**CANCER INCIDENCE AND**

**MORTALITY**

**IN MASSACHUSETTS**

**2013 – 2017**

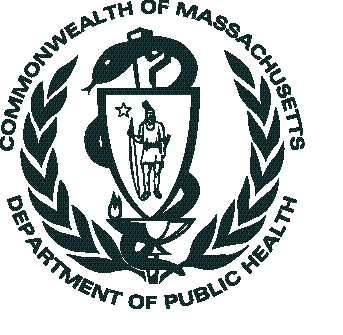
STATEWIDE REPORT

Office of Data Management and Outcomes Assessment

Office of Population Health

Massachusetts Department of Public Health

*May 2021*



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**2013 – 2017**

STATEWIDE REPORT

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*May 2021*

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#### **TABLE OF CONTENTS**

Page

Executive Summary………………………………………………………………………………… 1

#### Introduction………………………………………………………………………………...………. 6

#### Overall Content………………………………………………………………………………… 7

Figures & Tables…………………………………………………………………………………… 8

Figure 1. Percentage of cancer incident cases by cancer type and sex, Massachusetts,

2013-2017…………………………………………………………………………………... 9

Figure 2. Incidence rates for ten leading cancer types by sex, Massachusetts, 2013-2017…… 10

Figure 3. Percentage of cancer deaths by cancer type and sex, Massachusetts, 2013-2017…... 11

Figure 4. Mortality rates for ten leading cancer types by sex, Massachusetts, 2013-2017……. 12

Table 1. Age-specific incidence rates and median ages at diagnosis for selected cancer sites,

Massachusetts, 2013-2017, males …………………………………………………………13

Table 2. Age-specific incidence rates and median ages at diagnosis for selected cancer sites, Massachusetts, 2013-2017, females …………………………………………………. 14

Table 3. Age-specific incidence rates and median ages at diagnosis for selected cancer sites,

Massachusetts, 2013-2017, total …………………………………………………………..15

Figure 5. Annual Percent Change (APC) in age-adjusted cancer rates

among males, Massachusetts, 2013-2017 …………………………………………………16

Figure 6. Annual Percent Change (APC) in age-adjusted cancer rates

among females, Massachusetts, 2013-2017……………………………………….……… 17

Table 4. Annual age-adjusted incidence rates for selected cancer sites,

Massachusetts, 2013-2017, males………………………………………………………… 18

Table 5. Annual age-adjusted incidence rates for selected cancer sites,

Massachusetts, 2013-2017, females………………………………………………………..19

Table 6. Annual age-adjusted incidence rates for selected cancer sites,

Massachusetts, 2013-2017, total ………………………………………………………….. 20

Table 7. Annual age-adjusted mortality rates for selected cancer sites,

Massachusetts, 2013-2017, males …………………………………………………………. 21

Table 8. Annual age-adjusted mortality rates for selected cancer sites,

Massachusetts, 2013-2017, females……………………………………… ……………….. 22

Table 9. Annual age-adjusted mortality rates for selected cancer sites,

Massachusetts, 2013-2017, total. …………………………………………………………..23

Table 10. Five leading cancer incidence rates by race/ethnicity and sex,

Massachusetts, 2013-2017 ………………………………………………………………… 24

Table 11. Number and percentage of incident cases for selected cancer sites

by race/ethnicity, Massachusetts, males, 2013-2017 ……………………………………… 25

Table 12. Number and percentage of incident cases for selected cancer sites

by race/ethnicity, Massachusetts, females, 2013-2017 ……………………………………. 26

Table 13. Number and percentage of incident cases for selected cancer sites

by race/ethnicity, Massachusetts, total, 2013-2017 ……………………… ………………. 27

Table 14. Age-adjusted incidence rates and 95% confidence limits (95% CL) for

selected cancer sites by race/ethnicity, Massachusetts, 2013-2017, males……………….. 28

Table 15. Age-adjusted incidence rates and 95% confidence limits (95% CL) for

selected cancer sites by race/ethnicity, Massachusetts, 2013-2017, females……………… 29

