**CANCER INCIDENCE AND**

**MORTALITY**

**IN MASSACHUSETTS**

**2011 – 2015:**

STATEWIDE REPORT

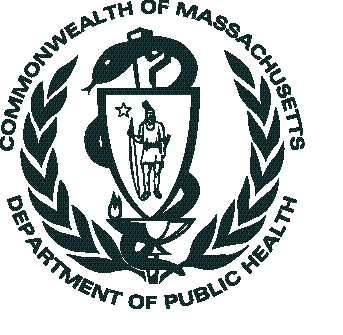
**With a Special Overview: *Using Environmental Public Health Tracking for Radon Awareness and Cancer Prevention***

Office of Data Management and Outcomes Assessment

Office of Population Health

Massachusetts Department of Public Health

*July 2018*



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**With a Special Overview: *Using Environmental Public Health Tracking for Radon Awareness and Cancer Prevention***

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Massachusetts Department of Public Health

*July 2018*

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**EXECUTIVE SUMMARY**

**EXECUTIVE SUMMARY**

*Cancer Incidence and Mortality in Massachusetts, 2011-2015: Statewide Report* presents cancer incidence and mortality data for the Commonwealth from 2011 through 2015. The report includes numbers and rates for 24 types of cancer, information on age-specific patterns, an examination of patterns by race/ethnicity, and a comparison of Massachusetts and national cancer rates. A special section on Environmental Public Health Tracking and Radon is also included. Data are provided on invasive cancers only with the exceptions of urinary bladder (which includes *in situ* and invasive cancers combined) and *in situ* breast cancer. *In situ* means the cancer cells are still in the place that they started and have not spread at all.

**All counts and average annual age-adjusted rates presented in this Executive Summary are for the period 2011-2015 and are for Massachusetts residents, unless otherwise stated.**

OVERALL:

* Total number of new cases – 183,661, an average of 36,732 annually (males= 87,884; females = 95,757)
* Total number of cancer deaths – 64,097, an average of 12,819 annually (males=32,392; females=31,705)
* Incidence rate (age-adjusted) for all cancers combined for total population – 466.1 per 100,000 persons
* Mortality rate (age-adjusted) for all cancer deaths combined for total population – 156.1 per 100,000 persons.

MOST COMMONLY DIAGNOSED CANCERS & CANCER DEATH CAUSES BY SEX:

***Incidence (newly diagnosed cases)***

* Males – *prostate cancer* accounted for 23.2% of all newly diagnosed cancers among males
* Females – *invasive breast cancer* accounted for 30.0% of all newly diagnosed cancers among females.

***Mortality (cancer deaths)***

* Males – *cancer of the bronchus and lung* accounted for 26.3% of all cancer deaths among males
* Females – *cancer of the bronchus and lung* also accounted for 27.1% of all cancer deaths among females.

TRENDS 2011-2015:

**Trend Calculation Update**: The annual percent change (APC) is a summary measure of the trend over a specific time period. As of this report, we will be using the coefficient of variation (CV) to determine which APC rates to suppress and which to flag as being unreliable. The CV is calculated by dividing the mean incidence or mortality age-adjusted rate for each of the five years by the standard error and multiplying that by 100. According to the US Census, a CV less than 15% indicates a high reliability and can presented without caution, a CV between 15‐30% indicates a medium reliability and can be presented with care, and a CV over 30% indicates a low reliability and can only be presented with extreme caution (footnote). This report presents all trends with a high reliability and all trends with a medium reliability with a footnote. Any trends with a low reliability are not presented and are indicated with ‘NA’.

Footnote- Barbara M. Parmenter and Janet Lau, ‘Estimating and Mapping Reliability for American Community Survey Data’, revised 2/14/2013, available: <http://ocw.tufts.edu/data/74/1624027.pdf>

***Statistically Significant Incidence Trends – Males***

* All cancers combined decreased 3.1% per year.
* Bronchus & lung cancer decreased 2.9% per year.
* Esophageal cancer decreased 5.2% per year.
* Hodgkin’s lymphoma decreased 6.3% per year.
* Kidney and renal pelvis cancer increased 4.1% per year.
* Melanoma of skin decreased 7.1% per year.
* Non-Hodgkin’s lymphoma increased 1.5% per year.
* Testicular cancer decreased by 2.2% per year.

***Statistically Significant Mortality Trends – Males***

* All cancers deaths combined decreased 2.4% per year.
* Bronchus and lung cancer decreased 2.2% per year.
* Kidney and renal pelvis cancer increased 6.7% per year.

***Statistically Significant Incidence Trends – Females***

* All cancers combined decreased 0.7% per year.
* Multiple myeloma decreased 4.7% per year.
* Pancreatic cancer increased 3.0% per year.
* Urinary bladder cancer decreased 3.1% per year.

***Statistically Significant Mortality Trends – Females***

* All cancers deaths combined decreased 1.7% per year.
* Breast cancer deaths decreased 1.5% per year.

RATES BY RACE/ETHNICITY: *(Unless otherwise noted, the term ‘racial/ethnic groups’ in this report refers to white non-Hispanic, black non-Hispanic, Asian non-Hispanic and Hispanic).*

***Males Incidence***

* Black, non-Hispanic males had the highest total age-adjusted incidence rates, significantly higher than Asian, non-Hispanic and Hispanic males.
* Cancers of prostate, bronchus and lung, and colon/rectum were the top 3 leading cancer types in each racial/ethnic group except White, non Hispanics. For White, non-Hispanic males, urinary bladder cancer was among the top 3, (after prostate and bronchus and lung).
* White, non-Hispanic males had significantly higher rates of cancers of the brain and other nervous system, esophagus, leukemia, oral cavity and pharynx, and urinary bladder when compared to all other race/ethnic groups.
* Black, non-Hispanic males had significantly higher rates of multiple myeloma and prostate cancer when compared to all other race/ethnic groups.
* Black, non-Hispanic, Asian, non-Hispanic, and Hispanic males had significantly higher rates of liver and intrahepatic bile duct cancer when compared to white, non-Hispanic males.

***Males Mortality***

* Black, non-Hispanic males had the highest total cancer mortality rate, significantly higher compared to Asian, non-Hispanics and Hispanic but not significantly higher than white, non-Hispanic males.
* Cancer of the bronchus and lung was the leading cause of cancer death for each racial/ethnic group. White and black, non-Hispanics had comparable rates but significantly elevated rates compared to the other two racial/ethnic groups.
* The mortality rate for prostate cancer was significantly elevated among black, non-Hispanic males compared to the other racial/ethnic groups.
* The mortality rate for liver and intrahepatic cancer was highest among Asian, non-Hispanics, significantly elevated compared to white, non-Hispanics and Hispanics, but not compared to black, non-Hispanics.

***Females Incidence***

* White, non-Hispanic females had the highest total age-adjusted incidence rates, significantly higher than those of all other racial/ethnic groups.
* Breast cancer was the most commonly diagnosed cancer for each racial/ethnic group.
* The second most common cancer diagnosed was bronchus and lung for each racial/ethnic group except Hispanics. Thyroid was the second most common cancer for Hispanics, followed by bronchus and lung.
* Compared to all other racial/ethnic groups, white, non-Hispanic females had significantly higher rates of the following cancer types: invasive breast, *in situ* breast, and bronchus and lung.
* Black, non-Hispanic females had significantly higher rates of multiple myeloma compared to all other racial/ethnic groups.
* Black, non-Hispanic and Hispanic females had significantly higher rates of cervical cancer compared to white, non-Hispanic females, but not compared to Asian, non-Hispanic females.
* Asian, non-Hispanic females had significantly higher liver and intrahepatic bile duct cancer rates compared to white non-Hispanics and black non-Hispanics, but not compared to Hispanics.
* Hispanic females had significantly higher rates of multiple myeloma compared to white, non-Hispanic and Asian, non-Hispanic females, but not compared to Black, non-Hispanic females.

***Females Mortality***

* Black and white, non-Hispanic females had the highest total cancer mortality rates, significantly higher than for Asian, non-Hispanic and Hispanic females.
* Cancer of the bronchus and lung was the leading cause of cancer death among all racial/ethnic groups. White, non-Hispanic females had significantly elevated rates compared to the other racial/ethnic groups.
* Black, non-Hispanic females had significantly elevated uterine cancer and multiple myeloma mortality rates when compared to the other racial/ethnic groups. Their breast cancer mortality rate was significantly elevated compared to that of Asian, non-Hispanic and Hispanic females, but was not significantly elevated compared to white, non-Hispanic females.

MASSACHUSETTS VS. NATIONAL RATES

***Males and Females Incidence***

Overall age-adjusted cancer incidence rates in Massachusetts were significantly lower than national rates for males, and were significantly higher than national rates for females. Among the cancers significantly elevated for females were invasive and *in situ* breast, bronchus and lung, uterine, esophageal, oral cavity and pharynx, thyroid, and urinary bladder. Among those cancers significantly elevated for males were esophageal, liver and intrahepatic bile ducts, testicular, thyroid and urinary bladder. Incidence rates that were significantly lower compared to the U.S. among females were cervix uteri, colon and rectum, leukemia , and liver and intrahepatic bile ducts, while among males the cancer types included bronchus and lung, colon and rectum, larynx, leukemia, melanoma of skin, and prostate.

***Males and Females Mortality***

Overall age-adjusted cancer mortality rates in Massachusetts were significantly lower from national rates for both males and females. However, male esophageal cancer mortality rates were significantly elevated compared to the U.S. Several cancers had significantly lower mortality rates compared to the U.S. For males, these were colon/rectum, bronchus and lung, kidney and renal pelvis, larynx, multiple myeloma, non-Hodgkin lymphoma, and prostate cancer. For females, these were breast, cervix uteri, colon/rectum, kidney and renal pelvis, and liver and intrahepatic bile duct cancer.

**INTRODUCTION**

**INTRODUCTION**

The Massachusetts Cancer Registry (MCR) collects reports of newly diagnosed cases of cancer and routinely compiles summaries of cancer incidence and mortality data. This report, *Cancer Incidence and Mortality in Massachusetts, 2011-2015: Statewide Report* is produced annually with the most recently available statewide data. Another report, *Cancer Incidence in Massachusetts: City and Town Supplement*, is also produced annually and contains information for the 351 cities and towns in Massachusetts. Electronic versions of these reports may be found on the internet at [www.mass.gov/dph/mcr](http://www.mass.gov/dph/mcr).

**Overall Content**

This report:

* Provides statewide information on cancer incidence and mortality in Massachusetts for twenty-four types of cancer and for all cancers combined for 2011 through 2015;\*
* Provides detailed information on the most commonly occurring types of cancer for 2011 through 2015;
* Examines cancer incidence patterns by age, sex, and race/ethnicity;
* Reviews Massachusetts cancer incidence and mortality trends for 2011 through 2015;
* Compares Massachusetts incidence and mortality data with respective national data; and
* Features a special section on “Using Environmental Public Health Tracking for Radon Awareness and Cancer Prevention.”

The report is organized into the following sections:

* **SPECIAL OVERVIEW** which provides more detailed information on a specific topic of interest in Massachusetts. This report has a special overview of radon awareness and cancer prevention.
* **FIGURES & TABLES** which present cancer incidence and mortality data for 24 types of cancer for 2011-2015. There are 6 figures and 24 tables in this section with breakdowns by sex, race/ethnicity, year, age group, state and national comparisons, and cancer type.
* **APPENDICES** which provide information supplemental to this report, including a listing of codes used to prepare the report, information on population and rate changes, and population estimates.
* **REFERENCES**

**\****The Massachusetts incidence data in this report include only invasive cancers for 22 of the 24 types of cancer. Cancer of the urinary bladder includes both in situ and invasive cases. Cancer of the breast in situ is presented as a separate category but is not included in the “all sites combined” data.*

***Note: For more detailed information on the methods of the Massachusetts Cancer Registry, please refer to Cancer Incidence and Mortality in Massachusetts 2006-2010: Statewide Report (1). For national trends, please refer to the Annual Report to the Nation on the Status of Cancer, 1975-2014, Featuring Survival (2).***

**SPECIAL OVERVIEW:**

**Using Environmental Public Health Tracking for Radon Awareness and Cancer Prevention**

**Using Environmental Public Health Tracking for Radon Awareness and Cancer Prevention**

The Massachusetts Environmental Public Health Tracking (EPHT) website ([www.mass.gov/dph/matracking](http://www.mass.gov/dph/matracking)) hosted by the Massachusetts Department of Public Health/Bureau of Environmental Health (MDPH/BEH) and funded by the U.S. Centers for Disease Control and Prevention (CDC) provides an opportunity for the public to look at environmental data and chronic disease rates statewide and locally.

Chronic diseases - such as heart disease, stroke, cancer, and diabetes - are among the most prevalent, costly, and preventable of all health problems. With the help of MA EPHT, we can reduce the burden of these diseases by using data to:

* Inform decision makers
* Develop stronger, evidence-based programs, targeted interventions, and policies
* Evaluate programs and progress

In support of the goals of the 2017-2021 Massachusetts State Cancer Plan, the MA EPHT website provides information on both cancer incidence and radon to fulfill the objectives to:

1) Reduce exposure to radon by increasing testing in homes, and

2) Provide access to information on cancer risks from environmental exposures to increase awareness and prevention.

**Cancer Incidence Data on MA EPHT**

Cancer incidence data is just one of many health datasets that are available on the MA EPHT website. Two different types of statistics are presented for many different cancer types and are calculated using data from the MCR:

Direct Age-Adjusted Incidence Rates - These are most appropriate for large, stable study populations such as a states or counties. They may be used to compare cancer incidence in one relatively large area to another relatively large area (such as one county to another).

Standardized Incidence Ratios (SIRs) - These are most appropriate for small areas, such as communities or census tracts within a community. They are used to evaluate whether the incidence of cancer within a small area differs from that of the state as a whole.

This information may be viewed and downloaded as maps, tables, and charts.

**Radon Information on MA EPHT**

Did you know that radon is the second leading cause of lung cancer in the U.S.? The U.S. Environmental Protection Agency (EPA) estimates that over 21,000 lung cancer deaths in the U.S. each year are related to radon.

Radon gas decays into microscopic particles that can be inhaled into the lungs. Radon particles trapped in the lungs continue to breakdown, damaging the lung tissue during this decay process. This damage increases the risk of developing lung cancer. Among people who have never smoked, radon is the leading cause of lung cancer.

Radon also increases the chance of lung cancer in people that smoke. For those who are exposed to elevated indoor radon levels, people who smoke have up to 10 times the risk of developing lung cancer than people who have never smoked. The MA EPHT website provides information on radon as well as a radon risk table and a map of radon zones in Massachusetts.

***How does radon enter homes?***

Radon is a naturally occurring radioactive gas that is odorless, colorless, and tasteless. As a gas, radon can move through pathways in soil and rock formations.

Radon can enter homes through:

* cracks and crevices in the foundation floors and walls
* floor wall joints
* penetrations of utility lines and sump holes
* private water well

**Once inside an enclosed space, such as a home, radon can collect.**Most radon gas found in a home comes up from the ground, so the amount of radon is likely to be greater in the lowest levels of the home. Radon levels are usually higher in the winter time because, during the heating season, warm air rises and escapes. This creates a vacuum in the lowest part of the house that causes the house to draw air, including radon, from below the home. Any equipment that exhausts air or requires venting can also contribute to the vacuum effect.

**Testing the air in a home is the only way to know if indoor radon levels are elevated.** If you test your home in warm weather and get a low result, it is wise to test again during the heating season. If you have a private well, you should have your water tested for radon too. For more information, see the resources listed below.

**For More Information**

MDPH Resources:

* Massachusetts Environmental Public Health Tracking (MA EPHT): [www.mass.gov/dph/matracking](http://www.mass.gov/dph/matracking)
* Massachusetts State Cancer Plan: [www.mass.gov/2017-2021-massachusetts-cancer-plan](http://www.mass.gov/2017-2021-massachusetts-cancer-plan)
* MDPH/BEH Radon Fact Sheet:   
  <http://www.mass.gov/eohhs/docs/dph/environmental/iaq/radon-fact-sheet-2016.pdf>
* Massachusetts Cancer Registry (MCR): [www.mass.gov/dph/mcr](http://www.mass.gov/dph/mcr)

Additional Resources:

* CDC’s National Environmental Public Health Tracking (EPHT) Program: [www.cdc.gov/nceh/tracking](http://www.cdc.gov/nceh/tracking)
* EPA’s Citizen’s Guide to Radon: [www.epa.gov/radon/pubs/citguide.html](http://www.epa.gov/radon/pubs/citguide.html)
* EPA’s Home Buyer’s and Seller’s Guide to Radon:   
  <https://www.epa.gov/radon/home-buyers-and-sellers-guide-radon>
* MassDEP’s Guide to Water Quality Testing for Private Wells: <http://www.mass.gov/eea/agencies/massdep/water/drinking/protect-your-family-a-guide-to-water-quality-testing-f.html>

Contact:

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  [DPH-MA-EPHT@state.ma.us](mailto:DPH-MA-EPHT@state.ma.us)
* Radon Unit   
  Massachusetts Department of Public Health/Bureau of Environmental Health  
  [www.mass.gov/eohhs/gov/departments/dph/programs/environmental-health/exposure-topics/iaq/radon/](http://www.mass.gov/eohhs/gov/departments/dph/programs/environmental-health/exposure-topics/iaq/radon/)

Phone: 1-800-RADON-95 or (800) 723-6695 or (413) 586-7525 ext. 3185

* Tobacco Cessation and Prevention Program   
  Massachusetts Department of Public Health   
  [www.makesmokinghistory.org](http://www.makesmokinghistory.org)

Phone: 1-800-QUIT-NOW or (800) 784-8669

**FIGURES & TABLES**

**Figure 1.**

**PERCENTAGE OF CANCER INCIDENT CASES BY CANCER TYPE AND SEX**

**Massachusetts, 2011-2015**

**MALES (N=87,884) FEMALES (N=95,757)**

Source: Massachusetts Cancer Registry

**Figure 2.**

**INCIDENCE RATES1 FOR TEN LEADING CANCER TYPES BY SEX**

**Massachusetts, 2011-2015**

1Rates are age-adjusted to the 2000 U.S. Standard Population. NOS – Not Otherwise Specified.

