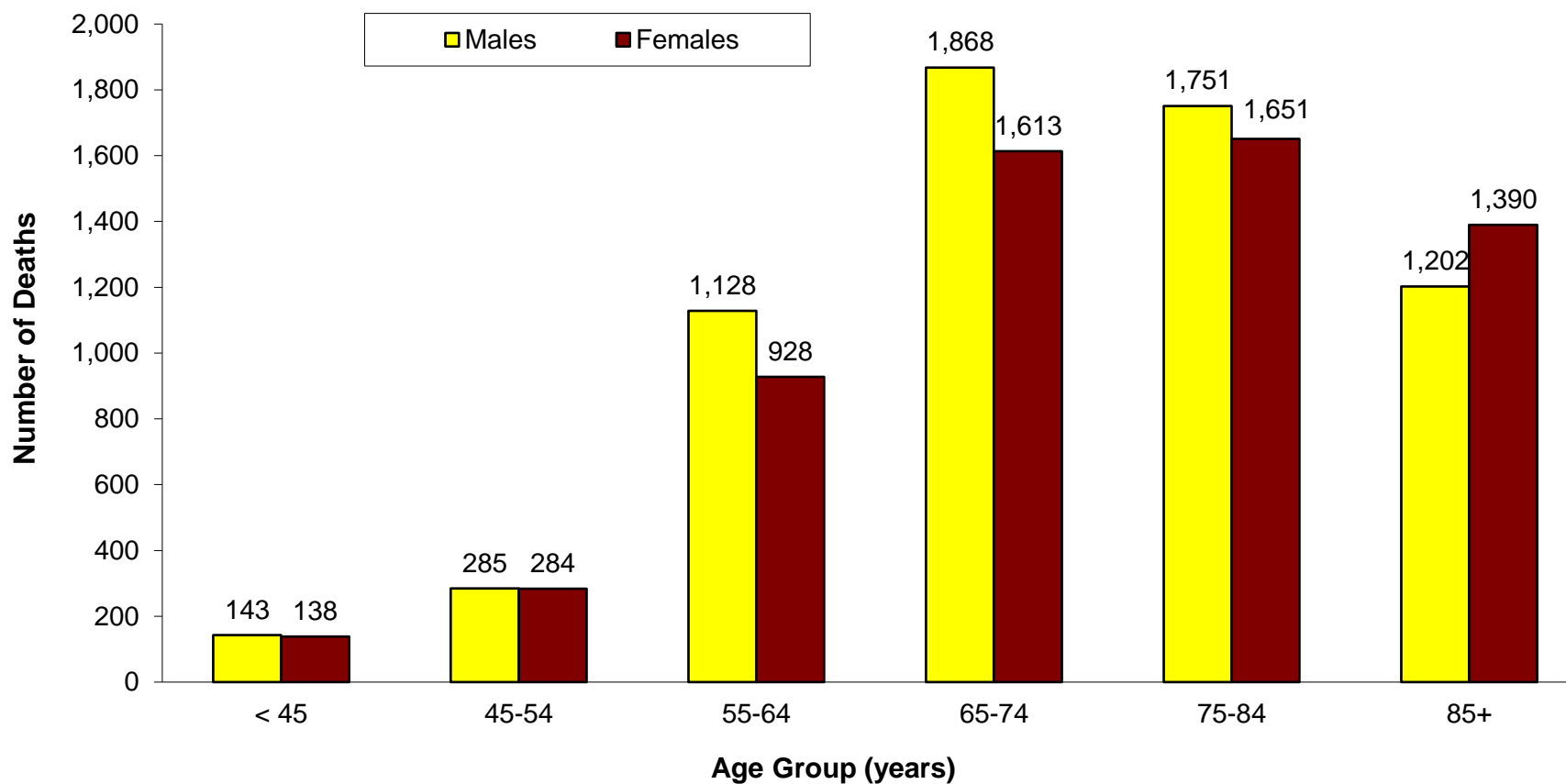
Note: The ICD-10 codes used for cancer deaths were C00-C97.

Figure 12. Age Distribution by Race and Hispanic Ethnicity for Cancer Deaths, Massachusetts: 2020
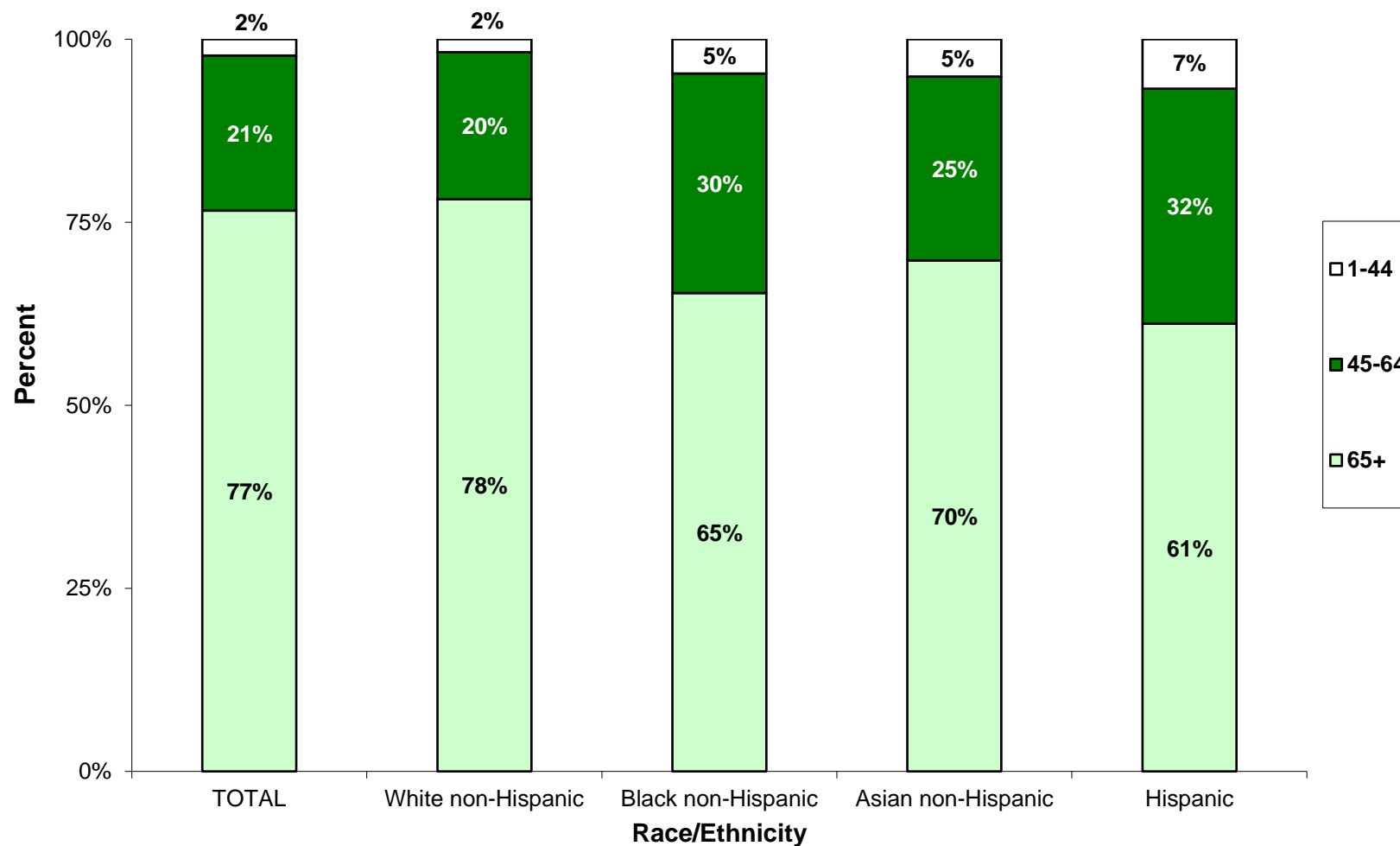
Note: The ICD-10 codes used for cancer deaths were C00-C97. Please see the technical notes for more information on race and ethnicity.

**Table 13. Heart Disease and Cancer Deaths by Race and Hispanic Ethnicity and Gender, Age-Adjusted Rates[1], Massachusetts: 2006-2020**

## Heart Disease

| | Asian non-Hispanic[2] | | | | Black non-Hispanic[2] | | |
|------|------|--------|-------|------|--------|-------|
| Year | Male | Female | Total | Male | Female | Total |
| 2006 | 73.6 | 70.0 | 72.8 | 222.3 | 127.6 | 165.3 |
| 2007 | 83.3 | 52.9 | 67.4 | 233.5 | 142.7 | 180.8 |
| 2008 | 86.0 | 51.7 | 66.3 | 226.7 | 151.7 | 181.7 |
| 2009 | 69.6 | 51.3 | 60.1 | 217.3 | 157.3 | 181.6 |
| 2010 | 64.8 | 50.4 | 57.1 | 222.3 | 119.4 | 159.7 |
| 2011 | 74.1 | 61.0 | 67.5 | 185.6 | 114.1 | 143.7 |
| 2012 | 74.7 | 43.2 | 57.1 | 167.3 | 125.2 | 144.3 |
| 2013 | 67.7 | 43.2 | 54.4 | 164.6 | 99.1 | 128.3 |
| 2014 | 74.3 | 42.6 | 57.5 | 168.3 | 98.0 | 127.9 |
| 2015 | 78.6 | 47.2 | 60.6 | 156.6 | 85.6 | 114.3 |
| 2016 | 61.5 | 50.4 | 55.3 | 147.5 | 90.8 | 113.9 |
| 2017 | 74.6 | 52.9 | 63.1 | 148.2 | 101.9 | 122.2 |
| 2018 | 76.5 | 42.0 | 57.9 | 150.0 | 96.7 | 120.2 |
| 2019 | 79.7 | 42.3 | 59.2 | 146.3 | 87.5 | 111.3 |
| 2020 | 81.2 | 64.3 | 72.2 | 176.7 | 111.9 | 140.1 |

| | Hispanic[2] | | | | White non-Hispanic[22] | | |
|------|------|--------|-------|------|--------|-------|
| Year | Male | Female | Total | Male | Female | Total |
| 2006 | 124.2 | 84.9 | 102.3 | 216.5 | 138.8 | 172.2 |
| 2007 | 124.9 | 61.8 | 88.3 | 216.2 | 134.2 | 168.5 |
| 2008 | 93.2 | 66.1 | 78.3 | 217.1 | 133.1 | 167.9 |
| 2009 | 111.6 | 62.7 | 83.8 | 211.3 | 122.6 | 158.4 |
| 2010 | 90.8 | 66.8 | 76.9 | 197.5 | 119.6 | 152.9 |
| 2011 | 114.9 | 72.0 | 89.7 | 196.0 | 113.0 | 148.0 |
| 2012 | 106.8 | 70.5 | 85.8 | 187.5 | 113.0 | 144.7 |
| 2013 | 81.3 | 56.4 | 67.7 | 192.3 | 114.3 | 147.4 |
| 2014 | 83.4 | 65.4 | 72.9 | 185.5 | 109.4 | 142.0 |
| 2015 | 104.6 | 77.6 | 90.0 | 184.8 | 111.1 | 142.7 |
| 2016 | 103.7 | 73.2 | 87.5 | 179.8 | 109.1 | 139.2 |
| 2017 | 107.0 | 71.5 | 86.1 | 187.3 | 104.1 | 139.4 |
| 2018 | 93.2 | 60.6 | 75.0 | 179.2 | 104.6 | 136.5 |
| 2019 | 103.3 | 68.6 | 84.0 | 174.5 | 100.7 | 132.1 |
| 2020 | 136.0 | 66.8 | 96.1 | 173.5 | 97.6 | 130.3 |

**Table 13 (continued). Heart Disease and Cancer Deaths by Race and Hispanic Ethnicity and Gender, Age-Adjusted Rates, Massachusetts: 2006-2020**

## Cancer

| | Asian non-Hispanic[2] | | | | Black non-Hispanic[2] | | |
|---|---|---|---|---|---|---|---|
| Year | Male | Female | Total | | Male | Female | Total |
| 2006 | 126.0 | 91.7 | 107.2 | | 265.6 | 180.9 | 212.4 |
| 2007 | 124.4 | 76.4 | 98.4 | | 270.7 | 159.7 | 201.7 |
| 2008 | 132.1 | 89.3 | 109.0 | | 255.0 | 163.7 | 197.9 |
| 2009 | 123.2 | 71.0 | 94.3 | | 244.7 | 164.7 | 193.1 |
| 2010 | 128.0 | 98.1 | 111.8 | | 244.0 | 131.3 | 174.3 |
| 2011 | 127.1 | 92.6 | 107.3 | | 209.9 | 162.3 | 178.0 |
| 2012 | 137.3 | 78.8 | 104.6 | | 229.4 | 150.7 | 180.6 |
| 2013 | 106.3 | 66.3 | 84.4 | | 207.0 | 141.7 | 166.3 |
| 2014 | 131.0 | 83.3 | 104.7 | | 194.0 | 114.1 | 145.0 |
| 2015 | 112.9 | 86.5 | 97.9 | | 161.8 | 116.3 | 133.2 |
| 2016 | 124.8 | 71.9 | 95.0 | | 165.3 | 113.6 | 133.7 |
| 2017 | 123.4 | 83.8 | 101.4 | | 192.0 | 116.5 | 145.2 |
| 2018 | 113.2 | 83.8 | 96.6 | | 169.6 | 115.0 | 136.5 |
| 2019 | 115.2 | 71.9 | 91.4 | | 169.7 | 111.6 | 133.7 |
| 2020 | 122.0 | 81.8 | 99.6 | | 175.3 | 125.3 | 143.7 |

| | Hispanic[2] | | | | White non-Hispanic[2] | | |
|---|---|---|---|---|---|---|---|
| Year | Male | Female | Total | | Male | Female | Total |
| 2006 | 119.9 | 74.3 | 93.7 | | 234.9 | 161.5 | 190.0 |
| 2007 | 125.0 | 90.0 | 104.7 | | 226.0 | 156.5 | 183.2 |
| 2008 | 141.2 | 83.1 | 107.8 | | 221.4 | 154.8 | 180.6 |
| 2009 | 129.9 | 98.2 | 111.8 | | 212.7 | 157.0 | 177.7 |
| 2010 | 129.9 | 87.2 | 103.9 | | 211.9 | 150.8 | 174.9 |
| 2011 | 125.6 | 84.0 | 101.1 | | 206.5 | 145.9 | 170.4 |
| 2012 | 150.5 | 94.4 | 117.7 | | 201.3 | 149.1 | 170.2 |
| 2013 | 122.6 | 91.7 | 105.1 | | 193.2 | 144.0 | 163.8 |
| 2014 | 115.9 | 89.3 | 100.2 | | 192.1 | 137.4 | 159.8 |
| 2015 | 114.3 | 83.3 | 95.6 | | 185.2 | 138.6 | 157.3 |
| 2016 | 109.2 | 80.3 | 91.7 | | 185.2 | 133.2 | 154.3 |
| 2017 | 116.3 | 86.3 | 98.0 | | 181.7 | 133.3 | 153.2 |
| 2018 | 116.7 | 88.0 | 99.1 | | 178.1 | 125.1 | 146.8 |
| 2019 | 112.8 | 83.5 | 95.3 | | 172.7 | 124.9 | 144.4 |
| 2020 | 119.8 | 75.2 | 92.4 | | 168.7 | 120.7 | 140.7 |

1. Rates are per 100,000 age-adjusted to the 2000 US standard population. 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see the technical notes for more information on race and ethnicity.

## Table 14. Number and Age-Adjusted Rates of Cancer Deaths by Selected Causes and Gender, Massachusetts: 2020

| Cause of Death[1] | ICD-10 Code | Total | | Female | | Male | |
|---|---|---|---|---|---|---|---|
| | | # | Rate[2,3] | # | Rate[2] | # | Rate[2] |
| **Total Cancer Deaths** | **C00-C97** | **12,381** | **136.8** | **6,004** | 117.4 | 6,377 | 164.4 |
| Bladder | C67 | 370 | 4.0 | 94 | 1.7 | 276 | 7.4 |
| Brain and nervous system | C70-C72 | 410 | 4.6 | 170 | 3.3 | 240 | 6.0 |
| Cervix | C53 | 45 | 1.0 | 45 | 1.0 | N/A | N/A |
| Colorectal | C18-C21 | 947 | 10.7 | 472 | 9.3 | 475 | 12.3 |
| Esophagus | C15 | 392 | 4.3 | 97 | 1.9 | 295 | 7.4 |
| Female breast | C50 | 810 | 16.2 | 810 | 16.2 | N/A | N/A |
| Hodgkin's disease | C81 | 22 | 0.2 | 9 | 0.2 | 13 | 0.3 |
| Kidney and other urinary organs | C64, C65 | 223 | 2.5 | 78 | 1.4 | 145 | 3.8 |
| Leukemia | C91-C95 | 497 | 5.6 | 224 | 4.4 | 273 | 7.4 |
| Lung | C33, C34 | 2,756 | 30.2 | 1,409 | 27.4 | 1,347 | 33.9 |
| Melanoma of the skin | C43 | 192 | 2.1 | 78 | 1.5 | 114 | 2.9 |
| Multiple myeloma | C88, C90 | 265 | 3.0 | 103 | 2.0 | 162 | 4.4 |
| Non-Hodgkin's lymphoma | C82-C85 | 403 | 4.5 | 161 | 3.0 | 242 | 6.5 |
| Ovary | C56 | 305 | 6.1 | 305 | 6.1 | N/A | N/A |
| Pancreas | C25 | 1,034 | 11.4 | 483 | 9.5 | 551 | 13.9 |
| Prostate | C61 | 669 | 18.1 | N/A | N/A | 669 | 18.1 |
| Stomach | C16 | 253 | 2.8 | 104 | 2.1 | 149 | 3.8 |
| Uterus | C54, C55 | 274 | 5.5 | 274 | 5.5 | N/A | N/A |
| All other cancers | Residual | 2,514 | 27.6 | 1,088 | 20.9 | 1,426 | 36.4 |

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 15. Selected Causes of Cancer Deaths by Age, Massachusetts: 2020

| Age | Cause of death[1] | ICD-10 Code | Number | Age-specific rate[2] |
|---|---|---|---|---|
| **1 – 14 years** | **Total** | | **10** | **0.9** |
| | Brain and nervous system | C70-C72 | 3 | -[3] |
| | Non-Hodgkin's lymphoma | C82-C85 | 1 | -[3] |
| | Leukemia | C91-C95 | 1 | -[3] |
| **15 – 24 years** | **Total** | | **25** | **2.6** |
| | Brain and nervous system | C70-C72 | 4 | -[3] |
| | Leukemia | C91-C95 | 3 | -[3] |
| | Colorectal | C18-C21 | 2 | -[3] |
| | Ovary[4] | C56 | 1 | -[3] |
| **25 – 44 years** | **Total** | | **246** | **13.4** |
| | Colorectal | C18-C21 | 37 | 2.0 |
| | Female breast[4] | C50 | 28 | 3.0 |
| | Brain and nervous system | C70-C72 | 19 | 1.0 |
| | Leukemia | C91-C95 | 18 | 1.0 |
| **45 – 64 years** | **Total** | | **2,625** | **141.9** |
| | Lung | C33, C34 | 556 | 30.0 |
| | Colorectal | C18-C21 | 259 | 14.0 |
| | Pancreas | C25 | 227 | 12.3 |
| | Female breast[4] | C50 | 218 | 22.8 |
| **65 + years** | **Total** | | **9,475** | **805.7** |
| | Lung | C33, C34 | 2,183 | 185.6 |
| | Pancreas | C25 | 795 | 67.6 |
| | Colorectal | C18-C21 | 649 | 55.2 |
| | Prostate[5] | C61 | 606 | 118.6 |
| **65 – 74 years** | **Total** | | **3,481** | **509.8** |
| | Lung | C33, C34 | 892 | 130.6 |
| | Pancreas | C25 | 315 | 46.1 |
| | Female breast[4] | C50 | 210 | 57.2 |
| | Colorectal | C18-C21 | 204 | 29.9 |
| **75 – 84 years** | **Total** | | **3,402** | **1,025.2** |
| | Lung | C33, C34 | 832 | 250.7 |
| | Pancreas | C25 | 298 | 89.8 |
| | Prostate[5] | C61 | 216 | 153.2 |
| | Colorectal | C18-C21 | 211 | 63.6 |
| **85+ years** | **Total** | | **2,592** | **1,605.9** |
| | Lung | C33, C34 | 459 | 284.4 |
| | Colorectal | C18-C21 | 234 | 145.0 |
| | Prostate[5] | C61 | 234 | 429.8 |
| | Pancreas | C25 | 182 | 112.8 |

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 specified age group.

**Table 16. Leading Causes of Cancer Deaths and Age-Adjusted Rates by Race and Hispanic Ethnicity, Massachusetts: 2020**

| Asian non-Hispanic | | | Black non-Hispanic | | | Hispanic | | | White non-Hispanic | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Cause[2] | # | Rate[3] | Cause[2] | # | Rate[3] | Cause[2] | # | Rate[3] | Cause[2] | # | Rate[3] |
| Lung | 77 | 21.3 | Lung | 108 | 23.2 | Lung | 68 | 15.0 | Lung | 2,484 | 32.0 |
| Pancreas | 34 | 9.3 | Colorectal | 65 | 13.9 | Prostate[5] | 39 | 24.3 | Pancreas | 899 | 11.7 |
| Colorectal | 31 | 7.3 | Pancreas | 58 | 12.9 | Colorectal | 36 | 6.5 | Colorectal | 802 | 10.7 |
| Stomach | 24 | 6.8 | Prostate[5] | 56 | 36.6 | Pancreas | 32 | 7.0 | Female Breast[4] | 696 | 16.7 |
| Female Breast[4] | 18 | 8.3 | Female Breast[4] | 54 | 20.7 | Female Breast[4] | 32 | 10.0 | Prostate[5] | 555 | 17.3 |
| Total Cancer | 374 | 99.6 | Total Cancer | 643 | 143.7 | Total Cancer | 445 | 92.4 | Total Cancer | 10,784 | 140.7 |

1. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category.  Please see 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 2000 US standard population. 4. Calculation based on female population. 5. Calculation based on male population.

Figure 13. Number of Stroke Deaths by Age Group and Gender, Massachusetts: 2020
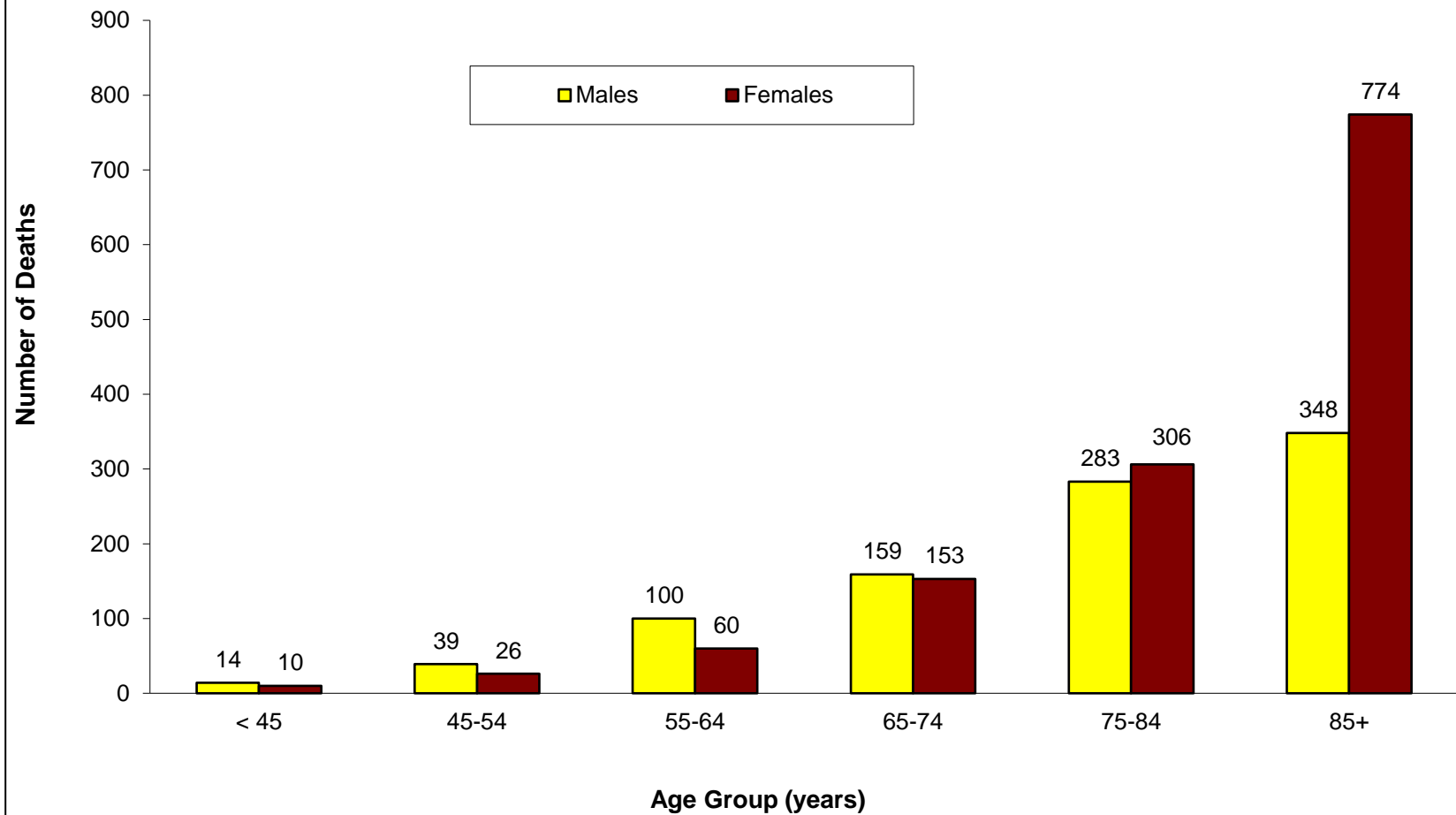
Note: The ICD-10 codes used for stroke deaths were I60-I69.