Table 16. Age-adjusted incidence rates and 95% confidence limits (95% CL) for

selected cancer sites by race/ethnicity, Massachusetts, 2013-2017, total…………………. 30

Table 17. Five leading cancer mortality rates by race/ethnicity and sex,

Massachusetts, 2013-2017 ………………………………………………………………… 31

Table 18. Number and percentage of deaths for selected cancer sites by

race/ethnicity, Massachusetts, 2013-2017, males …………………………………………. 32

Table 19. Number and percentage of deaths for selected cancer sites by

race/ethnicity, Massachusetts, 2013-2017, females ………………………………………. 33

Table 20. Number and percentage of deaths for selected cancer sites by

race/ethnicity, Massachusetts, 2013-2017, total …………………………………………... 34

Table 21. Age-adjusted mortality rates and 95% confidence limits (95% CL) for

selected cancer sites by race/ethnicity, Massachusetts, 2013-2017, males ………………... 35

Table 22. Age-adjusted mortality rates and 95% confidence limits (95% CL) for

selected cancer sites by race/ethnicity, Massachusetts, 2013-2017, females……..……….. 36

Table 23. Age-adjusted mortality rates and 95% confidence limits (95% CL) for

selected cancer sites by race/ethnicity, Massachusetts, 2013-2017, total ………………… 37

Table 24. Incidence rates for selected cancer sites by sex,

Massachusetts and U.S. (2013-2017) …………………………………………………….. 38

Table 25. Mortality rates for selected cancer sites by sex,

Massachusetts and U.S. (2013-2017) …………………………………………………….. 39

Appendices…………………………………………………………………………………………. 40

Appendix I. ICD codes used for this report …………………………………………………… 41

Appendix II. Population estimates by age, race/ethnicity, and sex,

Massachusetts, 2013-2017………………………………………………………………… 43

Appendix III. Racial/ethnic breakdown of the Massachusetts and NAACCR

populations, 2013-2017……………………………………………………………………. 44

References ………………………………………………………………………………………….. 45

**EXECUTIVE SUMMARY**

**EXECUTIVE SUMMARY**

*Cancer Incidence and Mortality in Massachusetts, 2013-2017: Statewide Report* presents cancer incidence and mortality data for the Commonwealth from 2013 through 2017. 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. 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 2013-2017 and are for Massachusetts residents, unless otherwise stated.**

OVERALL:

* Total number of new cases – 187,497, an average of 37,499 annually (males= 90,120; females = 97,350; transgender = 27)
* Total number of cancer deaths – 64,019, an average of 12,803 annually (males=32,519; females=31,496; sex not stated = 2)
* Incidence rate (age-adjusted) for all cancers combined for total population – 456.8 per 100,000 persons
* Mortality rate (age-adjusted) for all cancer deaths combined for total population – 152.0 per 100,000 persons.

MOST COMMONLY DIAGNOSED CANCERS & CANCER DEATH CAUSES BY SEX:

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

* Males – *prostate cancer* accounted for 23.0 % of all newly diagnosed cancers among males
* Females – *invasive breast cancer* accounted for 30.4 % of all newly diagnosed cancers among females.

***Mortality (cancer deaths)***

* Males – *cancer of the bronchus and lung* accounted for 24.7% of all cancer deaths among males
* Females – *cancer of the bronchus and lung* accounted for 25.7% of all cancer deaths among females.

TRENDS 2013-2017:

**Trend Calculation Update**: The annual percent change (APC) is a summary measure of the trend over a specific time period. Beginning with the report Cancer Incidence and Mortality In Massachusetts 2011-2015: Statewide Report, the coefficient of variation (CV) is being used 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’. (1)

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

* Bronchus & lung cancer decreased 2.0% per year.
* Laryngeal cancer decreased 7.3% per year.
* Testicular cancer decreased by 5.7% per year.

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

* All invasive cancers decreased by 1.7% per year
* Bronchus & lung cancer decreased by 2.8%.