Source: Massachusetts Cancer Registry

**Figure 3.**

**PERCENTAGE OF CANCER DEATHS BY CANCER TYPE AND SEX**

**Massachusetts, 2011-2015**

**MALES (N=32,392) FEMALES (N=31,705)**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Source: Massachusetts Vital Statistics

**Figure 4.**

**MORTALITY RATES[[1]](#footnote-1) FOR TEN LEADING CANCER TYPES BY SEX**

**Massachusetts, 2011-2015**

**Table 1**.

**Massachusetts, 2011-2015**

**AGE-SPECIFIC INCIDENCE RATES1 AND MEDIAN AGE AT DIAGNOSIS FOR SELECTED CANCER SITES**

**MALES**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Cancer Site / Type** | **0-4** | **5-9** | **10-14** | **15-19** | **20-24** | **25-29** | **30-34** | **35-39** | **40-44** | **45-49** | **50-54** | **55-59** | **60-64** | **65-69** | **70-74** | **75-79** | **80-84** | **85+** | Median Age |
| **All Sites** | 28.4 | 13.9 | 11.9 | 23.5 | 38.5 | 55.1 | 74.3 | 98.5 | 161.1 | 280.6 | 552.0 | 899.5 | 1342.4 | 1839.5 | 2405.9 | 2665.8 | 2821.0 | 2807.7 | 66 |
| **Brain & Other Nervous System** | 5.2 | 3.8 | 2.7 | 2.8 | 2.5 | 4.9 | 4.1 | 3.5 | 4.4 | 5.9 | 8.6 | 11.5 | 16.5 | 20.4 | 27.2 | 29.5 | 31.0 | 21.3 | 60 |
| **Breast** | -- | 0.1 | -- | -- | -- | -- | 0.3 | 0.2 | 0.6 | 0.9 | 1.3 | 2.1 | 3.3 | 5.0 | 7.8 | 5.9 | 11.0 | 8.5 | 68 |
| **Breast *in situ*2** | -- | -- | -- | -- | -- | -- | -- | 0.1 | 0.2 | 0.1 | 0.2 | 0.3 | 0.3 | 0.4 | 1.0 | 1.4 | 0.4 | 0.8 | 68 |
| **Bronchus & Lung** | 0.1 |  |  | 0.1 | 0.5 | 0.5 | 1.5 | 2.7 | 7.6 | 19.2 | 50.5 | 101.9 | 160.1 | 259.7 | 414.5 | 514.1 | 547.4 | 441.4 | 71 |
| **Colon / Rectum** | -- | -- | 0.1 | 0.5 | 0.8 | 2.4 | 5.6 | 9.5 | 21.1 | 33.7 | 67.1 | 66.5 | 85.4 | 123.5 | 176.1 | 217.8 | 261.6 | 331.8 | 67 |
| **Esophagus** | -- | -- | -- | -- | 0.1 | 0.2 | 0.3 | 0.8 | 1.9 | 6.1 | 9.5 | 19.6 | 30.7 | 36.8 | 54.7 | 51.8 | 58.7 | 51.1 | 67 |
| **Hodgkin Lymphoma** | -- | 0.5 | 1.1 | 2.7 | 5.4 | 5.6 | 4.9 | 2.9 | 3.6 | 3.4 | 2.7 | 3.1 | 4.3 | 4.2 | 5.2 | 5.9 | 3.8 | 3.6 | 42 |
| **Kidney & Renal Pelvis** | 2.8 | 0.6 | 0.1 | 0.3 | 0.5 | 1.5 | 3.5 | 8.2 | 14.8 | 22.3 | 35.4 | 46.8 | 63.4 | 80.9 | 98.8 | 102.0 | 90.9 | 66.9 | 63 |
| **Larynx** | -- | -- | 0.1 | -- | -- | 0.2 | 0.3 | 0.5 | 0.8 | 2.8 | 6.5 | 14.1 | 16.8 | 23.1 | 29.6 | 29.5 | 34.8 | 18.9 | 66 |
| **Leukemia** | 8.5 | 3.8 | 2.5 | 3.8 | 3.0 | 3.1 | 3.9 | 3.5 | 7.3 | 9.9 | 12.0 | 20.6 | 33.1 | 47.7 | 67.8 | 91.5 | 101.5 | 114.8 | 67 |
| **Liver & Intrahepatic Bile Ducts** | 1.3 | -- | 0.3 | 0.3 | 0.4 | 0.2 | 0.4 | 1.3 | 2.1 | 6.1 | 18.1 | 39.2 | 52.0 | 49.9 | 51.1 | 63.5 | 65.1 | 47.5 | 64 |
| **Melanoma of Skin** |  | 0.1 |  | 0.4 | 1.6 | 3.7 | 6.5 | 7.5 | 12.2 | 18.5 | 26.2 | 42.4 | 54.5 | 76.8 | 109.1 | 142.5 | 160.9 | 153.8 | 67 |
| **Multiple Myeloma** | -- | -- | -- | -- | -- | 0.3 | 0.2 | 1.2 | 2.6 | 6.2 | 8.2 | 14.0 | 21.3 | 27.5 | 43.1 | 44.2 | 60.2 | 46.7 | 67 |
| **Non-Hodgkin Lymphoma** | 1.4 | 1.4 | 1.3 | 2.5 | 4.0 | 2.9 | 5.7 | 9.0 | 12.2 | 16.4 | 24.8 | 36.4 | 50.7 | 73.2 | 96.0 | 118.7 | 157.1 | 146.6 | 66 |
| **Oral Cavity & Pharynx** | -- | 0.2 | 0.1 | 0.4 | 0.6 | 1.4 | 2.1 | 3.5 | 8.6 | 20.6 | 33.9 | 48.0 | 61.6 | 65.1 | 68.2 | 74.2 | 56.4 | 49.1 | 62 |
| **Pancreas** | -- | -- | 0.1 | -- | 0.1 | 0.2 | 0.6 | 1.4 | 3.3 | 8.0 | 13.6 | 25.4 | 35.3 | 54.2 | 71.4 | 87.5 | 104.1 | 108.7 | 69 |
| **Prostate** | 0.1 | -- | -- | -- | -- | -- | 0.1 | 0.3 | 8.1 | 34.7 | 142.4 | 272.9 | 447.9 | 589.9 | 621.9 | 479.9 | 316.1 | 324.2 | 65 |
| **Stomach** | -- | -- | -- | 0.1 | -- | 0.4 | 1.0 | 1.9 | 2.8 | 5.1 | 9.7 | 14.7 | 20.9 | 31.3 | 47.1 | 55.8 | 66.2 | 70.9 | 69 |
| **Testis** | 0.3 | 0.1 | 0.1 | 2.9 | 11.0 | 16.2 | 14.9 | 14.0 | 10.7 | 8.3 | 6.7 | 3.5 | 2.2 | 1.5 | 1.6 | 0.6 | 1.5 | 1.2 | 35 |
| **Thyroid** | 0.2 | -- | 0.4 | 1.1 | 3.4 | 6.0 | 9.9 | 13.6 | 15.3 | 16.4 | 17.1 | 22.2 | 22.1 | 23.1 | 24.5 | 23.2 | 19.3 | 8.1 | 54 |
| **Urinary Bladder** | -- | -- | -- | 0.3 | 0.6 | 0.7 | 1.3 | 2.4 | 5.8 | 12.2 | 26.4 | 43.3 | 82.0 | 135.9 | 221.5 | 281.3 | 344.5 | 405.1 | 72 |
| **Other Sites** | 8.4 | 3.1 | 3.0 | 5.5 | 4.1 | 4.8 | 7.2 | 10.4 | 15.1 | 23.7 | 31.2 | 51.5 | 78.3 | 109.8 | 168.6 | 246.4 | 329.0 | 387.4 | 70 |

1 per 100,000 2 Breast *in situ* is excluded from ‘All Sites’. 3 Dashes indicate age groups with no incident cases. Source: Massachusetts Cancer Registry

**Table** **2**.

**AGE-SPECIFIC INCIDENCE RATES1 AND MEDIAN AGE AT DIAGNOSIS FOR SELECTED CANCER SITES**

**Massachusetts, 2011-2015**

## FEMALES

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Cancer Site / Type | **0-4** | **5-9** | **10-14** | **15-19** | **20-24** | **25-29** | **30-34** | **35-39** | **40-44** | **45-49** | **50-54** | **55-59** | **60-64** | **65-69** | **70-74** | **75-79** | **80-84** | **85+** | **Median Age** |
| **All Sites** | 23.6 | 12.4 | 15.8 | 21.4 | 44.5 | 75.4 | 129.4 | 201.2 | 330.7 | 473.7 | 659.0 | 812.1 | 1090.2 | 1462.4 | 1827.6 | 2038.6 | 2079.2 | 1799.4 | 66 |
| **Brain & Other Nervous System** | 3.6 | 3.7 | 3.6 | 2.8 | 2.4 | 2.7 | 3.2 | 3.8 | 4.7 | 4.2 | 5.7 | 8.7 | 11.4 | 14.7 | 17.5 | 19.3 | 21.9 | 17.1 | 61 |
| **Breast** | -- | -- | 0.1 | 0.1 | 1.8 | 10.7 | 30.4 | 70.6 | 141.2 | 216.0 | 254.4 | 274.1 | 365.8 | 465.7 | 508.3 | 490.2 | 451.2 | 322.1 | 62 |
| **Breast *in situ*2** | -- | -- | -- | 0.2 | 0.2 | 1.1 | 4.9 | 14.0 | 65.1 | 101.8 | 101.3 | 93.3 | 101.9 | 124.3 | 115.1 | 104.5 | 64.6 | 25.8 | 57 |
| **Bronchus & Lung** | 0.1 | -- | 0.1 | 0.4 | 0.5 | 0.4 | 0.8 | 2.9 | 10.3 | 23.9 | 57.7 | 95.5 | 145.1 | 238.7 | 383.1 | 435.7 | 396.5 | 267.0 | 71 |
| **Cervix Uteri** | -- | -- | -- | 0.1 | 0.4 | 2.6 | 6.7 | 8.9 | 10.4 | 8.9 | 8.4 | 6.7 | 9.0 | 9.6 | 7.5 | 7.3 | 8.7 | 7.4 | 51 |
| **Colon / Rectum** |  | 0.1 | 0.3 | 0.7 | 1.2 | 2.5 | 5.0 | 11.3 | 20.7 | 28.6 | 52.1 | 46.4 | 60.5 | 86.3 | 129.9 | 181.7 | 222.7 | 254.7 | 71 |
| **Corpus Uteri & Uterus, NOS** | -- | -- | 0.1 | -- | 0.2 | 1.9 | 2.7 | 9.7 | 14.8 | 26.8 | 52.9 | 81.6 | 112.6 | 135.1 | 124.4 | 96.5 | 84.3 | 52.8 | 63 |
| **Esophagus** | -- | -- | -- | -- | -- | -- | 0.3 | -- | 0.8 | 1.2 | 1.2 | 3.5 | 6.3 | 9.4 | 13.0 | 11.8 | 13.9 | 14.2 | 71 |
| **Hodgkin Lymphoma** | -- | -- | 0.9 | 3.4 | 6.0 | 4.3 | 3.9 | 2.9 | 3.0 | 1.4 | 2.4 | 2.8 | 2.9 | 2.5 | 2.8 | 3.4 | 4.5 | 1.7 | 38 |
| **Kidney & Renal Pelvis** | 1.9 | 0.8 | 0.3 | 0.3 | 0.3 | 1.3 | 2.6 | 4.2 | 7.1 | 10.0 | 16.3 | 20.8 | 27.2 | 35.7 | 46.4 | 54.1 | 47.2 | 35.1 | 66 |
| **Larynx** | -- | -- | -- | -- | -- | -- | -- | 0.1 | 0.2 | 1.0 | 2.9 | 4.5 | 2.9 | 6.7 | 8.3 | 5.6 | 4.5 | 5.5 | 67 |
| **Leukemia** | 7.6 | 4.1 | 1.9 | 1.2 | 2.8 | 3.2 | 2.4 | 3.5 | 5.0 | 5.3 | 9.1 | 13.7 | 18.4 | 24.6 | 34.1 | 50.4 | 54.4 | 61.5 | 68 |
| **Liver & Intrahepatic Bile Ducts** | 0.3 | -- | 0.2 | 0.3 | 0.3 | 0.1 | 0.5 | 0.5 | 1.1 | 1.7 | 4.1 | 8.6 | 12.9 | 12.4 | 15.1 | 22.5 | 23.1 | 19.9 | 68 |
| **Melanoma of Skin** | 0.2 | 0.2 | 0.5 | 0.7 | 4.1 | 9.8 | 12.7 | 11.1 | 16.7 | 19.9 | 25.8 | 29.6 | 37.1 | 42.1 | 50.5 | 56.4 | 65.9 | 58.7 | 61 |
| **Multiple Myeloma** | -- | -- | -- | -- | -- | 0.3 | 0.2 | 1.0 | 1.2 | 3.2 | 6.1 | 9.9 | 13.4 | 20.9 | 23.3 | 31.3 | 35.8 | 31.5 | 70 |
| **Non-Hodgkin Lymphoma** | 0.1 | 0.6 | 0.9 | 1.2 | 1.8 | 2.5 | 3.7 | 5.9 | 8.9 | 12.7 | 19.7 | 26.6 | 40.7 | 53.9 | 66.8 | 82.4 | 105.2 | 80.9 | 68 |
| **Oral Cavity & Pharynx** | -- | -- | 0.3 | 0.5 | 0.6 | 0.8 | 1.8 | 2.6 | 4.1 | 6.2 | 10.6 | 15.3 | 18.9 | 25.8 | 29.3 | 31.3 | 31.1 | 32.5 | 66 |
| **Ovary** | 0.2 | 0.1 | 0.5 | 1.1 | 1.5 | 2.4 | 3.7 | 4.5 | 6.2 | 13.8 | 22.3 | 25.4 | 30.5 | 35.4 | 42.4 | 48.3 | 44.7 | 38.9 | 63 |
| **Pancreas** | -- | -- | -- | 0.1 | 0.1 | -- | 0.5 | 1.4 | 2.3 | 4.2 | 9.4 | 15.2 | 24.7 | 42.7 | 61.4 | 75.3 | 89.5 | 101.4 | 74 |
| **Stomach** | -- | -- | -- | 0.2 | 0.4 | 0.4 | 0.5 | 1.5 | 3.4 | 4.2 | 4.7 | 7.6 | 9.0 | 12.9 | 19.3 | 24.2 | 33.1 | 35.3 | 71 |
| **Thyroid** | 0.2 | 0.1 | 1.9 | 4.5 | 17.0 | 24.4 | 40.1 | 43.8 | 49.8 | 54.5 | 52.1 | 48.5 | 46.1 | 47.8 | 41.1 | 36.5 | 24.4 | 12.7 | 50 |
| **Urinary Bladder** | -- | -- | 0.3 | 0.3 | 0.2 | 0.1 | 0.5 | 1.1 | 2.4 | 3.2 | 9.0 | 16.2 | 26.0 | 38.1 | 62.4 | 79.2 | 88.7 | 81.1 | 73 |
| **Other Sites** | 9.3 | 2.7 | 3.7 | 3.5 | 2.9 | 4.9 | 7.2 | 10 | 16.4 | 23.0 | 31.8 | 51.0 | 68.9 | 101.1 | 140.8 | 195.2 | 228.0 | 267.0 | 71 |

1 per 100,000 2 Breast *in situ* is excluded from ‘All Sites’. 3 Dashes indicate age groups with no incident cases. Source: Massachusetts Cancer Registry