**Figure 14. Age Distribution by Race and Hispanic Ethnicity for Stroke Deaths, Massachusetts: 2020**

| Race/Ethnicity | 1-44 | 45-64 | 65+ |
|---|---|---|---|
| TOTAL | 1% | 10% | 89% |
| White non-Hispanic | 1% | 8% | 91% |
| Black non-Hispanic | 1% | 21% | 79% |
| Asian non-Hispanic | 0% | 14% | 86% |
| Hispanic | 3% | 20% | 77% |
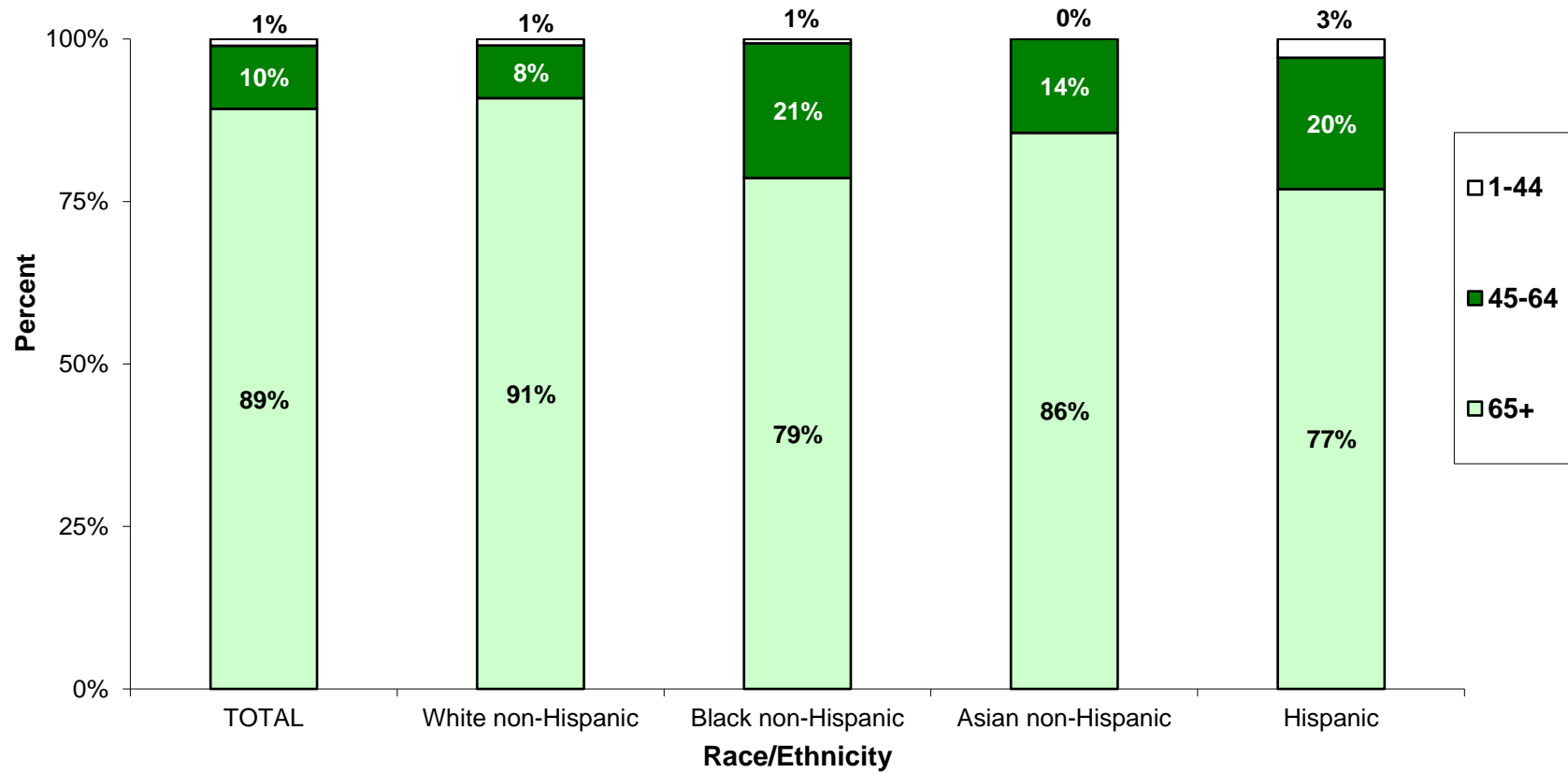
Note: The ICD-10 codes used for stroke deaths were I60-I69. Please see the technical notes for more information on race and ethnicity.

**Table 17. Stroke Deaths by Race and Hispanic Ethnicity and Gender, Age-Adjusted Rates[1], Massachusetts: 2007-2020**

| Year | Asian non-Hispanic[2] | | | Black non-Hispanic[2] | | |
|---|---|---|---|---|---|---|
| | Male | Female | Total | Male | Female | Total |
| 2007 | 26.7 | 29.5 | 28.4 | 34.4 | 36.4 | 35.6 |
| 2008 | 23.4 | 27.1 | 25.6 | 53.5 | 40.7 | 45.5 |
| 2009 | 38.1 | 22.0 | 28.1 | 51.7 | 36.0 | 42.7 |
| 2010 | 35.2 | 27.0 | 30.8 | 46.2 | 39.9 | 42.9 |
| 2011 | 21.3 | 25.5 | 24.2 | 34.4 | 29.8 | 32.0 |
| 2012 | 31.0 | 24.4 | 27.0 | 37.2 | 34.2 | 36.1 |
| 2013 | 16.0 | 25.6 | 21.6 | 33.4 | 29.6 | 31.3 |
| 2014 | 19.1 | 20.8 | 20.4 | 35.8 | 30.2 | 32.7 |
| 2015 | 28.6 | 26.4 | 27.3 | 33.1 | 24.7 | 28.0 |
| 2016 | 24.9 | 26.7 | 26.4 | 29.1 | 34.0 | 32.8 |
| 2017 | 32.0 | 28.4 | 30.0 | 39.4 | 27.3 | 32.9 |
| 2018 | 26.1 | 24.6 | 25.8 | 33.2 | 22.0 | 26.9 |
| 2019 | 23.2 | 26.1 | 25.1 | 40.3 | 33.5 | 36.3 |
| 2020 | 20.3 | 27.6 | 24.4 | 37.8 | 32.7 | 35.1 |

| Year | Hispanic[2] | | | White non-Hispanic[2] | | |
|---|---|---|---|---|---|---|
| | Male | Female | Total | Male | Female | Total |
| 2007 | 32.0 | 26.7 | 28.9 | 35.4 | 34 | 34.8 |
| 2008 | 23.9 | 18.4 | 21.1 | 33.1 | 33.4 | 33.6 |
| 2009 | 23.9 | 16.7 | 19.9 | 31.7 | 31.7 | 32 |
| 2010 | 31.1 | 22.1 | 26.0 | 30.5 | 30.1 | 30.5 |
| 2011 | 22.0 | 23.3 | 23.1 | 30.4 | 29.6 | 30.2 |
| 2012 | 19.2 | 27.2 | 24.7 | 27.6 | 28 | 28.1 |
| 2013 | 25.7 | 18.1 | 21.2 | 26.4 | 27.9 | 27.7 |
| 2014 | 24.8 | 22.2 | 23.4 | 26.8 | 28.8 | 28.4 |
| 2015 | 23.7 | 22.5 | 23.5 | 27.4 | 28 | 28 |
| 2016 | 26.5 | 19.6 | 22.4 | 26.8 | 27.2 | 27.4 |
| 2017 | 18.0 | 19.8 | 19.7 | 26.4 | 25.3 | 26 |
| 2018 | 19.5 | 21.1 | 20.8 | 27.5 | 26.2 | 26.9 |
| 2019 | 33.0 | 23.3 | 27.2 | 25.8 | 25.2 | 25.7 |
| 2020 | 23.4 | 23.7 | 24.0 | 25.5 | 22.2 | 23.8 |

1. Rates are per 100,000 age-adjusted to the 2000 US standard population. 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see the technical more information on race and ethnicity.

**Figure 15. Diabetes Deaths, Massachusetts: 2004-2019**

Diabetes Deaths (y-axis), Year (x-axis)

Legend: ■ Underlying Cause  ▨ Contributing Cause Only

| Year | Underlying Cause | Contributing Cause Only |
|------|------------------|-------------------------|
| 2005 | 1,271 | 2,652 |
| 2006 | 1,127 | 2,681 |
| 2007 | 1,216 | 2,683 |
| 2008 | 1,084 | 2,637 |
| 2009 | 995 | 2,531 |
| 2010 | 1,024 | 2,657 |
| 2011 | 1,124 | 2,532 |
| 2012 | 1,098 | 2,359 |
| 2013 | 1,149 | 2,299 |
| 2014 | 1,214 | 2,378 |
| 2015 | 1,404 | 2,567 |
| 2016 | 1,267 | 2,589 |
| 2017 | 1,323 | 2,608 |
| 2018 | 1,392 | 2,681 |
| 2019 | 1,386 | 2,738 |
| 2020 | 1,559 | 3,918 |
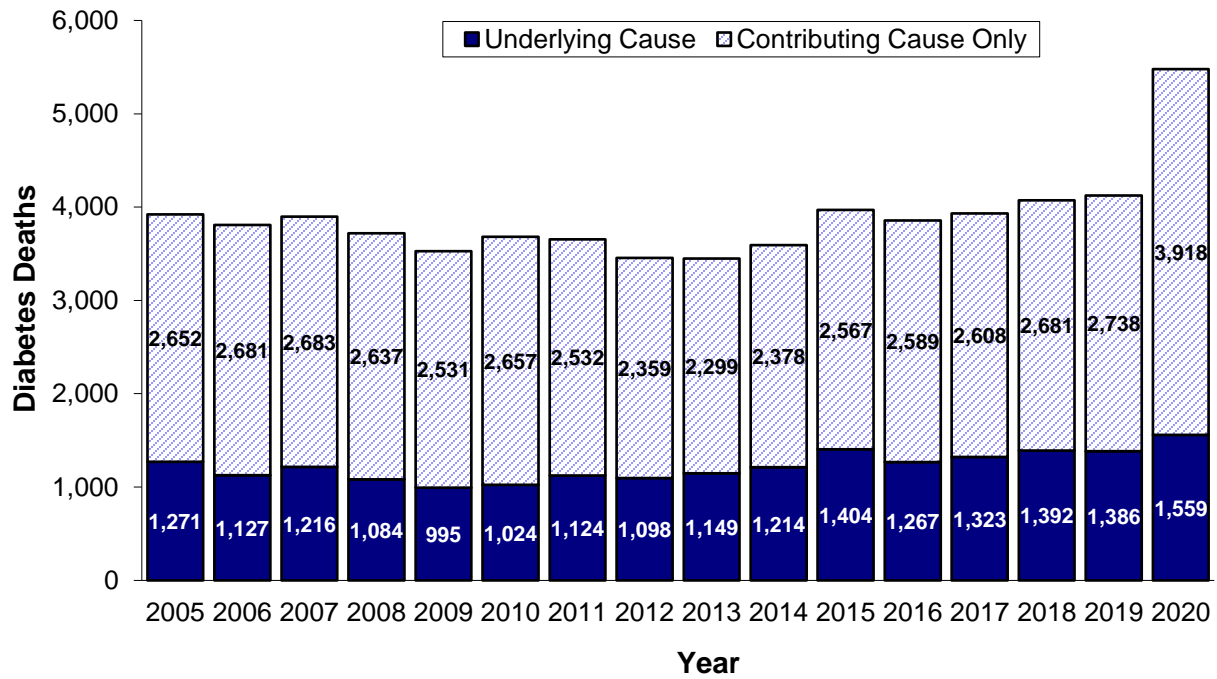
Note: The ICD-10 codes used for diabetes deaths were E10-E14.

**Table 18. Diabetes Deaths by Gender, Massachusetts: 2020**

| Cause of Death | Proportion of all Deaths (%)[1] | | | Number | | |
|---|---|---|---|---|---|---|
| | Males | Females | Total | Males | Females | Total |
| Underlying | 2.7% | 1.8% | 2.3% | 930 | 629 | 1,559 |
| Contributing/Associated | 6.4% | 5.0% | 5.7% | 2,188 | 1,730 | 3,918 |
| **Total Diabetes-Related** | **9.2%** | **6.9%** | **8.0%** | **3,118** | **2,359** | **5,477** |

Note: The ICD-10 codes used for diabetes deaths were E10-E14.

1. Proportions are out of total deaths due to all causes.

## Table 19. Diabetes Deaths by Race and Hispanic Ethnicity, Massachusetts: 2020

| Cause of Death | Race/Hispanic Ethnicity | | | | |
|---|---|---|---|---|---|
| | Asian non-Hispanic | Black non-Hispanic | Hispanic | White non-Hispanic | Total |
| | Number | | | | |
| Underlying | 54 | 146 | 118 | 1,218 | 1,559 |
| Contributing/Associated | 127 | 324 | 330 | 3,083 | 3,918 |
| *Total Diabetes-Related* | 181 | 470 | 448 | 4,301 | 5,477 |
| *Total Deaths (All Causes)* | *1,759* | *3,925* | *3,451* | *58,356* | *68,269* |
| | Proportion of all deaths (%) | | | | |
| Underlying | 3.1 | 3.7 | 3.4 | 2.1 | 2.3 |
| Contributing/Associated | 7.2 | 8.3 | 9.6 | 5.3 | 5.7 |
| *Total Diabetes-Related* | *10.3* | *12.0* | *13.0* | *7.4* | *8.0* |
| | Death Rates[1] | | | | |
| Underlying | 15.6 | 33.1 | 23.8 | 16.1 | 17.4 |
| Contributing/Associated | 36.8 | 77.5 | 72.5 | 39.6 | 43.3 |
| *Total Diabetes-Related* | *52.4* | *110.6* | *96.3* | *55.7* | *60.7* |

Note: The ICD-10 codes used for diabetes deaths were E10-E14. Please see the technical notes for more information on race and ethnicity.

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

## Figure 16. Age Distribution of Diabetes Deaths, Massachusetts: 2020
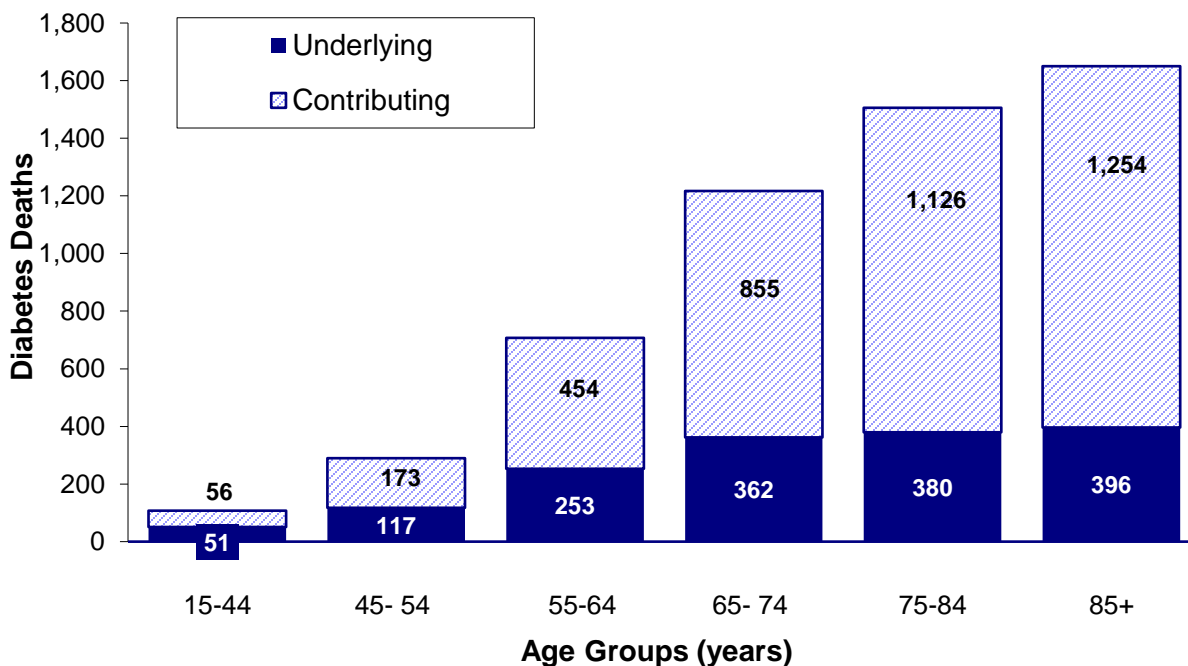


Note: The ICD-10 codes used for diabetes deaths were E10-E14.

**Figure 17. Diabetes Death Rates, Massachusetts: 2002-2020**
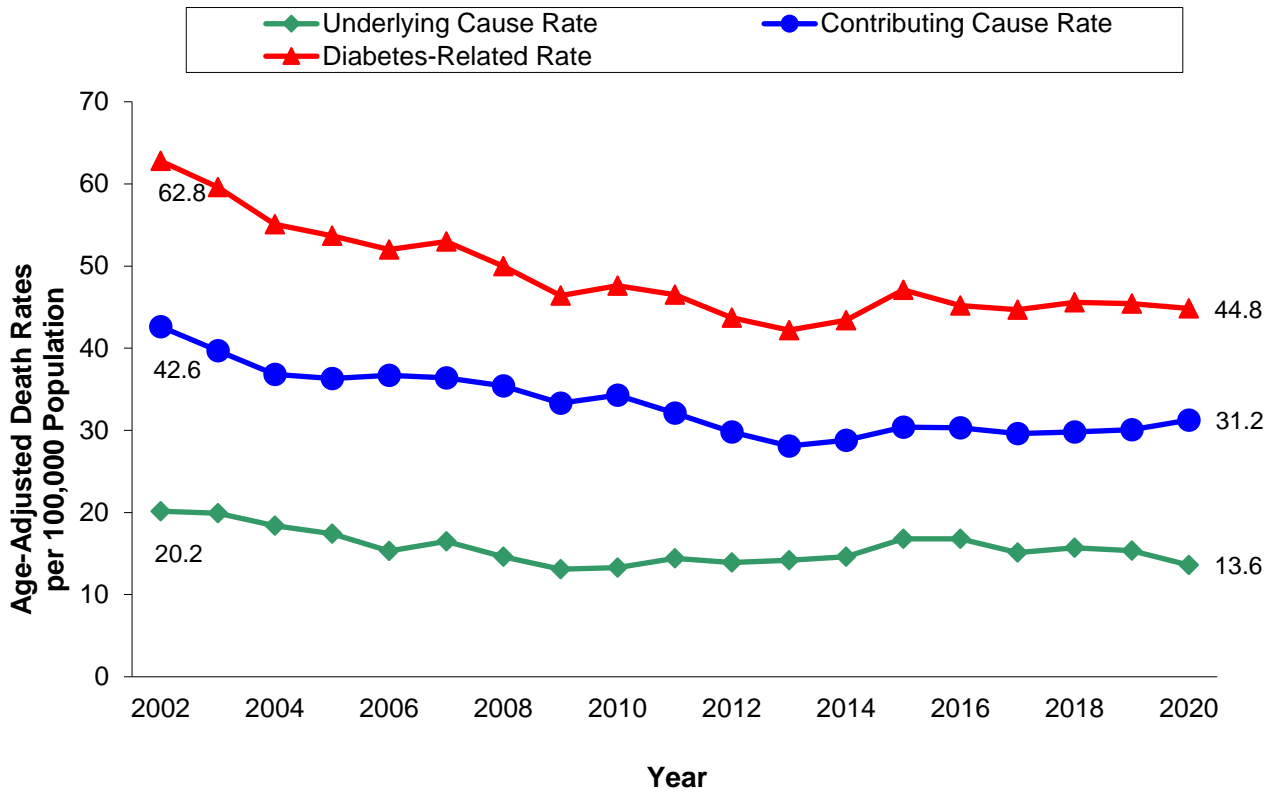
Note: The ICD-10 codes used for diabetes deaths were E10-E14.

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

## Table 20. COVID-19 Deaths by Gender, Massachusetts: 2020

| Cause of Death | Proportion of all Deaths (%)[1] | | | Number | | |
| --- | --- | --- | --- | --- | --- | --- |
| | Males | Females | Total | Males | Females | Total |
| Underlying | 13.5% | 14.2% | 13.8% | 4,570 | 4,885 | 9,455 |
| Contributing/Associated | 1.0% | 1.4% | 1.2% | 354 | 468 | 822 |
| **Total COVID-19-Related** | **14.5%** | **15.6%** | **15.1%** | **4,924** | **5,353** | **10,277** |

Note: The ICD-10 codes used for COVID-19 deaths were U071 and B342.

1. Proportions are out of total deaths due to all causes.

## Table 21. COVID-19 Deaths by Race and Hispanic Ethnicity, Massachusetts: 2020

| Cause of Death | Race/Hispanic Ethnicity | | | | |
| --- | --- | --- | --- | --- | --- |
| | Asian non-Hispanic | Black non-Hispanic | Hispanic | White non-Hispanic | Total |
| | Number | | | | |
| Underlying | 331 | 760 | 711 | 7,527 | 9,455 |
| Contributing/Associated | 20 | 46 | 57 | 690 | 822 |
| *Total COVID-19-Related* | 351 | 806 | 768 | 8,217 | 10,277 |
| ***Total Deaths (All Causes)*** | ***1,759*** | ***3,925*** | ***3,451*** | ***58,356*** | ***68,269*** |
| | Proportion of all deaths (%) | | | | |
| Underlying | 18.8 | 19.4 | 20.6 | 12.9 | 13.8 |
| Contributing/Associated | 1.1 | 1.2 | 1.7 | 1.2 | 1.2 |
| ***Total COVID-19-Related*** | ***20.0*** | ***20.5*** | ***22.3*** | ***14.1*** | ***15.1*** |
| | Death Rates[1] | | | | |
| Underlying | 96.1 | 186.0 | 163.7 | 92.9 | 102.3 |
| Contributing/Associated | 5.7 | 10.8 | 12.9 | 8.6 | 9.0 |
| ***Total COVID-19-Related*** | ***101.8*** | ***196.8*** | ***176.6*** | ***101.6*** | ***111.3*** |

Note: The ICD-10 codes used for diabetes deaths were U071 and B342. Please see the technical notes for more information on race and ethnicity.

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

**Table 22. Injury Deaths by Leading Causes, Gender, Age: Numbers, Age-Adjusted, and Age-Specific Rates, Massachusetts: 2020**

| | All Injury Deaths[1] | | Poisoning[2] | | Falls | | Hanging, Strangulation, or Suffocation | | Motor Vehicle-Related[3] | | Firearm | | Other[4] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Rate[5] | Number | Rate[5] | Number | Rate[5] | Number | Rate[5] | Number | Rate[5] | Number | Rate[5] | Number | Rate[5] |
| **All Persons** | 5,107 | 68.0 | 2,413 | 35.2 | 1,043 | 11.4 | 441 | 5.7 | 380 | 5.1 | 270 | 3.7 | 560 | 6.9 |
| < 1 | 4 | -[6] | 0 | 0.0 | 0 | 0.0 | 2 | -[6] | 0 | 0.0 | 0 | 0.0 | 2 | -[6] |
| 1-14 | 22 | 2.1 | 1 | -[6] | 2 | -[6] | 6 | 0.6 | 4 | -[6] | 0 | 0.0 | 9 | 0.8 |
| 15-24 | 338 | 34.7 | 122 | 12.5 | 5 | 0.5 | 42 | 4.3 | 72 | 7.4 | 68 | 7.0 | 29 | 3.0 |
| 25-44 | 1,711 | 93.1 | 1,258 | 68.4 | 25 | 1.4 | 104 | 5.7 | 124 | 6.7 | 98 | 5.3 | 102 | 5.5 |
| 45-64 | 1,433 | 77.4 | 897 | 48.5 | 93 | 5.0 | 135 | 7.3 | 89 | 4.8 | 60 | 3.2 | 159 | 8.6 |
| 65-74 | 447 | 65.5 | 107 | 15.7 | 127 | 18.6 | 55 | 8.1 | 47 | 6.9 | 23 | 3.4 | 88 | 12.9 |
| 75-84 | 431 | 129.9 | 24 | 7.2 | 245 | 73.8 | 44 | 13.3 | 27 | 8.1 | 11 | 3.3 | 80 | 24.1 |
| 85+ | 719 | 445.5 | 3 | -[6] | 546 | 338.3 | 52 | 32.2 | 17 | 10.5 | 10 | 6.2 | 91 | 56.4 |
| **All Females** | 1,674 | 39.6 | 690 | 19.7 | 523 | 9.1 | 131 | 3.2 | 104 | 2.7 | 25 | 0.6 | 201 | 4.3 |
| < 1 | 2 | -[6] | 0 | 0.0 | 0 | 0.0 | 1 | -[6] | 0 | 0.0 | 0 | 0.0 | 1 | -[6] |
| 1-14 | 12 | 2.3 | 0 | 0.0 | 1 | -[6] | 4 | -[6] | 2 | -[6] | 0 | 0.0 | 5 | 1.0 |
| 15-24 | 92 | 18.9 | 44 | 9.0 | 0 | 0.0 | 19 | 3.9 | 17 | 3.5 | 7 | 1.4 | 5 | 1.0 |
| 25-44 | 452 | 49.0 | 351 | 38.1 | 5 | 0.5 | 29 | 3.1 | 34 | 3.7 | 9 | 1.0 | 24 | 2.6 |
| 45-64 | 377 | 39.4 | 244 | 25.5 | 29 | 3.0 | 29 | 3.0 | 19 | 2.0 | 4 | -[6] | 52 | 5.4 |
| 65-74 | 149 | 40.6 | 37 | 10.1 | 41 | 11.2 | 17 | 4.6 | 16 | 4.4 | 5 | 1.4 | 33 | 9.0 |
| 75-84 | 184 | 96.4 | 13 | 6.8 | 121 | 63.4 | 10 | 5.2 | 10 | 5.2 | 0 | 0.0 | 30 | 15.7 |
| 85+ | 406 | 379.5 | 1 | -[6] | 326 | 304.8 | 22 | 20.6 | 6 | 5.6 | 0 | 0.0 | 51 | 47.7 |
| **All Males** | 3,433 | 98.9 | 1,723 | 51.4 | 520 | 14.4 | 310 | 8.5 | 276 | 7.7 | 245 | 7.0 | 359 | 9.9 |
| < 1 | 2 | -[6] | 0 | 0.0 | 0 | 0.0 | 1 | -[6] | 0 | 0.0 | 0 | 0.0 | 1 | -[6] |
| 1-14 | 10 | 1.8 | 1 | -[6] | 1 | -[6] | 2 | -[6] | 2 | -[6] | 0 | 0.0 | 4 | -[6] |
| 15-24 | 246 | 50.6 | 78 | 16.0 | 5 | 1.0 | 23 | 4.7 | 55 | 11.3 | 61 | 12.5 | 24 | 4.9 |
| 25-44 | 1,259 | 137.5 | 907 | 99.0 | 20 | 2.2 | 75 | 8.2 | 90 | 9.8 | 89 | 9.7 | 78 | 8.5 |
| 45-64 | 1,056 | 118.3 | 653 | 73.1 | 64 | 7.2 | 106 | 11.9 | 70 | 7.8 | 56 | 6.3 | 107 | 12.0 |
| 65-74 | 298 | 94.4 | 70 | 22.2 | 86 | 27.2 | 38 | 12.0 | 31 | 9.8 | 18 | 5.7 | 55 | 17.4 |
| 75-84 | 247 | 175.2 | 11 | 7.8 | 124 | 88.0 | 34 | 24.1 | 17 | 12.1 | 11 | 7.8 | 50 | 35.5 |
| 85+ | 313 | 575.0 | 2 | -[6] | 220 | 404.1 | 30 | 55.1 | 11 | 20.2 | 10 | 18.4 | 40 | 73.5 |

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.