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

* *In situ* breast cancer decreased 3.3% per year.
* Esophageal cancer decreased by 6.7% per year.
* Non-Hodgkin Lymphoma decreased 2.9% per year.
* Melanoma of skin increased by 9.4% per year.

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

* All invasive cancers decreased by 1.7% 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. The MCR also collects data on American Indian and Alaskan Native, but due to small numbers for individual cancer types, they are not presented in this report. A small number of cases were reported with a race other than those listed above (0.24%), though the specific race was not provided. Additionally, 1.4% of cases were reported with an unknown race. A more detailed report focusing on cancer incidence and mortality by race and ethnicity for the period 2011-2015 is available at* [*https://www.mass.gov/lists/cancer-incidence-special-reports#cancer-in-massachusetts-by-race-and-ethnicity-reports-*](https://www.mass.gov/lists/cancer-incidence-special-reports#cancer-in-massachusetts-by-race-and-ethnicity-reports-)*..*

***A Note on Disparities***

Although cancer can affect all groups in Massachusetts, the burden of the disease is greater in certain groups compared to others. Cancer disparities are defined as differences in cancer measures including incidence, mortality, stage at diagnosis and cancer screening rates. Typically, these cancer disparities are considered by race or ethnic group. However, there are other factors that characterize cancer disparities. These include disability status, gender, income, education, and other characteristics. (2) Although there are many contributing factors to racial disparities in cancer burden, this report will focus on disparities in incidence and mortality by race/ethnicity and sex in Massachusetts.

***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, as well as bronchus and lung, esophagus, leukemia, melanoma of skin, oral cavity and pharynx, testis and urinary bladder when compared to all other race/ethnic groups.
* Black, non-Hispanic males had significantly higher rates of colon/rectum cancer, 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, non-Hispanic males had the highest total mortality rate, significantly higher compared to Asian, non-Hispanics, Hispanics, but not compared to black, non-Hispanic males.
* 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 compared to black, non-Hispanics and Hispanics, though not significantly. All three groups, however, had significantly elevated rates compared to white, 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, brain and other nervous system, bronchus and lung, melanoma of skin and urinary bladder.
* 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, but not compared to black, non-Hispanics or 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***

* White, non-Hispanic females had the highest total cancer mortality rates, significantly higher than for Asian, non-Hispanic, Black, 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, but significantly higher for females. Among the cancers significantly elevated for females were invasive and *in situ* breast, bronchus and lung, uterine, esophageal, melanoma of skin, oral cavity and pharynx, thyroid, and urinary bladder. Among those cancers significantly elevated for males were esophageal, stomach, thyroid and urinary bladder. Incidence rates that were significantly lower compared to the U.S. among females were cervix uteri, colon and rectum, kidney and renal pelvis, leukemia, liver and intrahepatic bile ducts, and multiple myeloma while among males the cancer types included colon and rectum, leukemia 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 and female esophageal, male and female liver and intrahepatic bile duct, and male urinary bladder 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, oral cavity and pharynx, testes, and prostate cancer. For females, these were breast, cervix uteri, colon/rectum, and kidney and renal pelvis 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, 2013-2017: 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 2013 through 2017;\*
* Provides detailed information on the most commonly occurring types of cancer for 2013 through 2017;
* Examines cancer incidence patterns by age, sex, and race/ethnicity;
* Reviews Massachusetts cancer incidence and mortality trends for 2013 through 2017;

.

* Compares Massachusetts incidence and mortality data with respective national data.

The report is organized into the following sections:

* **FIGURES & TABLES** which present cancer incidence and mortality data for 24 types of cancer for 2013-2017. 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 (3).***