**Table 3**.

**AGE-SPECIFIC INCIDENCE RATES1 AND MEDIAN AGE AT DIAGNOSIS FOR SELECTED CANCER SITES**

**Massachusetts, 2011-2015**

#### **TOTAL**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Cancer Site / Type** | **0-4** | **5-9** | **10-14** | **15-19** | **20-24** | **25-29** | **30-34** | **35-39** | **40-44** | **45-49** | **50-54** | **55-59** | **60-64** | **65-69** | **70-74** | **75-79** | **80-84** | **85+** | **Median Age** |
| **All Sites** | 26.1 | 13.1 | 13.8 | 22.5 | 41.5 | 65.3 | 102.2 | 150.9 | 248.2 | 379.6 | 606.9 | 854.4 | 1210.5 | 1639.0 | 2089.5 | 2308.9 | 2373.4 | 2122.7 | 66 |
| **Brain & Other Nervous System** | 4.4 | 3.7 | 3.1 | 2.8 | 2.4 | 3.8 | 3.6 | 3.7 | 4.6 | 5.1 | 7.1 | 10.0 | 13.8 | 17.4 | 21.9 | 23.7 | 25.5 | 18.5 | 60 |
| **Breast** | -- | 0.1 | 0.1 | 0.0 | 0.9 | 5.4 | 15.5 | 36.1 | 72.7 | 111.1 | 131.2 | 142.9 | 193.2 | 250.1 | 281.9 | 281.5 | 276.7 | 221.6 | 62 |
| **Breast *in situ2*** | -- | -- | -- | 0.1 | 0.1 | 0.6 | 2.5 | 7.2 | 33.5 | 52.2 | 52.0 | 48.4 | 53.5 | 66.3 | 63.5 | 60.1 | 39.2 | 17.8 | 57 |
| **Bronchus & Lung** | 0.1 | -- | 0.1 | 0.3 | 0.5 | 0.5 | 1.1 | 2.8 | 9.0 | 21.6 | 54.2 | 98.7 | 152.3 | 248.5 | 397.4 | 469.5 | 456.3 | 322.9 | 71 |
| **Cervix Uteri** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **Colon / Rectum** | -- | 0.1 | 0.2 | 0.6 | 1.0 | 2.5 | 5.3 | 10.4 | 21.0 | 31.1 | 59.4 | 56.1 | 72.3 | 103.7 | 150.8 | 197.3 | 238.1 | 279.4 | 69 |
| **Corpus Uteri & Uterus, NOS** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **Esophagus** | -- | -- | -- | -- | 0.0 | 0.1 | 0.3 | 0.4 | 1.3 | 3.6 | 5.2 | 11.2 | 17.9 | 22.3 | 31.9 | 29.1 | 31.7 | 26.1 | 68 |
| **Hodgkin Lymphoma** | -- | 0.3 | 1.0 | 3.1 | 5.7 | 5.0 | 4.4 | 2.9 | 3.3 | 2.4 | 2.6 | 2.9 | 3.5 | 3.4 | 3.9 | 4.5 | 4.2 | 2.3 | 40 |
| **Kidney & Renal Pelvis** | 2.4 | 0.7 | 0.2 | 0.3 | 0.4 | 1.4 | 3.1 | 6.2 | 10.9 | 16.0 | 25.6 | 33.3 | 44.5 | 56.9 | 70.1 | 74.7 | 64.5 | 45.3 | 64 |
| **Larynx** | -- | -- | 0.1 | -- | -- | 0.1 | 0.1 | 0.3 | 0.5 | 1.8 | 4.7 | 9.1 | 9.5 | 14.4 | 17.9 | 15.9 | 16.5 | 9.8 | 66 |
| **Leukemia** | 8.1 | 4.0 | 2.2 | 2.5 | 2.9 | 3.1 | 3.2 | 3.5 | 6.1 | 7.5 | 10.5 | 17.0 | 25.4 | 35.4 | 49.3 | 68.1 | 73.1 | 78.6 | 67 |
| **Liver & Intrahepatic Bile Ducts** | 0.8 | -- | 0.3 | 0.3 | 0.4 | 0.1 | 0.4 | 0.9 | 1.6 | 3.9 | 10.9 | 23.4 | 31.6 | 30.0 | 31.4 | 40.2 | 39.8 | 28.8 | 64 |
| **Melanoma of Skin** | 0.1 | 0.2 | 0.3 | 0.6 | 2.8 | 6.8 | 9.6 | 9.3 | 14.5 | 19.2 | 26.0 | 35.8 | 45.4 | 58.3 | 77.0 | 93.5 | 103.7 | 89.2 | 65 |
| **Multiple Myeloma** | -- | -- | -- | -- | -- | 0.3 | 0.2 | 1.1 | 1.9 | 4.7 | 7.2 | 11.9 | 17.2 | 24.0 | 32.2 | 36.9 | 45.5 | 36.4 | 69 |
| **Non-Hodgkin Lymphoma** | 0.8 | 1.1 | 1.1 | 1.9 | 2.9 | 2.7 | 4.7 | 7.5 | 10.5 | 14.5 | 22.2 | 31.3 | 45.4 | 63.0 | 80.1 | 98.0 | 125.7 | 102.0 | 67 |
| **Oral Cavity & Pharynx** | -- | 0.1 | 0.2 | 0.5 | 0.6 | 1.1 | 2.0 | 3.1 | 6.3 | 13.2 | 21.9 | 31.0 | 39.2 | 44.2 | 46.9 | 49.8 | 41.1 | 37.8 | 63 |
| **Ovary** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **Pancreas** | -- | -- | 0.1 | 0.0 | 0.1 | 0.1 | 0.5 | 1.4 | 2.8 | 6.0 | 11.4 | 20.1 | 29.8 | 48.1 | 65.9 | 80.6 | 95.3 | 103.8 | 71 |
| **Prostate** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **Stomach** | -- | -- | 0.1 | 0.1 | 0.2 | 0.4 | 0.8 | 1.7 | 3.1 | 4.6 | 7.1 | 11.0 | 14.6 | 21.5 | 31.9 | 37.8 | 46.2 | 46.7 | 70 |
| **Testis** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **Thyroid** | 0.2 | 0.1 | 1.2 | 2.8 | 10.2 | 15.2 | 25.2 | 29.0 | 33.0 | 35.9 | 35.1 | 35.8 | 34.7 | 36.3 | 33.6 | 30.8 | 22.4 | 11.2 | 51 |
| **Urinary Bladder** | -- | -- | 0.2 | 0.3 | 0.4 | 0.4 | 0.9 | 1.7 | 4.1 | 7.6 | 17.5 | 29.2 | 52.7 | 83.9 | 134.4 | 166.3 | 190.1 | 184.9 | 72 |
| **Other Sites** | 8.9 | 2.9 | 3.4 | 4.5 | 3.5 | 4.8 | 7.2 | 10.2 | 15.7 | 23.4 | 31.5 | 51.3 | 73.4 | 105.2 | 153.5 | 217.3 | 268.0 | 305.7 | 70 |

1 per 100,000 2 Breast *in situ* is excluded from ‘All Sites’. 3 Dashes indicate age groups with no incident cases or cancers found in only one sex. Source: Massachusetts Cancer Registry

**Figure 5.**

**ANNUAL PERCENT CHANGE (APC) IN AGE-ADJUSTED CANCER RATES AMONG MALES**

**Massachusetts, 2011-2015**

\*APCis statistically significant (p < 0.05). Values appearing directly on a bar have been bolded for ease of reading only. ^ indicates a medium reliability trend (CV between 15 and 30). NA indicates an unreliable trend (CVgreater than 30) therefore the APC is not presented. Source: Massachusetts Cancer Registry

**Figure 6.**

**ANNUAL PERCENT CHANGE (APC) IN AGE-ADJUSTED CANCER RATES AMONG FEMALES**

**Massachusetts, 2011-2015**

\*APCis statistically significant (p < 0.05). Values appearing directly on a bar have been bolded for ease of reading only. ^ indicates a medium reliability trend (CV between 15 and 30). NA indicates an unreliable trend (CVgreater than 30) therefore the APC is not presented Source: Massachusetts Cancer Registry.

**Table 4.**

**ANNUAL AGE-ADJUSTED1 INCIDENCE RATES2 FOR SELECTED CANCER SITES**

**Massachusetts, 2011-2015**

**MALES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Cancer Site / Type** | **2011** | **2012** | **2013** | **2014** | **2015** |
| **All Sites** | 538.9 | 500.6 | 483.5 | 480.9 | 470.4 |
| **Brain & Other Nervous System** | 7.9 | 7.4 | 9.1 | 7.6 | 7.2 |
| **Breast** | 1.5 | 1.2 | 1.5 | 1.4 | 1.3 |
| **Breast *in situ*3** | 0.2 | 0.2 | 0.1 | 0.1 | 0.3 |
| **Bronchus & Lung** | 74.5 | 71.2 | 67.1 | 68.6 | 65.5 |
| **Colon / Rectum** | 43.5 | 42.2 | 40.7 | 44.2 | 39.0 |
| **Esophagus** | 11.0 | 9.8 | 9.8 | 9.2 | 8.7 |
| **Hodgkin Lymphoma** | 3.6 | 3.6 | 3.1 | 3.1 | 2.8 |
| **Kidney & Renal Pelvis** | 20.6 | 20.9 | 23.2 | 23.3 | 23.8 |
| **Larynx** | 5.3 | 5.2 | 6.3 | 5.7 | 5.2 |
| **Leukemia** | 17.3 | 17.6 | 16.0 | 16.4 | 15.2 |
| **Liver & Intrahepatic Bile Ducts** | 12.4 | 14.2 | 12.5 | 12.5 | 12.8 |
| **Melanoma of Skin** | 29.2 | 25.8 | 25.0 | 22.8 | 21.5 |
| **Multiple Myeloma** | 8.0 | 8.2 | 8.9 | 7.5 | 8.0 |
| **Non-Hodgkin Lymphoma** | 22.6 | 22.9 | 23.6 | 24.0 | 23.8 |
| **Oral Cavity & Pharynx** | 18.0 | 18.7 | 16.7 | 18.0 | 17.7 |
| **Pancreas** | 14.3 | 14.3 | 14.8 | 13.9 | 15.3 |
| **Prostate** | 138.2 | 107.0 | 97.7 | 93.3 | 98.4 |
| **Stomach** | 9.0 | 8.9 | 10.3 | 10.0 | 8.5 |
| **Testis** | 6.7 | 6.7 | 6.6 | 6.5 | 6.1 |
| **Thyroid** | 10.8 | 10.4 | 9.3 | 11.4 | 11.4 |
| **Urinary Bladder** | 41.6 | 42.4 | 39.7 | 39.1 | 39.6 |

Rates are age-adjusted to the 2000 U.S. Standard Population.

2per 100,000 males

3Breast *in situ* is excluded from “All Sites”

Source: Massachusetts Cancer Registry

**Table 5.**

**ANNUAL AGE-ADJUSTED1 INCIDENCE RATES2 FOR SELECTED CANCER SITES**

**Massachusetts, 2011-2015**

**FEMALES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Cancer Site / Type** | **2011** | **2012** | **2013** | **2014** | **2015** |
| **All Sites** | 457.4 | 457.0 | 447.3 | 447.3 | 446.0 |
| **Brain & Other Nervous System** | 6.3 | 5.6 | 6.1 | 5.6 | 6.4 |
| **Breast** | 137.3 | 137.1 | 137.4 | 138.7 | 137.6 |
| **Breast *in situ*3** | 41.6 | 42.6 | 42.6 | 40.9 | 39.0 |
| **Bronchus & Lung** | 60.8 | 61.1 | 60.8 | 58.7 | 59.6 |
| **Cervix Uteri** | 5.1 | 5.0 | 4.9 | 5.5 | 5.1 |
| **Colon / Rectum** | 34.3 | 33.2 | 33.2 | 32.3 | 32.8 |
| **Corpus Uteri & Uterus, NOS** | 31.2 | 28.3 | 29.8 | 27.6 | 30.0 |
| **Esophagus** | 2.0 | 1.7 | 2.4 | 2.6 | 2.3 |
| **Hodgkin Lymphoma** | 2.7 | 2.6 | 2.4 | 2.8 | 2.7 |
| **Kidney & Renal Pelvis** | 10.6 | 10.9 | 10.7 | 10.8 | 10.9 |
| **Larynx** | 1.4 | 1.8 | 1.2 | 1.2 | 1.4 |
| **Leukemia** | 10.2 | 9.9 | 10.2 | 9.0 | 10.1 |
| **Liver & Intrahepatic Bile Ducts** | 3.3 | 3.8 | 4.1 | 4.1 | 3.6 |
| **Melanoma of Skin** | 18.6 | 17.8 | 16.2 | 15.7 | 15.7 |
| **Multiple Myeloma** | 6.0 | 5.2 | 5.3 | 5.0 | 4.8 |
| **Non-Hodgkin Lymphoma** | 15.8 | 17.9 | 16.9 | 15.9 | 15.1 |
| **Oral Cavity & Pharynx** | 6.2 | 7.9 | 7.3 | 6.7 | 7.5 |
| **Ovary** | 12.1 | 12.9 | 10.5 | 11.3 | 11.2 |
| **Pancreas** | 10.9 | 11.0 | 11.6 | 12.2 | 12.0 |
| **Stomach** | 4.5 | 4.3 | 4.3 | 5.0 | 5.1 |
| **Thyroid** | 30.7 | 29.7 | 27.0 | 31.4 | 29.0 |
| **Urinary Bladder** | 12.1 | 11.7 | 10.8 | 10.9 | 10.7 |

Rates are age-adjusted to the 2000 U.S. Standard Population.

2per 100,000 males

3Breast *in situ* is excluded from “All Sites”

Source: Massachusetts Cancer Registry

**Table 6.**

**ANNUAL AGE-ADJUSTED1 INCIDENCE RATES2 FOR SELECTED CANCER SITES**

**Massachusetts, 2011-2015**

**TOTAL**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Cancer Site / Type** | **2011** | **2012** | **2013** | **2014** | **2015** |
| **All Sites** | 489.8 | 472.6 | 459.8 | 457.9 | 452.5 |
| **Brain & Other Nervous System** | 7.0 | 6.4 | 7.5 | 6.5 | 6.8 |
| **Breast** | -- | -- | -- | -- | -- |
| **Breast *in situ*3** | -- | -- | -- | -- | -- |
| **Bronchus & Lung** | 66.4 | 65.0 | 63.2 | 62.6 | 61.8 |
| **Cervix Uteri** | -- | -- | -- | -- | -- |
| **Colon / Rectum** | 38.3 | 37.2 | 36.5 | 37.6 | 35.5 |
| **Corpus Uteri & Uterus, NOS** | -- | -- | -- | -- | -- |
| **Esophagus** | 5.9 | 5.3 | 5.7 | 5.5 | 5.2 |
| **Hodgkin Lymphoma** | 3.1 | 3.1 | 2.7 | 3.0 | 2.8 |
| **Kidney & Renal Pelvis** | 15.3 | 15.5 | 16.4 | 16.5 | 16.8 |
| **Larynx** | 3.2 | 3.3 | 3.5 | 3.2 | 3.1 |
| **Leukemia** | 13.3 | 13.3 | 12.7 | 12.2 | 12.3 |
| **Liver & Intrahepatic Bile Ducts** | 7.5 | 8.5 | 8.0 | 7.9 | 7.7 |
| **Melanoma of Skin** | 23.0 | 21.0 | 19.8 | 18.7 | 18.0 |
| **Multiple Myeloma** | 6.9 | 6.5 | 6.9 | 6.1 | 6.2 |
| **Non-Hodgkin Lymphoma** | 18.7 | 20.0 | 19.9 | 19.5 | 18.9 |
| **Oral Cavity & Pharynx** | 11.6 | 12.9 | 11.7 | 11.9 | 12.3 |
| **Ovary** | -- | -- | -- | -- | -- |
| **Pancreas** | 12.5 | 12.6 | 13.0 | 13.0 | 13.5 |
| **Prostate** | -- | -- | -- | -- | -- |
| **Stomach** | 6.5 | 6.4 | 6.9 | 7.2 | 6.5 |
| **Testis** | 3.3 | 3.3 | 3.3 | 3.2 | 3.0 |
| **Thyroid** | 21.0 | 20.3 | 18.5 | 21.7 | 20.4 |
| **Urinary Bladder** | 24.6 | 24.8 | 23.1 | 22.8 | 23.0 |

Rates are age-adjusted to the 2000 U.S. Standard Population.

2per 100,000 total population

3Breast *in situ* is excluded from “All Sites”

4Dashes indicate cancers found in only one sex or predominantly in one sex (breast cancer).

Source: Massachusetts Cancer Registry

**Table 7.**

**ANNUAL AGE-ADJUSTED[[2]](#footnote-2) MORTALITY RATES[[3]](#footnote-3) FOR SELECTED CANCER SITES**

**Massachusetts, 2011-2015**

**MALES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Cancer Site / Type** | **2011** | **2012** | **2013** | **2014** | **2015** |
| **All Sites** | 197.5 | 190.1 | 185.9 | 184.6 | 177.1 |
| **Brain & Other Nervous System** | 5.0 | 5.0 | 5.2 | 5.2 | 5.8 |
| **Breast** | 0.2 | 0.4 | 0.4 | 0.4 | 0.1 |
| **Bronchus & Lung** | 47.6 | 48.3 | 46.2 | 45.7 | 43.7 |
| **Colon / Rectum** | 14.7 | 14.6 | 13.8 | 14.7 | 13.0 |
| **Esophagus** | 8.3 | 8.4 | 7.5 | 8.1 | 8.6 |
| **Hodgkin Lymphoma** | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 |
| **Kidney & Renal Pelvis** | 4.0 | 4.5 | 4.7 | 5.3 | 5.1 |
| **Larynx** | 1.7 | 1.2 | 1.4 | 1.5 | 1.2 |
| **Leukemia** | 8.4 | 8.1 | 9.0 | 7.9 | 7.3 |
| **Liver & Intrahepatic Bile Ducts** | 9.0 | 8.8 | 10.2 | 9.5 | 9.1 |
| **Melanoma of Skin** | 3.7 | 3.7 | 4.0 | 3.8 | 3.2 |
| **Multiple Myeloma** | 3.8 | 3.7 | 3.3 | 4.1 | 3.8 |
| **Non-Hodgkin Lymphoma** | 7.2 | 5.9 | 6.2 | 6.4 | 6.5 |
| **Oral Cavity & Pharynx** | 3.5 | 3.6 | 3.5 | 3.2 | 3.5 |
| **Pancreas** | 11.8 | 11.2 | 12.4 | 11.7 | 12.1 |
| **Prostate** | 17.4 | 17.4 | 17.5 | 17.9 | 17.5 |
| **Stomach** | 3.7 | 3.9 | 3.4 | 4.1 | 4.5 |
| **Testis** | 0.1 | 0.2 | 0.2 | 0.03 | 0.1 |
| **Thyroid** | 0.7 | 0.6 | 0.7 | 0.5 | 0.7 |
| **Urinary Bladder** | 7.5 | 7.1 | 7.7 | 7.6 | 7.9 |

**Table 8**

**ANNUAL AGE-ADJUSTED[[4]](#footnote-4) MORTALITY RATES[[5]](#footnote-5) FOR SELECTED CANCER SITES**

**Massachusetts, 2011-2015**

**FEMALES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Cancer Site / Type** | **2011** | **2012** | **2013** | **2014** | **2015** |
| **All Sites** | 139.4 | 138.6 | 136.2 | 130.1 | 131.8 |
| **Brain & Other Nervous System** | 3.6 | 3.4 | 3.4 | 3.4 | 3.7 |
| **Breast** | 18.1 | 18.2 | 17.6 | 17.3 | 17.2 |
| **Bronchus & Lung** | 35.7 | 35.9 | 34.5 | 34.5 | 34.6 |
| **Cervix Uteri** | 1.4 | 1.2 | 0.9 | 1.2 | 1.0 |
| **Colon / Rectum** | 9.9 | 10.6 | 11.0 | 10.1 | 10.4 |
| **Corpus Uteri & Uterus, NOS** | 4.3 | 3.9 | 4.8 | 4.3 | 4.7 |
| **Esophagus** | 1.4 | 1.4 | 1.2 | 1.9 | 1.8 |
| **Hodgkin Lymphoma** | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 |
| **Kidney & Renal Pelvis** | 2.2 | 2.0 | 2.0 | 1.8 | 2.2 |
| **Larynx** | 0.5 | 0.3 | 0.4 | 0.3 | 0.4 |
| **Leukemia** | 4.7 | 4.9 | 5.0 | 4.2 | 4.4 |
| **Liver & Intrahepatic Bile Ducts** | 3.0 | 3.2 | 3.7 | 3.6 | 3.3 |
| **Melanoma of Skin** | 1.8 | 1.8 | 2.1 | 1.7 | 1.6 |
| **Multiple Myeloma** | 2.5 | 2.7 | 2.6 | 2.6 | 2.2 |
| **Non-Hodgkin Lymphoma** | 4.1 | 4.0 | 4.3 | 4.1 | 4.0 |
| **Oral Cavity & Pharynx** | 1.1 | 1.0 | 1.2 | 1.3 | 1.3 |
| **Ovary** | 7.8 | 6.7 | 7.6 | 6.5 | 6.8 |
| **Pancreas** | 9.4 | 9.3 | 8.9 | 9.5 | 10.2 |
| **Stomach** | 2.1 | 2.3 | 2.4 | 2.2 | 2.1 |
| **Thyroid** | 0.5 | 0.3 | 0.5 | 0.4 | 0.4 |
| **Urinary Bladder** | 2.3 | 2.5 | 2.6 | 2.1 | 2.3 |