### Table 23. Injury Deaths by Leading Causes, Gender and Race and Hispanic Ethnicity[7]: Numbers and Age Adjusted Rates, Massachusetts: 2020

| | All Injury Deaths[1] | | Poisoning[2] | | Falls | | Hanging, Strangulation, or Suffocation | | Motor Vehicle-Related[3] | | Firearm | | Other[4] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Rate[5] | Number | Rate[5] | Number | Rate[5] | Number | Rate[5] | Number | Rate[5] | Number | Rate[5] | Number | Rate[5] |
| **Asian non-Hispanic[7]** | **99** | **21.9** | **25** | **4.5** | **23** | **6.6** | **17** | **3.4** | **12** | **2.5** | **6** | **1.0** | **16** | **3.8** |
| Females | 32 | 13.8 | 3 | -[6] | 9 | 4.8 | 8 | 3.2 | 5 | 2.2 | 0 | 0.0 | 7 | 2.7 |
| Males | 67 | 31.3 | 22 | 8.5 | 14 | 8.9 | 9 | 3.7 | 7 | 2.8 | 6 | 2.2 | 9 | 5.1 |
| **Black non-Hispanic[7]** | **402** | **77.2** | **215** | **40.8** | **19** | **4.6** | **25** | **5.7** | **35** | **6.2** | **64** | **11.4** | **44** | **8.4** |
| Females | 94 | 34.3 | 50 | 18.4 | 10 | 3.9 | 9 | 3.5 | 10 | 3.5 | 4 | -[6] | 11 | 3.7 |
| Males | 308 | 124.2 | 165 | 65.5 | 9 | 5.3 | 16 | 8.5 | 25 | 9.0 | 60 | 21.8 | 33 | 13.9 |
| **Hispanic[7]** | **543** | **67.5** | **330** | **40.1** | **26** | **5.5** | **31** | **4.3** | **50** | **5.2** | **48** | **5.1** | **58** | **7.4** |
| Females | 121 | 31.2 | 67 | 15.6 | 13 | 5.2 | 14 | 3.4 | 7 | 1.5 | 4 | -[6] | 16 | 4.5 |
| Males | 422 | 104.9 | 263 | 65.7 | 13 | 5.8 | 17 | 5.5 | 43 | 8.6 | 44 | 9.2 | 42 | 9.9 |
| **White non-Hispanic[7]** | **3,966** | **70.1** | **1,797** | **37.8** | **967** | **12.2** | **361** | **6.1** | **265** | **4.7** | **142** | **2.5** | **434** | **6.7** |
| Females | 1,393 | 43.0 | 552 | 22.5 | 487 | 9.7 | 98 | 3.2 | 77 | 2.7 | 15 | 0.5 | 164 | 4.4 |
| Males | 2,573 | 99.8 | 1,245 | 53.5 | 480 | 15.6 | 263 | 9.5 | 188 | 7.0 | 127 | 4.8 | 270 | 9.3 |

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. Please see the technical notes for more information on race and ethnicity.

## Table 24. Unintentional Injury Deaths by Gender, Age: Numbers, Age-Adjusted, and Age-Specific Rates, Massachusetts: 2020

| | All Unintentional[1] | | Poisonings | | Falls | | Motor Vehicle-Related | |
|---|---|---|---|---|---|---|---|---|
| | Number | Rate[2] | Number | Rate[2] | Number | Rate[2] | Number | Rate[2] |
| **All Persons** | **4,103** | **54.5** | **2,252** | **33.1** | **1,016** | **11.0** | **380** | **5.1** |
| <1 | 3 | -[3] | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| 1-14 | 13 | 1.2 | 0 | 0.0 | 2 | -[3] | 4 | -[3] |
| 15-24 | 197 | 20.2 | 110 | 11.3 | 2 | -[3] | 72 | 7.4 |
| 25-44 | 1398 | 76.1 | 1208 | 65.7 | 16 | 0.9 | 124 | 6.7 |
| 45-64 | 1116 | 60.3 | 835 | 45.1 | 82 | 4.4 | 89 | 4.8 |
| 65-74 | 333 | 48.8 | 84 | 12.3 | 125 | 18.3 | 47 | 6.9 |
| 75-84 | 362 | 109.1 | 13 | 3.9 | 244 | 73.5 | 27 | 8.1 |
| 85+ | 680 | 421.3 | 1 | -[3] | 545 | 337.7 | 17 | 10.5 |
| **All Females** | **1404** | **32.8** | **614** | **17.8** | **520** | **9.0** | **104** | **2.7** |
| <1 | 1 | -[3] | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| 1-14 | 8 | 1.5 | 0 | 0.0 | 1 | -[3] | 2 | -[3] |
| 15-24 | 62 | 12.7 | 40 | 8.2 | 0 | 0.0 | 17 | 3.5 |
| 25-44 | 380 | 41.2 | 332 | 36.0 | 4 | -[3] | 34 | 3.7 |
| 45-64 | 293 | 30.6 | 213 | 22.2 | 28 | 2.9 | 19 | 2.0 |
| 65-74 | 109 | 29.7 | 23 | 6.3 | 41 | 11.2 | 16 | 4.4 |
| 75-84 | 156 | 81.7 | 5 | 2.6 | 120 | 62.9 | 10 | 5.2 |
| 85+ | 395 | 369.3 | 1 | -[3] | 326 | 304.8 | 6 | 5.6 |
| **All Males** | **2,699** | **78.2** | **1638** | **49.0** | **496** | **13.7** | **276** | **7.7** |
| <1 | 2 | -[3] | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| 1-14 | 5 | 0.9 | 0 | 0.0 | 1 | -[3] | 2 | -[3] |
| 15-24 | 135 | 27.8 | 70 | 14.4 | 2 | -[3] | 55 | 11.3 |
| 25-44 | 1018 | 111.1 | 876 | 95.6 | 12 | 1.3 | 90 | 9.8 |
| 45-64 | 823 | 92.2 | 622 | 69.7 | 54 | 6.0 | 70 | 7.8 |
| 65-74 | 224 | 71.0 | 61 | 19.3 | 84 | 26.6 | 31 | 9.8 |
| 75-84 | 206 | 146.1 | 8 | 5.7 | 124 | 88.0 | 17 | 12.1 |
| 85+ | 285 | 523.5 | 0 | 0.0 | 219 | 402.3 | 11 | 20.2 |

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 age group; rates for all rows except the age group rows are age-adjusted to the 2000 US standard population. 3. Calculations based on values 1-4 are excluded.

### Table 25. Unintentional Injury Deaths by Gender and Race and Hispanic Ethnicity[4]: Numbers and Age-Adjusted Rates, Massachusetts: 2020

| | All Unintentional[1] | | Poisonings | | Falls | | Motor Vehicle-Related | |
|---|---|---|---|---|---|---|---|---|
| | Number | Rate[2] | Number | Rate[2] | Number | Rate[2] | Number | Rate[2] |
| **Asian non-Hispanic[4]** | **64** | **14.9** | **23** | **4.2** | **21** | **6.1** | **12** | **2.5** |
| Females | 18 | 8.4 | 2 | -[3] | 8 | 4.1 | 5 | 2.2 |
| Males | 46 | 22.7 | 21 | 8.2 | 13 | 8.6 | 7 | 2.8 |
| **Black non-Hispanic[4]** | **289** | **56.2** | **206** | **39.1** | **17** | **4.2** | **35** | **6.2** |
| Females | 76 | 28.1 | 47 | 17.4 | 10 | 3.9 | 10 | 3.5 |
| Males | 213 | 87.4 | 159 | 63.0 | 7 | 4.5 | 25 | 9.0 |
| **Hispanic[4]** | **426** | **54.0** | **313** | **38.1** | **24** | **5.3** | **50** | **5.2** |
| Females | 94 | 24.6 | 61 | 14.2 | 13 | 5.2 | 7 | 1.5 |
| Males | 332 | 84.3 | 252 | 63.1 | 11 | 5.4 | 43 | 8.6 |
| **White non-Hispanic[4]** | **3,247** | **57.2** | **1664** | **35.5** | **946** | **11.8** | **265** | **4.7** |
| Females | 1,186 | 35.9 | 486 | 20.4 | 485 | 9.6 | 77 | 2.7 |
| Males | 2,061 | 80.5 | 1178 | 50.9 | 461 | 14.9 | 188 | 7.0 |

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. Please see the technical notes for more information on race and ethnicity.

**Table 26. Intentional Injury Deaths by Gender, Age: Numbers, Age-Adjusted, and Age-Specific Rates, Massachusetts: 2020**

| | All Intentional[1] | | Suicide | | Homicide | |
|---|---|---|---|---|---|---|
| | Number | Rate[2] | Number | Rate[2] | Number | Rate[2] |
| **All Persons** | **808** | **11.0** | **622** | **8.4** | **186** | **2.7** |
| <1 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| 1-14 | 6 | 0.6 | 4 | -3 | 2 | -3 |
| 15-24 | 131 | 13.5 | 72 | 7.4 | 59 | 6.1 |
| 25-44 | 277 | 15.1 | 196 | 10.7 | 81 | 4.4 |
| 45-64 | 264 | 14.3 | 229 | 12.4 | 35 | 1.9 |
| 65-74 | 84 | 12.3 | 77 | 11.3 | 7 | 1.0 |
| 75-84 | 27 | 8.1 | 25 | 7.5 | 2 | -3 |
| 85+ | 18 | 11.2 | 18 | 11.2 | 0 | 0.0 |
| **All Females** | **178** | **4.8** | **152** | **4.1** | **26** | **0.7** |
| <1 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| 1-14 | 3 | -3 | 3 | -3 | 0 | 0.0 |
| 15-24 | 26 | 5.3 | 22 | 4.5 | 4 | -3 |
| 25-44 | 58 | 6.3 | 50 | 5.4 | 8 | 0.9 |
| 45-64 | 61 | 6.4 | 51 | 5.3 | 10 | 1.0 |
| 65-74 | 25 | 6.8 | 21 | 5.7 | 4 | -3 |
| 75-84 | 5 | 2.6 | 5 | 2.6 | 0 | 0.0 |
| 85+ | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| **All Males** | **630** | **17.8** | **470** | **13.1** | **160** | **4.7** |
| <1 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| 1-14 | 3 | -3 | 1 | -3 | 2 | -3 |
| 15-24 | 105 | 21.6 | 50 | 10.3 | 55 | 11.3 |
| 25-44 | 219 | 23.9 | 146 | 15.9 | 73 | 8.0 |
| 45-64 | 203 | 22.7 | 178 | 19.9 | 25 | 2.8 |
| 65-74 | 59 | 18.7 | 56 | 17.7 | 3 | -3 |
| 75-84 | 22 | 15.6 | 20 | 14.2 | 2 | -3 |
| 85+ | 18 | 33.1 | 18 | 33.1 | 0 | 0.0 |

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 age group; rates for all rows except the age group rows are age-adjusted to the 2000 US standard population. 3. Calculations based on values 1-4 are excluded.

**Table 27. Intentional Injury Deaths by Gender and Race and Hispanic Ethnicity[4]: Numbers and Age-Adjusted Rates, Massachusetts: 2020**

| | All Intentional[1] | | Suicide | | Homicide | |
|---|---|---|---|---|---|---|
| | Number | Rate[2] | Number | Rate[2] | Number | Rate[2] |
| **Asian non-Hispanic[4]** | 30 | 5.7 | 25 | 4.8 | 5 | 0.9 |
| Females | 11 | 4.1 | 11 | 4.1 | 0 | 0.0 |
| Males | 19 | 7.3 | 14 | 5.5 | 5 | 1.8 |
| **Black non-Hispanic[4]** | 93 | 17.1 | 22 | 4.4 | 71 | 12.7 |
| Females | 11 | 4.1 | 5 | 1.8 | 6 | 2.2 |
| Males | 82 | 30.7 | 17 | 7.5 | 65 | 23.2 |
| **Hispanic[4]** | 97 | 10.8 | 46 | 5.3 | 51 | 5.5 |
| Females | 17 | 3.9 | 13 | 2.9 | 4 | -[3] |
| Males | 80 | 17.9 | 33 | 7.9 | 47 | 10.0 |
| **White non-Hispanic[4]** | 572 | 10.6 | 521 | 9.6 | 51 | 1.0 |
| Females | 136 | 5.1 | 121 | 4.6 | 15 | 0.5 |
| Males | 436 | 16.6 | 400 | 15.1 | 36 | 1.5 |

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. Please see the technical notes for more information on race and ethnicity.

## Table 28. Injury Deaths by Intent, Method and Gender: Numbers and Age-Adjusted Rates, Massachusetts: 2020

| Type of Injury[1] | All Injury Deaths | | Female | | Male | |
|---|---|---|---|---|---|---|
| | Number | Rate[2] | Number | Rate[2] | Number | Rate[2] |
| **Unintentional Injuries (Accidents)** | 4,103 | 54.5 | 1,404 | 32.8 | 2,699 | 78.2 |
| Motor vehicle-related | 380 | 5.1 | 104 | 2.7 | 276 | 7.7 |
| Injury to pedestrian | 70 | 0.9 | 25 | 0.6 | 45 | 1.2 |
| Injury to pedal cyclist | 9 | 0.1 | 1 | -[3] | 8 | 0.2 |
| Injury to motorcyclist | 52 | 0.7 | 5 | 0.1 | 47 | 1.3 |
| Injury to occupant | 24 | 0.3 | 10 | 0.3 | 14 | 0.4 |
| Other and unspecified | 225 | 3.1 | 63 | 1.7 | 162 | 4.6 |
| Poisoning | 2,252 | 33.1 | 614 | 17.8 | 1,638 | 49.0 |
| Falls | 1,016 | 11.0 | 520 | 9.0 | 496 | 13.7 |
| Hanging, strangulation or suffocation | 153 | 1.7 | 60 | 1.1 | 93 | 2.5 |
| Cut or pierce | 2 | -[3] | 0 | 0.0 | 2 | -[3] |
| Firearm | 1 | -[3] | 0 | 0.0 | 1 | -[3] |
| Drowning and submersion | 46 | 0.6 | 12 | 0.4 | 34 | 1.0 |
| Smoke, fire and flames | 37 | 0.4 | 14 | 0.3 | 23 | 0.6 |
| Other and unspecified | 216 | 2.5 | 80 | 1.5 | 136 | 3.7 |
| **Suicide** | 622 | 8.4 | 152 | 4.1 | 470 | 13.1 |
| Poisoning | 113 | 1.5 | 54 | 1.3 | 59 | 1.7 |
| Hanging, strangulation or suffocation | 281 | 3.9 | 66 | 2.0 | 215 | 6.0 |
| Firearm | 134 | 1.7 | 12 | 0.3 | 122 | 3.4 |
| Other and unspecified | 94 | 1.3 | 20 | 0.6 | 74 | 2.1 |
| **Homicide** | 186 | 2.7 | 26 | 0.7 | 160 | 4.7 |
| Firearm | 133 | 1.9 | 12 | 0.3 | 121 | 3.6 |
| Cut or pierce | 25 | 0.3 | 5 | 0.1 | 20 | 0.6 |
| Other and unspecified | 28 | 0.4 | 9 | 0.2 | 19 | 0.5 |
| **Injury Deaths of Undetermined Intent** | 92 | 1.2 | 40 | 1.0 | 52 | 1.5 |
| Poisoning | 47 | 0.6 | 22 | 0.6 | 25 | 0.7 |
| Other and unspecified | 45 | 0.6 | 18 | 0.4 | 27 | 0.8 |
| **Legal Intervention** | 2 | -[3] | 0 | -[3] | 2 | -[3] |
| Firearm | 1 | -[3] | 0 | -[3] | 1 | -[3] |
| Other and unspecified | 1 | -[3] | 0 | -[3] | 1 | -[3] |
| **Adverse Effects** | 102 | 1.2 | 52 | 1.1 | 50 | 1.4 |
| Medical care | 88 | 1.0 | 45 | 0.9 | 43 | 1.2 |
| Drugs | 14 | 0.2 | 7 | 0.2 | 7 | 0.2 |
| **ALL INJURIES** | 5,107 | 68.0 | 1,674 | 39.6 | 3,433 | 98.9 |

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. 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.

**Table 29. HIV/AIDS[1] Deaths by Gender, Race and Hispanic Ethnicity: Numbers, Percent and Age-Adjusted Rates, Massachusetts: 2007-2020**

| Year | Black non-Hispanic[2] | | | Hispanic[2] | | | White non-Hispanic[2] | | |
|------|----|---------|--------|----|---------|--------|----|---------|--------|
| | # | Percent | Rate[3] | # | Percent | Rate[3] | # | Percent | Rate[3] |
| 2007 | 48 | 34% | 13.0 | 37 | 26% | 8.9 | 58 | 41% | 1.0 |
| 2008 | 37 | 27% | 10.6 | 31 | 23% | 8.3 | 69 | 50% | 1.2 |
| 2009 | 37 | 31% | 15.2 | 33 | 28% | 11.6 | 48 | 41% | 0.5 |
| 2010 | 34 | 29% | 15.2 | 26 | 22% | 11.6 | 58 | 49% | 0.5 |
| 2011 | 30 | 33% | 6.9 | 24 | 27% | 4.7 | 36 | 40% | 0.6 |
| 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 |
| **MALE** | | | | | | | | | |
| 2007 | 23 | 24% | 13.4 | 25 | 26% | 13.3 | 48 | 50% | 1.7 |
| 2008 | 25 | 26% | 16.0 | 18 | 18% | 11.0 | 55 | 56% | 1.9 |
| 2009 | 29 | 34% | 15.6 | 24 | 28% | 12.4 | 32 | 38% | 1.1 |
| 2010 | 20 | 25% | 15.6 | 19 | 24% | 12.4 | 40 | 51% | 1.1 |
| 2011 | 14 | 22% | 6.6 | 19 | 30% | 8.2 | 30 | 48% | 1.1 |
| 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% | 0.2 |
| **FEMALE** | | | | | | | | | |
| 2007 | 25 | 53% | 12.8 | 12 | 26% | 5.2 | 10 | 21% | 0.3 |
| 2008 | 12 | 31% | 6.4 | 13 | 33% | 6.4 | 14 | 36% | 0.5 |
| 2009 | 8 | 24% | 3.8 | 9 | 27% | 3.8 | 16 | 48% | 0.5 |
| 2010 | 14 | 36% | 3.8 | 7 | 18% | 3.8 | 18 | 46% | 0.5 |
| 2011 | 16 | 59% | 7.1 | 5 | 19% | 1.6 | 6 | 22% | 0.2 |
| 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 | --[4] | --[4] | 8 | 47% | 0.3 |
| 2016 | 11 | 46% | 4.0 | 5 | 21% | 1.5 | 8 | 33% | 0.2 |
| 2017 | 4 | --[4] | --[4] | 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 | --[4] | --[4] | 4 | --[4] | --[4] |

1. AIDS and HIV disease deaths coded using ICD-10: B20-B24. 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see the Technical Notes for a more information on race and ethnicity. 3. Number of deaths per 100,000 persons; rates are age-adjusted to the 2000 US standard population. 4. Calculations based on values 1-4 are excluded

**Figure 18. HIV/AIDS[1] by Age, Massachusetts 2001-2020**
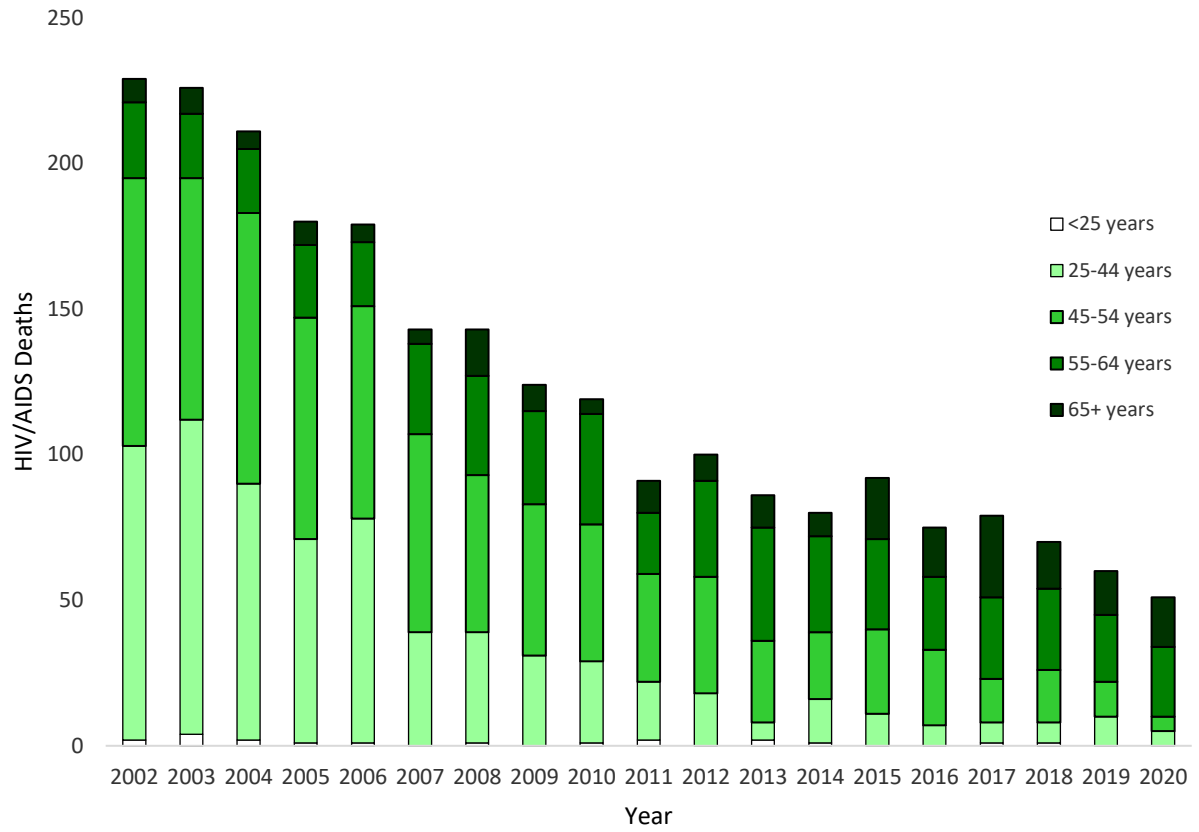
1. AIDS and HIV disease deaths coded using ICD-10: B20-B24.