**FIGURES & TABLES**

**Figure 1.**

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

**Massachusetts, 2013-2017**

**MALES (N=90,120) FEMALES (N=97,350)**

****

Source: Massachusetts Cancer Registry

**Figure 2.**

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

**Massachusetts, 2013-2017**



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, 2013-2017**

**MALES (N=32,519) FEMALES (N=31,496)**

****

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

Source: Massachusetts Registry of Vital Records and Statistics

**Figure 4.**

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

**Massachusetts, 2013-2017**



**Table 1**.

**Massachusetts, 2013-2017**

**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** | 27.0 | 15.3 | 13.4 | 23.2 | 33.6 | 50.4 | 74.6 | 99.8 | 155.9 | 262.7 | 529.7 | 870.2 | 1301.6 | 1785.1 | 2315.4 | 2679.9 | 2883.8 | 2766.3 | 67 |
| **Brain & Other Nervous System** | 4.6 | 3.8 | 2.6 | 2.9 | 2.2 | 4.2 | 4.5 | 4.3 | 5.1 | 5.7 | 9.0 | 12.6 | 16.1 | 19.6 | 30.5 | 31.8 | 32.6 | 21.2 | 60 |
| **Breast** | -- | -- | -- | -- | -- | -- | 0.3 | 0.3 | 0.7 | 0.6 | 1.4 | 2.6 | 3.3 | 5.4 | 8.3 | 6.3 | 10.0 | 8.5 | 68 |
| **Breast *in situ*2** | -- | -- | -- | 0.1 | 0.1 | -- | -- | 0.1 | 0.3 | 0.2 | 0.2 | 0.2 | 0.5 | 0.5 | 0.5 | 1.4 | 0.4 | 0.4 | 64 |
| **Bronchus & Lung** | 0.2 | -- | -- | 0.1 | 0.2 | 0.5 | 1.4 | 2.6 | 5.8 | 16.8 | 45.4 | 95.5 | 155.8 | 252.0 | 390.0 | 480.9 | 536.9 | 428.5 | 70 |
| **Colon / Rectum** | -- | -- | 0.3 | 0.9 | 0.9 | 2.7 | 5.5 | 10.6 | 21.0 | 34.7 | 68.6 | 63.8 | 84.7 | 112.7 | 157.5 | 212.0 | 237.8 | 300.8 | 66 |
| **Esophagus** | -- | -- | -- | -- | 0.1 | 0.2 | 0.3 | 0.9 | 1.7 | 5.1 | 9.1 | 18.0 | 26.3 | 32.7 | 51.8 | 56.1 | 58.6 | 55.0 | 68 |
| **Hodgkin Lymphoma** | -- | 0.7 | 1.4 | 3.7 | 4.6 | 4.7 | 4.6 | 2.5 | 2.6 | 3.0 | 2.4 | 2.9 | 3.3 | 3.7 | 5.2 | 5.7 | 5.0 | 3.8 | 40 |
| **Kidney & Renal Pelvis** | 1.9 | 0.6 | 0.3 | 0.4 | 0.2 | 1.6 | 2.8 | 7.4 | 15.4 | 23.3 | 36.6 | 48.8 | 60.8 | 82.3 | 97.0 | 105.1 | 87.7 | 72.7 | 64 |