**Table 9.**

**ANNUAL AGE-ADJUSTED[[6]](#footnote-6) MORTALITY RATES[[7]](#footnote-7) FOR SELECTED CANCER SITES**

**Massachusetts, 2011-2015**

**TOTAL3**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Cancer Site / Type** | **2011** | **2012** | **2013** | **2014** | **2015** |
| **All Sites** | 162.7 | 159.6 | 156.4 | 152.4 | 150.0 |
| **Brain & Other Nervous System** | 4.3 | 4.1 | 4.2 | 4.2 | 4.7 |
| **Breast** | - | - | - | - | - |
| **Bronchus & Lung** | 40.7 | 41.1 | 39.3 | 39.2 | 38.3 |
| **Cervix Uteri** | - | - | - | - | - |
| **Colon / Rectum** | 12.0 | 12.3 | 12.2 | 12.1 | 11.6 |
| **Corpus Uteri & Uterus, NOS** | - | - | - | - | - |
| **Esophagus** | 4.4 | 4.5 | 4.0 | 4.6 | 4.8 |
| **Hodgkin Lymphoma** | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| **Kidney & Renal Pelvis** | 3.0 | 3.1 | 3.2 | 3.4 | 3.5 |
| **Larynx** | 1.0 | 0.7 | 0.8 | 0.8 | 0.8 |
| **Leukemia** | 6.2 | 6.2 | 6.7 | 5.7 | 5.7 |
| **Liver & Intrahepatic Bile Ducts** | 5.7 | 5.7 | 6.7 | 6.2 | 5.8 |
| **Melanoma of Skin** | 2.6 | 2.6 | 2.9 | 2.6 | 2.3 |
| **Multiple Myeloma** | 3.1 | 3.2 | 2.9 | 3.2 | 2.9 |
| **Non-Hodgkin Lymphoma** | 5.4 | 4.8 | 5.1 | 5.1 | 5.1 |
| **Oral Cavity & Pharynx** | 2.2 | 2.2 | 2.3 | 2.2 | 2.3 |
| **Ovary** | - | - | - | - | - |
| **Pancreas** | 10.5 | 10.2 | 10.5 | 10.5 | 11.1 |
| **Prostate** | - | - | - | - | - |
| **Stomach** | 2.8 | 3.0 | 2.8 | 3.0 | 3.1 |
| **Testis** | - | - | - | - | - |
| **Thyroid** | 0.6 | 0.4 | 0.6 | 0.4 | 0.5 |
| **Urinary Bladder** | 4.4 | 4.3 | 4.7 | 4.3 | 4.5 |

**Table 10.**

**FIVE LEADING CANCER INCIDENCE RATES BY RACE/ETHNICITY AND SEX**

**Massachusetts, 2011-2015**

**MALES**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **AGE-ADJUSTED[[8]](#footnote-8) INCIDENCE RATE[[9]](#footnote-9)** | | | | |
| **RANK** | **White, non-Hispanic** | **Black, non-Hispanic** | **Asian, non-Hispanic** | **Hispanic** |
| 1 | Prostate  100.2 | Prostate  182.5 | Bronchus & Lung  57.7 | Prostate  107.5 |
| 2 | Bronchus & Lung  71.2 | Bronchus & Lung  64.8 | Prostate  56.5 | Bronchus & Lung  38.9 |
| 3 | Urinary Bladder  42.9 | Colon / Rectum  46.9 | Colon / Rectum  32.4 | Colon / Rectum  35.3 |
| 4 | Colon / Rectum  41.9 | Kidney and Renal Pelvis  21.8 | Liver and Intrahepatic Bile Ducts  25.9 | Liver and Intrahepatic Bile Ducts  21.8 |
| 5 | Melanoma of Skin  27.3 | Liver and Intrahepatic  Bile Ducts  19.4 | Urinary Bladder  14.6 | Non-Hodgkin Lymphoma  20.1 |

**FEMALES**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **AGE-ADJUSTED1 INCIDENCE RATE2** | | | | |
| **RANK** | **White, non-Hispanic** | **Black, non-Hispanic** | **Asian, non-Hispanic** | **Hispanic** |
| 1 | Breast  143.7 | Breast  121.5 | Breast  90.8 | Breast  90.0 |
| 2 | Bronchus & Lung  63.8 | Bronchus & Lung  43.3 | Bronchus & Lung  33.1 | Thyroid  28.5 |
| 3 | Colon / Rectum  33.3 | Colon / Rectum  35.4 | Thyroid  29.6 | Bronchus & Lung  27.8 |
| 4 | Corpus Uteri &  Uterus, NOS  30.4 | Corpus Uteri &  Uterus, NOS  26.7 | Colon / Rectum  28.4 | Colon / Rectum  25.3 |
| 5 | Thyroid  29.7 | Thyroid  22.8 | Corpus Uteri &  Uterus, NOS  15.4 | Corpus Uteri &  Uterus, NOS  21.2 |

**Table 11.**

**NUMBER AND PERCENTAGE OF INCIDENT CASES FOR SELECTED CANCER SITES BY RACE/ETHNICITY[[10]](#footnote-10)**

**Massachusetts, 2011-2015**

**MALES**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **All Races[[11]](#footnote-11)** | | **White, non-Hispanic** | | **Black, non-Hispanic** | | **Asian, non-Hispanic** | | **Hispanic** | |
| **Cancer Site / Type** | **Cases** | **% of Cases** | **Cases** | **% of Cases** | **Cases** | **% of Cases** | **Cases** | **% of Cases** | **Cases** | **% of Cases** |
| **All Sites** | 87884 | 100.0 | 76121 | 100.0 | 4535 | 100.0 | 2216 | 100.0 | 3344 | 100.0 |
| **Brain & Other Nervous System** | 1347 | 1.5 | 1193 | 1.6 | 46 | 1.0 | 32 | 1.4 | 65 | 1.9 |
| **Breast3** | 242 | 0.3 | 210 | 0.3 | 12 | 0.3 | 11 | 0.5 | 9 | 0.3 |
| **Bronchus & Lung** | 11999 | 13.7 | 10799 | 14.2 | 503 | 11.1 | 364 | 16.4 | 281 | 8.4 |
| **Colon / Rectum** | 7291 | 8.3 | 6282 | 8.3 | 404 | 8.9 | 233 | 10.5 | 292 | 8.7 |
| **Esophagus** | 1747 | 2.0 | 1618 | 2.1 | 58 | 1.3 | 35 | 1.6 | 26 | 0.8 |
| **Hodgkin Lymphoma** | 547 | 0.6 | 445 | 0.6 | 32 | 0.7 | 17 | 0.8 | 48 | 1.4 |
| **Kidney & Renal Pelvis** | 4028 | 4.6 | 3506 | 4.6 | 198 | 4.4 | 80 | 3.6 | 189 | 5.7 |
| **Larynx** | 1013 | 1.2 | 896 | 1.2 | 41 | 0.9 | 6 | 0.3 | 56 | 1.7 |
| **Leukemia** | 2793 | 3.2 | 2441 | 3.2 | 111 | 2.4 | 72 | 3.2 | 104 | 3.1 |
| **Liver & Intrahepatic Bile Ducts** | 2436 | 2.8 | 1823 | 2.4 | 196 | 4.3 | 190 | 8.6 | 199 | 6.0 |
| **Melanoma of Skin** | 4305 | 4.9 | 4047 | 5.3 | 8 | 0.2 | 10 | 0.5 | 16 | 0.5 |
| **Multiple Myeloma** | 1429 | 1.6 | 1188 | 1.6 | 120 | 2.6 | 33 | 1.5 | 70 | 2.1 |
| **Non-Hodgkin Lymphoma** | 4045 | 4.6 | 3543 | 4.7 | 167 | 3.7 | 95 | 4.3 | 193 | 5.8 |
| **Oral Cavity & Pharynx** | 3327 | 3.8 | 2931 | 3.9 | 129 | 2.8 | 111 | 5.0 | 128 | 3.8 |
| **Pancreas** | 2556 | 2.9 | 2277 | 3.0 | 131 | 2.9 | 54 | 2.4 | 76 | 2.3 |
| **Prostate** | 20389 | 23.2 | 16641 | 21.9 | 1694 | 37.4 | 385 | 17.4 | 923 | 27.6 |
| **Stomach** | 1624 | 1.8 | 1266 | 1.7 | 138 | 3.0 | 83 | 3.7 | 111 | 3.3 |
| **Testis** | 1045 | 1.2 | 931 | 1.2 | 17 | 0.4 | 19 | 0.9 | 60 | 1.8 |
| **Thyroid** | 1851 | 2.1 | 1564 | 2.1 | 60 | 1.3 | 104 | 4.7 | 80 | 2.4 |
| **Urinary Bladder** | 6872 | 7.8 | 6422 | 8.4 | 136 | 3.0 | 89 | 4.0 | 141 | 4.2 |
| **Other Sites** | 6998 | 8.0 | 6098 | 8.0 | 334 | 7.4 | 193 | 8.7 | 277 | 8.3 |

**Table 12.**

**NUMBER AND PERCENTAGE OF INCIDENT CASES FOR SELECTED CANCER SITES BY RACE/ETHNICITY[[12]](#footnote-12)**

**Massachusetts, 2011-2015**

**FEMALES**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **All Races[[13]](#footnote-13)** | | **White, non-Hispanic** | | **Black, non-Hispanic** | | **Asian, non-Hispanic** | | **Hispanic** | |
| **Cancer Site / Type** | **Cases** | **% of Cases** | **Cases** | **% of Cases** | **Cases** | **% of Cases** | **Cases** | **% of Cases** | **Cases** | **% of Cases** |
| **All Sites** | 95757 | 100.0 | 83467 | 100.0 | 4522 | 100.0 | 2760 | 100.0 | 3904 | 100.0 |
| **Brain & Other Nervous System** | 1169 | 1.2 | 1004 | 1.2 | 49 | 1.1 | 43 | 1.6 | 64 | 1.6 |
| **Breast3** | 28737 | 30.0 | 25182 | 30.2 | 1391 | 30.8 | 871 | 31.6 | 1117 | 28.6 |
| **Bronchus & Lung** | 13239 | 13.8 | 12182 | 14.6 | 475 | 10.5 | 257 | 9.3 | 268 | 6.9 |
| **Cervix Uteri** | 949 | 1.0 | 658 | 0.8 | 93 | 2.1 | 72 | 2.6 | 119 | 3.0 |
| **Colon / Rectum** | 7284 | 7.6 | 6313 | 7.6 | 399 | 8.8 | 235 | 8.5 | 273 | 7.0 |
| **Corpus Uteri & Uterus, NOS** | 6463 | 6.7 | 5673 | 6.8 | 309 | 6.8 | 144 | 5.2 | 261 | 6.7 |
| **Esophagus** | 493 | 0.5 | 445 | 0.5 | 22 | 0.5 | 9 | 0.3 | 14 | 0.4 |
| **Hodgkin Lymphoma** | 472 | 0.5 | 385 | 0.5 | 22 | 0.5 | 12 | 0.4 | 51 | 1.3 |
| **Kidney & Renal Pelvis** | 2281 | 2.4 | 1975 | 2.4 | 129 | 2.9 | 41 | 1.5 | 111 | 2.8 |
| **Larynx** | 316 | 0.3 | 284 | 0.3 | 17 | 0.4 | 3 | 0.1 | 8 | 0.2 |
| **Leukemia** | 2064 | 2.2 | 1763 | 2.1 | 81 | 1.8 | 65 | 2.4 | 106 | 2.7 |
| **Liver & Intrahepatic Bile Ducts** | 847 | 0.9 | 646 | 0.8 | 59 | 1.3 | 70 | 2.5 | 61 | 1.6 |
| **Melanoma of Skin** | 3452 | 3.6 | 3197 | 3.8 | 12 | 0.3 | 6 | 0.2 | 38 | 1.0 |
| **Multiple Myeloma** | 1182 | 1.2 | 914 | 1.1 | 150 | 3.3 | 19 | 0.7 | 86 | 2.2 |
| **Non-Hodgkin Lymphoma** | 3536 | 3.7 | 3046 | 3.6 | 153 | 3.4 | 88 | 3.2 | 193 | 4.9 |
| **Oral Cavity & Pharynx** | 1552 | 1.6 | 1350 | 1.6 | 59 | 1.3 | 59 | 2.1 | 65 | 1.7 |
| **Ovary** | 2477 | 2.6 | 2159 | 2.6 | 107 | 2.4 | 88 | 3.2 | 91 | 2.3 |
| **Pancreas** | 2636 | 2.8 | 2323 | 2.8 | 140 | 3.1 | 67 | 2.4 | 83 | 2.1 |
| **Stomach** | 1027 | 1.1 | 766 | 0.9 | 94 | 2.1 | 74 | 2.7 | 83 | 2.1 |
| **Thyroid** | 5440 | 5.7 | 4266 | 5.1 | 274 | 6.1 | 315 | 11.4 | 432 | 11.1 |
| **Urinary Bladder** | 2526 | 2.6 | 2340 | 2.8 | 76 | 1.7 | 18 | 0.7 | 54 | 1.4 |
| **Other Sites** | 7615 | 8.0 | 6596 | 7.9 | 411 | 9.1 | 204 | 7.4 | 326 | 8.4 |

**Table 13.**

**NUMBER AND PERCENTAGE OF INCIDENT CASES FOR SELECTED CANCER SITES BY RACE/ETHNICITY[[14]](#footnote-14)**

**Massachusetts, 2011-2015**

**TOTAL2**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **All Races3** | | **White, non-Hispanic** | | **Black, non-Hispanic** | | **Asian, non-Hispanic** | | **Hispanic** | |
| **Cancer Site / Type** | **Cases** | **% of Cases** | **Cases** | **% of Cases** | **Cases** | **% of Cases** | **Cases** | **% of Cases** | **Cases** | **% of Cases** |
| **All Sites** | 183661 | 100.0 | 159603 | 100.0 | 9059 | 100.0 | 4977 | 100.0 | 7248 | 100.0 |
| **Brain & Other Nervous System** | 2517 | 1.4 | 2198 | 1.4 | 95 | 1.0 | 75 | 1.5 | 129 | 1.8 |
| **Breast4** | 28980 | 15.8 | 25393 | 15.9 | 1403 | 15.5 | 882 | 17.7 | 1126 | 15.5 |
| **Bronchus & Lung** | 25241 | 13.7 | 22983 | 14.4 | 978 | 10.8 | 621 | 12.5 | 549 | 7.6 |
| **Cervix Uteri** | 949 | 0.5 | 658 | 0.4 | 93 | 1.0 | 72 | 1.4 | 119 | 1.6 |
| **Colon / Rectum** | 14576 | 7.9 | 12596 | 7.9 | 803 | 8.9 | 468 | 9.4 | 565 | 7.8 |
| **Corpus Uteri & Uterus, NOS** | 6464 | 3.5 | 5674 | 3.6 | 309 | 3.4 | 144 | 2.9 | 261 | 3.6 |
| **Esophagus** | 2240 | 1.2 | 2063 | 1.3 | 80 | 0.9 | 44 | 0.9 | 40 | 0.6 |
| **Hodgkin Lymphoma** | 1020 | 0.6 | 831 | 0.5 | 54 | 0.6 | 29 | 0.6 | 99 | 1.4 |
| **Kidney & Renal Pelvis** | 6310 | 3.4 | 5482 | 3.4 | 327 | 3.6 | 121 | 2.4 | 300 | 4.1 |
| **Larynx** | 1329 | 0.7 | 1180 | 0.7 | 58 | 0.6 | 9 | 0.2 | 64 | 0.9 |
| **Leukemia** | 4857 | 2.6 | 4204 | 2.6 | 192 | 2.1 | 137 | 2.8 | 210 | 2.9 |
| **Liver & Intrahepatic Bile Ducts** | 3284 | 1.8 | 2469 | 1.5 | 255 | 2.8 | 261 | 5.2 | 260 | 3.6 |
| **Melanoma of Skin** | 7758 | 4.2 | 7245 | 4.5 | 20 | 0.2 | 16 | 0.3 | 54 | 0.7 |
| **Multiple Myeloma** | 2611 | 1.4 | 2102 | 1.3 | 270 | 3.0 | 52 | 1.0 | 156 | 2.2 |
| **Non-Hodgkin Lymphoma** | 7583 | 4.1 | 6590 | 4.1 | 321 | 3.5 | 183 | 3.7 | 386 | 5.3 |
| **Oral Cavity & Pharynx** | 4879 | 2.7 | 4281 | 2.7 | 188 | 2.1 | 170 | 3.4 | 193 | 2.7 |
| **Ovary** | 2478 | 1.3 | 2160 | 1.4 | 107 | 1.2 | 88 | 1.8 | 91 | 1.3 |
| **Pancreas** | 5192 | 2.8 | 4600 | 2.9 | 271 | 3.0 | 121 | 2.4 | 159 | 2.2 |
| **Prostate** | 20389 | 11.1 | 16641 | 10.4 | 1694 | 18.7 | 385 | 7.7 | 923 | 12.7 |
| **Stomach** | 2651 | 1.4 | 2032 | 1.3 | 232 | 2.6 | 157 | 3.2 | 194 | 2.7 |
| **Testis** | 1045 | 0.6 | 931 | 0.6 | 17 | 0.2 | 19 | 0.4 | 60 | 0.8 |
| **Thyroid** | 7292 | 4.0 | 5830 | 3.7 | 335 | 3.7 | 419 | 8.4 | 512 | 7.1 |
| **Urinary Bladder** | 9399 | 5.1 | 8763 | 5.5 | 212 | 2.3 | 107 | 2.1 | 195 | 2.7 |
| **Other Sites** | 14617 | 8.0 | 12697 | 8.0 | 745 | 8.2 | 397 | 8.0 | 603 | 8.3 |