| Table 30. Premature Mortality Rates (PMR) by Community, Massachusetts: 2020 | | |
|---|---|---|
| **City/Town** | **Premature Deaths (#)** | **PMR**[1]<br>(per 100,000 population) |
| **STATE** | **26,092** | **305.5** |
| Abington | 57 | 263.2 |
| Acton | 46 | 151.6 |
| Acushnet | 37 | 270.4 |
| Adams | 41 | 341.6 |
| Agawam | 160 | 443.4 |
| Alford | 1 | --[2] |
| Amesbury | 91 | 388.3 |
| Amherst | 54 | 234.6 |
| Andover | 76 | 164.3 |
| Aquinnah | 1 | --[2] |
| Arlington | 103 | 167.5 |
| Ashburnham | 33 | 387.0 |
| Ashby | 14 | 273.1 |
| Ashfield | 7 | 297.9 |
| Ashland | 49 | 198.9 |
| Athol | 86 | 605.7 |
| Attleboro | 188 | 331.8 |
| Auburn | 89 | 398.8 |
| Avon | 24 | 434.1 |
| Ayer | 36 | 368.2 |
| Barnstable | 213 | 342.0 |
| Barre | 17 | 247.4 |
| Becket | 8 | 348.2 |
| Bedford | 40 | 204.5 |
| Belchertown | 49 | 208.0 |
| Bellingham | 58 | 261.5 |
| Belmont | 50 | 145.6 |
| Berkley | 20 | 252.4 |
| Berlin | 9 | 229.4 |
| Bernardston | 5 | 172.0 |
| Beverly | 180 | 343.6 |
| Billerica | 149 | 283.8 |
| Blackstone | 37 | 313.2 |
| Blandford | 2 | --[2] |
| Bolton | 9 | 131.1 |
| Boston | 2244 | 337.1 |
| Bourne | 89 | 324.3 |
| Boxborough | 16 | 240.9 |
| Boxford | 19 | 136.6 |
| Boylston | 13 | 280.3 |
| Braintree | 152 | 324.4 |
| Brewster | 40 | 223.4 |
| Bridgewater | 86 | 254.2 |
| Brimfield | 18 | 311.7 |
| Brockton | 538 | 493.2 |
| Brookfield | 18 | 410.1 |

| Table 30. Premature Mortality Rates (PMR) by Community, Massachusetts: 2020 | | |
|---|---|---|
| **City/Town** | **Premature Deaths (#)** | **PMR**[1] (per 100,000 population) |
| Brookline | 73 | 107.6 |
| Buckland | 7 | 254.3 |
| Burlington | 71 | 205.2 |
| Cambridge | 217 | 225.5 |
| Canton | 70 | 243.4 |
| Carlisle | 5 | 65.3 |
| Carver | 63 | 319.5 |
| Charlemont | 6 | 453.6 |
| Charlton | 40 | 235.2 |
| Chatham | 23 | 242.7 |
| Chelmsford | 125 | 270.2 |
| Chelsea | 146 | 435.4 |
| Cheshire | 15 | 474.1 |
| Chester | 8 | 436.9 |
| Chesterfield | 4 | --[2] |
| Chicopee | 275 | 383.6 |
| Chilmark | 2 | --[2] |
| Clarksburg | 6 | 342.8 |
| Clinton | 63 | 380.0 |
| Cohasset | 22 | 226.2 |
| Colrain | 7 | 313.8 |
| Concord | 38 | 143.5 |
| Conway | 6 | 128.0 |
| Cummington | 4 | --[2] |
| Dalton | 24 | 219.7 |
| Danvers | 150 | 390.9 |
| Dartmouth | 111 | 243.1 |
| Dedham | 80 | 226.7 |
| Deerfield | 13 | 186.8 |
| Dennis | 99 | 560.3 |
| Dighton | 21 | 216.9 |
| Douglas | 26 | 237.5 |
| Dover | 9 | 212.6 |
| Dracut | 108 | 268.1 |
| Dudley | 38 | 268.2 |
| Dunstable | 2 | --[2] |
| Duxbury | 28 | 129.4 |
| East Bridgewater | 67 | 390.5 |
| East Brookfield | 13 | 460.2 |
| East Longmeadow | 52 | 235.6 |
| Eastham | 19 | 339.5 |
| Easthampton | 73 | 307.5 |
| Easton | 79 | 275.8 |
| Edgartown | 19 | 289.2 |
| Egremont | 7 | 235.0 |
| Erving | 4 | --[2] |
| Essex | 9 | 224.5 |
| Everett | 167 | 344.2 |
| Fairhaven | 88 | 434.9 |

| Table 30. Premature Mortality Rates (PMR) by Community, Massachusetts: 2020 | | |
|---|---|---|
| **City/Town** | **Premature Deaths (#)** | **PMR**[1] (per 100,000 population) |
| Fall River | 536 | 527.9 |
| Falmouth | 146 | 375.5 |
| Fitchburg | 233 | 502.2 |
| Florida | 4 | --[2] |
| Foxborough | 58 | 261.0 |
| Framingham | 221 | 269.9 |
| Franklin | 82 | 209.2 |
| Freetown | 49 | 424.4 |
| Gardner | 113 | 443.4 |
| Georgetown | 32 | 253.7 |
| Gill | 12 | 352.0 |
| Gloucester | 163 | 391.6 |
| Goshen | 2 | --[2] |
| Gosnold | 0 | --[2] |
| Grafton | 40 | 165.1 |
| Granby | 17 | 192.8 |
| Granville | 8 | 395.7 |
| Great Barrington | 41 | 456.6 |
| Greenfield | 109 | 454.1 |
| Groton | 32 | 220.2 |
| Groveland | 9 | 96.5 |
| Hadley | 24 | 350.3 |
| Halifax | 40 | 357.5 |
| Hamilton | 19 | 162.9 |
| Hampden | 12 | 198.4 |
| Hancock | 1 | --[2] |
| Hanover | 41 | 218.8 |
| Hanson | 44 | 328.5 |
| Hardwick | 23 | 592.0 |
| Harvard | 10 | 126.9 |
| Harwich | 48 | 245.7 |
| Hatfield | 16 | 252.1 |
| Haverhill | 317 | 397.6 |
| Hawley | 3 | --[2] |
| Heath | 2 | --[2] |
| Hingham | 49 | 173.8 |
| Hinsdale | 11 | 339.6 |
| Holbrook | 41 | 276.5 |
| Holden | 60 | 249.6 |
| Holland | 10 | 293.4 |
| Holliston | 43 | 245.0 |
| Holyoke | 229 | 529.6 |
| Hopedale | 19 | 309.2 |
| Hopkinton | 34 | 181.9 |
| Hubbardston | 16 | 262.1 |
| Hudson | 74 | 264.9 |
| Hull | 60 | 403.9 |
| Huntington | 13 | 391.2 |

| Table 30. Premature Mortality Rates (PMR) by Community, Massachusetts: 2020 | | |
|---|---|---|
| **City/Town** | **Premature Deaths (#)** | **PMR**[1] (per 100,000 population) |
| Ipswich | 49 | 208.8 |
| Kingston | 56 | 312.4 |
| Lakeville | 40 | 251.8 |
| Lancaster | 16 | 163.2 |
| Lanesborough | 11 | 306.3 |
| Lawrence | 324 | 391.3 |
| Lee | 36 | 402.1 |
| Leicester | 39 | 278.4 |
| Lenox | 17 | 277.9 |
| Leominster | 179 | 353.4 |
| Leverett | 3 | --[2] |
| Lexington | 54 | 107.9 |
| Leyden | 1 | --[2] |
| Lincoln | 17 | 228.5 |
| Littleton | 24 | 208.1 |
| Longmeadow | 45 | 204.3 |
| Lowell | 548 | 465.6 |
| Ludlow | 76 | 275.6 |
| Lunenburg | 43 | 300.2 |
| Lynn | 450 | 429.6 |
| Lynnfield | 17 | 113.1 |
| Malden | 239 | 326.3 |
| Manchester | 10 | 163.9 |
| Mansfield | 69 | 243.1 |
| Marblehead | 47 | 175.9 |
| Marion | 23 | 342.8 |
| Marlborough | 165 | 333.3 |
| Marshfield | 117 | 344.4 |
| Mashpee | 56 | 244.3 |
| Mattapoisett | 17 | 266.6 |
| Maynard | 34 | 241.2 |
| Medfield | 19 | 136.9 |
| Medford | 181 | 265.1 |
| Medway | 40 | 231.9 |
| Melrose | 100 | 255.6 |
| Mendon | 18 | 245.5 |
| Merrimac | 17 | 174.5 |
| Methuen | 192 | 295.6 |
| Middleborough | 119 | 315.2 |
| Middlefield | 3 | --[2] |
| Middleton | 29 | 197.1 |
| Milford | 92 | 274.4 |
| Millbury | 53 | 306.5 |
| Millis | 24 | 240.9 |
| Millville | 11 | 254.3 |
| Milton | 85 | 240.2 |
| Monroe | 1 | --[2] |
| Monson | 40 | 340.8 |
| Montague | 62 | 504.8 |

## Table 30. Premature Mortality Rates (PMR) by Community, Massachusetts: 2020

| City/Town | Premature Deaths (#) | PMR[1] (per 100,000 population) |
|---|---|---|
| Monterey | 3 | --[2] |
| Montgomery | 7 | 576.1 |
| Mount Washington | 1 | --[2] |
| Nahant | 15 | 346.0 |
| Nantucket | 28 | 221.0 |
| Natick | 104 | 226.5 |
| Needham | 67 | 170.5 |
| New Ashford | 0 | --[2] |
| New Bedford | 554 | 507.5 |
| New Braintree | 9 | 731.6 |
| New Marlborough | 4 | --[2] |
| New Salem | 3 | --[2] |
| Newbury | 18 | 167.3 |
| Newburyport | 57 | 187.9 |
| Newton | 161 | 143.0 |
| Norfolk | 28 | 176.5 |
| North Adams | 80 | 538.0 |
| North Andover | 74 | 200.4 |
| North Attleborough | 119 | 330.9 |
| North Brookfield | 20 | 299.7 |
| North Reading | 42 | 192.3 |
| Northampton | 131 | 331.4 |
| Northborough | 37 | 206.2 |
| Northbridge | 74 | 329.1 |
| Northfield | 7 | 158.5 |
| Norton | 71 | 280.6 |
| Norwell | 29 | 197.6 |
| Norwood | 129 | 337.5 |
| Oak Bluffs | 26 | 355.4 |
| Oakham | 10 | 350.8 |
| Orange | 50 | 456.3 |
| Orleans | 22 | 131.8 |
| Otis | 5 | 113.8 |
| Oxford | 65 | 386.6 |
| Palmer | 66 | 393.1 |
| Paxton | 15 | 278.3 |
| Peabody | 233 | 312.0 |
| Pelham | 2 | --[2] |
| Pembroke | 61 | 264.6 |
| Pepperell | 32 | 201.5 |
| Peru | 3 | --[2] |
| Petersham | 2 | --[2] |
| Phillipston | 8 | 273.0 |
| Pittsfield | 289 | 508.9 |
| Plainfield | 2 | --[2] |
| Plainville | 40 | 346.6 |
| Plymouth | 287 | 328.8 |
| Plympton | 9 | 226.8 |
| Princeton | 13 | 211.3 |

| Table 30. Premature Mortality Rates (PMR) by Community, Massachusetts: 2020 | | |
|---|---|---|
| **City/Town** | **Premature Deaths (#)** | **PMR**[1] (per 100,000 population) |
| Provincetown | 20 | 640.2 |
| Quincy | 426 | 348.3 |
| Randolph | 157 | 380.3 |
| Raynham | 68 | 347.6 |
| Reading | 62 | 190.9 |
| Rehoboth | 34 | 190.8 |
| Revere | 212 | 312.4 |
| Richmond | 5 | 257.0 |
| Rochester | 19 | 208.8 |
| Rockland | 92 | 408.1 |
| Rockport | 27 | 276.4 |
| Rowe | 0 | --[2] |
| Rowley | 12 | 127.7 |
| Royalston | 6 | 264.3 |
| Russell | 8 | 269.5 |
| Rutland | 21 | 186.0 |
| Salem | 172 | 326.4 |
| Salisbury | 51 | 387.7 |
| Sandisfield | 10 | 604.8 |
| Sandwich | 92 | 279.5 |
| Saugus | 129 | 339.9 |
| Savoy | 3 | --[2] |
| Scituate | 63 | 232.6 |
| Seekonk | 77 | 418.8 |
| Sharon | 35 | 144.8 |
| Sheffield | 16 | 460.4 |
| Shelburne | 9 | 231.8 |
| Sherborn | 6 | 171.5 |
| Shirley | 41 | 394.5 |
| Shrewsbury | 80 | 175.4 |
| Shutesbury | 10 | 399.6 |
| Somerset | 82 | 354.9 |
| Somerville | 200 | 291.1 |
| South Hadley | 60 | 261.2 |
| Southampton | 20 | 218.6 |
| Southborough | 14 | 102.9 |
| Southbridge | 116 | 625.0 |
| Southwick | 48 | 339.7 |
| Spencer | 57 | 348.1 |
| Springfield | 831 | 528.7 |
| Sterling | 22 | 183.1 |
| Stockbridge | 4 | --[2] |
| Stoneham | 77 | 258.6 |
| Stoughton | 122 | 362.0 |
| Stow | 22 | 251.0 |
| Sturbridge | 30 | 219.8 |
| Sudbury | 37 | 167.0 |
| Sunderland | 7 | 150.8 |
| Sutton | 31 | 250.8 |

| Table 30. Premature Mortality Rates (PMR) by Community, Massachusetts: 2020 | | |
|---|---|---|
| **City/Town** | **Premature Deaths (#)** | **PMR**[1] (per 100,000 population) |
| Swampscott | 45 | 210.4 |
| Swansea | 85 | 389.4 |
| Taunton | 259 | 371.1 |
| Templeton | 37 | 312.3 |
| Tewksbury | 131 | 315.0 |
| Tisbury | 17 | 257.1 |
| Tolland | 2 | --[2] |
| Topsfield | 25 | 346.1 |
| Townsend | 43 | 333.0 |
| Truro | 10 | 263.3 |
| Tyngsborough | 40 | 245.2 |
| Tyringham | 1 | --[2] |
| Upton | 14 | 121.0 |
| Uxbridge | 48 | 206.1 |
| Wakefield | 84 | 229.3 |
| Wales | 14 | 630.2 |
| Walpole | 66 | 203.2 |
| Waltham | 184 | 271.4 |
| Ware | 63 | 447.3 |
| Wareham | 138 | 409.4 |
| Warren | 20 | 313.2 |
| Warwick | 5 | 405.4 |
| Washington | 3 | --[2] |
| Watertown | 103 | 244.4 |
| Wayland | 31 | 184.0 |
| Webster | 87 | 442.9 |
| Wellesley | 41 | 111.6 |
| Wellfleet | 11 | 243.9 |
| Wendell | 4 | --[2] |
| Wenham | 8 | 123.6 |
| West Boylston | 27 | 213.1 |
| West Bridgewater | 29 | 292.2 |
| West Brookfield | 22 | 395.4 |
| West Newbury | 12 | 221.5 |
| West Springfield | 158 | 417.2 |
| West Stockbridge | 6 | 159.9 |
| West Tisbury | 10 | 202.6 |
| Westborough | 49 | 217.7 |
| Westfield | 205 | 397.3 |
| Westford | 54 | 183.0 |
| Westhampton | 7 | 273.5 |
| Westminster | 26 | 278.4 |
| Weston | 17 | 117.4 |
| Westport | 80 | 371.3 |
| Westwood | 37 | 203.7 |
| Weymouth | 268 | 373.8 |
| Whately | 7 | 320.5 |
| Whitman | 65 | 374.7 |
| Wilbraham | 49 | 239.7 |

| Table 30. Premature Mortality Rates (PMR) by Community, Massachusetts: 2020 | | |
|---|---|---|
| **City/Town** | **Premature Deaths (#)** | **PMR**[1]<br>(per 100,000 population) |
| Williamstown | 14 | 147.0 |
| Wilmington | 86 | 297.4 |
| Winchendon | 56 | 444.5 |
| Winchester | 36 | 138.9 |
| Windsor | 2 | --[2] |
| Winthrop | 60 | 221.2 |
| Woburn | 157 | 313.3 |
| Worcester | 948 | 495.7 |
| Worthington | 8 | 254.6 |
| Wrentham | 45 | 266.5 |
| Yarmouth | 105 | 272.4 |
| Williamstown | 14 | 147.0 |
| 1. Premature mortality rates (PMR) are age-adjusted to the 2000 US Standard Population for persons ages 0-74 years. 2. Age-adjusted rates based on values 1-4 are excluded. | | |

# APPENDIX

**Additional Tables & Figures**

**Technical Notes**

**Glossary**

**Table 31. Number and Age-Specific Rates for Leading Underlying Causes of Death by Race and Hispanic Ethnicity, Massachusetts: 2020**

| Selected Causes[2] | Total # | Total Rate[3] | Asian non-Hispanic[1] # | Asian non-Hispanic[1] Rate[3] | Black non-Hispanic[1] # | Black non-Hispanic[1] Rate[3] | Hispanic[1] # | Hispanic[1] Rate[3] | White non-Hispanic[1] # | White non-Hispanic[1] Rate[3] |
|---|---|---|---|---|---|---|---|---|---|---|
| **Age: 1-14, TOTAL** | **69** | **0.7** | **5** | **0.8** | **12** | **1.5** | **19** | **1.1** | **29** | **0.5** |
| Unintentional Injuries[4] | 13 | 0.1 | 0 | 0.0 | 1 | --[6] | 6 | 0.4 | 5 | 0.1 |
| Cancer | 10 | 0.1 | 1 | --[6] | 0 | 0.0 | 4 | --[6] | 4 | --[6] |
| Congenital malformations | 5 | 0.1 | 1 | --[6] | 0 | 0.0 | 3 | --[6] | 1 | --[6] |
| Heart Disease | 4 | --[6] | 0 | 0.0 | 1 | --[6] | 2 | --[6] | 1 | --[6] |
| **Age: 15-24, TOTAL** | **437** | **5.0** | **18** | **2.8** | **66** | **9.2** | **90** | **7.0** | **239** | **4.1** |
| Unintentional Injuries[4] | 197 | 2.3 | 3 | --[6] | 20 | 2.8 | 39 | 3.0 | 124 | 2.1 |
| Suicide | 72 | 0.8 | 4 | --[6] | 5 | 0.7 | 12 | 0.9 | 47 | 0.8 |
| Homicide | 59 | 0.7 | 3 | --[6] | 24 | 3.4 | 20 | 1.5 | 8 | 0.1 |
| Cancer | 25 | 0.3 | 5 | 0.8 | 2 | --[6] | 4 | --[6] | 14 | 0.2 |
| **Age: 25-44, TOTAL** | **3,019** | **18.8** | **75** | **5.1** | **318** | **25.4** | **465** | **21.5** | **2,088** | **19.0** |
| Unintentional Injuries[4] | 1,398 | 8.7 | 22 | 1.5 | 106 | 8.5 | 228 | 10.5 | 1,007 | 9.2 |
| Cancer | 246 | 1.5 | 13 | 0.9 | 28 | 2.2 | 22 | 1.0 | 174 | 1.6 |
| Heart Disease | 221 | 1.4 | 7 | 0.5 | 33 | 2.6 | 29 | 1.3 | 149 | 1.4 |
| Suicide | 196 | 1.2 | 9 | 0.6 | 6 | 0.5 | 19 | 0.9 | 158 | 1.4 |
| **Age: 45-64, TOTAL** | **10,359** | **61.5** | **271** | **32.5** | **969** | **95.9** | **931** | **76.4** | **8,043** | **59.3** |
| Cancer | 2,625 | 15.6 | 94 | 11.3 | 193 | 19.1 | 143 | 11.7 | 2,164 | 15.9 |
| Heart Disease | 1,648 | 9.8 | 47 | 5.6 | 163 | 16.1 | 139 | 11.4 | 1,280 | 9.4 |
| Unintentional Injuries[4] | 1,116 | 6.6 | 12 | 1.4 | 116 | 11.5 | 123 | 10.1 | 849 | 6.3 |
| COVID-19 | 830 | 4.9 | 33 | 4.0 | 137 | 13.6 | 167 | 13.7 | 473 | 3.5 |
| **Age: 65+, TOTAL** | **54,118** | **571.4** | **1,377** | **424.7** | **2,509** | **625.1** | **1,884** | **500.8** | **47,843** | **576.6** |
| Heart Disease | 9,913 | 104.7 | 199 | 61.4 | 403 | 100.4 | 275 | 73.1 | 8,960 | 108.0 |
| Cancer | 9,475 | 100.0 | 261 | 80.5 | 420 | 104.6 | 272 | 72.3 | 8,428 | 101.6 |
| COVID-19 | 8,541 | 90.2 | 294 | 90.7 | 602 | 150.0 | 515 | 136.9 | 7,027 | 84.7 |
| Chronic lower respiratory disease[5] | 2,177 | 23.0 | 34 | 10.5 | 55 | 13.7 | 40 | 10.6 | 2,031 | 24.5 |

**Table 31. Number and Age-Specific Rates for Leading Underlying Causes of Death by Race and Hispanic Ethnicity, Massachusetts: 2020**

| Selected Causes[2] | Total # | Total Rate[3] | Asian non-Hispanic[1] # | Asian non-Hispanic[1] Rate[3] | Black non-Hispanic[1] # | Black non-Hispanic[1] Rate[3] | Hispanic[1] # | Hispanic[1] Rate[3] | White non-Hispanic[1] # | White non-Hispanic[1] Rate[3] |
|---|---|---|---|---|---|---|---|---|---|---|
| **Age: 65-74, TOTAL** | **11,945** | **1,749.4** | **331** | **1,194.8** | **770** | **2,363.7** | **647** | **1,882.4** | **10,068** | **1,733.1** |
| Cancer | 3,481 | 509.8 | 96 | 346.5 | 194 | 595.5 | 120 | 349.1 | 3,032 | 521.9 |
| Heart Disease | 1,924 | 281.8 | 36 | 129.9 | 117 | 359.2 | 90 | 261.8 | 1,664 | 286.4 |
| COVID-19 | 1,493 | 218.7 | 75 | 270.7 | 158 | 485.0 | 164 | 477.1 | 1,071 | 184.4 |
| Chronic Lower Respiratory Disease[5] | 566 | 82.9 | 4 | --[6] | 15 | 46.0 | 12 | 34.9 | 530 | 91.2 |
| **Age: 75-84, TOTAL** | **16,385** | **4,937.4** | **455** | **3,476.2** | **857** | **5,785.0** | **675** | **4,692.7** | **14,236** | **4,958.5** |
| Cancer | 3,402 | 1,025.2 | 98 | 748.7 | 142 | 958.5 | 95 | 660.5 | 3,033 | 1,056.4 |
| Heart Disease | 2,669 | 804.3 | 69 | 527.2 | 126 | 850.5 | 96 | 667.4 | 2,354 | 819.9 |
| COVID-19 | 2,571 | 774.7 | 89 | 680.0 | 227 | 1,532.3 | 199 | 1,383.5 | 2,022 | 704.3 |
| Chronic Lower Respiratory[5] | 833 | 251.0 | 16 | 122.2 | 26 | 175.5 | 14 | 97.3 | 773 | 269.2 |
| **Age: 85+, TOTAL** | **25,788** | **15,977.0** | **591** | **11,831.2** | **882** | **15,004.2** | **562** | **10,422.9** | **23,539** | **16,348.4** |
| Heart Disease | 5,320 | 3,296.0 | 94 | 1,881.8 | 160 | 2,721.9 | 89 | 1,650.6 | 4,942 | 3,432.3 |
| COVID-19 | 4,477 | 2,773.7 | 130 | 2,602.5 | 217 | 3,691.5 | 152 | 2,819.0 | 3,934 | 2,732.3 |
| Cancer | 2,592 | 1,605.9 | 67 | 1,341.3 | 84 | 1,429.0 | 57 | 1,057.1 | 2,363 | 1,641.2 |
| Stroke | 1,122 | 695.1 | 35 | 700.7 | 47 | 799.5 | 23 | 426.6 | 1,007 | 699.4 |

1. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see 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.

**Figure 19. Heart Disease Death Rates[1] by Race and Hispanic Ethnicity[2] and Gender, Massachusetts: 1999-2020**
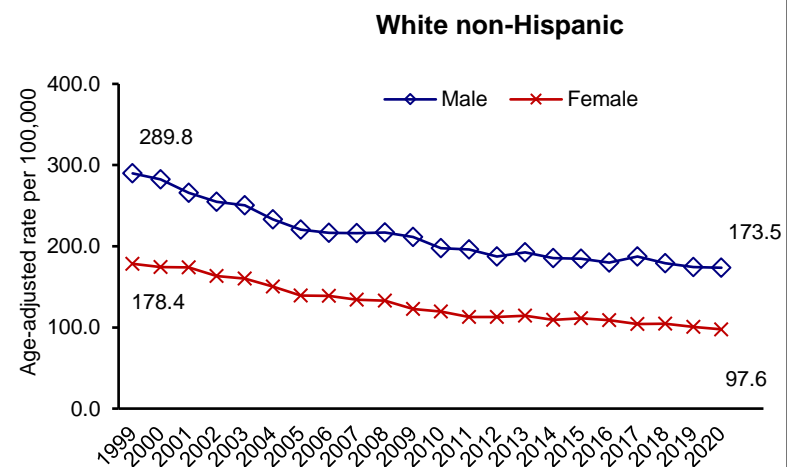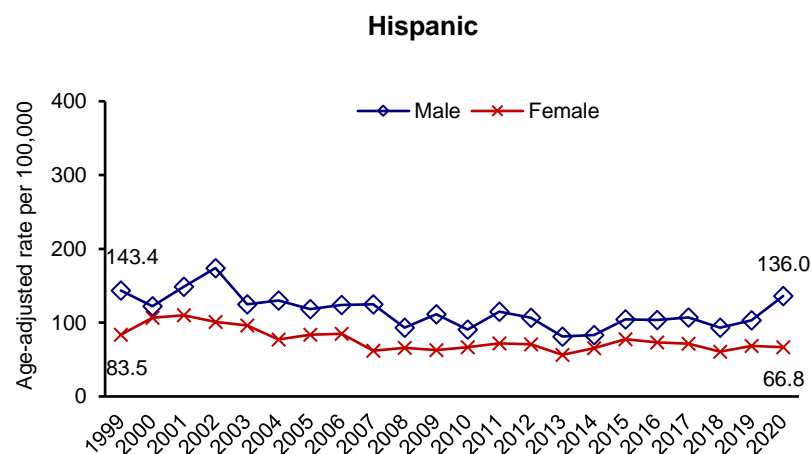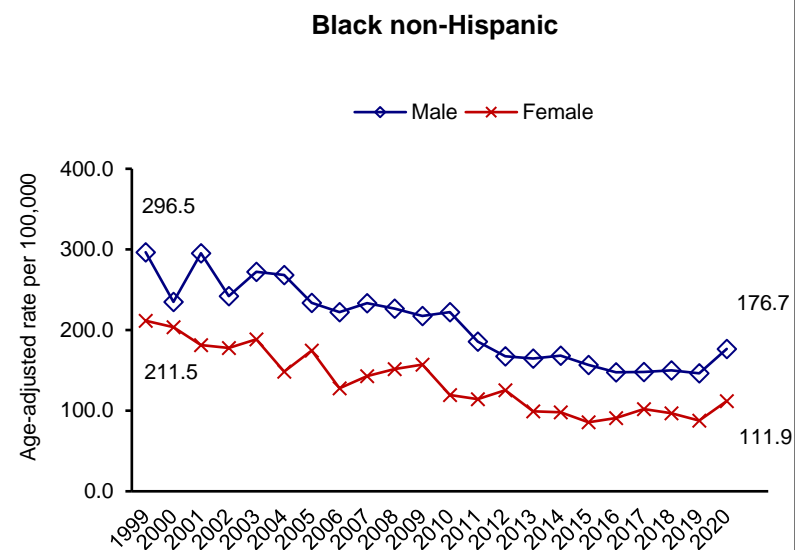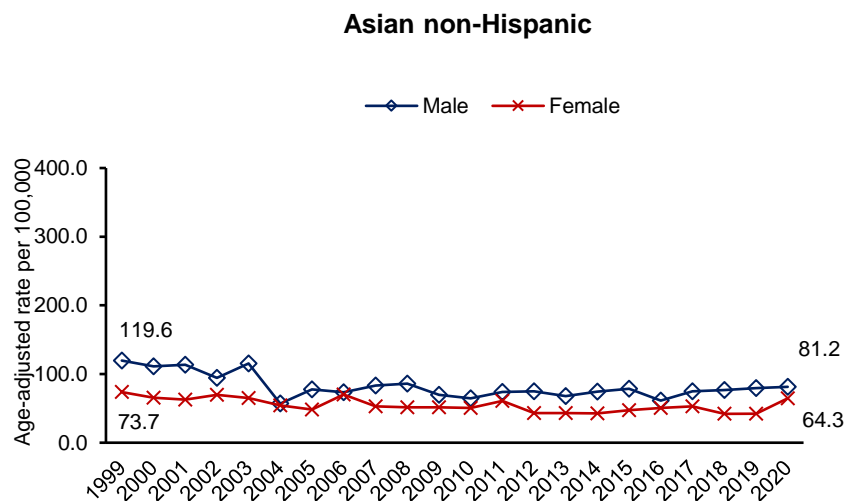
**Asian non-Hispanic**

**Black non-Hispanic**



Asian non-Hispanic chart — Male, Female; Age-adjusted rate per 100,000; years 1999–2020. Values labeled: 119.6, 81.2, 73.7, 64.3.



Black non-Hispanic chart — Male, Female; Age-adjusted rate per 100,000; years 1999–2020. Values labeled: 296.5, 176.7, 211.5, 111.9.

**Hispanic**

**White non-Hispanic**



Hispanic chart — Male, Female; Age-adjusted rate per 100,000; years 1999–2020. Values labeled: 143.4, 136.0, 83.5, 66.8.



White non-Hispanic chart — Male, Female; Age-adjusted rate per 100,000; years 1999–2020. Values labeled: 289.8, 173.5, 178.4, 97.6.