| **Larynx** | -- | -- | 0.1 | -- | -- | 0.1 | 0.2 | 0.4 | 1.0 | 3.3 | 6.9 | 14.1 | 17.6 | 20.6 | 26.5 | 25.3 | 32.6 | 20.8 | 65 |
| **Leukemia** | 7.6 | 3.3 | 2.6 | 3.0 | 2.9 | 2.4 | 4.2 | 4.2 | 6.3 | 8.5 | 13.1 | 20.7 | 31.6 | 45.2 | 61.9 | 86.6 | 103.0 | 103.5 | 67 |
| **Liver & Intrahepatic Bile Ducts** | 1.8 | -- | 0.3 | 0.2 | 0.2 | 0.2 | 0.4 | 1.3 | 2.0 | 5.3 | 15.5 | 35.8 | 53.7 | 55.9 | 54.9 | 69.1 | 71.2 | 50.4 | 65 |
| **Melanoma of Skin** | -- | 0.1 | 0.1 | 0.4 | 1.3 | 4.1 | 7.4 | 8.9 | 12.9 | 19.7 | 29.9 | 45.1 | 61.4 | 83.2 | 114.6 | 161.1 | 180.8 | 188.5 | 68 |
| **Multiple Myeloma** | -- | -- | -- | -- | -- | 0.2 | 0.3 | 1.1 | 3.1 | 5.7 | 8.1 | 13.1 | 20.9 | 31.1 | 42.7 | 47.1 | 57.8 | 46.5 | 68 |
| **Non-Hodgkin Lymphoma** | 1.1 | 1.9 | 2.1 | 2.4 | 3.7 | 3.1 | 5.0 | 7.8 | 12.2 | 15.8 | 27.6 | 35.1 | 49.5 | 70.0 | 95.4 | 128.7 | 156.3 | 140.4 | 67 |
| **Oral Cavity & Pharynx** | -- | 0.2 | 0.1 | 0.2 | 0.3 | 1.2 | 1.6 | 4.1 | 9.5 | 17.9 | 33.4 | 50.0 | 60.7 | 68.4 | 64.0 | 67.2 | 64.0 | 56.9 | 62 |
| **Pancreas** | -- | -- | 0.1 | -- | -- | 0.2 | 0.6 | 1.1 | 3.6 | 8.0 | 14.8 | 24.8 | 36.6 | 53.9 | 75.0 | 91.7 | 116.8 | 111.9 | 69 |
| **Prostate** | 0.1 | -- | -- | -- | -- | 0.1 | -- | 0.4 | 5.8 | 28.6 | 119.7 | 259.7 | 422.6 | 561.9 | 600.0 | 505.7 | 363.1 | 312.4 | 66 |
| **Stomach** | -- | -- | 0.1 | -- | -- | 0.5 | 1.3 | 2.4 | 3.3 | 5.9 | 9.4 | 15.4 | 20.8 | 31.0 | 46.6 | 56.3 | 67.4 | 65.8 | 69 |
| **Testis** | 0.4 | 0.2 | 0.1 | 2.4 | 9.7 | 13.1 | 16.0 | 12.7 | 9.7 | 8.1 | 6.2 | 2.4 | 2.2 | 1.3 | 1.3 | 0.3 | 1.9 | 0.8 | 34 |
| **Thyroid** | 0.2 | 0.1 | 0.2 | 0.9 | 3.4 | 5.9 | 9.3 | 13.8 | 14.9 | 15.1 | 16.5 | 20.8 | 20.2 | 23.2 | 22.6 | 24.0 | 20.3 | 9.6 | 55 |
| **Urinary Bladder** | 0.1 | -- | -- | 0.4 | 0.5 | 0.5 | 1.3 | 1.9 | 5.7 | 11.9 | 22.0 | 40.9 | 74.3 | 124.1 | 206.8 | 282.3 | 358.1 | 384.3 | 72 |
| **Other Sites** | 8.8 | 4.4 | 3.0 | 5.3 | 3.5 | 4.9 | 7.5 | 11.4 | 13.4 | 20.0 | 34.1 | 48.3 | 79.3 | 107.0 | 162.7 | 236.5 | 322.1 | 383.9 | 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, 2013-2017**