**Table 14.**

**AGE-ADJUSTED[[15]](#footnote-15) INCIDENCE RATES[[16]](#footnote-16) AND 95% CONFIDENCE LIMITS (95% CL)**

**FOR SELECTED CANCER SITES BY RACE/ETHNICITY[[17]](#footnote-17)**

**Massachusetts, 2011-2015**

**MALES**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **All Races** | | **White, non-Hispanics** | | **Black, non-Hispanics** | | **Asian, non-Hispanics** | | **Hispanics** | |
| **Cancer Site / Type** | **Rates** | **95% CL** | **Rates** | **95% CL** | **Rates** | **95% CL** | **Rates** | **95% CL** | **Rates** | **95% CL** |
| **All Sites** | 493.9 | 490.6-497.3 | 498.2 | 494.5-501.8 | 514.6 | 498.4-530.7 | 312.4 | 298.6-326.2 | 376.6 | 362.0-391.1 |
| **Brain & Other Nervous System** | 7.9 | 7.4-8.3 | 8.5 | 8.0-9.0 | 4.5 | 3.1-5.9 | 3.5 | 2.3-4.8 | 4.9 | 3.5-6.4 |
| **Breast** | 1.4 | 1.2-1.6 | 1.4 | 1.2-1.6 | \* | \* | \* | \* | \* | \* |
| **Breast *in situ*4** | 0.2 | 0.1-0.2 | 0.2 | 0.1-0.2 | \* | \* | \* | \* | \* | \* |
| **Bronchus & Lung** | 69.3 | 68.0-70.6 | 71.2 | 69.8-72.5 | 64.8 | 58.7-70.9 | 57.7 | 51.5-64.0 | 38.9 | 33.9-44.0 |
| **Colon / Rectum** | 41.8 | 40.9-42.8 | 41.9 | 40.9-43.0 | 46.9 | 41.9-51.8 | 32.4 | 28.0-36.8 | 35.3 | 30.6-40.1 |
| **Esophagus** | 9.7 | 9.2-10.1 | 10.3 | 9.8-10.8 | 6.8 | 4.9-8.7 | 5.2 | 3.3-7.0 | 3.5 | 2.0-4.9 |
| **Hodgkin Lymphoma** | 3.2 | 3.0-3.5 | 3.4 | 3.1-3.8 | 2.8 | 1.8-3.8 | \* | \* | 3.5 | 2.2-4.8 |
| **Kidney & Renal Pelvis** | 22.4 | 21.7-23.1 | 23.0 | 22.2-23.8 | 21.8 | 18.6-25.1 | 10.3 | 7.9-12.7 | 18.7 | 15.7-21.7 |
| **Larynx** | 5.5 | 5.2-5.9 | 5.6 | 5.3-6.0 | 4.8 | 3.3-6.4 | \* | \* | 6.3 | 4.5-8.2 |
| **Leukemia** | 16.5 | 15.9-17.1 | 17.0 | 16.3-17.7 | 12.4 | 9.9-15.0 | 9.5 | 7.1-11.8 | 10.0 | 7.6-12.3 |
| **Liver & Intrahepatic Bile Ducts** | 12.9 | 12.4-13.4 | 11.2 | 10.7-11.7 | 19.4 | 16.5-22.3 | 25.9 | 22.0-29.7 | 21.8 | 18.4-25.2 |
| **Melanoma of Skin** | 24.8 | 24.0-25.6 | 27.3 | 26.4-28.1 | \* | \* | \* | \* | \* | \* |
| **Multiple Myeloma** | 8.1 | 7.7-8.5 | 7.8 | 7.3-8.2 | 14.5 | 11.7-17.3 | 4.4 | 2.8-5.9 | 7.4 | 5.5-9.3 |
| **Non-Hodgkin Lymphoma** | 23.4 | 22.6-24.1 | 23.9 | 23.1-24.7 | 17.6 | 14.7-20.4 | 12.5 | 9.8-15.2 | 20.1 | 16.8-23.4 |
| **Oral Cavity & Pharynx** | 17.8 | 17.2-18.4 | 18.3 | 17.6-19.0 | 14.2 | 11.6-16.8 | 13.9 | 11.2-16.6 | 14.3 | 11.5-17.1 |
| **Pancreas** | 14.5 | 13.9-15.1 | 14.8 | 14.2-15.4 | 16.3 | 13.3-19.3 | 7.9 | 5.7-10.2 | 9.5 | 7.0-11.9 |
| **Prostate** | 106.3 | 104.8-107.8 | 100.2 | 98.6-101.7 | 182.5 | 173.3-191.8 | 56.5 | 50.6-62.4 | 107.5 | 99.9-115.1 |
| **Stomach** | 9.3 | 8.9-9.8 | 8.4 | 7.9-8.8 | 17.8 | 14.6-21.1 | 12.2 | 9.4-14.9 | 13.9 | 10.9-16.8 |
| **Testis** | 6.5 | 6.1-6.9 | 8.0 | 7.4-8.5 | \* | \* | \* | \* | 3.1 | 2.3-4.0 |
| **Thyroid** | 10.6 | 10.2-11.1 | 11.2 | 10.6-11.8 | 6.1 | 4.5-7.7 | 10.7 | 8.6-12.9 | 6.5 | 4.9-8.1 |
| **Urinary Bladder** | 40.4 | 39.4-41.4 | 42.9 | 41.8-43.9 | 18.1 | 14.8-21.3 | 14.6 | 11.3-17.8 | 19.2 | 15.6-22.7 |

**Table 15.**

**AGE-ADJUSTED[[18]](#footnote-18) INCIDENCE RATES[[19]](#footnote-19) AND 95% CONFIDENCE LIMITS (95% CL)**

**FOR SELECTED CANCER SITES BY RACE/ETHNICITY[[20]](#footnote-20)**

**Massachusetts, 2011-2015**

**FEMALES**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **All Races** | | **White, non-Hispanics** | | **Black, non-Hispanics** | | **Asian, non-Hispanics** | | **Hispanics** | |
| **Cancer Site / Type** | **Rates** | **95% CL** | **Rates** | **95% CL** | **Rates** | **95% CL** | **Rates** | **95% CL** | **Rates** | **95% CL** |
| **All Sites** | 450.9 | 448.0-453.8 | 464.5 | 461.2-467.8 | 399.1 | 387.3-410.9 | 307.2 | 295.3-319.1 | 327.0 | 315.9-338.0 |
| **Brain & Other Nervous System** | 6.0 | 5.6-6.3 | 6.3 | 5.9-6.7 | 4.2 | 3.0-5.3 | 4.4 | 3.1-5.8 | 4.8 | 3.5-6.1 |
| **Breast** | 137.6 | 136.0-139.3 | 143.7 | 141.9-145.6 | 121.5 | 115.0-128.0 | 90.8 | 84.6-97.0 | 90.0 | 84.4-95.6 |
| **Breast *in situ*4** | 41.4 | 40.5-42.3 | 43.3 | 42.3-44.4 | 38.0 | 34.4-41.6 | 31.4 | 27.8-35.0 | 28.6 | 25.5-31.6 |
| **Bronchus & Lung** | 60.2 | 59.1-61.2 | 63.8 | 62.6-64.9 | 43.3 | 39.3-47.3 | 33.1 | 28.9-37.3 | 27.8 | 24.3-31.3 |
| **Cervix Uteri** | 5.1 | 4.8-5.5 | 4.6 | 4.2-4.9 | 8.2 | 6.5-9.8 | 7.1 | 5.4-8.8 | 9.5 | 7.6-11.3 |
| **Colon / Rectum** | 33.1 | 32.3-33.9 | 33.3 | 32.5-34.2 | 35.4 | 31.9-39.0 | 28.4 | 24.6-32.1 | 25.3 | 22.1-28.5 |
| **Corpus Uteri & Uterus, NOS** | 29.4 | 28.7-30.1 | 30.4 | 29.6-31.2 | 26.7 | 23.7-29.8 | 15.4 | 12.8-18.0 | 21.2 | 18.5-23.9 |
| **Esophagus** | 2.2 | 2.0-2.4 | 2.2 | 2.0-2.5 | 1.9 | 1.1-2.7 | \* | \* | \* | \* |
| **Hodgkin Lymphoma** | 2.6 | 2.4-2.9 | 2.8 | 2.6-3.1 | 1.7 | 1.0-2.5 | \* | \* | 3.3 | 2.3-4.3 |
| **Kidney & Renal Pelvis** | 10.8 | 10.3-11.2 | 11.0 | 10.5-11.5 | 11.1 | 9.2-13.1 | 4.9 | 3.3-6.5 | 9.1 | 7.2-10.9 |
| **Larynx** | 1.4 | 1.3-1.6 | 1.5 | 1.3-1.7 | \* | \* | \* | \* | \* | \* |
| **Leukemia** | 9.9 | 9.4-10.3 | 10.0 | 9.5-10.5 | 7.0 | 5.4-8.5 | 6.9 | 5.1-8.6 | 8.3 | 6.6-10.1 |
| **Liver & Intrahepatic Bile Ducts** | 3.8 | 3.5-4.0 | 3.3 | 3.0-3.6 | 5.0 | 3.7-6.3 | 9.2 | 7.0-11.5 | 6.4 | 4.7-8.1 |
| **Melanoma of Skin** | 16.8 | 16.2-17.3 | 19.0 | 18.3-19.7 | \* | \* | \* | \* | 3.0 | 1.9-4.0 |
| **Multiple Myeloma** | 5.3 | 5.0-5.6 | 4.6 | 4.3-5.0 | 13.7 | 11.5-16.0 | 2.4 | 1.3-3.5 | 8.1 | 6.3-10.0 |
| **Non-Hodgkin Lymphoma** | 16.3 | 15.8-16.9 | 16.4 | 15.8-17.0 | 13.4 | 11.2-15.6 | 10.2 | 8.0-12.4 | 17.3 | 14.6-19.9 |
| **Oral Cavity & Pharynx** | 7.1 | 6.8-7.5 | 7.2 | 6.8-7.6 | 4.9 | 3.6-6.2 | 6.9 | 5.1-8.7 | 5.8 | 4.3-7.3 |
| **Ovary** | 11.6 | 11.1-12.1 | 12.0 | 11.5-12.5 | 9.1 | 7.3-10.8 | 9.4 | 7.4-11.5 | 7.0 | 5.5-8.5 |
| **Pancreas** | 11.5 | 11.1-12.0 | 11.6 | 11.1-12.1 | 12.9 | 10.8-15.1 | 9.0 | 6.8-11.3 | 8.0 | 6.1-9.8 |
| **Stomach** | 4.7 | 4.4-5.0 | 3.9 | 3.7-4.2 | 8.8 | 7.0-10.6 | 9.2 | 7.0-11.3 | 7.4 | 5.7-9.1 |
| **Thyroid** | 29.6 | 28.7-30.4 | 29.7 | 28.8-30.7 | 22.8 | 20.0-25.5 | 29.6 | 26.3-33.0 | 28.5 | 25.7-31.4 |
| **Urinary Bladder** | 11.2 | 10.8-11.7 | 12.0 | 11.5-12.5 | 7.3 | 5.6-8.9 | \* | \* | 5.4 | 3.8-6.9 |

**Table 16.**

**AGE-ADJUSTED[[21]](#footnote-21) INCIDENCE RATES[[22]](#footnote-22) AND 95% CONFIDENCE LIMITS (95% CL)**

**FOR SELECTED CANCER SITES BY RACE/ETHNICITY[[23]](#footnote-23)**

**Massachusetts, 2011-2015**

**TOTAL**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **All Races** | | **White, non-Hispanics** | | **Black, non-Hispanics** | | **Asian, non-Hispanics** | | **Hispanics** | |
| **Cancer Site / Type** | **Rates** | **95% CL** | **Rates** | **95% CL** | **Rates** | **95% CL** | **Rates** | **95% CL** | **Rates** | **95% CL** |
| **All Sites** | 466.1 | 463.9-468.2 | 475.2 | 472.8-477.6 | 445.3 | 435.8-454.8 | 307.9 | 298.9-316.9 | 345.4 | 336.7-354.2 |
| **Brain & Other Nervous System** | 6.8 | 6.6-7.1 | 7.3 | 7.0-7.6 | 4.3 | 3.4-5.2 | 4.0 | 3.1-5.0 | 4.9 | 3.9-5.9 |
| **Breast** | --5 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **Breast *in situ*4** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **Bronchus & Lung** | 63.8 | 63.0-64.6 | 66.6 | 65.7-67.4 | 51.6 | 48.2-54.9 | 44.1 | 40.5-47.7 | 32.4 | 29.5-35.3 |
| **Cervix Uteri** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **Colon / Rectum** | 37.0 | 36.4-37.6 | 37.1 | 36.5-37.8 | 40.0 | 37.2-42.9 | 30.2 | 27.3-33.1 | 29.4 | 26.7-32.1 |
| **Corpus Uteri & Uterus, NOS** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **Esophagus** | 5.5 | 5.3-5.8 | 5.9 | 5.6-6.1 | 4.0 | 3.1-4.9 | 2.9 | 2.0-3.8 | 2.2 | 1.5-3.0 |
| **Hodgkin Lymphoma** | 2.9 | 2.7-3.1 | 3.1 | 2.9-3.3 | 2.3 | 1.6-2.9 | 1.2 | 0.7-1.7 | 3.3 | 2.6-4.1 |
| **Kidney & Renal Pelvis** | 16.1 | 15.7-16.5 | 16.5 | 16.1-17.0 | 15.7 | 13.9-17.5 | 7.4 | 6.0-8.8 | 13.3 | 11.6-14.9 |
| **Larynx** | 3.3 | 3.1-3.4 | 3.3 | 3.2-3.5 | 2.9 | 2.1-3.7 | \* | \* | 3.1 | 2.3-3.9 |
| **Leukemia** | 12.8 | 12.4-13.1 | 13.1 | 12.6-13.5 | 9.1 | 7.8-10.5 | 8.0 | 6.6-9.4 | 9.0 | 7.6-10.4 |
| **Liver & Intrahepatic Bile Ducts** | 7.9 | 7.7-8.2 | 6.9 | 6.6-7.2 | 11.5 | 10.0-12.9 | 17.0 | 14.8-19.1 | 13.2 | 11.4-14.9 |
| **Melanoma of Skin** | 20.0 | 19.6-20.5 | 22.4 | 21.8-22.9 | 1.0 | 0.6-1.5 | \* | \* | 2.4 | 1.7-3.1 |
| **Multiple Myeloma** | 6.5 | 6.3-6.8 | 6.0 | 5.8-6.3 | 14.1 | 12.3-15.8 | 3.3 | 2.4-4.3 | 7.9 | 6.6-9.2 |
| **Non-Hodgkin Lymphoma** | 19.4 | 19.0-19.9 | 19.7 | 19.2-20.2 | 15.3 | 13.6-17.1 | 11.3 | 9.5-13.0 | 18.5 | 16.5-20.6 |
| **Oral Cavity & Pharynx** | 12.1 | 11.7-12.4 | 12.4 | 12.0-12.8 | 8.9 | 7.6-10.2 | 10.2 | 8.6-11.8 | 9.5 | 8.0-11.0 |
| **Ovary** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **Pancreas** | 12.9 | 12.5-13.3 | 13.1 | 12.7-13.5 | 14.6 | 12.8-16.4 | 8.5 | 6.9-10.1 | 8.6 | 7.1-10.0 |
| **Prostate** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **Stomach** | 6.7 | 6.4-7.0 | 5.9 | 5.6-6.1 | 12.4 | 10.8-14.1 | 10.6 | 8.8-12.3 | 10.1 | 8.5-11.7 |
| **Testis** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **Thyroid** | 20.4 | 19.9-20.9 | 20.7 | 20.1-21.2 | 15.0 | 13.4-16.7 | 20.7 | 18.6-22.7 | 18.2 | 16.5-19.8 |
| **Urinary Bladder** | 23.6 | 23.1-24.1 | 25.2 | 24.6-25.7 | 11.6 | 10.0-13.2 | 7.8 | 6.2-9.3 | 11.1 | 9.4-12.8 |

**Table 17.**

**FIVE LEADING CANCER MORTALITY RATES BY RACE/ETHNICITY AND SEX**

**Massachusetts, 2011-2015**

**MALES**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **AGE-ADJUSTED[[24]](#footnote-24) MORTALITY RATE[[25]](#footnote-25)** | | | | |
| **RANK** | **White, non-Hispanic** | **Black, non-Hispanic** | **Asian, non-Hispanic** | **Hispanic** |
| 1 | Bronchus & Lung 50.0 | Bronchus & Lung 46.6 | Bronchus & Lung 35.4 | Bronchus & Lung 23.3 |
| 2 | Prostate 17.9 | Prostate 36.3 | Liver & Intrahepatic Bile Duct 14.4 | Prostate 15.5 |
| 3 | Colon/Rectum 15.0 | Colon/Rectum 16.0 | Colon/Rectum 9.2 | Liver & Intrahepatic Bile Duct 12.9 |
| 4 | Pancreas 12.7 | Liver & Intrahepatic Bile Duct 14.5 | Prostate 7.2 | Colon/Rectum 9.9 |
| 5 | Esophagus 9.1 | Pancreas 12.7 | Pancreas 5.7 | Stomach 8.1 |

**FEMALES**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **AGE-ADJUSTED1 MORTALITY RATE2** | | | | |
| **RANK** | **White, non-Hispanic** | **Black, non-Hispanic** | **Asian, non-Hispanic** | **Hispanic** |
| 1 | Bronchus & Lung 38.5 | Bronchus & Lung 28.0 | Bronchus & Lung 18.3 | Bronchus & Lung 12.0 |
| 2 | Breast 18.7 | Breast 20.6 | Colon/Rectum 8.9 | Breast 10.7 |
| 3 | Colon/Rectum 10.6 | Colon/Rectum 12.8 | Breast 7.6 | Colon/Rectum 9.0 |
| 4 | Pancreas 10.0 | Pancreas 9.5 | Pancreas 7.6 | Pancreas 5.0 |
| 5 | Ovary 7.8 | Corpus Uteri & Uterus, NOS 8.6 | Liver & Intrahepatic Bile Duct 5.3 | Non-Hodgkin Lymphoma 4.5 |