1. Rates are per 100,000 population, age-adjusted to the 2000 U.S. Standard Population.  2. Race and ethnicity data in this table are presented as mutually exclusive categories.  Persons of Hispanic ethnicity are not included in a race category.  Please see the Technical Notes for  more information on race and ethnicity.

# Figure 20. Cancer Death Rates[1] by Race and Hispanic Ethnicity[2] and Gender, Massachusetts: 1999-2020

## Asian non-Hispanic

Male   Female

Age-adjusted rate per 100,000

162.8
116.9
122.0
81.8

1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

## Black non-Hispanic

Male   Female

Age-adjusted rate per 100,000

337.2
195.7
175.3
125.3

1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

## Hispanic

Male   Female

Age-adjusted rate per 100,000

141.8
92.5
119.8
75.2

1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

## White non-Hispanic

Male   Female

Age-adjusted rate per 100,000

263.4
174.3
168.7
120.7

1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

1. Rates are per 100,000 population, age-adjusted to the 2000 U.S. Standard Population.  2. Race and ethnicity data in this table are presented as mutually exclusive categories.  Persons of Hispanic ethnicity are not included in a race category.  Please see the Technical Notes for  more information on race and ethnicity.

**Table 32. Premature Mortality[1] Rates (PMR) by Community Health Network Area (CHNA), Massachusetts: 2020**

| CHNA (Name and Number) | Number of Deaths | PMR[2] (per 100,000 population) |
|---|---|---|
| **Massachusetts** | **26,092** | **305.5** |
| 1. Community Health Network of Berkshire | 672 | 390.1 |
| 2. Upper Valley Health Web (Franklin County) | 452 | 365.0 |
| 3. Partnership for Health in Hampshire County (Northampton) | 553 | 282.1 |
| 4. The Community Health Connection (Springfield) | 1,488 | 427.7 |
| 5. Community Health Network of Southern Worcester County | 568 | 374.0 |
| 6. Community Partners for Health (Milford) | 550 | 244.8 |
| 7. Community Health Network of Greater Metro West (Framingham) | 1,200 | 235.2 |
| 8. Common Pathways (Worcester) | 1,364 | 377.6 |
| 9. Community Health Network of North Central Massachusetts | 1,156 | 333.3 |
| 10. Greater Lowell Community Health Network | 1,157 | 332.6 |
| 11. Greater Lawrence Community Health Network | 695 | 286.8 |
| 12. Greater Haverhill Community Health Network | 635 | 299.9 |
| 13. Community Health Network North (Beverly/Gloucester) | 490 | 302.6 |
| 14. North Shore Community Health Network | 1,258 | 337.0 |
| 15. Northwest Suburban Health Alliance | 590 | 200.3 |
| 16. North Suburban Health Alliance (Medford/Malden/Melrose) | 952 | 271.8 |
| 17. Greater Cambridge/Somerville Community Health Network | 673 | 220.6 |
| 18. West Suburban Health Network (Newton/Waltham) | 669 | 167.6 |
| 19. Alliance for Community Health (Boston/Chelsea/Revere/Winthrop) | 2,662 | 333.7 |
| 20. Blue Hills Community Health Alliance (Greater Quincy) | 1,545 | 305.9 |
| 21. Community Health Network of Chicopee, Holyoke, Ludlow, Westfield | 806 | 407.0 |
| 22. Greater Brockton Community Health Network | 1,108 | 379.2 |
| 23. South Shore Community Health Network | 838 | 304.9 |
| 24. Greater Attleboro-Taunton Health & Education Response | 1,085 | 314.6 |
| 25. Partners for Healthier Communities (Fall River) | 783 | 465.8 |
| 26. Greater New Bedford Community Health Network | 1,036 | 406.1 |
| 27. Cape Cod and Islands Health Network | 1,096 | 306.4 |

1. Premature mortality is death before 75 years of age. 2. Rates are per 100,000 population age-adjusted to the 2000 US Standard Population for persons ages 0-74 years.

## Table 33. Premature Mortality[1] Rates by County, Massachusetts: 2020

| County | Number of Deaths | PMR[2] (per 100,000 population) |
|---|---|---|
| **Massachusetts** | **26,092** | **305.5** |
| Barnstable | 995 | 315.7 |
| Berkshire | 672 | 390.1 |
| Bristol | 2,628 | 383.5 |
| Dukes | 75 | 273.7 |
| Essex | 3,078 | 309.7 |
| Franklin | 351 | 339.1 |
| Hampden | 2,324 | 419.6 |
| Hampshire | 566 | 283.6 |
| Middlesex | 4,753 | 249.0 |
| Nantucket | 28 | 221.0 |
| Norfolk | 2,298 | 261.6 |
| Plymouth | 2,237 | 330.8 |
| Suffolk | 2,666 | 334.3 |
| Worcester | 3,420 | 343.4 |

1. Premature mortality is death before 75 years of age.  2. Rates are per 100,000 population age-adjusted to the 2000 US Standard Population for persons ages 0-74 years.

## Table 34. Selected Causes of Death by Community, Massachusetts: 2020

| CITY/TOWN | Total Deaths | Age-Adjusted Death Rate[1] | Heart Disease | Total Cancer | Lung Cancer | Female Breast Cancer | Stroke | CLRD[2] | Diabetes | Influenza & Pneumonia | COVID-19 | Motor Vehicle | Homicide | Suicide | Opioid-related[4] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Massachusetts** | **68,269** | **756.3** | **11,797** | **12,381** | **2,756** | **810** | **2,272** | **2,546** | **1,559** | **1,331** | **9,455** | **380** | **186** | **621** | **2,084** |
| | | | | | | | | | | | | | | | |
| **Abington** | 153 | 881.5 | 32 | 27 | 3 | 4 | 2 | 4 | 1 | 3 | 21 | 0 | 0 | 1 | 2 |
| **Acton** | 148 | 513.8 | 25 | 25 | 4 | 1 | 2 | 1 | 1 | 1 | 27 | 2 | 1 | 0 | 2 |
| **Acushnet** | 108 | 728.4 | 16 | 28 | 4 | 3 | 3 | 3 | 0 | 0 | 9 | 0 | 0 | 1 | 2 |
| **Adams** | 103 | 762.3 | 20 | 19 | 3 | 3 | 2 | 7 | 1 | 4 | 7 | 0 | 0 | 3 | 1 |
| **Agawam** | 438 | 889.2 | 81 | 65 | 18 | 9 | 17 | 18 | 15 | 4 | 44 | 3 | 2 | 6 | 17 |
| **Alford** | 4 | —[3] | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Amesbury** | 206 | 973.2 | 38 | 36 | 8 | 4 | 7 | 10 | 4 | 8 | 22 | 1 | 1 | 1 | 5 |
| **Amherst** | 174 | 584.4 | 29 | 35 | 7 | 4 | 10 | 4 | 3 | 4 | 22 | 1 | 0 | 0 | 2 |
| **Andover** | 273 | 571.8 | 44 | 44 | 6 | 3 | 12 | 8 | 5 | 2 | 53 | 0 | 1 | 3 | 0 |
| **Aquinnah** | 1 | —[3] | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Arlington** | 376 | 544.4 | 68 | 70 | 6 | 5 | 11 | 10 | 8 | 11 | 59 | 0 | 0 | 5 | 4 |
| **Ashburnham** | 56 | 872.4 | 9 | 16 | 2 | 0 | 2 | 3 | 1 | 2 | 3 | 1 | 0 | 0 | 2 |
| **Ashby** | 30 | 881.7 | 6 | 6 | 2 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| **Ashfield** | 17 | 725.2 | 8 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| **Ashland** | 145 | 725.8 | 30 | 20 | 4 | 1 | 6 | 5 | 3 | 4 | 32 | 1 | 0 | 0 | 1 |
| **Athol** | 173 | 1,122.3 | 26 | 42 | 13 | 5 | 10 | 9 | 0 | 6 | 13 | 2 | 0 | 2 | 14 |
| **Attleboro** | 443 | 786.3 | 83 | 73 | 18 | 5 | 11 | 23 | 14 | 12 | 66 | 5 | 2 | 4 | 10 |
| **Auburn** | 234 | 837.7 | 41 | 39 | 11 | 1 | 6 | 13 | 4 | 3 | 35 | 0 | 0 | 1 | 3 |
| **Avon** | 52 | 858.5 | 5 | 15 | 3 | 1 | 4 | 4 | 1 | 1 | 2 | 0 | 0 | 0 | 3 |
| **Ayer** | 99 | 1,231.4 | 18 | 17 | 2 | 0 | 6 | 2 | 0 | 1 | 11 | 1 | 0 | 1 | 1 |
| **Barnstable** | 556 | 733.2 | 95 | 113 | 32 | 12 | 33 | 24 | 9 | 9 | 40 | 0 | 1 | 5 | 14 |
| **Barre** | 47 | 736.7 | 7 | 9 | 1 | 2 | 0 | 2 | 1 | 1 | 2 | 0 | 1 | 2 | 1 |
| **Becket** | 18 | 897.0 | 4 | 5 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| **Bedford** | 171 | 632.3 | 30 | 30 | 6 | 3 | 5 | 6 | 3 | 2 | 36 | 1 | 0 | 2 | 3 |
| **Belchertown** | 134 | 798.5 | 27 | 20 | 3 | 1 | 8 | 7 | 3 | 3 | 16 | 2 | 0 | 0 | 4 |
| **Bellingham** | 135 | 679.2 | 23 | 38 | 9 | 3 | 3 | 6 | 3 | 0 | 15 | 2 | 0 | 0 | 2 |
| **Belmont** | 213 | 567.5 | 32 | 36 | 6 | 1 | 8 | 2 | 0 | 2 | 45 | 0 | 0 | 3 | 1 |
| **Berkley** | 43 | 741.0 | 8 | 12 | 3 | 1 | 1 | 1 | 1 | 2 | 6 | 2 | 0 | 1 | 1 |
| **Berlin** | 34 | 631.3 | 6 | 6 | 2 | 1 | 0 | 3 | 1 | 0 | 3 | 0 | 0 | 0 | 0 |
| **Bernardston** | 18 | 541.4 | 1 | 7 | 0 | 1 | 0 | 3 | 0 | 0 | 2 | 0 | 0 | 0 | 1 |
| **Beverly** | 520 | 941.9 | 102 | 81 | 20 | 8 | 12 | 22 | 9 | 6 | 79 | 2 | 1 | 4 | 14 |

# Table 34. Selected Causes of Death by Community, Massachusetts: 2020

| CITY/TOWN | Total Deaths | Age-Adjusted Death Rate[1] | Heart Disease | Total Cancer | Lung Cancer | Female Breast Cancer | Stroke | CLRD[2] | Diabetes | Influenza & Pneumonia | COVID-19 | Motor Vehicle | Homicide | Suicide | Opioid-related[4] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Billerica | 410 | 813.8 | 61 | 96 | 27 | 4 | 14 | 22 | 12 | 7 | 44 | 0 | 1 | 3 | 10 |
| Blackstone | 71 | 657.8 | 12 | 19 | 2 | 3 | 3 | 4 | 2 | 1 | 11 | 0 | 0 | 1 | 2 |
| Blandford | 6 | 317.1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Bolton | 26 | 514.1 | 6 | 7 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Boston | 4,898 | 766.6 | 735 | 806 | 160 | 62 | 174 | 128 | 138 | 87 | 854 | 22 | 53 | 38 | 247 |
| Bourne | 291 | 849.5 | 57 | 55 | 11 | 5 | 11 | 11 | 5 | 4 | 18 | 2 | 0 | 5 | 7 |
| Boxborough | 25 | 412.1 | 2 | 5 | 2 | 0 | 0 | 2 | 0 | 1 | 2 | 0 | 0 | 1 | 1 |
| Boxford | 52 | 458.0 | 13 | 11 | 2 | 1 | 1 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Boylston | 27 | 502.0 | 3 | 5 | 2 | 0 | 1 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 1 |
| Braintree | 477 | 817.5 | 74 | 89 | 19 | 5 | 12 | 19 | 4 | 13 | 67 | 2 | 1 | 3 | 11 |
| Brewster | 164 | 602.7 | 27 | 41 | 5 | 5 | 10 | 3 | 1 | 1 | 19 | 0 | 0 | 3 | 4 |
| Bridgewater | 232 | 793.7 | 46 | 53 | 12 | 2 | 5 | 9 | 3 | 6 | 26 | 0 | 0 | 1 | 5 |
| Brimfield | 37 | 754.1 | 6 | 9 | 3 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| Brockton | 1,124 | 1,080.1 | 180 | 177 | 48 | 10 | 28 | 34 | 31 | 31 | 249 | 14 | 5 | 12 | 48 |
| Brookfield | 42 | 982.6 | 15 | 7 | 1 | 0 | 2 | 3 | 1 | 1 | 1 | 0 | 0 | 1 | 1 |
| Brookline | 339 | 441.4 | 53 | 68 | 9 | 8 | 12 | 4 | 4 | 4 | 47 | 0 | 0 | 6 | 3 |
| Buckland | 20 | 728.8 | 2 | 5 | 1 | 0 | 1 | 1 | 1 | 0 | 2 | 0 | 0 | 1 | 0 |
| Burlington | 278 | 618.9 | 54 | 49 | 7 | 4 | 7 | 14 | 3 | 9 | 34 | 0 | 0 | 0 | 1 |
| Cambridge | 582 | 605.9 | 92 | 94 | 18 | 5 | 16 | 21 | 17 | 9 | 102 | 2 | 0 | 8 | 12 |
| Canton | 282 | 728.3 | 51 | 38 | 8 | 2 | 20 | 10 | 6 | 4 | 37 | 3 | 1 | 4 | 3 |
| Carlisle | 14 | 238.0 | 3 | 4 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Carver | 148 | 914.9 | 30 | 33 | 8 | 2 | 7 | 4 | 1 | 4 | 17 | 1 | 0 | 0 | 5 |
| Charlemont | 17 | 971.0 | 2 | 4 | 2 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| Charlton | 125 | 544.3 | 25 | 18 | 0 | 0 | 5 | 7 | 3 | 2 | 19 | 0 | 0 | 0 | 2 |
| Chatham | 111 | 607.6 | 21 | 24 | 8 | 2 | 5 | 7 | 3 | 1 | 6 | 0 | 0 | 1 | 0 |
| Chelmsford | 391 | 700.0 | 60 | 86 | 27 | 4 | 12 | 12 | 4 | 7 | 42 | 2 | 0 | 3 | 4 |
| Chelsea | 335 | 1,118.4 | 37 | 42 | 11 | 3 | 7 | 7 | 6 | 10 | 107 | 0 | 1 | 2 | 12 |
| Cheshire | 28 | 768.3 | 4 | 10 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 2 |
| Chester | 18 | 1,100.0 | 7 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 2 |
| Chesterfield | 9 | 589.3 | 2 | 4 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| Chicopee | 719 | 957.4 | 136 | 121 | 28 | 2 | 27 | 44 | 17 | 10 | 65 | 8 | 2 | 10 | 35 |
| Chilmark | 9 | 452.6 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Clarksburg | 13 | 640.1 | 2 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 1 | 0 | 0 | 1 |

## Table 34. Selected Causes of Death by Community, Massachusetts: 2020

| CITY/TOWN | Total Deaths | Age-Adjusted Death Rate[1] | Heart Disease | Total Cancer | Lung Cancer | Female Breast Cancer | Stroke | CLRD[2] | Diabetes | Influenza & Pneumonia | COVID-19 | Motor Vehicle | Homicide | Suicide | Opioid-related[4] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clinton | 141 | 920.2 | 10 | 26 | 6 | 2 | 3 | 6 | 1 | 6 | 22 | 2 | 0 | 1 | 7 |
| Cohasset | 69 | 546.8 | 18 | 14 | 0 | 1 | 3 | 2 | 3 | 0 | 4 | 0 | 0 | 1 | 1 |
| Colrain | 16 | 699.9 | 5 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Concord | 178 | 400.8 | 30 | 37 | 6 | 5 | 5 | 2 | 2 | 1 | 31 | 3 | 0 | 3 | 2 |
| Conway | 19 | 1,035.1 | 0 | 5 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cummington | 5 | 450.5 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Dalton | 80 | 615.2 | 20 | 9 | 1 | 1 | 5 | 8 | 4 | 1 | 3 | 0 | 0 | 0 | 0 |
| Danvers | 462 | 929.2 | 72 | 58 | 11 | 4 | 11 | 13 | 13 | 7 | 84 | 4 | 0 | 3 | 9 |
| Dartmouth | 383 | 675.3 | 69 | 74 | 17 | 5 | 8 | 12 | 7 | 11 | 45 | 0 | 1 | 2 | 5 |
| Dedham | 360 | 643.7 | 60 | 61 | 13 | 3 | 19 | 14 | 5 | 7 | 50 | 2 | 0 | 2 | 7 |
| Deerfield | 43 | 610.1 | 10 | 5 | 0 | 1 | 0 | 3 | 1 | 2 | 3 | 1 | 0 | 0 | 0 |
| Dennis | 258 | 919.1 | 40 | 56 | 20 | 1 | 12 | 8 | 7 | 7 | 20 | 6 | 0 | 3 | 10 |
| Dighton | 69 | 804.8 | 16 | 9 | 4 | 1 | 0 | 6 | 3 | 1 | 13 | 1 | 0 | 0 | 1 |
| Douglas | 56 | 790.3 | 7 | 14 | 2 | 0 | 3 | 4 | 6 | 1 | 8 | 2 | 0 | 0 | 1 |
| Dover | 33 | 635.9 | 3 | 10 | 4 | 0 | 3 | 0 | 1 | 0 | 4 | 1 | 1 | 0 | 0 |
| Dracut | 284 | 755.3 | 40 | 52 | 19 | 2 | 10 | 14 | 7 | 4 | 26 | 2 | 2 | 5 | 7 |
| Dudley | 110 | 877.2 | 18 | 24 | 8 | 2 | 2 | 6 | 10 | 2 | 12 | 0 | 0 | 1 | 1 |
| Dunstable | 14 | 455.6 | 2 | 5 | 1 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Duxbury | 138 | 484.8 | 33 | 25 | 3 | 4 | 1 | 4 | 3 | 4 | 14 | 0 | 0 | 1 | 3 |
| East Bridgewater | 160 | 926.1 | 29 | 25 | 6 | 1 | 3 | 14 | 4 | 3 | 21 | 0 | 0 | 4 | 6 |
| East Brookfield | 28 | 1,069.8 | 5 | 5 | 0 | 0 | 1 | 2 | 1 | 3 | 1 | 0 | 0 | 2 | 0 |
| East Longmeadow | 256 | 688.9 | 49 | 40 | 15 | 4 | 14 | 8 | 1 | 7 | 43 | 0 | 0 | 0 | 2 |
| Eastham | 66 | 635.4 | 14 | 16 | 2 | 0 | 1 | 3 | 3 | 0 | 0 | 0 | 0 | 2 | 2 |
| Easthampton | 178 | 725.0 | 37 | 36 | 5 | 3 | 6 | 12 | 8 | 5 | 14 | 1 | 0 | 1 | 6 |
| Easton | 244 | 851.3 | 42 | 37 | 7 | 2 | 15 | 5 | 4 | 11 | 32 | 1 | 0 | 4 | 3 |
| Edgartown | 51 | 960.2 | 5 | 20 | 2 | 2 | 3 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Egremont | 16 | 597.6 | 1 | 7 | 2 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Erving | 7 | 282.1 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Essex | 29 | 642.7 | 4 | 4 | 0 | 0 | 2 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 1 |
| Everett | 331 | 739.3 | 56 | 47 | 8 | 3 | 5 | 14 | 12 | 5 | 67 | 1 | 0 | 5 | 16 |
| Fairhaven | 287 | 989.3 | 48 | 49 | 15 | 4 | 14 | 7 | 8 | 5 | 41 | 2 | 0 | 3 | 8 |
| Fall River | 1,169 | 1,017.6 | 195 | 191 | 60 | 11 | 36 | 43 | 33 | 27 | 145 | 14 | 4 | 9 | 75 |
| Falmouth | 510 | 800.4 | 99 | 79 | 18 | 6 | 21 | 17 | 9 | 10 | 31 | 1 | 0 | 2 | 14 |

## Table 34. Selected Causes of Death by Community, Massachusetts: 2020

| CITY/TOWN | Total Deaths | Age-Adjusted Death Rate[1] | Heart Disease | Total Cancer | Lung Cancer | Female Breast Cancer | Stroke | CLRD[2] | Diabetes | Influenza & Pneumonia | COVID-19 | Motor Vehicle | Homicide | Suicide | Opioid-related[4] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fitchburg | 483 | 1,040.2 | 75 | 84 | 18 | 8 | 20 | 21 | 11 | 10 | 72 | 4 | 2 | 3 | 19 |
| Florida | 7 | 765.0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Foxborough | 148 | 682.3 | 28 | 46 | 5 | 2 | 5 | 3 | 3 | 2 | 13 | 1 | 0 | 2 | 2 |
| Framingham | 662 | 669.4 | 121 | 105 | 17 | 11 | 12 | 27 | 14 | 8 | 129 | 0 | 1 | 8 | 24 |
| Franklin | 238 | 694.7 | 47 | 50 | 15 | 2 | 7 | 7 | 4 | 3 | 27 | 0 | 0 | 3 | 3 |
| Freetown | 89 | 867.6 | 23 | 20 | 5 | 1 | 4 | 4 | 3 | 0 | 9 | 1 | 0 | 1 | 3 |
| Gardner | 261 | 956.6 | 50 | 45 | 9 | 3 | 17 | 13 | 13 | 2 | 21 | 0 | 1 | 3 | 4 |
| Georgetown | 78 | 903.5 | 18 | 16 | 6 | 0 | 2 | 1 | 1 | 2 | 10 | 1 | 0 | 3 | 0 |
| Gill | 21 | 837.4 | 7 | 3 | 2 | 0 | 1 | 1 | 2 | 0 | 1 | 0 | 0 | 0 | 0 |
| Gloucester | 380 | 818.4 | 66 | 83 | 18 | 8 | 10 | 23 | 7 | 7 | 31 | 2 | 0 | 6 | 12 |
| Goshen | 5 | 314.2 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Gosnold | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Grafton | 105 | 524.4 | 15 | 28 | 7 | 0 | 6 | 5 | 1 | 0 | 12 | 0 | 1 | 1 | 2 |
| Granby | 45 | 592.5 | 5 | 9 | 1 | 0 | 3 | 2 | 1 | 1 | 5 | 0 | 1 | 0 | 1 |
| Granville | 20 | 1,040.1 | 3 | 7 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 |
| Great Barrington | 98 | 910.8 | 14 | 19 | 2 | 1 | 5 | 4 | 3 | 2 | 2 | 0 | 0 | 1 | 3 |
| Greenfield | 281 | 972.9 | 49 | 52 | 14 | 5 | 8 | 16 | 9 | 4 | 39 | 0 | 0 | 4 | 7 |
| Groton | 88 | 625.2 | 14 | 24 | 8 | 2 | 1 | 3 | 1 | 0 | 8 | 1 | 0 | 2 | 2 |
| Groveland | 54 | 473.1 | 8 | 12 | 2 | 0 | 4 | 0 | 0 | 1 | 5 | 0 | 0 | 0 | 1 |
| Hadley | 73 | 728.6 | 9 | 15 | 3 | 1 | 2 | 2 | 2 | 1 | 8 | 0 | 0 | 2 | 1 |
| Halifax | 81 | 833.1 | 11 | 21 | 5 | 1 | 1 | 4 | 2 | 1 | 6 | 0 | 0 | 1 | 3 |
| Hamilton | 61 | 650.6 | 14 | 13 | 3 | 1 | 2 | 2 | 2 | 0 | 8 | 0 | 0 | 1 | 0 |
| Hampden | 67 | 754.3 | 8 | 11 | 3 | 0 | 1 | 1 | 0 | 4 | 8 | 0 | 0 | 0 | 1 |
| Hancock | 5 | 380.0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Hanover | 139 | 788.0 | 24 | 30 | 5 | 0 | 1 | 7 | 3 | 2 | 9 | 0 | 0 | 0 | 0 |
| Hanson | 108 | 994.6 | 16 | 21 | 8 | 0 | 3 | 2 | 1 | 6 | 16 | 0 | 0 | 2 | 4 |
| Hardwick | 37 | 1,021.1 | 8 | 8 | 2 | 0 | 1 | 1 | 0 | 2 | 3 | 0 | 0 | 0 | 4 |
| Harvard | 33 | 603.6 | 10 | 7 | 2 | 0 | 1 | 0 | 0 | 1 | 6 | 0 | 0 | 0 | 0 |
| Harwich | 196 | 687.8 | 33 | 41 | 8 | 6 | 12 | 6 | 5 | 1 | 20 | 0 | 0 | 2 | 2 |
| Hatfield | 38 | 684.6 | 6 | 10 | 4 | 0 | 1 | 3 | 0 | 1 | 2 | 0 | 0 | 0 | 0 |
| Haverhill | 694 | 899.4 | 119 | 109 | 26 | 4 | 20 | 40 | 13 | 13 | 103 | 1 | 5 | 7 | 31 |
| Hawley | 5 | 892.1 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Heath | 7 | 486.0 | 1 | 2 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