**Table 18.**

**NUMBER AND PERCENTAGE OF DEATHS FOR SELECTED CANCER SITES BY RACE/ETHNICITY[[26]](#footnote-26)**

**Massachusetts, 2011-2015**

**MALES**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **All Races[[27]](#footnote-27)** | | **White, non-Hispanic** | | **Black, non-Hispanic** | | **Asian, non-Hispanic** | | **Hispanic** | |
| **Cancer Site / Type** | **Deaths** | **% of Deaths** | **Deaths** | **% of Deaths** | **Deaths** | **% of Deaths** | **Deaths** | **% of Deaths** | **Deaths** | **% of Deaths** |
| **All Sites** | 32,392 | 100.0 | 29105 | 100.0 | 1469 | 100.0 | 747 | 100.0 | 905 | 100.0 |
| **Brain & Other Nervous System** | 945 | 2.9 | 873 | 3.0 | 28 | 2.0 | 13 | 1.7 | 25 | 2.8 |
| **Breast** | 59 | 0.2 | 57 | 0.2 | 1 | 0.1 | 1 | 0.1 | 0 | 0.0 |
| **Bronchus & Lung** | 8409 | 26.0 | 7657 | 26.3 | 345 | 23.5 | 210 | 28.1 | 166 | 18.3 |
| **Colon / Rectum** | 2544 | 7.8 | 2278 | 7.8 | 129 | 8.8 | 60 | 8.0 | 63 | 7.0 |
| **Esophagus** | 1544 | 4.8 | 1444 | 5.0 | 45 | 3.1 | 23 | 3.1 | 23 | 2.5 |
| **Hodgkin Lymphoma** | 48 | 0.2 | 37 | 0.1 | 2 | 0.1 | 2 | 0.3 | 7 | 0.8 |
| **Kidney & Renal Pelvis** | 879 | 2.7 | 807 | 2.8 | 36 | 2.5 | 9 | 1.2 | 25 | 2.8 |
| **Larynx** | 263 | 0.8 | 232 | 0.8 | 11 | 0.7 | 5 | 0.7 | 12 | 1.3 |
| **Leukemia** | 1409 | 4.3 | 1283 | 4.4 | 45 | 3.1 | 27 | 3.6 | 45 | 5.0 |
| **Liver & Intrahepatic Bile Ducts** | 1809 | 5.6 | 1416 | 4.9 | 137 | 9.3 | 132 | 17.7 | 112 | 12.4 |
| **Melanoma of Skin** | 666 | 2.1 | 649 | 2.2 | 6 | 0.4 | 1 | 0.1 | 5 | 0.5 |
| **Multiple Myeloma** | 663 | 2.0 | 568 | 2.0 | 53 | 3.6 | 13 | 1.7 | 26 | 2.9 |
| **Non-Hodgkin Lymphoma** | 1128 | 3.5 | 1027 | 3.5 | 37 | 2.5 | 20 | 2.7 | 35 | 3.9 |
| **Oral Cavity & Pharynx** | 666 | 2.1 | 576 | 2.0 | 35 | 2.4 | 21 | 2.8 | 28 | 3.1 |
| **Pancreas** | 2181 | 6.7 | 1978 | 6.8 | 94 | 6.4 | 37 | 5.0 | 60 | 6.6 |
| **Prostate** | 3005 | 9.3 | 2651 | 9.1 | 217 | 14.8 | 34 | 4.5 | 87 | 9.6 |
| **Stomach** | 705 | 2.2 | 545 | 1.9 | 52 | 3.5 | 39 | 5.2 | 63 | 7.0 |
| **Testis** | 24 | 0.1 | 23 | 0.1 | 0 | 0.0 | 0 | 0.0 | 1 | 0.1 |
| **Thyroid** | 114 | 0.3 | 104 | 0.4 | 3 | 0.2 | 2 | 0.3 | 4 | 0.4 |
| **Urinary Bladder** | 1318 | 4.1 | 1258 | 4.3 | 30 | 2.0 | 10 | 1.6 | 14 | 1.5 |
| **Other Sites** | 4013 | 12.4 | 3642 | 12.5 | 163 | 11.1 | 88 | 11.8 | 104 | 11.5 |

**Table 19.**

**NUMBER AND PERCENTAGE OF DEATHS FOR SELECTED CANCER SITES BY RACE/ETHNICITY[[28]](#footnote-28)**

**Massachusetts, 2011-2015**

**FEMALES**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **All Races[[29]](#footnote-29)** | | **White, non-Hispanic** | | **Black, non-Hispanic** | | **Asian, non-Hispanic** | | **Hispanic** | |
| **Cancer Site / Type** | **Deaths** | **% of Deaths** | **Deaths** | **% of Deaths** | **Deaths** | **% of Deaths** | **Deaths** | **% of Deaths** | **Deaths** | **% of Deaths** |
| **All Sites** | 31,705 | 100.0 | 28,599 | 100.0 | 1478 | 100.0 | 623 | 100.0 | 860 | 2.7 |
| **Brain & Other Nervous System** | 757 | 2.4 | 692 | 2.4 | 21 | 1.4 | 20 | 3.2 | 23 | 2.7 |
| **Breast** | 4178 | 13.2 | 3730 | 13.0 | 231 | 15.6 | 69 | 11.1 | 123 | 14.3 |
| **Bronchus & Lung** | 8327 | 26.2 | 7746 | 27.1 | 303 | 20.5 | 137 | 22.0 | 114 | 13.3 |
| **Cervix Uteri** | 253 | 0.8 | 195 | 0.7 | 26 | 1.8 | 7 | 1.1 | 21 | 2.4 |
| **Colon / Rectum** | 2591 | 8.2 | 2286 | 8.0 | 142 | 9.6 | 66 | 10.6 | 85 | 9.9 |
| **Corpus Uteri & Uterus, NOS** | 1078 | 3.4 | 913 | 3.2 | 96 | 6.5 | 22 | 3.5 | 39 | 4.5 |
| **Esophagus** | 382 | 1.2 | 350 | 1.2 | 12 | 0.8 | 7 | 1.1 | 11 | 1.3 |
| **Hodgkin Lymphoma** | 45 | 0.1 | 40 | 0.1 | 0 | 0.0 | 1 | 0.2 | 3 | 0.3 |
| **Kidney & Renal Pelvis** | 511 | 1.6 | 478 | 1.7 | 14 | 0.9 | 2 | 0.3 | 13 | 1.5 |
| **Larynx** | 92 | 0.3 | 85 | 0.3 | 2 | 0.1 | 1 | 0.2 | 3 | 0.3 |
| **Leukemia** | 1110 | 3.5 | 997 | 3.5 | 52 | 3.5 | 17 | 2.7 | 41 | 4.8 |
| **Liver & Intrahepatic Bile Ducts** | 809 | 2.5 | 675 | 2.4 | 44 | 3.0 | 43 | 6.9 | 43 | 5.0 |
| **Melanoma of Skin** | 422 | 1.3 | 413 | 1.4 | 2 | 0.1 | 2 | 0.3 | 4 | 0.5 |
| **Multiple Myeloma** | 640 | 2.0 | 544 | 1.9 | 66 | 4.5 | 4 | 0.6 | 23 | 2.7 |
| **Non-Hodgkin Lymphoma** | 1015 | 3.2 | 921 | 3.2 | 33 | 2.2 | 22 | 3.5 | 37 | 4.3 |
| **Oral Cavity & Pharynx** | 300 | 0.9 | 269 | 0.9 | 10 | 0.7 | 9 | 1.4 | 10 | 1.2 |
| **Ovary** | 1689 | 5.3 | 1552 | 5.4 | 74 | 5.0 | 26 | 4.2 | 29 | 3.4 |
| **Pancreas** | 2346 | 7.4 | 2125 | 7.4 | 103 | 7.0 | 55 | 8.8 | 53 | 6.2 |
| **Stomach** | 534 | 1.7 | 419 | 1.5 | 42 | 2.8 | 33 | 5.3 | 36 | 4.2 |
| **Thyroid** | 105 | 0.3 | 86 | 0.3 | 7 | 0.5 | 3 | 0.5 | 9 | 1.1 |
| **Urinary Bladder** | 612 | 1.9 | 581 | 2.0 | 20 | 1.4 | 4 | 0.6 | 6 | 0.7 |
| **Other Sites** | 3909 | 12.3 | 3502 | 12.2 | 178 | 12.0 | 73 | 11.7 | 134 | 15.6 |

**Table 20.**

**NUMBER AND PERCENTAGE OF DEATHS FOR SELECTED CANCER SITES BY RACE/ETHNICITY[[30]](#footnote-30)**

**Massachusetts, 2011-2015**

**TOTAL**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **All Races[[31]](#footnote-31)** | | **White, non-Hispanic** | | **Black, non-Hispanic** | | **Asian, non-Hispanic** | | **Hispanic** | |
| **Cancer Site / Type** | **Deaths** | **% of Deaths** | **Deaths** | **% of Deaths** | **Deaths** | **% of Deaths** | **Deaths** | **% of Deaths** | **Deaths** | **% of Deaths** |
| **All Sites** | 64097 | 100.0 | 57707 | 100.0 | 2947 | 100.0 | 1370 | 110.0 | 1765 | 100.0 |
| **Brain & Other Nervous System** | 1702 | 2.7 | 1565 | 2.7 | 49 | 1.7 | 33 | 2.4 | 48 | 2.7 |
| **Breast** | 4237 | 6.6 | 3790 | 6.6 | 232 | 7.9 | 70 | 5.1 | 123 | 7.0 |
| **Bronchus & Lung** | 16736 | 26.1 | 15403 | 26.7 | 648 | 22.0 | 347 | 25.3 | 280 | 15.9 |
| **Cervix Uteri** | 253 | 0.4 | 195 | 0.3 | 26 | 0.9 | 7 | 0.5 | 21 | 1.2 |
| **Colon / Rectum** | 5135 | 8.0 | 4564 | 7.9 | 271 | 9.2 | 126 | 9.2 | 148 | 8.4 |
| **Corpus Uteri & Uterus, NOS** | 1078 | 1.7 | 913 | 1.6 | 96 | 3.3 | 22 | 1.6 | 39 | 2.2 |
| **Esophagus** | 1926 | 3.0 | 1794 | 3.1 | 57 | 1.9 | 30 | 2.2 | 34 | 1.9 |
| **Hodgkin Lymphoma** | 93 | 0.2 | 77 | 0.1 | 2 | 0.1 | 3 | 0.2 | 10 | 0.6 |
| **Kidney & Renal Pelvis** | 1390 | 2.2 | 1285 | 2.2 | 50 | 1.7 | 11 | 0.8 | 38 | 2.2 |
| **Larynx** | 355 | 0.6 | 317 | 0.5 | 13 | 0.4 | 6 | 0.4 | 15 | 0.9 |
| **Leukemia** | 2519 | 3.9 | 2280 | 4.0 | 97 | 3.3 | 44 | 3.2 | 86 | 4.9 |
| **Liver & Intrahepatic Bile Ducts** | 2618 | 4.1 | 2091 | 3.6 | 181 | 6.1 | 175 | 12.8 | 155 | 8.8 |
| **Melanoma of Skin** | 1088 | 1.7 | 1062 | 1.8 | 8 | 0.3 | 3 | 0.2 | 9 | 0.5 |
| **Multiple Myeloma** | 1303 | 2.0 | 1112 | 1.9 | 119 | 4.1 | 17 | 1.2 | 49 | 2.8 |
| **Non-Hodgkin Lymphoma** | 2143 | 3.3 | 1948 | 3.4 | 70 | 2.4 | 42 | 3.1 | 72 | 4.1 |
| **Oral Cavity & Pharynx** | 966 | 1.5 | 845 | 1.5 | 45 | 1.5 | 30 | 2.2 | 38 | 2.1 |
| **Ovary** | 1689 | 2.6 | 1552 | 2.7 | 74 | 2.5 | 26 | 1.9 | 29 | 1.6 |
| **Pancreas** | 4527 | 7.1 | 4103 | 7.1 | 197 | 6.7 | 92 | 6.7 | 113 | 6.4 |
| **Prostate** | 3005 | 4.7 | 2651 | 4.6 | 217 | 7.4 | 34 | 2.5 | 87 | 4.9 |
| **Stomach** | 1239 | 1.9 | 964 | 1.7 | 94 | 3.2 | 72 | 5.3 | 99 | 5.6 |
| **Testis** | 24 | 0.04 | 23 | 0.04 | 0 | 0.0 | 0 | 0.0 | 1 | 0.1 |
| **Thyroid** | 219 | 0.3 | 190 | 0.3 | 10 | 0.3 | 5 | 0.4 | 13 | 0.7 |
| **Urinary Bladder** | 1930 | 3.0 | 1839 | 3.2 | 50 | 1.7 | 14 | 1.0 | 20 | 1.0 |
| **Other Sites** | 7922 | 12.4 | 7144 | 12.4 | 341 | 11.5 | 161 | 11.7 | 238 | 13.5 |

**Table 21.**

**AGE-ADJUSTED[[32]](#footnote-32) MORTALITY RATES[[33]](#footnote-33) AND 95% CONFIDENCE LIMITS (95% CL)**

**FOR SELECTED CANCER SITES BY RACE/ETHNICITY[[34]](#footnote-34)**

**Massachusetts, 2011-2015**

**MALES**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **All Races** | | **White, non-Hispanics** | | **Black, non-Hispanics** | | **Asian, non-Hispanics** | | **Hispanics** | |
| **Cancer Site / Type** | **Rates** | **95% CL** | **Rates** | **95% CL** | **Rates** | **95% CL** | **Rates** | **95% CL** | **Rates** | **95% CL** |
| **All Sites** | 186.8 | 184.8-188.9 | 190.8 | 188.6-192.9 | 198.2 | 188.1-208.3 | 119.8 | 111.2-128.4 | 122.9 | 114.9-130.9 |
| **Brain & Other Nervous System** | 5.3 | 4.9-5.6 | 5.7 | 5.3-6.1 | 2.6 | 1.7-3.7 | \* | \* | 2.4 | 1.4-3.3 |
| **Breast** | 0.3 | 0.2-0.4 | 0.4 | 0.3-0.5 | \* | \* | \* | \* | \* | \* |
| **Bronchus & Lung** | 48.4 | 47.4-49.4 | 50.0 | 48.9-51.1 | 46.6 | 41.7-51.4 | 35.4 | 30.6-40.2 | 23.3 | 19.8-26.9 |
| **Colon / Rectum** | 14.7 | 14.1-15.3 | 15.0 | 14.4-15.6 | 16.0 | 13.2-18.7 | 9.2 | 6.8-11.5 | 9.9 | 7.5-12.4 |
| **Esophagus** | 8.5 | 8.1-9.0 | 9.1 | 8.6-9.6 | 5.8 | 4.1-7.5 | 4.3 | 2.5-6.1 | 3.1 | 1.8-4.3 |
| **Hodgkin Lymphoma** | 0.3 | 0.2-0.4 | 0.3 | 0.2-0.4 | \* | \* | \* | \* | \* | \* |
| **Kidney & Renal Pelvis** | 4.9 | 4.6-5.3 | 5.1 | 4.8-5.5 | 4.9 | 3.3-6.5 | \* | \* | 2.7 | 1.6-3.7 |
| **Larynx** | 1.5 | 1.3-1.6 | 1.5 | 1.3-1.7 | \* | \* | \* | \* | \* | \* |
| **Leukemia** | 8.5 | 8.0-8.9 | 8.8 | 8.3-9.2 | 6.4 | 4.5-8.2 | 4.2 | 2.6-5.8 | 5.6 | 4.0-7.2 |
| **Liver & Intrahepatic Bile Ducts** | 9.7 | 9.3-10.2 | 8.7 | 8.3-9.2 | 14.5 | 12.1-16.9 | 19.5 | 16.2-22.9 | 12.9 | 10.5-15.3 |
| **Melanoma of Skin** | 3.8 | 3.6-4.1 | 4.3 | 4.0-4.6 | \* | \* | \* | \* | \* | \* |
| **Multiple Myeloma** | 3.9 | 3.6-4.2 | 3.8 | 3.5-4.1 | 7.4 | 5.4-9.4 | \* | \* | 4.3 | 2.6-5.9 |
| **Non-Hodgkin Lymphoma** | 6.7 | 6.3-7.1 | 6.9 | 6.5-7.3 | 4.9 | 3.3-6.4 | 3.0 | 1.7-4.4 | 4.5 | 3.0-6.0 |
| **Oral Cavity & Pharynx** | 3.6 | 3.3-3.9 | 3.6 | 3.3-3.9 | 4.2 | 2.8-5.6 | 2.9 | 1.7-4.2 | 3.7 | 2.3-5.1 |
| **Pancreas** | 12.3 | 11.8-12.9 | 12.7 | 12.2-13.3 | 12.7 | 10.1-15.3 | 5.7 | 3.9-7.6 | 7.4 | 5.5-9.3 |
| **Prostate** | 18.2 | 17.6-18.9 | 17.9 | 17.2-18.6 | 36.3 | 31.5-41.2 | 7.2 | 4.8-9.6 | 15.5 | 12.3-18.8 |
| **Stomach** | 4.1 | 3.8-4.4 | 3.6 | 3.3-3.9 | 7.3 | 5.4-9.4 | 5.6 | 3.9-7.4 | 8.1 | 6.1-10.1 |
| **Testis** | 0.1 | 0.1-0.2 | 0.2 | 0.1-0.2 | \* | \* | \* | \* | \* | \* |
| **Thyroid** | 0.6 | 0.5-0.8 | 0.7 | 0.5-0.8 | \* | \* | \* | \* | \* | \* |
| **Urinary Bladder** | 7.9 | 7.4-8.3 | 8.4 | 7.9-8.9 | 4.8 | 3.1-6.6 | \* | \* | \* | \* |