## Table 34. Selected Causes of Death by Community, Massachusetts: 2020

| CITY/TOWN | Total Deaths | Age-Adjusted Death Rate[1] | Heart Disease | Total Cancer | Lung Cancer | Female Breast Cancer | Stroke | CLRD[2] | Diabetes | Influenza & Pneumonia | COVID-19 | Motor Vehicle | Homicide | Suicide | Opioid-related[4] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hingham | 309 | 501.5 | 53 | 49 | 7 | 1 | 9 | 6 | 9 | 2 | 45 | 0 | 0 | 1 | 2 |
| Hinsdale | 15 | 430.5 | 2 | 4 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 3 |
| Holbrook | 113 | 834.5 | 17 | 23 | 5 | 2 | 4 | 7 | 5 | 3 | 13 | 1 | 0 | 1 | 2 |
| Holden | 151 | 601.0 | 20 | 31 | 6 | 4 | 6 | 13 | 2 | 1 | 25 | 0 | 0 | 1 | 2 |
| Holland | 17 | 689.6 | 6 | 2 | 1 | 0 | 0 | 1 | 1 | 0 | 2 | 2 | 0 | 0 | 1 |
| Holliston | 122 | 720.6 | 25 | 27 | 5 | 3 | 2 | 1 | 3 | 5 | 13 | 0 | 0 | 2 | 1 |
| Holyoke | 563 | 1,063.0 | 102 | 65 | 18 | 5 | 15 | 23 | 8 | 7 | 106 | 3 | 5 | 2 | 21 |
| Hopedale | 59 | 759.9 | 12 | 10 | 2 | 0 | 0 | 1 | 0 | 0 | 9 | 1 | 0 | 1 | 1 |
| Hopkinton | 97 | 780.2 | 21 | 14 | 2 | 1 | 2 | 3 | 1 | 0 | 21 | 0 | 0 | 2 | 2 |
| Hubbardston | 26 | 528.9 | 4 | 9 | 0 | 0 | 0 | 0 | 2 | 1 | 2 | 0 | 0 | 0 | 1 |
| Hudson | 181 | 659.9 | 30 | 42 | 6 | 5 | 3 | 6 | 6 | 3 | 21 | 0 | 0 | 0 | 8 |
| Hull | 129 | 958.7 | 21 | 22 | 4 | 1 | 5 | 5 | 0 | 4 | 9 | 0 | 0 | 3 | 9 |
| Huntington | 23 | 854.9 | 0 | 8 | 3 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 2 |
| Ipswich | 161 | 637.5 | 29 | 30 | 4 | 3 | 10 | 6 | 10 | 4 | 11 | 3 | 0 | 3 | 3 |
| Kingston | 159 | 755.8 | 22 | 37 | 8 | 3 | 3 | 9 | 5 | 3 | 16 | 0 | 0 | 2 | 3 |
| Lakeville | 104 | 807.6 | 14 | 30 | 7 | 2 | 6 | 5 | 2 | 4 | 8 | 2 | 0 | 1 | 4 |
| Lancaster | 71 | 762.7 | 13 | 9 | 1 | 0 | 3 | 4 | 5 | 1 | 10 | 0 | 0 | 0 | 2 |
| Lanesborough | 26 | 626.7 | 7 | 4 | 3 | 0 | 0 | 3 | 0 | 1 | 1 | 0 | 0 | 0 | 2 |
| Lawrence | 666 | 965.6 | 93 | 88 | 19 | 7 | 21 | 22 | 22 | 15 | 178 | 1 | 1 | 5 | 38 |
| Lee | 104 | 906.6 | 27 | 15 | 1 | 1 | 3 | 0 | 0 | 0 | 14 | 0 | 0 | 1 | 2 |
| Leicester | 95 | 695.9 | 22 | 15 | 3 | 0 | 4 | 6 | 1 | 3 | 17 | 1 | 0 | 0 | 5 |
| Lenox | 114 | 684.6 | 22 | 22 | 5 | 2 | 7 | 6 | 4 | 2 | 13 | 0 | 0 | 0 | 2 |
| Leominster | 497 | 868.2 | 95 | 85 | 19 | 5 | 14 | 25 | 12 | 14 | 59 | 3 | 0 | 7 | 14 |
| Leverett | 13 | 549.1 | 4 | 5 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lexington | 278 | 435.6 | 47 | 44 | 3 | 0 | 11 | 8 | 2 | 3 | 48 | 0 | 0 | 1 | 0 |
| Leyden | 3 | _[3] | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lincoln | 85 | 1,609.1 | 15 | 12 | 0 | 3 | 3 | 1 | 1 | 0 | 11 | 1 | 0 | 2 | 2 |
| Littleton | 87 | 628.4 | 10 | 16 | 5 | 0 | 4 | 2 | 2 | 3 | 22 | 0 | 0 | 4 | 0 |
| Longmeadow | 198 | 622.6 | 29 | 31 | 11 | 1 | 7 | 6 | 5 | 3 | 46 | 0 | 0 | 1 | 1 |
| Lowell | 1,075 | 1,007.1 | 162 | 192 | 57 | 9 | 29 | 44 | 40 | 19 | 151 | 10 | 5 | 8 | 46 |
| Ludlow | 232 | 702.4 | 54 | 45 | 9 | 2 | 11 | 8 | 0 | 2 | 17 | 4 | 0 | 2 | 2 |
| Lunenburg | 106 | 814.9 | 21 | 19 | 4 | 2 | 3 | 5 | 1 | 1 | 12 | 1 | 0 | 1 | 4 |
| Lynn | 894 | 930.2 | 164 | 153 | 31 | 11 | 21 | 37 | 26 | 13 | 149 | 7 | 5 | 5 | 48 |

# Table 34. Selected Causes of Death by Community, Massachusetts: 2020

| CITY/TOWN | Total Deaths | Age-Adjusted Death Rate[1] | Heart Disease | Total Cancer | Lung Cancer | Female Breast Cancer | Stroke | CLRD[2] | Diabetes | Influenza & Pneumonia | COVID-19 | Motor Vehicle | Homicide | Suicide | Opioid-related[4] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lynnfield | 111 | 586.7 | 24 | 17 | 7 | 1 | 4 | 0 | 0 | 5 | 19 | 0 | 0 | 1 | 1 |
| Malden | 504 | 759.2 | 77 | 93 | 24 | 4 | 21 | 18 | 15 | 13 | 69 | 4 | 2 | 6 | 24 |
| Manchester | 43 | 554.6 | 10 | 7 | 1 | 0 | 3 | 4 | 0 | 0 | 2 | 0 | 0 | 1 | 0 |
| Mansfield | 196 | 843.9 | 29 | 44 | 11 | 1 | 13 | 5 | 2 | 1 | 21 | 1 | 0 | 2 | 3 |
| Marblehead | 189 | 651.4 | 32 | 36 | 6 | 2 | 3 | 1 | 2 | 5 | 33 | 0 | 0 | 1 | 1 |
| Marion | 83 | 837.4 | 14 | 19 | 1 | 2 | 4 | 5 | 2 | 1 | 11 | 0 | 0 | 0 | 1 |
| Marlborough | 390 | 707.9 | 72 | 66 | 15 | 1 | 18 | 9 | 12 | 10 | 69 | 0 | 1 | 2 | 15 |
| Marshfield | 274 | 841.3 | 51 | 62 | 12 | 3 | 6 | 10 | 6 | 5 | 28 | 3 | 0 | 4 | 9 |
| Mashpee | 188 | 608.3 | 40 | 36 | 8 | 2 | 11 | 9 | 2 | 4 | 8 | 0 | 3 | 1 | 5 |
| Mattapoisett | 64 | 703.2 | 17 | 9 | 1 | 0 | 1 | 4 | 2 | 2 | 5 | 1 | 0 | 0 | 2 |
| Maynard | 85 | 703.3 | 18 | 15 | 2 | 2 | 4 | 4 | 2 | 2 | 12 | 0 | 0 | 0 | 2 |
| Medfield | 71 | 489.7 | 13 | 15 | 1 | 1 | 4 | 3 | 0 | 1 | 6 | 0 | 0 | 1 | 1 |
| Medford | 567 | 712.2 | 91 | 108 | 21 | 9 | 19 | 18 | 10 | 4 | 124 | 2 | 0 | 4 | 8 |
| Medway | 109 | 703.9 | 19 | 20 | 8 | 0 | 3 | 5 | 1 | 0 | 15 | 0 | 0 | 1 | 1 |
| Melrose | 289 | 694.0 | 61 | 51 | 18 | 4 | 6 | 10 | 2 | 5 | 35 | 1 | 1 | 2 | 3 |
| Mendon | 51 | 917.9 | 13 | 14 | 1 | 1 | 3 | 1 | 2 | 1 | 6 | 0 | 0 | 1 | 1 |
| Merrimac | 62 | 798.9 | 9 | 19 | 9 | 3 | 1 | 4 | 2 | 1 | 5 | 0 | 0 | 0 | 0 |
| Methuen | 542 | 812.3 | 109 | 88 | 18 | 4 | 25 | 20 | 11 | 12 | 77 | 2 | 1 | 5 | 13 |
| Middleborough | 304 | 753.4 | 51 | 50 | 10 | 2 | 12 | 13 | 7 | 8 | 38 | 0 | 2 | 3 | 14 |
| Middlefield | 6 | 370.3 | 1 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Middleton | 81 | 564.3 | 10 | 16 | 1 | 1 | 3 | 5 | 3 | 1 | 17 | 0 | 0 | 0 | 0 |
| Milford | 299 | 838.8 | 44 | 60 | 10 | 4 | 14 | 11 | 6 | 4 | 47 | 0 | 1 | 1 | 2 |
| Millbury | 151 | 852.0 | 34 | 25 | 7 | 3 | 5 | 5 | 3 | 1 | 28 | 0 | 0 | 2 | 6 |
| Millis | 65 | 746.7 | 11 | 15 | 2 | 2 | 3 | 4 | 0 | 0 | 6 | 3 | 0 | 1 | 2 |
| Millville | 19 | 612.2 | 7 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 |
| Milton | 239 | 576.6 | 44 | 53 | 8 | 5 | 12 | 7 | 3 | 4 | 35 | 1 | 1 | 4 | 2 |
| Monroe | 3 | –[3] | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Monson | 75 | 719.2 | 15 | 26 | 5 | 5 | 4 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 5 |
| Montague | 126 | 998.7 | 27 | 25 | 8 | 1 | 4 | 8 | 2 | 3 | 8 | 0 | 1 | 3 | 2 |
| Monterey | 6 | 286.4 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Montgomery | 13 | 1,155.1 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| Mount Washington | 1 | –[3] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Nahant | 47 | 787.1 | 10 | 7 | 2 | 0 | 1 | 1 | 1 | 2 | 9 | 0 | 0 | 1 | 0 |

## Table 34. Selected Causes of Death by Community, Massachusetts: 2020

| CITY/TOWN | Total Deaths | Age-Adjusted Death Rate[1] | Heart Disease | Total Cancer | Lung Cancer | Female Breast Cancer | Stroke | CLRD[2] | Diabetes | Influenza & Pneumonia | COVID-19 | Motor Vehicle | Homicide | Suicide | Opioid-related[4] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nantucket | 76 | 622.8 | 9 | 19 | 3 | 2 | 4 | 5 | 0 | 1 | 3 | 1 | 0 | 1 | 1 |
| Natick | 323 | 692.9 | 54 | 60 | 19 | 2 | 10 | 5 | 8 | 6 | 45 | 2 | 0 | 1 | 5 |
| Needham | 319 | 604.3 | 66 | 44 | 8 | 3 | 11 | 8 | 12 | 5 | 52 | 0 | 0 | 1 | 2 |
| New Ashford | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| New Bedford | 1,198 | 976.5 | 204 | 176 | 42 | 11 | 30 | 52 | 36 | 21 | 160 | 13 | 5 | 5 | 64 |
| New Braintree | 12 | 936.5 | 3 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 1 |
| New Marlborough | 9 | 327.1 | 1 | 3 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| New Salem | 13 | 1,750.8 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Newbury | 57 | 695.5 | 13 | 11 | 1 | 1 | 3 | 1 | 1 | 4 | 1 | 0 | 0 | 0 | 1 |
| Newburyport | 218 | 679.8 | 40 | 41 | 6 | 3 | 8 | 7 | 5 | 6 | 16 | 0 | 0 | 2 | 2 |
| Newton | 696 | 495.0 | 116 | 107 | 15 | 5 | 21 | 13 | 16 | 10 | 128 | 2 | 1 | 5 | 8 |
| Norfolk | 69 | 668.8 | 15 | 18 | 3 | 0 | 0 | 2 | 2 | 1 | 6 | 0 | 0 | 1 | 2 |
| North Adams | 187 | 1,037.0 | 40 | 20 | 8 | 3 | 7 | 9 | 4 | 3 | 13 | 1 | 0 | 3 | 13 |
| North Andover | 294 | 687.8 | 49 | 53 | 5 | 3 | 8 | 10 | 8 | 6 | 53 | 3 | 0 | 0 | 2 |
| North Attleborough | 269 | 838.7 | 44 | 56 | 15 | 5 | 11 | 15 | 9 | 4 | 33 | 0 | 0 | 3 | 9 |
| North Brookfield | 52 | 878.9 | 11 | 13 | 3 | 0 | 1 | 1 | 1 | 1 | 5 | 1 | 0 | 0 | 0 |
| North Reading | 128 | 657.3 | 24 | 35 | 9 | 2 | 1 | 2 | 7 | 1 | 16 | 2 | 0 | 0 | 4 |
| Northampton | 341 | 867.5 | 58 | 52 | 9 | 4 | 12 | 11 | 8 | 11 | 33 | 0 | 1 | 6 | 9 |
| Northborough | 139 | 636.9 | 20 | 24 | 9 | 2 | 9 | 1 | 4 | 1 | 37 | 0 | 0 | 1 | 2 |
| Northbridge | 213 | 852.9 | 30 | 41 | 7 | 2 | 5 | 6 | 2 | 3 | 47 | 1 | 0 | 1 | 3 |
| Northfield | 19 | 450.9 | 2 | 4 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 1 | 1 |
| Norton | 178 | 786.8 | 38 | 31 | 6 | 3 | 6 | 9 | 5 | 4 | 18 | 2 | 0 | 1 | 5 |
| Norwell | 121 | 645.1 | 14 | 23 | 5 | 0 | 4 | 3 | 3 | 2 | 21 | 0 | 0 | 0 | 4 |
| Norwood | 380 | 786.8 | 71 | 71 | 12 | 6 | 14 | 13 | 10 | 21 | 54 | 3 | 1 | 2 | 4 |
| Oak Bluffs | 50 | 591.9 | 9 | 12 | 4 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 0 | 1 | 4 |
| Oakham | 18 | 797.4 | 3 | 6 | 3 | 1 | 0 | 2 | 1 | 1 | 0 | 1 | 0 | 0 | 1 |
| Orange | 96 | 920.8 | 16 | 21 | 5 | 3 | 6 | 9 | 1 | 1 | 6 | 1 | 0 | 1 | 3 |
| Orleans | 100 | 471.8 | 24 | 24 | 3 | 0 | 8 | 3 | 0 | 2 | 3 | 0 | 0 | 0 | 1 |
| Otis | 12 | 383.1 | 2 | 5 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Oxford | 141 | 978.0 | 29 | 27 | 8 | 2 | 7 | 11 | 3 | 3 | 11 | 2 | 0 | 1 | 9 |
| Palmer | 158 | 979.9 | 34 | 28 | 4 | 2 | 4 | 10 | 1 | 3 | 15 | 1 | 0 | 0 | 7 |
| Paxton | 38 | 699.2 | 11 | 5 | 0 | 2 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 2 |
| Peabody | 902 | 748.4 | 171 | 147 | 44 | 11 | 20 | 26 | 17 | 13 | 146 | 5 | 0 | 2 | 18 |

## Table 34. Selected Causes of Death by Community, Massachusetts: 2020

| CITY/TOWN | Total Deaths | Age-Adjusted Death Rate[1] | Heart Disease | Total Cancer | Lung Cancer | Female Breast Cancer | Stroke | CLRD[2] | Diabetes | Influenza & Pneumonia | COVID-19 | Motor Vehicle | Homicide | Suicide | Opioid-related[4] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pelham | 10 | 565.4 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pembroke | 151 | 800.1 | 17 | 34 | 6 | 2 | 4 | 5 | 6 | 2 | 15 | 1 | 0 | 3 | 4 |
| Pepperell | 91 | 747.2 | 19 | 17 | 7 | 0 | 3 | 4 | 4 | 7 | 5 | 0 | 0 | 1 | 4 |
| Peru | 7 | 1,189.7 | 1 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Petersham | 11 | 762.2 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Phillipston | 17 | 997.0 | 7 | 3 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| Pittsfield | 621 | 923.5 | 132 | 120 | 30 | 10 | 23 | 27 | 15 | 13 | 55 | 6 | 1 | 5 | 22 |
| Plainfield | 7 | 795.2 | 3 | 2 | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Plainville | 84 | 807.5 | 14 | 22 | 7 | 3 | 4 | 5 | 0 | 1 | 8 | 1 | 0 | 0 | 5 |
| Plymouth | 687 | 783.7 | 109 | 138 | 31 | 6 | 17 | 25 | 11 | 30 | 76 | 2 | 2 | 11 | 21 |
| Plympton | 25 | 699.7 | 6 | 5 | 0 | 0 | 2 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 1 |
| Princeton | 25 | 590.0 | 5 | 7 | 0 | 0 | 1 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 |
| Provincetown | 41 | 1,044.8 | 6 | 6 | 3 | 0 | 1 | 2 | 2 | 0 | 3 | 0 | 0 | 0 | 1 |
| Quincy | 1,033 | 769.9 | 164 | 206 | 57 | 13 | 41 | 37 | 22 | 28 | 129 | 8 | 2 | 13 | 42 |
| Randolph | 343 | 847.5 | 50 | 58 | 5 | 5 | 17 | 15 | 5 | 13 | 68 | 3 | 5 | 0 | 6 |
| Raynham | 184 | 944.0 | 30 | 33 | 7 | 2 | 4 | 15 | 2 | 2 | 27 | 0 | 0 | 2 | 6 |
| Reading | 238 | 652.1 | 39 | 44 | 11 | 3 | 12 | 7 | 6 | 4 | 35 | 0 | 0 | 3 | 1 |
| Rehoboth | 94 | 652.4 | 21 | 17 | 4 | 0 | 1 | 5 | 2 | 1 | 11 | 1 | 0 | 2 | 3 |
| Revere | 504 | 646.4 | 88 | 86 | 23 | 6 | 5 | 12 | 15 | 12 | 113 | 3 | 1 | 6 | 21 |
| Richmond | 17 | 818.4 | 4 | 4 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| Rochester | 41 | 605.8 | 12 | 7 | 3 | 1 | 0 | 3 | 0 | 0 | 2 | 1 | 0 | 0 | 1 |
| Rockland | 201 | 886.5 | 40 | 38 | 13 | 1 | 8 | 9 | 5 | 2 | 21 | 3 | 0 | 5 | 8 |
| Rockport | 93 | 727.3 | 14 | 12 | 1 | 0 | 6 | 2 | 0 | 0 | 15 | 1 | 0 | 1 | 3 |
| Rowe | 3 | _[3] | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Rowley | 45 | 610.5 | 16 | 8 | 3 | 1 | 2 | 3 | 0 | 2 | 1 | 0 | 0 | 1 | 0 |
| Royalston | 8 | 451.4 | 1 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Russell | 18 | 998.0 | 2 | 6 | 2 | 0 | 0 | 2 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| Rutland | 49 | 585.7 | 10 | 8 | 5 | 0 | 2 | 6 | 0 | 0 | 2 | 1 | 0 | 1 | 1 |
| Salem | 393 | 768.0 | 69 | 66 | 14 | 3 | 9 | 18 | 13 | 7 | 49 | 1 | 0 | 3 | 22 |
| Salisbury | 108 | 916.8 | 21 | 25 | 9 | 0 | 1 | 4 | 6 | 4 | 11 | 3 | 0 | 1 | 3 |
| Sandisfield | 17 | 1,144.5 | 3 | 2 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| Sandwich | 208 | 666.4 | 39 | 45 | 8 | 2 | 11 | 8 | 0 | 3 | 9 | 0 | 0 | 4 | 5 |
| Saugus | 334 | 808.5 | 58 | 73 | 17 | 1 | 9 | 14 | 12 | 6 | 39 | 0 | 2 | 2 | 14 |

# Table 34. Selected Causes of Death by Community, Massachusetts: 2020

| CITY/TOWN | Total Deaths | Age-Adjusted Death Rate[1] | Heart Disease | Total Cancer | Lung Cancer | Female Breast Cancer | Stroke | CLRD[2] | Diabetes | Influenza & Pneumonia | COVID-19 | Motor Vehicle | Homicide | Suicide | Opioid-related[4] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Savoy | 6 | 855.2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Scituate | 200 | 662.9 | 39 | 38 | 10 | 4 | 8 | 8 | 2 | 5 | 24 | 0 | 0 | 3 | 1 |
| Seekonk | 174 | 924.1 | 36 | 40 | 8 | 4 | 7 | 4 | 6 | 1 | 18 | 2 | 0 | 5 | 8 |
| Sharon | 130 | 576.4 | 23 | 30 | 7 | 2 | 6 | 1 | 1 | 6 | 21 | 0 | 0 | 0 | 1 |
| Sheffield | 41 | 862.5 | 3 | 11 | 4 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| Shelburne | 24 | 720.3 | 6 | 4 | 2 | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 0 |
| Sherborn | 21 | 480.5 | 6 | 5 | 0 | 1 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 |
| Shirley | 74 | 893.8 | 9 | 15 | 4 | 1 | 2 | 4 | 1 | 0 | 10 | 0 | 1 | 1 | 3 |
| Shrewsbury | 311 | 585.2 | 64 | 58 | 9 | 4 | 7 | 6 | 5 | 5 | 42 | 1 | 0 | 5 | 4 |
| Shutesbury | 15 | 744.7 | 1 | 4 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| Somerset | 263 | 754.3 | 61 | 49 | 17 | 2 | 5 | 16 | 9 | 9 | 30 | 0 | 1 | 5 | 4 |
| Somerville | 486 | 780.8 | 96 | 91 | 21 | 6 | 10 | 12 | 15 | 4 | 74 | 2 | 2 | 8 | 14 |
| South Hadley | 217 | 737.0 | 40 | 44 | 7 | 5 | 7 | 6 | 2 | 3 | 29 | 0 | 0 | 1 | 5 |
| Southampton | 48 | 670.3 | 7 | 10 | 3 | 1 | 1 | 3 | 1 | 2 | 3 | 0 | 0 | 0 | 0 |
| Southborough | 50 | 445.5 | 10 | 11 | 3 | 0 | 1 | 0 | 1 | 0 | 5 | 0 | 0 | 0 | 0 |
| Southbridge | 210 | 1,028.9 | 35 | 37 | 5 | 2 | 2 | 11 | 6 | 3 | 18 | 0 | 1 | 2 | 15 |
| Southwick | 109 | 689.9 | 21 | 26 | 6 | 3 | 1 | 3 | 2 | 2 | 13 | 1 | 0 | 3 | 6 |
| Spencer | 128 | 817.5 | 14 | 26 | 6 | 1 | 2 | 5 | 1 | 4 | 14 | 0 | 0 | 0 | 2 |
| Springfield | 1,646 | 1,102.9 | 248 | 256 | 61 | 11 | 65 | 65 | 62 | 31 | 228 | 16 | 18 | 9 | 88 |
| Sterling | 74 | 518.9 | 13 | 15 | 2 | 1 | 1 | 4 | 2 | 0 | 11 | 0 | 0 | 0 | 1 |
| Stockbridge | 19 | 551.8 | 2 | 7 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| Stoneham | 262 | 696.1 | 48 | 58 | 10 | 7 | 5 | 8 | 4 | 2 | 41 | 2 | 0 | 1 | 9 |
| Stoughton | 332 | 832.8 | 53 | 57 | 9 | 2 | 16 | 16 | 2 | 6 | 63 | 5 | 0 | 1 | 18 |
| Stow | 55 | 569.8 | 6 | 19 | 2 | 1 | 1 | 1 | 1 | 1 | 5 | 0 | 0 | 0 | 1 |
| Sturbridge | 80 | 603.4 | 11 | 27 | 7 | 1 | 2 | 3 | 3 | 3 | 5 | 1 | 0 | 0 | 1 |
| Sudbury | 140 | 584.3 | 33 | 31 | 3 | 3 | 4 | 2 | 2 | 0 | 19 | 0 | 0 | 0 | 0 |
| Sunderland | 18 | 469.3 | 1 | 4 | 0 | 1 | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| Sutton | 80 | 902.8 | 16 | 14 | 3 | 0 | 1 | 2 | 1 | 2 | 12 | 1 | 0 | 1 | 2 |
| Swampscott | 155 | 598.8 | 22 | 29 | 4 | 1 | 6 | 5 | 3 | 5 | 24 | 0 | 0 | 0 | 0 |
| Swansea | 211 | 826.7 | 40 | 43 | 14 | 1 | 12 | 11 | 6 | 4 | 13 | 3 | 0 | 4 | 5 |
| Taunton | 611 | 825.6 | 103 | 107 | 25 | 8 | 20 | 22 | 12 | 14 | 73 | 4 | 2 | 9 | 16 |
| Templeton | 86 | 761.8 | 13 | 14 | 2 | 0 | 2 | 7 | 4 | 2 | 16 | 1 | 0 | 1 | 1 |
| Tewksbury | 354 | 791.9 | 57 | 68 | 12 | 3 | 14 | 12 | 9 | 6 | 59 | 2 | 0 | 3 | 5 |

| CITY/TOWN | Total Deaths | Age-Adjusted Death Rate[1] | Heart Disease | Total Cancer | Lung Cancer | Female Breast Cancer | Stroke | CLRD[2] | Diabetes | Influenza & Pneumonia | COVID-19 | Motor Vehicle | Homicide | Suicide | Opioid-related[4] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Tisbury** | 33 | 579.3 | 8 | 9 | 3 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 |
| **Tolland** | 6 | 1,176.2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Topsfield** | 91 | 900.4 | 14 | 11 | 2 | 0 | 2 | 3 | 1 | 3 | 16 | 0 | 0 | 0 | 2 |
| **Townsend** | 83 | 864.4 | 19 | 26 | 4 | 3 | 3 | 1 | 2 | 1 | 6 | 1 | 0 | 1 | 2 |
| **Truro** | 25 | 599.7 | 3 | 6 | 1 | 1 | 0 | 3 | 1 | 0 | 2 | 0 | 0 | 0 | 0 |
| **Tyngsborough** | 79 | 658.1 | 10 | 23 | 7 | 3 | 2 | 6 | 2 | 1 | 5 | 0 | 0 | 2 | 1 |
| **Tyringham** | 6 | 866.6 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Upton** | 46 | 559.3 | 10 | 13 | 0 | 1 | 2 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 1 |
| **Uxbridge** | 116 | 550.5 | 18 | 25 | 6 | 2 | 4 | 4 | 2 | 2 | 16 | 2 | 0 | 1 | 3 |
| **Wakefield** | 269 | 740.7 | 30 | 52 | 11 | 3 | 6 | 8 | 5 | 7 | 54 | 1 | 0 | 2 | 5 |
| **Wales** | 20 | 849.7 | 1 | 6 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 1 |
| **Walpole** | 219 | 565.4 | 34 | 44 | 10 | 2 | 5 | 10 | 1 | 4 | 29 | 2 | 0 | 2 | 1 |
| **Waltham** | 518 | 718.1 | 102 | 92 | 29 | 0 | 19 | 11 | 14 | 9 | 88 | 2 | 1 | 6 | 6 |
| **Ware** | 126 | 909.4 | 31 | 28 | 5 | 1 | 3 | 7 | 1 | 0 | 12 | 1 | 0 | 0 | 3 |
| **Wareham** | 330 | 958.8 | 48 | 55 | 15 | 3 | 9 | 29 | 8 | 6 | 39 | 2 | 1 | 2 | 16 |
| **Warren** | 37 | 670.8 | 9 | 10 | 4 | 0 | 0 | 3 | 2 | 2 | 3 | 0 | 0 | 1 | 2 |
| **Warwick** | 10 | 997.0 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| **Washington** | 11 | 2,171.5 | 1 | 3 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| **Watertown** | 317 | 729.9 | 60 | 59 | 16 | 2 | 4 | 9 | 4 | 8 | 54 | 3 | 0 | 5 | 4 |
| **Wayland** | 142 | 643.1 | 25 | 22 | 3 | 3 | 5 | 2 | 2 | 4 | 30 | 0 | 1 | 0 | 1 |
| **Webster** | 229 | 968.8 | 44 | 39 | 8 | 2 | 4 | 11 | 5 | 3 | 17 | 2 | 0 | 3 | 8 |
| **Wellesley** | 203 | 516.5 | 33 | 38 | 4 | 3 | 8 | 6 | 2 | 1 | 28 | 0 | 0 | 0 | 1 |
| **Wellfleet** | 44 | 762.7 | 9 | 9 | 5 | 0 | 1 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| **Wendell** | 9 | 1,646.8 | 2 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| **Wenham** | 35 | 490.8 | 7 | 7 | 2 | 2 | 2 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| **West Boylston** | 68 | 422.3 | 11 | 17 | 2 | 1 | 3 | 1 | 1 | 2 | 6 | 0 | 0 | 1 | 1 |
| **West Bridgewater** | 90 | 737.5 | 22 | 13 | 2 | 0 | 5 | 3 | 1 | 5 | 5 | 2 | 0 | 0 | 2 |
| **West Brookfield** | 53 | 813.7 | 10 | 15 | 1 | 1 | 1 | 5 | 0 | 2 | 4 | 0 | 0 | 0 | 0 |
| **West Newbury** | 31 | 665.0 | 5 | 7 | 0 | 0 | 4 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 |
| **West Springfield** | 364 | 935.6 | 60 | 66 | 22 | 3 | 21 | 8 | 9 | 9 | 51 | 3 | 1 | 3 | 12 |
| **West Stockbridge** | 16 | 609.6 | 3 | 6 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| **West Tisbury** | 25 | 705.5 | 7 | 5 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| **Westborough** | 180 | 659.9 | 28 | 33 | 4 | 2 | 7 | 8 | 2 | 1 | 39 | 2 | 1 | 2 | 2 |

## Table 34. Selected Causes of Death by Community, Massachusetts: 2020

| CITY/TOWN | Total Deaths | Age-Adjusted Death Rate[1] | Heart Disease | Total Cancer | Lung Cancer | Female Breast Cancer | Stroke | CLRD[2] | Diabetes | Influenza & Pneumonia | COVID-19 | Motor Vehicle | Homicide | Suicide | Opioid-related[4] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Westfield | 511 | 968.7 | 85 | 91 | 21 | 10 | 7 | 22 | 17 | 9 | 75 | 4 | 1 | 5 | 8 |
| Westford | 156 | 743.6 | 25 | 40 | 3 | 2 | 3 | 1 | 1 | 5 | 16 | 2 | 0 | 2 | 4 |
| Westhampton | 14 | 583.2 | 2 | 4 | 1 | 0 | 0 | 1 | 0 | 1 | 3 | 0 | 0 | 0 | 0 |
| Westminster | 54 | 677.2 | 14 | 11 | 3 | 2 | 2 | 2 | 1 | 0 | 5 | 0 | 0 | 3 | 3 |
| Weston | 106 | 490.9 | 17 | 31 | 7 | 5 | 6 | 3 | 2 | 2 | 16 | 0 | 0 | 0 | 1 |
| Westport | 222 | 804.1 | 44 | 55 | 9 | 2 | 7 | 9 | 6 | 3 | 17 | 1 | 0 | 4 | 3 |
| Westwood | 178 | 621.6 | 28 | 32 | 6 | 2 | 9 | 4 | 3 | 4 | 26 | 1 | 0 | 3 | 0 |
| Weymouth | 644 | 851.0 | 126 | 119 | 32 | 6 | 27 | 20 | 11 | 13 | 86 | 4 | 1 | 6 | 25 |
| Whately | 18 | 769.7 | 6 | 4 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Whitman | 134 | 933.3 | 23 | 31 | 10 | 4 | 4 | 6 | 3 | 2 | 8 | 3 | 0 | 1 | 4 |
| Wilbraham | 192 | 674.8 | 29 | 28 | 5 | 1 | 3 | 5 | 4 | 4 | 28 | 1 | 0 | 1 | 2 |
| Williamsburg | 27 | 658.5 | 6 | 6 | 1 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 |
| Williamstown | 64 | 415.1 | 17 | 7 | 3 | 0 | 1 | 1 | 1 | 1 | 4 | 0 | 0 | 1 | 0 |
| Wilmington | 272 | 841.5 | 35 | 39 | 8 | 1 | 11 | 13 | 5 | 2 | 58 | 4 | 2 | 1 | 4 |
| Winchendon | 121 | 1,086.4 | 19 | 25 | 4 | 2 | 2 | 7 | 4 | 6 | 14 | 0 | 0 | 1 | 6 |
| Winchester | 187 | 505.5 | 40 | 35 | 4 | 4 | 15 | 3 | 2 | 4 | 16 | 0 | 0 | 1 | 0 |
| Windsor | 6 | 508.2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Winthrop | 191 | 688.2 | 35 | 30 | 8 | 0 | 2 | 9 | 6 | 5 | 36 | 0 | 0 | 1 | 6 |
| Woburn | 480 | 747.1 | 84 | 86 | 19 | 2 | 13 | 20 | 6 | 6 | 83 | 1 | 0 | 2 | 12 |
| Worcester | 2,002 | 1,026.0 | 324 | 307 | 73 | 28 | 52 | 80 | 48 | 36 | 339 | 10 | 8 | 20 | 103 |
| Worthington | 13 | 585.8 | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| Wrentham | 154 | 918.2 | 17 | 19 | 5 | 1 | 8 | 3 | 2 | 11 | 26 | 0 | 0 | 1 | 3 |
| Yarmouth | 383 | 662.3 | 76 | 73 | 17 | 6 | 23 | 14 | 5 | 11 | 20 | 1 | 0 | 2 | 10 |

1. Rates are per 100,000 population age-adjusted to the 2000 US Standard Population and calculated using MDPH population estimates for 2010, 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. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (CLRD) (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title). 3. Rates based on 1 to 4 deaths are not calculated. 4. 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 35. Selected Causes of Death by Community Health Network Area (CHNA), Massachusetts: 2020

| CHNA Name | Total Deaths | Age-Adjusted Death Rate[1] | Heart Disease | Total Cancer | Lung Cancer | Female Breast Cancer | Stroke | CLRD[2] | Diabetes | Influenza & Pneumonia | COVID-19 | Motor Vehicle | Homicide | Suicide | Opioid-related[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Massachusetts | 68,269 | 756.3 | 11,797 | 12,381 | 2,756 | 810 | 2,272 | 2,546 | 1,559 | 1,331 | 9,455 | 380 | 186 | 621 | 2,084 |
| 1. Community Health Network of Berkshire | 1,677 | 788.4 | 341 | 311 | 70 | 26 | 62 | 77 | 37 | 33 | 122 | 11 | 1 | 20 | 56 |
| 2. Upper Valley Health Web (Franklin County) | 1,050 | 832.0 | 196 | 223 | 58 | 19 | 34 | 56 | 25 | 21 | 86 | 4 | 1 | 16 | 35 |
| 3. Partnership for Health in Hampshire County (Northampton) | 1,470 | 724.3 | 270 | 281 | 54 | 20 | 56 | 59 | 33 | 33 | 150 | 5 | 2 | 12 | 34 |
| 4. The Community Health Connection (Springfield) | 3,566 | 923.3 | 583 | 594 | 153 | 40 | 138 | 128 | 99 | 67 | 487 | 27 | 21 | 23 | 141 |
| 5. Community Health Network of Southern Worcester County | 1,309 | 822.3 | 239 | 265 | 56 | 11 | 29 | 72 | 39 | 29 | 112 | 10 | 1 | 11 | 45 |
| 6. Community Partners for Health (Milford) | 1,492 | 726.5 | 258 | 320 | 65 | 18 | 48 | 52 | 29 | 18 | 218 | 10 | 1 | 11 | 23 |
| 7. Community Health Network of Greater Metro West (Framingham) | 3,542 | 660.1 | 631 | 673 | 127 | 49 | 115 | 104 | 69 | 65 | 573 | 13 | 4 | 26 | 80 |
| 8. Community Wellness Coalition (Worcester) | 3,182 | 838.1 | 545 | 530 | 120 | 43 | 90 | 130 | 66 | 52 | 508 | 12 | 9 | 31 | 129 |
| 9. Fitchburg/Gardner Community Health Network | 2,722 | 831.5 | 479 | 521 | 112 | 36 | 91 | 128 | 69 | 63 | 307 | 17 | 5 | 29 | 86 |
| 10. Greater Lowell Community Health Network | 2,763 | 828.2 | 417 | 562 | 153 | 27 | 84 | 113 | 75 | 50 | 343 | 18 | 8 | 26 | 77 |
| 11. Greater Lawrence Community Health Network | 1,856 | 778.5 | 305 | 289 | 49 | 18 | 69 | 65 | 49 | 36 | 378 | 6 | 3 | 13 | 53 |
| 12. Greater Haverhill Community Health Network | 1,605 | 795.3 | 300 | 295 | 72 | 17 | 53 | 72 | 32 | 44 | 176 | 6 | 6 | 15 | 44 |
| 13. Community Health Network North (Beverly/Gloucester) | 1,413 | 787.7 | 260 | 248 | 51 | 22 | 49 | 64 | 29 | 22 | 164 | 8 | 1 | 16 | 35 |
| 14. North Shore Community Health Network | 3,487 | 800.8 | 622 | 586 | 136 | 34 | 84 | 115 | 87 | 63 | 552 | 17 | 7 | 18 | 113 |
| 15. Greater Woburn/Concord/Littleton Community Health Network | 2,203 | 590.0 | 375 | 382 | 65 | 23 | 77 | 72 | 27 | 32 | 368 | 12 | 3 | 17 | 27 |
| 16. North Suburban Health Alliance (Medford/Malden/Melrose) | 2,588 | 717.1 | 426 | 488 | 112 | 35 | 75 | 85 | 61 | 41 | 441 | 13 | 3 | 23 | 70 |
| 17. Greater Cambridge/Somerville Community Health Network | 1,974 | 640.1 | 348 | 350 | 67 | 19 | 49 | 54 | 44 | 34 | 334 | 7 | 2 | 29 | 35 |
| 18. West Suburban Health Network (Newton/Waltham) | 2,752 | 556.1 | 478 | 483 | 95 | 29 | 108 | 63 | 59 | 42 | 439 | 8 | 3 | 23 | 28 |
| 19. Alliance for Community Health (Boston/Chelsea/Revere/Winthrop) | 5,928 | 763.0 | 895 | 964 | 202 | 71 | 188 | 156 | 165 | 114 | 1,110 | 25 | 55 | 47 | 286 |
| 20. Blue Hills Community Health Alliance (Greater Quincy) | 4,356 | 734.5 | 748 | 810 | 174 | 51 | 178 | 146 | 79 | 115 | 600 | 24 | 12 | 40 | 111 |
| 21. Four (For) Communities (Holyoke, Chicopee, Ludlow, Westfield) | 2,066 | 948.2 | 384 | 331 | 79 | 19 | 60 | 99 | 43 | 28 | 266 | 20 | 8 | 19 | 70 |
| 22. Greater Brockton Community Health Network | 2,634 | 926.0 | 449 | 458 | 105 | 28 | 86 | 102 | 55 | 71 | 440 | 26 | 5 | 25 | 93 |
| 23. South Shore Community Health Network | 2,111 | 777.1 | 359 | 444 | 99 | 22 | 53 | 80 | 45 | 60 | 218 | 10 | 2 | 29 | 61 |
| 24. Greater Attleboro-Taunton Health & Education Response | 2,669 | 803.3 | 473 | 502 | 118 | 34 | 92 | 123 | 65 | 54 | 332 | 20 | 6 | 33 | 80 |
| 25. Partners for Healthier Communities | 1,865 | 921.2 | 340 | 338 | 100 | 16 | 60 | 79 | 54 | 43 | 205 | 18 | 5 | 22 | 87 |
| 26. Greater New Bedford Community Health Network | 2,583 | 879.7 | 451 | 437 | 103 | 30 | 73 | 119 | 66 | 46 | 321 | 20 | 7 | 14 | 102 |
| 27. Cape Cod and Islands Health Network | 3,386 | 704.1 | 622 | 694 | 161 | 53 | 171 | 133 | 57 | 55 | 204 | 12 | 5 | 33 | 83 |

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.

# Table 36. Selected Causes of Death by County, Massachusetts: 2020

| County | Total Deaths | Age-Adjusted Death Rate[1] | Heart Disease | Total Cancer | Lung Cancer | Female Breast Cancer | Stroke | CLRD[2] | Diabetes | Influenza & Pneumonia | COVID-19 | Motor Vehicle | Homicide | Suicide | Opioids-related[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Massachusetts** | **68,265** | **756.3** | **11,797** | **12,381** | **2,756** | **810** | **2,272** | **2,546** | **1,559** | **1,331** | **9,455** | **380** | **186** | **621** | **2,084** |
| Barnstable | 3,143 | 715.4 | 584 | 625 | 149 | 48 | 160 | 121 | 53 | 53 | 200 | 10 | 4 | 30 | 76 |
| Berkshire | 1,676 | 788.0 | 341 | 311 | 70 | 26 | 62 | 77 | 37 | 33 | 122 | 11 | 1 | 20 | 56 |
| Bristol | 6,436 | 861.9 | 1,150 | 1,144 | 291 | 72 | 208 | 267 | 168 | 133 | 788 | 53 | 15 | 67 | 234 |
| Dukes | 169 | 626.3 | 30 | 51 | 9 | 3 | 7 | 7 | 4 | 1 | 1 | 1 | 1 | 2 | 6 |
| Essex | 8,362 | 788.7 | 1,489 | 1,417 | 308 | 91 | 255 | 316 | 197 | 164 | 1,270 | 37 | 17 | 62 | 245 |
| Franklin | 842 | 797.4 | 160 | 172 | 43 | 14 | 24 | 47 | 24 | 14 | 71 | 2 | 1 | 13 | 20 |
| Hampden | 5,684 | 929.5 | 980 | 935 | 234 | 59 | 198 | 229 | 145 | 95 | 755 | 50 | 29 | 42 | 213 |
| Hampshire | 1,493 | 726.4 | 270 | 289 | 57 | 20 | 56 | 61 | 33 | 33 | 150 | 6 | 2 | 12 | 36 |
| Middlesex | 13,677 | 679.3 | 2,326 | 2,543 | 553 | 155 | 416 | 431 | 301 | 231 | 2,157 | 61 | 22 | 127 | 297 |
| Nantucket | 76 | 622.8 | 9 | 19 | 3 | 2 | 4 | 5 | 0 | 1 | 3 | 1 | 0 | 1 | 1 |
| Norfolk | 6,818 | 693.6 | 1,159 | 1,313 | 274 | 85 | 280 | 235 | 116 | 156 | 937 | 43 | 13 | 59 | 153 |
| Plymouth | 5,689 | 812.4 | 973 | 1,072 | 243 | 59 | 158 | 231 | 124 | 144 | 750 | 35 | 10 | 61 | 182 |
| Suffolk | 5,937 | 764.2 | 898 | 964 | 202 | 71 | 188 | 156 | 165 | 115 | 1,110 | 26 | 55 | 47 | 286 |
| Worcester | 8,262 | 812.7 | 1,428 | 1,526 | 320 | 105 | 256 | 363 | 192 | 158 | 1,141 | 44 | 16 | 78 | 279 |

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.

## 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 6 categories (Asian NH, Black NH, Hispanic, White NH, American Indian / Alaska Native and 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 Asians 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.

### Decedent Race

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

### Decedent Race

Enter race to appear on death certificate: **_____**

### Decedent Ethnicity

| | |
|---|---|
| ☐ African (specify): _____ | ☐ Laotian |
| ☐ African-American | ☐ Mexican, Mexican American, Chicano |

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

## 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 2018, 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 Pneumonia[1] Deaths: Massachusetts, 1996-2000**

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

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

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.


**TESTS OF STATISTICAL SIGNIFICANCE**
Beginning with *Massachusetts Deaths 2004,* statistics presented in the text section have been tested to determine whether they differ significantly from a target statistic. For example, the number of deaths in 2008 was compared with the number of deaths in 2007 to determine whether their difference was unlikely to have occurred by chance. When a difference is unlikely to have occurred by chance, it is referred to as "significant."

**Note:** With respect to statistical difference, the language of this year's report differs from the language of reports prior to 2004, and caution must be used when comparing the text of previous reports with this year's report.

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

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

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

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

When two statistics are determined to differ significantly, they are referred to in the text as being "significantly" different, either lower or higher than the statistic of comparison.

**CONFIDENCE INTERVALS**

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

<u>**Comparison of Infant Mortality Rates and Confidence Intervals for Selected Years**</u>

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

**(1989)** 7.0     **7.6**     8.2

**(1993)** 5.7    **6.2**    6.7

**(1996)** 4.5    **5.0**    5.5

**(2000)** 4.2    **4.6**    5.1

4.5    5.0    6.0    7.0    8.0    8.5

**Infant Deaths per 1,000 Live Births**
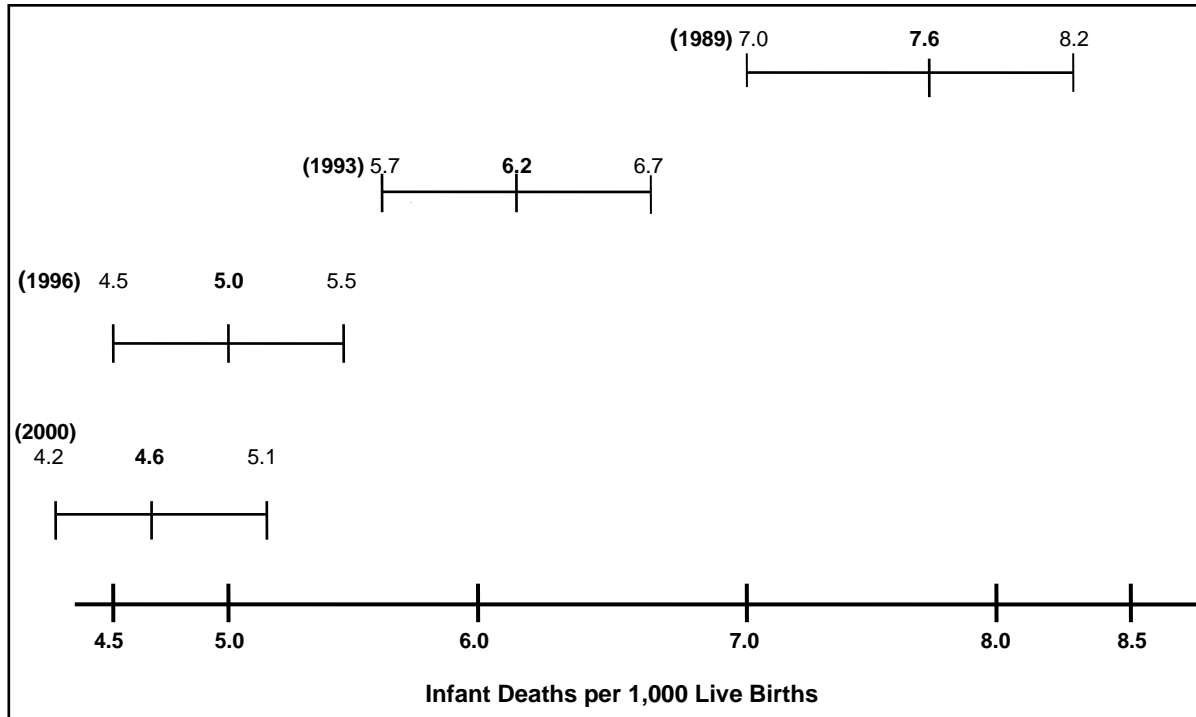
The difference between the 1993 IMR and 1996 IMR is statistically significant – the confidence intervals do not overlap. The same is true for the differences between the 1989 IMR and each annual IMR for 1993, 1996, and 2000. However, the difference between the 1996 and 2000 IMRs is not statistically significant, since their confidence intervals overlap.

## GLOSSARY

**Age-Adjusted Rate**
A summary rate designed to minimize the distortions created by differences in age distribution when comparing rates for populations with different age compositions. Age-adjusted rates are useful when comparing death rates from different populations or in the same population over time. For example, if one wished to compare the 1998 death rates between Barnstable County 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.

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

94

**Community Health Network Areas (CHNA)**
The Community Health Network Areas (CHNAs) represent 27 geographies in MA that MDPH designated in the 1990s to support community health assessment and planning at the local level. While these geographic designations are not used currently by MDPH, several community health network areas continue to operate at the local level.

**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:

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

**Death Certificate**
A vital record can be signed by a licensed physician <u>doctor</u> (which includes medical examiners) or a Nurse Practitioner. Starting in 2016 Physician Assistants (PA) could also sign. Some of the 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, with the exception of the ICD-9, which was in use 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, DC, 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
(Sorted by ICD-10 Codes)

| Cause of Death | ICD-10 Code | ICD-9 Code |
|---|---|---|
| **Infectious and Parasitic Diseases** | A00-B99 | 001-139 |
| Septicemia | A40-A41 | 038 |
| Human Immunodeficiency Virus (HIV) disease | B20-B24 | 042-044 |
| **Cancer (Malignant Neoplasms)** | C00-C97 | 140-208 |
| of esophagus | C15 | 150 |
| of stomach | C16 | 151 |
| of colon, rectum, rectum and anus | C18-C21 | 153-154, 159.9 |
| of pancreas | C25 | 157 |
| of trachea, bronchus and lung | C33-C34 | 162 |
| of female breast | C50 | 174 |
| of cervix uteri | C53 | 180 |
| of corpus uteri and uterus, part unspecified | C54-C55 | 179,182 |
| of ovary | C56 | 183.0 |
| of prostate | C61 | 185 |
| of kidney and renal pelvis | C64-C65 | 189.0-189.1 |
| of bladder | C67 | 188 |
| of meninges, brain & other parts of central nervous system | C70-C72 | 191-192 |
| Hodgkin Disease | C81 | 201 |
| Non-Hodgkin lymphoma | C82-C85 | 200, 202 (except 202.4) |
| Leukemia | C91-C95 | 202.4, 204-208 |
| Multiple myeloma and immunoproliferative neoplasms | C88, C90 | 203 |
| **Diabetes Mellitus** | E10-E14 | 250 |
| **Alzheimer's Disease** | G30 | 331.0 |
| **Heart Disease** | I00-I09, I11, I13, I20-I51 | 390-398, 402, 404¨29 |
| **Stroke (Cerebrovascular Disease)** | I60-I69 | 430-38 |
| **Influenza and Pneumonia** | J10-J18 | 480¨87 |
| **COVID-19** | U071, B342 | N/A |
| **Chronic Lower Respiratory Diseases[1]** | J40-J47 | 490¨96 |
| **Chronic Liver Disease and Cirrhosis** | K70, K73-K74 | 571 |
| **Nephritis** | N00-N07, N17-N19, N25-N27 | 580-589 |
| **Congenital Malformations, Deformations, and Chromosomal Abnormalities** | Q00-Q99 | 740-759 |
| **Certain Conditions Originating in the Perinatal Period (Perinatal Conditions)** | P00-P96 | 760-779 |
| **Ill-defined Conditions** | R00-R99 | 780-797, 798.1-798.9, 799 |
| Sudden infant death syndrome (SIDS) | R95 | 798.0 |
| **External Causes of Injuries and Poisonings (intentional, unintentional and of undetermined intent)** | V01-Y89 | E800-E999 |
| Accidents (Unintentional Injuries) | V01-X59, Y85-Y86 | E800-E949 |
| Motor Vehicle-related injuries | V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2 | E810-E825 |
| Unintentional non-transport injuries | W00-X59, Y86 | E850-E869, E880-E928, E929.2-E929.9 |
| Suicide | X60-X84, Y87.0 | E950-E959 |
| Homicide | X85-Y09, Y87.1 | E960-E969 |
| Injuries of undetermined intent | Y10-Y34,Y87.2,Y89.9 | E980-E989 |

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

## Table A2. ICD-10 Injury Codes Used in this Publication

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

# Table A3. Preliminary Comparability Ratios

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

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

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. This is the revised comparability ratio for motor vehicle-related injuries, effective May 2001.