**Table 22.**

**AGE-ADJUSTED[[35]](#footnote-35) MORTALITY RATES[[36]](#footnote-36) AND 95% CONFIDENCE LIMITS (95% CL)**

**FOR SELECTED CANCER SITES BY RACE/ETHNICITY[[37]](#footnote-37)**

**Massachusetts, 2011-2015**

**FEMALES**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **All Races** | | **White, non-Hispanics** | | **Black, non-Hispanics** | | **Asian, non-Hispanics** | | **Hispanics** | |
| **Cancer Site / Type** | **Rates** | **95% CL** | **Rates** | **95% CL** | **Rates** | **95% CL** | **Rates** | **95% CL** | **Rates** | **95% CL** |
| **All Sites** | 135.2 | 133.7-136.7 | 139.3 | 137.6-140.9 | 134.9 | 128.0-141.7 | 79.4 | 73.2-85.6 | 86.2 | 80.4-91.9 |
| **Brain & Other Nervous System** | 3.5 | 3.2-3.7 | 3.8 | 3.5-4.0 | \* | \* | 2.2 | 1.2-3.1 | 2.1 | 1.2-2.9 |
| **Breast** | 18.1 | 17.6-18.7 | 18.7 | 18.1-19.2 | 20.6 | 18.0-23.3 | 7.6 | 5.8-9.4 | 10.7 | 8.8-12.6 |
| **Bronchus & Lung** | 36.2 | 35.4-37.0 | 38.5 | 37.6-39.4 | 28.0 | 27.8-31.1 | 18.3 | 15.2-21.3 | 12.0 | 9.8-14.2 |
| **Cervix Uteri** | 1.2 | 1.0-1.3 | 1.1 | 1.0-1.3 | 2.2 | 1.3-3.0 | \* | \* | 1.9 | 1.1-2.7 |
| **Colon / Rectum** | 10.6 | 10.2-11.0 | 10.6 | 10.2-11.0 | 12.8 | 10.7-14.9 | 8.9 | 6.7-11.0 | 9.1 | 7.1-11.0 |
| **Corpus Uteri & Uterus, NOS** | 4.6 | 4.3-4.8 | 4.4 | 4.1-4.7 | 8.6 | 6.9-10.4 | 2.6 | 1.5-3.7 | 3.9 | 2.7-5.2 |
| **Esophagus** | 1.6 | 1.4-1.8 | 1.7 | 1.5-1.8 | \* | \* | \* | \* | \* | \* |
| **Hodgkin Lymphoma** | 0.2 | 0.1-0.3 | 0.2 | 0.1-0.3 | \* | \* | \* | \* | \* | \* |
| **Kidney & Renal Pelvis** | 2.1 | 1.9-2.3 | 2.2 | 2.0-2.4 | \* | \* | \* | \* | \* | \* |
| **Larynx** | 0.4 | 0.3-0.5 | 0.4 | 0.3-0.5 | \* | \* | \* | \* | \* | \* |
| **Leukemia** | 4.7 | 4.5-5.0 | 4.8 | 4.5-5.1 | 5.0 | 3.6-6.3 | \* | \* | 3.9 | 2.7-5.1 |
| **Liver & Intrahepatic Bile Ducts** | 3.4 | 3.2-3.7 | 3.3 | 3.0-3.5 | 4.0 | 2.8-5.2 | 5.3 | 3.7-6.9 | 4.3 | 3.0-5.6 |
| **Melanoma of Skin** | 1.8 | 1.6-2.0 | 2.1 | 1.9-2.3 | \* | \* | \* | \* | \* | \* |
| **Multiple Myeloma** | 2.6 | 2.4-2.8 | 2.5 | 2.3-2.7 | 6.2 | 4.7-7.7 | \* | \* | 2.5 | 1.5-3.5 |
| **Non-Hodgkin Lymphoma** | 4.2 | 3.9-4.4 | 4.3 | 4.0-4.5 | 3.0 | 2.0-4.1 | 3.1 | 1.8-4.4 | 4.5 | 3.0-5.9 |
| **Oral Cavity & Pharynx** | 1.2 | 1.1-1.4 | 1.2 | 1.1-1.4 | \* | \* | \* | \* | \* | \* |
| **Ovary** | 7.3 | 7.0-7.7 | 7.8 | 7.4-8.2 | 6.4 | 5.0-7.9 | 3.1 | 1.9-4.2 | 2.6 | 1.7-3.6 |
| **Pancreas** | 9.8 | 9.4-10.1 | 10.0 | 9.6-10.5 | 9.5 | 7.6-11.3 | 7.6 | 5.6-9.7 | 5.0 | 3.7-6.4 |
| **Stomach** | 2.3 | 2.1-2.5 | 2.0 | 1.8-2.2 | 4.0 | 2.8-5.2 | 4.0 | 2.6-5.4 | 3.3 | 2.2-4.4 |
| **Thyroid** | 0.4 | 0.3-0.5 | 0.4 | 0.3-0.5 | \* | \* | \* | \* | \* | \* |
| **Urinary Bladder** | 2.4 | 2.2-2.6 | 2.6 | 2.4-2.8 | \* | \* | \* | \* | \* | \* |

**Table 23.**

**AGE-ADJUSTED[[38]](#footnote-38) MORTALITY RATES[[39]](#footnote-39) AND 95% CONFIDENCE LIMITS (95% CL)**

**FOR SELECTED CANCER SITES BY RACE/ETHNICITY[[40]](#footnote-40)**

**Massachusetts, 2011-2015**

**TOTAL**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **All Races** | | **White, non-Hispanics** | | **Black, non-Hispanics** | | **Asian, non-Hispanics** | | **Hispanics** | |
| **Cancer Site / Type** | **Rates** | **95% CL** | **Rates** | **95% CL** | **Rates** | **95% CL** | **Rates** | **95% CL** | **Rates** | **95% CL** |
| **All Sites** | 156.1 | 154.8-157.3 | 160.1 | 158.8-161.4 | 158.2 | 152.5-163.9 | 97.3 | 92.1-102.4 | 101.4 | 96.6-106.1 |
| **Brain & Other Nervous System** | 4.3 | 4.1-4.5 | 4.6 | 4.4-4.9 | 2.3 | 1.6-3.0 | 1.8 | 1.2-2.5 | 2.2 | 1.6-2.9 |
| **Breast** | - | - | - | - | - | - | - | - | - | - |
| **Bronchus & Lung** | 41.2 | 40.6-41.8 | 43.2 | 42.5-43.9 | 35.2 | 32.5-37.9 | 25.8 | 23.1-28.6 | 16.8 | 14.8-18.8 |
| **Cervix Uteri** | - | - | - | - | - | - | - | - | - | - |
| **Colon / Rectum** | 12.4 | 12.0-12.7 | 12.5 | 12.1-12.9 | 14.2 | 12.5-15.9 | 9.1 | 7.5-10.6 | 9.3 | 7.8-10.9 |
| **Corpus Uteri & Uterus, NOS** | - | - | - | - | - | - | - | - | - | - |
| **Esophagus** | 4.6 | 4.4-4.8 | 5.0 | 4.7-5.2 | 2.9 | 2.2-3.7 | 2.4 | 1.5-3.3 | 2.0 | 1.3-2.7 |
| **Hodgkin Lymphoma** | 0.2 | 0.2-0.3 | 0.2 | 0.2-0.3 | \* | \* | \* | \* | \* | \* |
| **Kidney & Renal Pelvis** | 3.3 | 3.2-3.5 | 3.5 | 3.3-3.7 | 2.6 | 1.9-3.3 | \* | \* | 1.9 | 1.3-2.5 |
| **Larynx** | 0.9 | 0.8-0.9 | 0.9 | 0.8-1.0 | \* | \* | \* | \* | \* | \* |
| **Leukemia** | 6.3 | 6.0-6.5 | 6.5 | 6.2-6.7 | 5.3 | 4.3-6.4 | 3.1 | 2.1-4.0 | 4.6 | 3.6-5.6 |
| **Liver & Intrahepatic Bile Ducts** | 6.3 | 6.0-6.5 | 5.7 | 5.5-6.0 | 8.7 | 7.4-10.0 | 11.8 | 10.0-13.5 | 8.0 | 6.8-9.3 |
| **Melanoma of Skin** | 2.7 | 2.5-2.8 | 3.0 | 2.8-3.2 | \* | \* | \* | \* | \* | \* |
| **Multiple Myeloma** | 3.1 | 3.0-3.3 | 3.0 | 2.8-3.2 | 6.7 | 5.5-7.9 | \* | \* | 3.2 | 2.3-4.1 |
| **Non-Hodgkin Lymphoma** | 5.2 | 5.0-5.5 | 5.4 | 5.1-5.6 | 3.8 | 2.9-4.7 | 3.1 | 2.1-4.0 | 4.5 | 3.5-5.6 |
| **Oral Cavity & Pharynx** | 2.3 | 2.2-2.5 | 2.3 | 2.2-2.5 | 2.3 | 1.6-2.9 | 1.9 | 1.2-2.6 | 2.2 | 1.5-2.9 |
| **Ovary** | - | - | - | - | - | - | - | - | - | - |
| **Pancreas** | 10.9 | 10.6-11.2 | 11.3 | 10.9-11.6 | 11.0 | 9.4-12.5 | 6.8 | 5.4-8.2 | 6.0 | 4.9-7.1 |
| **Prostate** | - | - | - | - | - | - | - | - | - | - |
| **Stomach** | 3.0 | 2.9-3.2 | 2.7 | 2.5-2.8 | 5.3 | 4.2-6.4 | 4.8 | 3.7-5.9 | 5.3 | 4.3-6.4 |
| **Testis** | - | - | - | - | - | - | - | - | - | - |
| **Thyroid** | 0.5 | 0.5-0.6 | 0.5 | 0.4-0.6 | \* | \* | \* | \* | \* | \* |
| **Urinary Bladder** | 4.6 | 4.4-4.8 | 4.9 | 4.7-5.1 | 2.9 | 2.1-3.8 | \* | \* | 1.3 | 0.7-1.8 |

**Table 24.**

**INCIDENCE RATES1 FOR SELECTED CANCER SITES BY SEX**

**Massachusetts (2011-2015) and U.S. (2010-2014)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **MALES** | | | | **FEMALES** | | | |
| **Cancer Site / Type** | **Massachusetts** | | **United States** | | **Massachusetts** | | **United States** | |
|  | **Rate** | **95% CL** | **Rate** | **95% CL** | **Rate** | **95% CL** | **Rate** | **95% CL** |
| **All Sites** | 493.9\* | 490.6-497.3 | 502.0 | 501.5-502.6 | 450.9\* | 448.0-453.8 | 418.0 | 417.6-418.4 |
| **Brain & Other Nervous System** | 7.9 | 7.4-8.3 | 7.7 | 7.7-7.8 | 6.0 | 5.6-6.3 | 5.6 | 5.5-5.6 |
| **Breast** | 1.4 | 1.2-1.6 | 1.3 | 1.3-1.3 | 137.6\* | 136.0-139.3 | 123.6 | 123.4-123.8 |
| **Breast *in situ2*** | 0.2 | 0.1-0.2 | N/A | N/A | 41.4\* | 40.5-42.3 | 30.6 | 30.5-30.7 |
| **Bronchus & Lung** | 69.3\* | 68.0-70.6 | 73.0 | 72.8-73.2 | 60.2\* | 59.1-61.2 | 52.8 | 52.6-52.9 |
| **Cervix Uteri** | -- | -- | -- | -- | 5.1\* | 4.8-5.5 | 7.6 | 7.5-7.6 |
| **Colon / Rectum** | 41.8\* | 40.9-42.8 | 45.9 | 45.7-46.0 | 33.1\* | 32.3-33.9 | 34.8 | 34.7-35.0 |
| **Corpus Uteri & Uterus, NOS** | -- | -- | -- | -- | 29.4\* | 28.7-30.1 | 25.9 | 25.8-26.0 |
| **Esophagus** | 9.7\* | 9.2-10.1 | 8.0 | 7.9-8.0 | 2.2\* | 2.0-2.4 | 1.8 | 1.8-1.8 |
| **Hodgkin Lymphoma** | 3.2 | 3.0-3.5 | 3.0 | 3.0-3.1 | 2.6 | 2.4-2.9 | 2.4 | 2.3-2.4 |
| **Kidney & Renal Pelvis** | 22.4 | 21.7-23.1 | 21.8 | 21.7-21.9 | 10.8 | 10.3-11.2 | 11.3 | 11.2-11.4 |
| **Larynx** | 5.5\* | 5.2-5.9 | 6.0 | 6.0-6.1 | 1.4 | 1.3-1.6 | 1.4 | 1.3-1.4 |
| **Leukemia** | 16.5\* | 15.9-17.1 | 17.6 | 17.5-17.7 | 9.9\* | 9.4-10.3 | 10.7 | 10.6-10.8 |
| **Liver & Intrahepatic Bile Ducts** | 12.9\* | 12.4-13.4 | 12.1 | 12.0-12.2 | 3.8\* | 3.5-4.0 | 4.2 | 4.1-4.2 |
| **Melanoma of Skin** | 24.8\* | 24.0-25.6 | 26.6 | 26.4-26.7 | 16.8 | 16.2-17.3 | 16.3 | 16.2-16.4 |
| **Multiple Myeloma** | 8.1 | 7.7-8.5 | 8.1 | 8.0-8.2 | 5.3 | 5.0-5.6 | 5.3 | 5.3-5.4 |
| **Non-Hodgkin Lymphoma** | 23.4 | 22.6-24.1 | 22.9 | 22.8-23.0 | 16.3 | 15.8-16.9 | 15.8 | 15.7-15.8 |
| **Oral Cavity & Pharynx** | 17.8 | 17.2-18.4 | 17.4 | 17.3-17.5 | 7.1\* | 6.8-7.5 | 6.4 | 6.3-6.4 |
| **Ovary** | -- | -- | -- | -- | 11.6 | 11.1-12.1 | 11.4 | 11.4-11.5 |
| **Pancreas** | 14.5 | 13.9-15.1 | 14.2 | 14.2-14.3 | 11.5 | 11.1-12.0 | 11.1 | 11.0-11.1 |
| **Prostate** | 106.3\* | 104.8-107.8 | 115.0 | 114.8-115.2 | -- | -- | -- | -- |
| **Stomach** | 9.3 | 8.9-9.8 | 9.2 | 9.1-9.3 | 4.7 | 4.4-5.0 | 4.6 | 4.6-4.7 |
| **Testis** | 6.5\* | 6.1-6.9 | 5.5 | 5.5-5.6 | -- | -- | -- | -- |
| **Thyroid** | 10.6\* | 10.2-11.1 | 7.2 | 7.1-7.2 | 29.6\* | 28.7-30.4 | 21.1 | 21.0-21.2 |
| **Urinary Bladder** | 40.4\* | 39.4-41.4 | 35.8 | 35.7-36.0 | 11.2\* | 10.8-11.7 | 8.8 | 8.8-8.9 |

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Rates are age-adjusted to the 2000 U.S. Standard Population.

2Breast *in situ* cases are excluded from “All Sites” and from breast cancer counts.

N/A – not available

\* indicates that the Massachusetts incidence rate differed significantly from the national rate (p < 0.05).

Data Sources: Massachusetts: Massachusetts Cancer Registry and United States: NAACCR Fast Stats: An interactive tool for quick access to key NAACCR cancer statistics. North American Association of Central Cancer Registries. <http://www.naaccr.org/>. (Accessed on 1-12-2018)

**Table 25.**

**MORTALITY RATES1 FOR SELECTED CANCER SITES BY SEX**

**Massachusetts and U.S. (2011-2015)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **MALES** | | | | **FEMALES** | | | |
| **Cancer Site / Type** | **Massachusetts** | | **United States** | | **Massachusetts** | | **United States** | |
|  | **Rate** | **95% CL** | **Rate** | **95% CL** | **Rate** | **95% CL** | **Rate** | **95% CL** |
| **All Sites** | 186.8\* | 184.8-188.9 | 196.3 | 196.0-196.6 | 135.2\* | 133.7-136.7 | 139.8 | 139.6-140.1 |
| **Brain & Other Nervous System** | 5.3 | 4.9-5.6 | 5.3 | 5.3-5.4 | 3.5 | 3.2-3.7 | 3.6 | 3.5-3.6 |
| **Breast** | 0.3 | 0.2-0.4 | 0.3 | 0.3-0.3 | 18.1\* | 17.6-18.7 | 20.9 | 20.8-21.0 |
| **Bronchus & Lung** | 48.4\* | 47.4-49.4 | 53.6 | 53.5-53.8 | 36.2 | 35.4-37.0 | 35.4 | 35.3-35.5 |
| **Cervix Uteri** | - | - | - | - | 1.2\* | 1.0-1.3 | 2.3 | 2.3-2.3 |
| **Colon / Rectum** | 14.7\* | 14.1-15.3 | 17.4 | 17.3-17.5 | 10.6\* | 10.2-11.0 | 12.4 | 12.4-12.5 |
| **Corpus Uteri & Uterus, NOS** | - | - | - | - | 4.6 | 4.3-4.8 | 4.6 | 4.6-4.7 |
| **Esophagus** | 8.5\* | 8.1-9.0 | 7.2 | 7.1-7.3 | 1.6 | 1.4-1.8 | 1.5 | 1.5-1.5 |
| **Hodgkin Lymphoma** | 0.3 | 0.2-0.4 | 0.4 | 0.4-0.4 | 0.2 | 0.1-0.2 | 0.3 | 0.2-0.3 |
| **Kidney & Renal Pelvis** | 4.9\* | 4.6-5.3 | 5.6 | 5.6-5.7 | 2.1\* | 1.9-2.3 | 2.4 | 2.4-22.5 |
| **Larynx** | 1.5\* | 1.3-1.6 | 1.8 | 1.8-1.8 | 0.4 | 0.3-0.5 | 0.4 | 0.3-0.4 |
| **Leukemia** | 8.5 | 8.0-8.9 | 8.9 | 8.8-8.9 | 4.7 | 4.5-5.0 | 4.9 | 4.9-5.0 |
| **Liver & Intrahepatic Bile Ducts** | 9.7 | 9.3-10.2 | 9.5 | 9.4-9.5 | 3.4\* | 3.2-3.7 | 3.8 | 3.8-3.9 |
| **Melanoma of Skin** | 3.8 | 3.6-4.1 | 3.9 | 3.8-3.9 | 1.8 | 1.6-2.0 | 1.6 | 1.6-1.7 |
| **Multiple Myeloma** | 3.9\* | 3.6-4.2 | 4.3 | 4.3-4.4 | 2.6 | 2.4-2.8 | 2.8 | 2.7-2.8 |
| **Non-Hodgkin Lymphoma** | 6.7\* | 6.3-7.1 | 7.4 | 7.3-7.5 | 4.2 | 3.9-4.4 | 4.5 | 4.4-4.5 |
| **Oral Cavity & Pharynx** | 3.6 | 3.3-3.9 | 3.9 | 3.8-3.9 | 1.2 | 1.1-1.4 | 1.3 | 1.3-1.3 |
| **Ovary** | - | - | - | - | 7.3 | 7.0-7.7 | 7.2 | 7.1-7.2 |
| **Pancreas** | 12.3 | 11.8-12.9 | 12.6 | 12.5-12.6 | 9.8 | 9.4-10.1 | 9.5 | 9.5-9.6 |
| **Prostate** | 18.2\* | 17.6-18.9 | 19.4 | 19.3-19.5 | - | - | - | - |
| **Stomach** | 4.1 | 3.8-4.4 | 4.3 | 4.2-4.3 | 2.3 | 2.1-2.5 | 2.3 | 2.3-2.3 |
| **Testis** | 0.1 | 0.1-0.2 | 0.2 | 0.2-0.2 | - | - | - | - |
| **Thyroid** | 0.6 | 0.5-0.8 | 0.5 | 0.5-0.5 | 0.4 | 0.3-0.5 | 0.5 | 0.5-0.5 |
| **Urinary Bladder** | 7.9 | 7.4-8.3 | 7.5 | 7.5-7.6 | 2.4 | 2.2-2.6 | 2.1 | 2.1-2.2 |

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Rates are age-adjusted to the 2000 U.S. Standard Population.