## Table A4. Preliminary Comparability Ratios: Causes of Infant Death

| Cause of Death | ICD-10 Code | ICD-9 Code (most similar title) | Comparability Ratio |
|---|---|---|---|
| **Certain Infectious and Parasitic Diseases** | A00-B99 | 001-033, 034.1-134, 136-139, 771.3 | 0.7339 |
| Septicemia | A40-A41 | 038 | 1.3802 |
| Human Immunodeficiency Virus (HIV) disease | B20-B24 | 042-044 | 1.0455 |
| **Cancer (Malignant Neoplasms)** | C00-C97 | 140-208 | 1.0435 |
| **Influenza and Pneumonia** | J10-J18 | 480-487 | 0.7624 |
| **Certain Conditions Originating in the Perinatal Period (Perinatal Conditions)** | P00-P96 | 760-771.2, 771.4-779 | 1.0581 |
| Newborn affected by maternal complications of pregnancy | P01 | 761 | 1.0295 |
| Newborn affected by complications of placenta, cord and membranes | P02 | 762 | 1.0470 |
| Disorders relating to short gestation and low birthweight | P07 | 765 | 1.1060 |
| Intrauterine hypoxia and birth asphyxia | P20-P21 | 768 | 1.4477 |
| Respiratory distress of newborn | P22 | 769 | 1.0257 |
| Other respiratory conditions originating in perinatal period | P23-P28 | 770 | 0.8455 |
| Infections specific to the perinatal period | P35-P39 | 771.0-771.2, 771.4-771.8 | 1.0199 |
| Neonatal hemorrhage | P50-P52, P54 | 772 | 1.4369 |
| **Congenital Malformations, Deformations, and Chromosomal Abnormalities** | Q00-Q99 | 740-759 | 0.9064 |
| 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 A5. Population Estimates[1] for Massachusetts Community Health Network Areas (CHNA) and Counties: 2019

| CHNA | POPULATION[1] | COUNTY | POPULATION[1] |
|---|---|---|---|
| 1. Community Health Network of Berkshire County | 126,767 | Barnstable | 216,727 |
| 2. Upper Valley Health Web (Franklin County) | 87,388 | Berkshire | 126,767 |
| 3. Partnership for Health in Hampshire County (Northampton) | 162,519 | Bristol | 572,798 |
| 4. The Community Health Connection (Springfield) | 301,756 | Dukes | 17,486 |
| 5. Community Health Network of Southern Worcester County | 123,969 | Essex | 800,188 |
| 6. Community Partners for Health (Milford) | 179,770 | Franklin | 71,199 |
| 7. Community Health Network of Greater Metro West (Framingham) | 416,215 | Hampden | 471,104 |
| 8. Common Pathways (Worcester) | 328,925 | Hampshire | 164,730 |
| 9. Community Health Network of North Central Massachusetts | 274,029 | Middlesex | 1,631,071 |
| 10. Greater Lowell Community Health Network | 298,465 | Nantucket | 11,330 |
| 11. Greater Lawrence Community Health Network | 219,289 | Norfolk | 717,433 |
| 12. Greater Haverhill Community Health Network | 156,366 | Plymouth | 529,308 |
| 13. Community Health Network North (Beverly/Gloucester) | 116,779 | Suffolk | 809,162 |
| 14. North Shore Community Health Network | 307,755 | Worcester | 838,424 |
| 15. Northwest Suburban Health Alliance | 236,360 | | |
| 16. North Suburban Health Alliance (Medford/Malden/Melrose) | 300,419 | **STATE** | **6,975,490** |
| 17. Greater Cambridge/Somerville Community Health Network | 295,008 | | |
| 18. West Suburban Health Network (Newton/Waltham) | 341,135 | | |
| 19. Alliance for Community Health (Boston/Chelsea/Revere/Winthrop) | 809,162 | | |
| 20. Blue Hills Community Health Alliance (Greater Quincy) | 403,870 | | |
| 21. Community Health Network of Chicopee, Holyoke, Ludlow, Westfield | 163,378 | | |
| 22. Greater Brockton Community Health Network | 252,156 | | |
| 23. South Shore Community Health Network (Plymouth) | 202,616 | | |
| 24. Greater Attleboro-Taunton Health & Education Response | 273,729 | | |
| 25. Partners for Healthier Communities (Fall River) | 140,874 | | |
| 26. Greater New Bedford Community Health Network | 213,486 | | |
| 27. Cape Cod and Islands Health Network | 245,543 | | |

1. State, County, and Small Area Population Estimates 2011-2020, version 2019, 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.

## Table A6. Population Estimates[1] for Massachusetts Communities, 2019

| TOWN NAME | COUNTY | CHNA | POPULATION | TOWN NAME | COUNTY | CHNA | POPULATION |
|---|---|---|---|---|---|---|---|
| Abington | Plymouth | 22 | 17,956 | Concord | Middlesex | 15 | 18,718 |
| Acton | Middlesex | 15 | 23,762 | Conway | Franklin | 2 | 1,934 |
| Acushnet | Bristol | 26 | 10,451 | Cummington | Hampshire | 3 | 796 |
| Adams | Berkshire | 1 | 8,277 | Dalton | Berkshire | 1 | 6,515 |
| Agawam | Hampden | 4 | 28,643 | Danvers | Essex | 14 | 28,598 |
| Alford | Berkshire | 1 | 466 | Dartmouth | Bristol | 26 | 36,850 |
| Amesbury | Essex | 12 | 16,654 | Dedham | Norfolk | 18 | 27,168 |
| Amherst | Hampshire | 3 | 40,493 | Deerfield | Franklin | 2 | 5,319 |
| Andover | Essex | 11 | 36,068 | Dennis | Barnstable | 27 | 13,220 |
| Aquinnah (Gay Head) | Dukes | 27 | 265 | Dighton | Bristol | 24 | 7,842 |
| Arlington | Middlesex | 17 | 46,009 | Douglas | Worcester | 6 | 9,395 |
| Ashburnham | Worcester | 9 | 6,273 | Dover | Norfolk | 18 | 5,203 |
| Ashby | Middlesex | 9 | 3,449 | Dracut | Middlesex | 10 | 32,358 |
| Ashfield | Franklin | 2 | 1,713 | Dudley | Worcester | 5 | 12,379 |
| Ashland | Middlesex | 7 | 19,533 | Dunstable | Middlesex | 10 | 3,326 |
| Athol | Worcester | 2 | 11,959 | Duxbury | Plymouth | 23 | 15,127 |
| Attleboro | Bristol | 24 | 46,472 | East Bridgewater | Plymouth | 22 | 14,749 |
| Auburn | Worcester | 8 | 16,485 | East Brookfield | Worcester | 5 | 2,236 |
| Avon | Norfolk | 22 | 4,367 | East Longmeadow | Hampden | 4 | 16,907 |
| Ayer | Middlesex | 9 | 8,077 | Eastham | Barnstable | 27 | 4,641 |
| Barnstable | Barnstable | 27 | 44,999 | Easthampton | Hampshire | 3 | 16,206 |
| Barre | Worcester | 9 | 5,551 | Easton | Bristol | 22 | 23,724 |
| Becket | Berkshire | 1 | 1,796 | Edgartown | Dukes | 27 | 4,091 |
| Bedford | Middlesex | 15 | 14,888 | Egremont | Berkshire | 1 | 1,096 |
| Belchertown | Hampshire | 3 | 15,917 | Erving | Franklin | 2 | 2,088 |
| Bellingham | Norfolk | 6 | 17,904 | Essex | Essex | 13 | 3,713 |
| Belmont | Middlesex | 17 | 27,356 | Everett | Middlesex | 16 | 48,778 |
| Berkley | Bristol | 24 | 6,773 | Fairhaven | Bristol | 26 | 16,024 |
| Berlin | Worcester | 9 | 3,186 | Fall River | Bristol | 25 | 89,811 |
| Bernardston | Franklin | 2 | 2,087 | Falmouth | Barnstable | 27 | 31,287 |
| Beverly | Essex | 13 | 41,331 | Fitchburg | Worcester | 9 | 42,351 |
| Billerica | Middlesex | 10 | 43,749 | Florida | Berkshire | 1 | 783 |
| Blackstone | Worcester | 6 | 9,041 | Foxborough | Norfolk | 7 | 18,108 |
| Blandford | Hampden | 4 | 1,212 | Framingham | Middlesex | 7 | 74,880 |
| Bolton | Worcester | 9 | 5,046 | Franklin | Norfolk | 6 | 33,915 |
| Boston | Suffolk | 19 | 692,314 | Freetown | Bristol | 26 | 9,043 |
| Bourne | Barnstable | 27 | 20,914 | Gardner | Worcester | 9 | 20,025 |
| Boxborough | Middlesex | 15 | 5,098 | Georgetown | Essex | 12 | 8,930 |
| Boxford | Essex | 12 | 7,710 | Gill | Franklin | 2 | 1,664 |
| Boylston | Worcester | 8 | 4,479 | Gloucester | Essex | 13 | 28,660 |
| Braintree | Norfolk | 20 | 39,531 | Goshen | Hampshire | 3 | 1,144 |
| Brewster | Barnstable | 27 | 9,907 | Gosnold | Dukes | 27 | 48 |
| Bridgewater | Plymouth | 22 | 28,477 | Grafton | Worcester | 8 | 19,980 |
| Brimfield | Hampden | 5 | 3,718 | Granby | Hampshire | 3 | 6,133 |
| Brockton | Plymouth | 22 | 98,742 | Granville | Hampden | 4 | 1,553 |
| Brookfield | Worcester | 5 | 3,653 | Great Barrington | Berkshire | 1 | 6,789 |
| Brookline | Norfolk | 19 | 64,638 | Greenfield | Franklin | 2 | 17,376 |
| Buckland | Franklin | 2 | 1,857 | Groton | Middlesex | 9 | 11,641 |
| Burlington | Middlesex | 15 | 27,689 | Groveland | Essex | 12 | 6,826 |
| Cambridge | Middlesex | 17 | 113,175 | Hadley | Hampshire | 3 | 5,742 |
| Canton | Norfolk | 20 | 23,102 | Halifax | Plymouth | 23 | 7,635 |
| Carlisle | Middlesex | 15 | 4,761 | Hamilton | Essex | 13 | 7,471 |
| Carver | Plymouth | 23 | 12,171 | Hampden | Hampden | 4 | 4,930 |
| Charlemont | Franklin | 2 | 1,190 | Hancock | Berkshire | 1 | 650 |
| Charlton | Worcester | 5 | 14,066 | Hanover | Plymouth | 23 | 14,320 |
| Chatham | Barnstable | 27 | 5,849 | Hanson | Plymouth | 23 | 10,702 |
| Chelmsford | Middlesex | 10 | 36,034 | Hardwick | Worcester | 9 | 3,302 |
| Chelsea | Suffolk | 19 | 37,881 | Harvard | Worcester | 9 | 6,917 |
| Cheshire | Berkshire | 1 | 2,976 | Harwich | Barnstable | 27 | 12,560 |
| Chester | Hampden | 21 | 1,354 | Hatfield | Hampshire | 3 | 3,242 |
| Chesterfield | Hampshire | 3 | 1,224 | Haverhill | Essex | 12 | 66,231 |
| Chicopee | Hampden | 21 | 57,239 | Hawley | Franklin | 2 | 293 |
| Chilmark | Dukes | 27 | 774 | Heath | Franklin | 2 | 603 |
| Clarksburg | Berkshire | 1 | 1,680 | Hingham | Plymouth | 20 | 23,827 |
| Clinton | Worcester | 9 | 14,069 | Hinsdale | Berkshire | 1 | 2,123 |
| Cohasset | Norfolk | 20 | 7,395 | Holbrook | Norfolk | 22 | 11,289 |
| Colrain | Franklin | 2 | 1,603 | Holden | Worcester | 8 | 18,860 |

| TOWN NAME | COUNTY | CHNA | POPULATION | TOWN NAME | COUNTY | CHNA | POPULATION |
|---|---|---|---|---|---|---|---|
| Holland | Hampden | 5 | 2,555 | New Marlborough | Berkshire | 1 | 1,527 |
| Holliston | Middlesex | 7 | 13,777 | New Salem | Franklin | 2 | 987 |
| Holyoke | Hampden | 21 | 41,412 | Newbury | Essex | 12 | 6,643 |
| Hopedale | Worcester | 6 | 5,673 | Newburyport | Essex | 12 | 17,799 |
| Hopkinton | Middlesex | 7 | 16,312 | Newton | Middlesex | 18 | 92,127 |
| Hubbardston | Worcester | 9 | 4,650 | Norfolk | Norfolk | 7 | 12,341 |
| Hudson | Middlesex | 7 | 20,980 | North Adams | Berkshire | 1 | 13,050 |
| Hull | Plymouth | 20 | 9,874 | North Andover | Essex | 11 | 30,298 |
| Huntington | Hampshire | 21 | 2,206 | North Attleboro | Bristol | 24 | 30,263 |
| Ipswich | Essex | 13 | 13,442 | North Brookfield | Worcester | 5 | 4,639 |
| Kingston | Plymouth | 23 | 13,557 | North Reading | Middlesex | 16 | 16,527 |
| Lakeville | Plymouth | 24 | 11,286 | Northampton | Hampshire | 3 | 29,261 |
| Lancaster | Worcester | 9 | 8,562 | Northborough | Worcester | 7 | 13,685 |
| Lanesborough | Berkshire | 1 | 3,041 | Northbridge | Worcester | 6 | 18,011 |
| Lawrence | Essex | 11 | 88,678 | Northfield | Franklin | 2 | 2,972 |
| Lee | Berkshire | 1 | 5,870 | Norton | Bristol | 24 | 19,870 |
| Leicester | Worcester | 8 | 11,260 | Norwell | Plymouth | 20 | 10,700 |
| Lenox | Berkshire | 1 | 4,871 | Norwood | Norfolk | 20 | 30,167 |
| Leominster | Worcester | 9 | 40,755 | Oak Bluffs | Dukes | 27 | 5,160 |
| Leverett | Franklin | 2 | 2,016 | Oakham | Worcester | 9 | 2,108 |
| Lexington | Middlesex | 15 | 34,091 | Orange | Franklin | 2 | 8,159 |
| Leyden | Franklin | 2 | 627 | Orleans | Barnstable | 27 | 5,641 |
| Lincoln | Middlesex | 15 | 8,646 | Otis | Berkshire | 1 | 1,854 |
| Littleton | Middlesex | 15 | 9,714 | Oxford | Worcester | 5 | 13,776 |
| Longmeadow | Hampden | 4 | 15,505 | Palmer | Hampden | 4 | 11,890 |
| Lowell | Middlesex | 10 | 117,417 | Paxton | Worcester | 8 | 4,942 |
| Ludlow | Hampden | 21 | 20,858 | Peabody | Essex | 14 | 55,961 |
| Lunenburg | Worcester | 9 | 10,403 | Pelham | Hampshire | 3 | 1,246 |
| Lynn | Essex | 14 | 101,420 | Pembroke | Plymouth | 23 | 18,695 |
| Lynnfield | Essex | 14 | 11,645 | Pepperell | Middlesex | 9 | 12,275 |
| Malden | Middlesex | 16 | 68,048 | Peru | Berkshire | 1 | 841 |
| Manchester | Essex | 13 | 4,938 | Petersham | Worcester | 2 | 1,264 |
| Mansfield | Bristol | 24 | 23,674 | Phillipston | Worcester | 2 | 1,710 |
| Marblehead | Essex | 14 | 19,228 | Pittsfield | Berkshire | 1 | 44,450 |
| Marion | Plymouth | 26 | 4,629 | Plainfield | Hampshire | 3 | 631 |
| Marlborough | Middlesex | 7 | 43,645 | Plainville | Norfolk | 7 | 9,120 |
| Marshfield | Plymouth | 23 | 25,899 | Plymouth | Plymouth | 23 | 62,264 |
| Mashpee | Barnstable | 27 | 15,372 | Plympton | Plymouth | 23 | 2,983 |
| Mattapoisett | Plymouth | 26 | 5,775 | Princeton | Worcester | 9 | 3,256 |
| Maynard | Middlesex | 7 | 10,428 | Provincetown | Barnstable | 27 | 2,622 |
| Medfield | Norfolk | 7 | 11,395 | Quincy | Norfolk | 20 | 101,564 |
| Medford | Middlesex | 16 | 61,038 | Randolph | Norfolk | 20 | 34,277 |
| Medway | Norfolk | 6 | 13,073 | Raynham | Bristol | 24 | 14,930 |
| Melrose | Middlesex | 16 | 28,973 | Reading | Middlesex | 16 | 27,535 |
| Mendon | Worcester | 6 | 5,789 | Rehoboth | Bristol | 24 | 12,611 |
| Merrimac | Essex | 12 | 6,381 | Revere | Suffolk | 19 | 61,179 |
| Methuen | Essex | 11 | 53,787 | Richmond | Berkshire | 1 | 1,328 |
| Middleborough | Plymouth | 24 | 26,964 | Rochester | Plymouth | 26 | 5,628 |
| Middlefield | Hampshire | 3 | 454 | Rockland | Plymouth | 23 | 18,068 |
| Middleton | Essex | 11 | 10,313 | Rockport | Essex | 13 | 6,547 |
| Milford | Worcester | 6 | 29,358 | Rowe | Franklin | 2 | 342 |
| Millbury | Worcester | 8 | 13,651 | Rowley | Essex | 12 | 6,168 |
| Millis | Norfolk | 7 | 7,893 | Royalston | Worcester | 2 | 1,273 |
| Millville | Worcester | 6 | 3,542 | Russell | Hampden | 4 | 1,882 |
| Milton | Norfolk | 20 | 28,677 | Rutland | Worcester | 9 | 9,005 |
| Monroe | Franklin | 2 | 99 | Salem | Essex | 14 | 45,206 |
| Monson | Hampden | 4 | 8,430 | Salisbury | Essex | 12 | 8,835 |
| Montague | Franklin | 2 | 8,546 | Sandisfield | Berkshire | 1 | 934 |
| Monterey | Berkshire | 1 | 932 | Sandwich | Barnstable | 27 | 21,030 |
| Montgomery | Hampden | 4 | 886 | Saugus | Essex | 14 | 28,461 |
| Mt. Washington | Berkshire | 1 | 136 | Savoy | Berkshire | 1 | 632 |
| Nahant | Essex | 14 | 3,267 | Scituate | Plymouth | 20 | 18,122 |
| Nantucket | Nantucket | 27 | 11,332 | Seekonk | Bristol | 24 | 13,998 |
| Natick | Middlesex | 7 | 36,083 | Sharon | Norfolk | 20 | 18,306 |
| Needham | Norfolk | 18 | 29,357 | Sheffield | Berkshire | 1 | 3,082 |
| New Ashford | Berkshire | 1 | 182 | Shelburne | Franklin | 2 | 1,845 |
| New Bedford | Bristol | 26 | 100,006 | Sherborn | Middlesex | 7 | 3,831 |
| New Braintree | Worcester | 9 | 1,057 | Shirley | Middlesex | 9 | 8,423 |

## Table A6 (continued). Population Estimates[1] for Massachusetts Communities, 2019

| TOWN NAME | COUNTY | CHNA | POPULATION | TOWN NAME | COUNTY | CHNA | POPULATION |
|---|---|---|---|---|---|---|---|
| Shrewsbury | Worcester | 8 | 39,565 | Warwick | Franklin | 2 | 750 |
| Shutesbury | Franklin | 2 | 1,752 | Washington | Berkshire | 1 | 457 |
| Somerset | Bristol | 25 | 18,502 | Watertown | Middlesex | 17 | 33,218 |
| Somerville | Middlesex | 17 | 76,785 | Wayland | Middlesex | 7 | 13,276 |
| South Hadley | Hampshire | 3 | 18,093 | Webster | Worcester | 5 | 17,212 |
| Southampton | Hampshire | 3 | 5,995 | Wellesley | Norfolk | 18 | 29,787 |
| Southborough | Worcester | 7 | 9,719 | Wellfleet | Barnstable | 27 | 2,755 |
| Southbridge | Worcester | 5 | 16,858 | Wendell | Franklin | 2 | 730 |
| Southwick | Hampden | 4 | 9,789 | Wenham | Essex | 13 | 5,199 |
| Spencer | Worcester | 5 | 11,515 | West Boylston | Worcester | 8 | 7,843 |
| Springfield | Hampden | 4 | 158,503 | West Bridgewater | Plymouth | 22 | 7,242 |
| Sterling | Worcester | 9 | 7,869 | West Brookfield | Worcester | 5 | 3,702 |
| Stockbridge | Berkshire | 1 | 1,742 | West Newbury | Essex | 12 | 4,072 |
| Stoneham | Middlesex | 16 | 22,333 | West Springfield | Hampden | 4 | 29,508 |
| Stoughton | Norfolk | 22 | 27,700 | West Stockbridge | Berkshire | 1 | 1,196 |
| Stow | Middlesex | 7 | 7,208 | West Tisbury | Dukes | 27 | 2,878 |
| Sturbridge | Worcester | 5 | 10,436 | Westborough | Worcester | 7 | 18,870 |
| Sudbury | Middlesex | 7 | 17,915 | Westfield | Hampden | 21 | 41,731 |
| Sunderland | Franklin | 2 | 3,794 | Westford | Middlesex | 10 | 23,164 |
| Sutton | Worcester | 6 | 8,982 | Westhampton | Hampshire | 3 | 1,697 |
| Swampscott | Essex | 14 | 13,700 | Westminster | Worcester | 9 | 7,327 |
| Swansea | Bristol | 25 | 15,963 | Weston | Middlesex | 18 | 11,090 |
| Taunton | Bristol | 24 | 57,527 | Westport | Bristol | 25 | 16,638 |
| Templeton | Worcester | 9 | 8,928 | Westwood | Norfolk | 18 | 14,734 |
| Tewksbury | Middlesex | 10 | 30,837 | Weymouth | Norfolk | 20 | 56,297 |
| Tisbury | Dukes | 27 | 4,150 | Whately | Franklin | 2 | 1,466 |
| Tolland | Hampden | 4 | 422 | Whitman | Plymouth | 22 | 15,419 |
| Topsfield | Essex | 13 | 5,837 | Wilbraham | Hampden | 4 | 14,537 |
| Townsend | Middlesex | 9 | 9,146 | Williamsburg | Hampshire | 3 | 2,462 |
| Truro | Barnstable | 27 | 1,972 | Williamstown | Berkshire | 1 | 7,359 |
| Tyngsborough | Middlesex | 10 | 11,986 | Wilmington | Middlesex | 15 | 24,416 |
| Tyringham | Berkshire | 1 | 251 | Winchendon | Worcester | 9 | 10,742 |
| Upton | Worcester | 6 | 9,036 | Winchester | Middlesex | 15 | 22,360 |
| Uxbridge | Worcester | 6 | 15,408 | Windsor | Berkshire | 1 | 854 |
| Wakefield | Middlesex | 16 | 27,048 | Winthrop | Suffolk | 19 | 18,838 |
| Wales | Hampden | 5 | 1,901 | Woburn | Middlesex | 15 | 41,664 |
| Walpole | Norfolk | 7 | 25,944 | Worcester | Worcester | 8 | 192,064 |
| Waltham | Middlesex | 18 | 66,908 | Worthington | Hampshire | 3 | 1,060 |
| Ware | Hampshire | 3 | 10,134 | Wrentham | Norfolk | 7 | 11,270 |
| Wareham | Plymouth | 26 | 23,987 | Yarmouth | Barnstable | 27 | 24,035 |
| Warren | Worcester | 5 | 5,415 | | | | |

1. State, County, and Small Area Population Estimates 2011-2020, version 2018, 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.

### Table A7. 2019 Massachusetts Population Estimates[1] By Age Group, Gender, Race and Hispanic Ethnicity (mutually exclusive)

| AGE | GENDER | TOTAL | WHITE Non-Hispanic[1] | BLACK Non-Hispanic[1] | ASIAN Non-Hispanic[1] | HISPANIC[1] |
|---|---|---|---|---|---|---|
| Under 1 | Male | 36,936 | 21,178 | 3,227 | 2,679 | 8,082 |
| | Female | 35,022 | 20,247 | 3,150 | 2,406 | 7,679 |
| | Total | 71,958 | 41,425 | 6,376 | 5,085 | 15,761 |
| 1 TO 4 | Male | 152,305 | 89,781 | 13,423 | 10,868 | 32,157 |
| | Female | 145,375 | 85,147 | 13,119 | 10,130 | 31,003 |
| | Total | 297,680 | 174,928 | 26,542 | 20,997 | 63,160 |
| 5 TO 14 | Male | 391,768 | 232,673 | 34,485 | 27,477 | 73,113 |
| | Female | 376,113 | 222,274 | 33,801 | 26,463 | 70,518 |
| | Total | 767,881 | 454,947 | 68,286 | 53,940 | 143,631 |
| 15 TO 24 | Male | 486,351 | 316,365 | 39,588 | 37,499 | 78,995 |
| | Female | 487,292 | 316,275 | 40,139 | 41,843 | 74,886 |
| | Total | 973,643 | 632,640 | 79,727 | 79,343 | 153,881 |
| 25 TO 34 | Male | 497,884 | 327,465 | 44,566 | 48,200 | 78,510 |
| | Female | 491,007 | 324,106 | 42,894 | 52,115 | 72,773 |
| | Total | 988,891 | 651,571 | 87,460 | 100,315 | 151,283 |
| 35 TO 44 | Male | 418,025 | 276,016 | 33,638 | 38,450 | 61,227 |
| | Female | 430,987 | 281,798 | 34,781 | 43,700 | 61,097 |
| | Total | 849,012 | 557,814 | 68,419 | 82,150 | 122,324 |
| 45 TO 54 | Male | 436,292 | 322,840 | 30,449 | 29,987 | 44,546 |
| | Female | 463,994 | 339,458 | 33,077 | 32,966 | 49,350 |
| | Total | 900,286 | 662,298 | 63,526 | 62,954 | 93,896 |
| 55 TO 64 | Male | 456,643 | 373,792 | 26,422 | 20,906 | 29,239 |
| | Female | 493,431 | 398,630 | 29,851 | 23,706 | 34,461 |
| | Total | 950,074 | 772,422 | 56,273 | 44,613 | 63,699 |
| 65 TO 74 | Male | 315,648 | 270,513 | 14,293 | 12,470 | 14,920 |
| | Female | 367,159 | 310,401 | 18,283 | 15,235 | 19,452 |
| | Total | 682,806 | 580,915 | 32,575 | 27,704 | 34,371 |
| 75 TO 84 | Male | 140,988 | 122,939 | 5,525 | 5,804 | 5,534 |
| | Female | 190,865 | 164,165 | 9,289 | 7,285 | 8,850 |
| | Total | 331,853 | 287,103 | 14,814 | 13,089 | 14,384 |
| 85 + | Male | 54,438 | 48,112 | 1,909 | 2,084 | 1,854 |
| | Female | 106,970 | 95,871 | 3969 | 2,911 | 3,538 |
| | Total | 161,407 | 143,983 | 5,878 | 4,995 | 5,392 |
| **ALL AGES** | **Male** | **3,387,278** | **2,401,674** | **247,525** | **236,425** | **428,177** |
| | **Female** | **3,588,212** | **2,558,373** | **262,352** | **258,761** | **433,606** |
| | **Total** | **6,975,490** | **4,960,047** | **509,877** | **495,185** | **861,783** |

1. State, County, and Small Area Population Estimates 2011-2020, version 2018, 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.

# Massachusetts Death Certificate

*Commonwealth of Massachusetts*
*Registry of Vital Records and Statistics*
CERTIFICATE OF DEATH

State File #

Registered #

**DECEDENT**

| | |
|---|---|
| *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* |

**MEDICAL CERTIFIER**

*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.*

**DISPOSITION**

*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 Pronouncement?* | *Name of RN/NP/PA Pronouncing Death* | | *Lic #* |
| *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* | | *Relationship* | |
| *Addr.* | | | |
| *Date Disposition Permit Issued:* | | *Board of Health Agent* | |
| *State Tracking No.* | | *Local Permit No.* | |

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

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

**CHAPTER 38. MEDICAL EXAMINERS AND INQUESTS**

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

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

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

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

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

(4) death under suspicious or unusual circumstances;

(5) death following an unlawful abortion;

(6) death related to occupational illness or injury;

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

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

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

(10) skeletal remains;

(11) death associated with diagnostic or therapeutic procedures;

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

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

(14) death in any public or private conveyance;

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

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

(17) any person found dead;

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

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

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

# Massachusetts Deaths: 2020 Evaluation Form

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

| |
|---|
| **What tables and charts do you find most useful?** |
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