2Breast *in situ* cases are excluded from “All Sites” and from breast cancer counts.

N/A – not applicable

\* indicates that the Massachusetts mortality rate differed significantly from the national rate (p < 0.05).

Data Sources: Massachusetts: Massachusetts Vital Statistics and United States: National Center for Health Statistics.

**Appendices**

**Appendix I**

**ICD CODES USED FOR THIS REPORT**

|  |  |  |
| --- | --- | --- |
| **Cancer Site/Type** | ***.……….C o d e s………..*** | |
|  | **ICD-O-3\*** | **ICD-10\*\*** |
| **Brain & Other**  **Nervous System** | C70.0-C72.9  except 9050-9055, 9140,  9590-9992 | C70-C72 |
| **Breast**  **(includes *in situ*)** | C50.0 – C50.9  except 9050-9055, 9140,  9590-9992 | C50 |
| **Bronchus & Lung** | C34.0 – C34.9  except 9050-9055, 9140,  9590-9992 | C34 |
| **Cervix Uteri** | C53.0 – C53.9  except 9050-9055, 9140,  9590-9992 | C53 |
| **Colon/ Rectum** | C18.0-C18.9,  C19.9, C20.9,  C26.0  except 9050-9055, 9140,  9590-9992 | C18 – C20, C26.0 |
| **Corpus Uteri**  **& Uterus, NOS** | C54.0 – C54.9,  C55.9  except 9050-9055, 9140,  9590-9992 | C54 – C55 |
| **Esophagus** | C15.0-C15.9  except 9050-9055, 9140,  9590-9992 | C15 |
| **Hodgkin Lymphoma** | C00.00 – C80.9  (includes 9650-9667) | C81 |
| **Kidney &**  **Renal Pelvis** | C64.9, C65.9  except 9050-9055, 9140,  9590-9992 | C64- C65 |
| **Larynx** | C32.0 – C32.9  except 9050-9055, 9140,  9590-9992 | C32 |
| **Leukemia** | C00.0 – C80.9  (includes 9733, 9742,  9800-9801, 9805-9809, 9820, 9826, 9831-9836, 9840, 9860-9861, 9863, 9865-9867, 9869-9876, 9891, 9895-9898, 9910-9911, 9920, 9930-9931, 9940, 9945-9946, 9948, 9963-9964)  C42.0, C42.1, C42.4  (includes 9811-9818, 9823, 9827, 9837) | C90.1, C91 – C95 |
| **Liver and Intrahepatic**  **Bile Ducts** | C22.0, C22.1  except 9050-9055, 9140,  9590-9992 | C22 |
| **Melanoma of Skin** | C44.0 – C44.9  (includes 8720-8790) | C43 |
| **Multiple Myeloma** | C00.0-C80.9  (includes 9731, 9732,  9734) | C90.0, C90.2 |
| **Non – Hodgkin**  **Lymphoma** | C02.4, C098, C099, C111, C142, C379, C422, C770-C779 (includes 9590-9597, 9670-9671, 9673, 9675, 9678-9680, 9684, 9687-9691, 9695, 9698-9702, 9705, 9708-9709, 9712, 9714-9719, 9724-9729, 9735, 9737-9738, 9811-9818, 9823, 9827, 9837)  All sites except C02.4, C90.8-C09.9, C11.1, C14.2, C37.9, C42.2, C77.0-C77.9 (includes 9590-9597, 9670-9671, 9673, 9675, 9678-9680, 9684, 9687, 9688, 9689-9691, 9695, 9698-9702, 9705, 9708-9709, 9712, 9714-9719, 9724-9729, 9735, 9737, 9738)  All sites except C02.4, c09.8-C09.9, C11.1, C14.2, C37.9, C42.0-C42.2, c42.4, C77.0-C77.9 (includes 9811-9818, 9823, 9827, 9837) | C82 – C85, C96.3 |
| **Oral Cavity**  **& Pharynx** | C00.0 – C14.8  except 9050-9055, 9140,  9590-9992 | C00 – C14 |
| **Ovary** | C56.9  except 9050-9055, 9140,  9590-9992 | C56 |
| **Pancreas** | C25.0 – C25.9  except 9050-9055, 9140,  9590-9992 |  |
| **Prostate** | C61.9  except 9050-9055, 9140,  9590-9992 | C61 |
| **Stomach** | C16.0 – C16.9  except 9050-9055, 9140,  9590-9992 | C16 |
| **Testis** | C62.0 – C62.9  except 9050-9055, 9140,  9590-9992 | C62 |
| **Thyroid** | C73.9  except 9050-9055, 9140,  9590-9992 | C73 |
| **Urinary Bladder**  **(includes *in situ*)** | C67.0 – C67.9  except 9050-9055, 9140,  9590-9992 | C67 |

**\*** *International Classification**of Diseases for Oncology, 3d Ed.* (includes codes added since publication) for incidence data

**\*\*** *International Classification of Diseases, Tenth Revision* (includes codes added since publication) for mortality data

**APPENDIX II:**

**Population and Rate Changes**

The population estimates for 2011-2015 used in this report were produced by the National Center for Health Statistics (NCHS) in collaboration with the U.S. Census Bureau’s Population Estimation Program. The NCHS takes the Census Bureau population estimates file and reallocates the multiple race categories required by the 1997 Office of Management and Budget (OMB) specifications back into the four race categories specified in the 1977 OMB specifications so that the estimates will be compatible with previous years’ populations. (3) The estimates are divided into mutually exclusive racial/ethnic categories similar to those of the MCR.

Please note that the statewide age-adjusted rates published in this report cannot be compared with those published in reports prior to July 2007, because the overall population count and the age distribution of the population, which were based on the Census 2000 count, differ.

The difference in the new population estimates is pronounced for Hispanics and black, non-Hispanics. The Hispanic and black, non-Hispanic populations have increased 15% since 2000, while the overall state population has increased by 1%. It is important to remember that both age-adjusted cancer incidence and cancer death rates are not a measure of the actual risk of cancer or of death from it. Rather, age-adjusted rates are summary measures used to compare cancer incidence and mortality trends over time or among different populations whose age distributions differ. For specific examples of the effect of new population estimates on age-adjusted rates, see Appendix II in the report *Cancer Incidence and Mortality in Massachusetts 2000-2004: Statewide Report,* available at <http://www.mass.gov/eohhs/docs/dph/cancer/state/registry-statewide-00-04-report.pdf>

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**Appendix III**

**POPULATION ESTIMATES BY AGE, RACE/ETHNICTIY, AND SEX**

**Massachusetts, 2011-2015**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **White, non-Hispanic** | | | **Black, non-Hispanic** | | | **Asian, non-Hispanic** | | | **Hispanic** | | |
| **Age Group** | **Males** | **Females** | **Total** | **Males** | **Females** | **Total** | **Males** | **Females** | **Total** | **Males** | **Females** | **Total** |
| **00-04** | 599582 | 572123 | 1171705 | 89827 | 84540 | 174367 | 69502 | 67869 | 137371 | 174587 | 166763 | 341350 |
| **05-09** | 647533 | 618894 | 1266427 | 89285 | 84545 | 173830 | 68095 | 67552 | 135647 | 160176 | 154452 | 314628 |
| **10-14** | 712339 | 679236 | 1391575 | 88149 | 84700 | 172849 | 62596 | 63726 | 126322 | 151779 | 146428 | 298207 |
| **15-19** | 818320 | 800816 | 1619136 | 100453 | 98611 | 199064 | 70209 | 76924 | 147133 | 164804 | 157439 | 322243 |
| **20-24** | 832986 | 834697 | 1667683 | 109635 | 107192 | 216827 | 90551 | 97938 | 188489 | 175779 | 166330 | 342109 |
| **25-29** | 820012 | 825186 | 1645198 | 93392 | 94324 | 187716 | 99234 | 111954 | 211188 | 160076 | 152239 | 312315 |
| **30-34** | 749333 | 759781 | 1509114 | 82815 | 88511 | 171326 | 94803 | 106739 | 201542 | 150186 | 147639 | 297825 |
| **35-39** | 694231 | 713345 | 1407576 | 76803 | 83213 | 160016 | 86589 | 95411 | 182000 | 128862 | 133550 | 262412 |
| **40-44** | 808466 | 842405 | 1650871 | 76304 | 83508 | 159812 | 81411 | 87656 | 169067 | 112245 | 121365 | 233610 |
| **45-49** | 938105 | 975726 | 1913831 | 78866 | 84123 | 162989 | 67390 | 72734 | 140124 | 100361 | 110546 | 210907 |
| **50-54** | 1019746 | 1064497 | 2084243 | 75759 | 81341 | 157100 | 56875 | 61950 | 118825 | 82382 | 93083 | 175465 |
| **55-59** | 956796 | 1014650 | 1971446 | 62403 | 69649 | 132052 | 46583 | 52775 | 99358 | 61788 | 72103 | 133891 |
| **60-64** | 823817 | 896351 | 1720168 | 46705 | 54976 | 101681 | 37077 | 42678 | 79755 | 43954 | 53257 | 97211 |
| **65-69** | 647698 | 726488 | 1374186 | 31740 | 40768 | 72508 | 25370 | 29383 | 54753 | 29601 | 38432 | 68033 |
| **70-74** | 438022 | 523693 | 961715 | 20329 | 29264 | 49593 | 18884 | 21646 | 40530 | 18782 | 25836 | 44618 |
| **75-79** | 313303 | 410083 | 723386 | 13806 | 22188 | 35994 | 13580 | 15533 | 29113 | 11642 | 17619 | 29261 |
| **80-84** | 240271 | 364116 | 604387 | 8543 | 15842 | 24385 | 8095 | 10333 | 18428 | 6808 | 11451 | 18259 |
| **85+** | 229216 | 489437 | 718653 | 7043 | 16512 | 23555 | 5936 | 9300 | 15236 | 5749 | 10680 | 16429 |

Population Data Source: United States Census Data (2011-2015)

**Appendix IV**

**Racial/Ethnic Breakdown of the Massachusetts and United States Populations\***

**Massachusetts (2011-2015)**

**United States (2011-2015)**

Data Source: United States Census Data, American Community Survery, 2011-2015

\*Other includes people reporting 2 or more races.

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**REFERENCES**

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1. Massachusetts Cancer Registry, Cancer Incidence and Mortality in Massachusetts, 2006-2010: Statewide Report, Available at: [www.mass.gov/dph/mcr](http://www.mass.gov/dph/mcr)
2. Ahmedin Jemal et al. (2017), Annual Report to the Nation on the Status of Cancer, 1975-2014, Featuring Survival. J Natl Cancer Inst. <https://academic.oup.com/jnci/article-lookup/doi/10.1093/jnci/djx030>
3. National Center for Health Statistics, U.S. Department of Health and Human Services. Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Vintage 2015 Bridged Race postcensal population estimates for July 1, 2010 to July 1, 2015 by year, county, single year of age (0-85+ years), bridged race, Hispanic origin, and sex Available at:

<https://www.cdc.gov/nchs/nvss/bridged_race/data_documentation.htm#vintage2015>

1. 1Rates are age-adjusted to the 2000 U.S. Standard Population. \*NOS – Not Otherwise Specified.

   Source: Massachusetts Vital Statistics [↑](#footnote-ref-1)
2. Rates are age-adjusted to the 2000 U.S. Standard Population. [↑](#footnote-ref-2)
3. per 100,000 males

   Source: Massachusetts Vital Statistics [↑](#footnote-ref-3)
4. Rates are age-adjusted to the 2000 U.S. Standard Population. [↑](#footnote-ref-4)
5. per 100,000 females

   Source: Massachusetts Vital Statistics [↑](#footnote-ref-5)
6. Rates are age-adjusted to the 2000 U.S. Standard Population. [↑](#footnote-ref-6)
7. per 100,000 total population

   3Dashes indicate cancers found in only one sex or predominantly in one sex (breast cancer). [↑](#footnote-ref-7)
8. Rates are age-adjusted to the 2000 U.S. Standard Population. [↑](#footnote-ref-8)
9. per 100,000

   3Breast cancer rates do not include *in situ* cases.

   Source: Massachusetts Cancer Registry [↑](#footnote-ref-9)
10. Race/ethnicity categories are mutually exclusive. Cases are only included in one race/ethnicity category. [↑](#footnote-ref-10)
11. The number of cases for all races is not the sum of cases by race/ethnicity. 3Breast *in situ* cases are excluded from ‘All Sites’ and breast cancer counts.

    Source: Massachusetts Cancer Registry [↑](#footnote-ref-11)
12. Race/ethnicity categories are mutually exclusive. Cases are only included in one race/ethnicity category. [↑](#footnote-ref-12)
13. The number of cases for all races is not the sum of cases by race/ethnicity. 3Breast *in situ* cases are excluded from ‘All Sites’ and from breast cancer counts.

    Source: Massachusetts Cancer Registry [↑](#footnote-ref-13)
14. Race/ethnicity categories are mutually exclusive. Cases are only included in one race/ethnicity category.

    2Total includes persons classified as a transsexual and persons of unknown sex. 3The number of cases for all races is not the sum of cases by race/ethnicity. 4 Breast in situ cases are excluded from ‘All Sites’ and from breast cancer counts. Source: Massachusetts Cancer Registry [↑](#footnote-ref-14)
15. Rates are age-adjusted to the 2000 U.S. Standard Population. [↑](#footnote-ref-15)
16. per 100,000 [↑](#footnote-ref-16)
17. Race/ethnicity categories are mutually exclusive. Cases are only included in one race/ethnicity category. 4 Breast *in situ* is excluded from ‘All Sites’.

    \*An age-adjusted incidence rate was not calculated when there were fewer than 20 cases.

    Source: Massachusetts Cancer Registry [↑](#footnote-ref-17)
18. Rates are age-adjusted to the 2000 U.S. Standard Population. [↑](#footnote-ref-18)
19. per 100,000 [↑](#footnote-ref-19)
20. Race/ethnicity categories are mutually exclusive. Cases are only included in one race/ethnicity category. 4 Breast *in situ* cases are excluded from ‘All Sites’.

    \* An age-adjusted incidence rate was not calculated when there were fewer than 20 cases.

    Source: Massachusetts Cancer Registry [↑](#footnote-ref-20)
21. Rates are age-adjusted to the 2000 U.S. Standard Population. [↑](#footnote-ref-21)
22. per 100,000 [↑](#footnote-ref-22)
23. Race/ethnicity categories are mutually exclusive. Cases are only included in one race/ethnicity category. 4 Breast *in situ* cases are excluded from ‘All Sites’. 5 Dashes indicate cancers found in only one sex or predominantly in one sex (breast cancer). \* An age-adjusted incidence rate was not calculated when there were fewer than 20 cases. Source: Massachusetts Cancer Registry [↑](#footnote-ref-23)
24. Rates are age-adjusted to the 2000 U.S. Standard Population. [↑](#footnote-ref-24)
25. per 100,000

    Source: Massachusetts Vital Statistics [↑](#footnote-ref-25)
26. Race/ethnicity categories are mutually exclusive. Deaths are only included in one race/ethnicity category. [↑](#footnote-ref-26)
27. The number of deaths for all races is not the sum of deaths by race/ethnicity.

    Source: Massachusetts Vital Statistics [↑](#footnote-ref-27)
28. Race/ethnicity categories are mutually exclusive. Deaths are only included in one race/ethnicity category. [↑](#footnote-ref-28)
29. The number of deaths for all races is not the sum of deaths by race/ethnicity.

    Source: Massachusetts Vital Statistics [↑](#footnote-ref-29)
30. Race/ethnicity categories are mutually exclusive. Deaths are only included in one race/ethnicity category. [↑](#footnote-ref-30)
31. The number of deaths for all races is not the sum of deaths by race/ethnicity.

    Source: Massachusetts Vital Statistics [↑](#footnote-ref-31)
32. Rates are age-adjusted to the 2000 U.S. Standard Population. [↑](#footnote-ref-32)
33. per 100,000 [↑](#footnote-ref-33)
34. Race/ethnicity categories are mutually exclusive. Deaths are only included in one race/ethnicity category.

    \*An age-adjusted mortality rate was not calculated when there were fewer than 20 deaths.

    Source: Massachusetts Vital Statistics [↑](#footnote-ref-34)
35. Rates are age-adjusted to the 2000 U.S. Standard Population. [↑](#footnote-ref-35)
36. per 100,000 [↑](#footnote-ref-36)
37. Race/ethnicity categories are mutually exclusive. Deaths are only included in one race/ethnicity category.

    \* An age-adjusted mortality rate was not calculated when there were fewer than 20 deaths.

    Source: Massachusetts Vital Statistics [↑](#footnote-ref-37)
38. Rates are age-adjusted to the 2000 U.S. Standard Population. [↑](#footnote-ref-38)
39. per 100,000 [↑](#footnote-ref-39)
40. Race/ethnicity categories are mutually exclusive. Deaths are only included in one race/ethnicity category.

    4Dashes indicate cancers found in only one sex or predominantly in one sex (breast cancer).

    \* An age-adjusted mortality rate was not calculated when there were fewer than 20 deaths.

    Source: Massachusetts Vital Statistics [↑](#footnote-ref-40)