## 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** | 20.8 | 13.2 | 14.2 | 20.5 | 40.2 | 75.4 | 130.6 | 201.5 | 326.4 | 462.2 | 651.7 | 818.1 | 1078.5 | 1407.6 | 1781.1 | 1993.0 | 2052.4 | 1737.6 | 66 |
| **Brain & Other Nervous System** | 3.7 | 3.4 | 2.6 | 2.7 | 2.1 | 3.4 | 3.5 | 4.3 | 4.8 | 4.3 | 6.9 | 8.8 | 10.0 | 14.7 | 17.2 | 19.9 | 21.4 | 15.8 | 60 |
| **Breast** | -- | -- | -- | 0.2 | 1.7 | 12.0 | 31.9 | 71.3 | 144.6 | 210.7 | 258.2 | 275.2 | 363.5 | 457.2 | 506.8 | 499.0 | 445.4 | 304.2 | 63 |
| **Breast *in situ*2** | -- | -- | 0.1 | 0.1 | 0.1 | 1.5 | 4.8 | 12.1 | 64.5 | 93.4 | 95.9 | 90.4 | 93.3 | 117.8 | 116.9 | 103.4 | 60.0 | 22.5 | 58 |
| **Bronchus & Lung** | 0.1 | -- | 0.2 | 0.2 | 0.3 | 0.4 | 0.8 | 3.0 | 8.4 | 21.9 | 50.5 | 99.9 | 149.4 | 228.2 | 375.0 | 431.6 | 405.7 | 276.7 | 71 |
| **Cervix Uteri** | -- | -- | -- | -- | 0.3 | 2.3 | 8.6 | 9.8 | 9.5 | 8.8 | 8.9 | 7.2 | 9.0 | 8.1 | 7.6 | 8.1 | 9.0 | 6.7 | 52 |
| **Colon / Rectum** | -- | 0.3 | 0.2 | 1.2 | 1.8 | 2.3 | 5.3 | 12.0 | 21.1 | 29.0 | 52.7 | 46.4 | 58.3 | 77.1 | 113.9 | 162.3 | 203.0 | 242.2 | 70 |
| **Corpus Uteri & Uterus, NOS** | -- | -- | -- | -- | 0.2 | 1.7 | 3.0 | 8.1 | 13.2 | 24.5 | 53.9 | 81.7 | 107.1 | 131.6 | 129.6 | 95.7 | 85.8 | 51.0 | 64 |
| **Esophagus** | -- | -- | -- | -- | -- | -- | 0.1 | 0.1 | 0.8 | 1.1 | 1.0 | 4.4 | 6.6 | 8.6 | 12.7 | 12.0 | 13.9 | 16.0 | 70 |
| **Hodgkin Lymphoma** | -- | -- | 1.3 | 3.6 | 4.4 | 4.4 | 4.3 | 3.0 | 3.3 | 1.9 | 2.4 | 2.7 | 2.3 | 1.9 | 1.8 | 3.3 | 3.6 | 1.9 | 37 |
| **Kidney & Renal Pelvis** | 1.1 | 0.9 | 0.2 | 0.3 | 0.3 | 1.4 | 2.8 | 4.0 | 7.7 | 10.2 | 15.6 | 21.6 | 29.1 | 33.2 | 43.3 | 44.4 | 45.6 | 32.2 | 65 |
| **Larynx** | -- | -- | -- | -- | -- | -- | -- | 0.1 | 0.4 | 0.7 | 2.8 | 4.4 | 2.9 | 4.5 | 5.2 | 4.4 | 3.6 | 4.5 | 64 |
| **Leukemia** | 6.4 | 4.7 | 2.5 | 0.8 | 2.9 | 2.1 | 2.2 | 3.3 | 4.1 | 6.6 | 8.8 | 12.9 | 18.7 | 24.6 | 35.1 | 49.0 | 50.5 | 59.2 | 68 |
| **Liver & Intrahepatic Bile Ducts** | 0.1 | -- | 0.3 | 0.5 | 0.2 | 0.1 | 0.4 | 0.6 | 1.7 | 1.6 | 4.3 | 8.6 | 13.5 | 14.3 | 15.7 | 23.2 | 24.5 | 21.4 | 68 |
| **Melanoma of Skin** | 0.2 | 0.3 | 0.4 | 1.0 | 4.1 | 8.4 | 11.9 | 12.4 | 18.7 | 21.1 | 28.1 | 36.2 | 42.1 | 47.1 | 54.9 | 70.8 | 78.3 | 66.4 | 62 |
| **Multiple Myeloma** | -- | -- | -- | -- | -- | 0.2 | 0.2 | 0.9 | 1.8 | 3.1 | 6.0 | 9.8 | 13.3 | 20.1 | 23.1 | 29.1 | 37.4 | 27.2 | 69 |
| **Non-Hodgkin Lymphoma** | 0.3 | 0.2 | 0.5 | 1.0 | 2.1 | 2.3 | 4.2 | 5.5 | 9.2 | 12.3 | 18.3 | 24.1 | 39.2 | 49.1 | 65.0 | 79.7 | 98.9 | 78.9 | 68 |
| **Oral Cavity & Pharynx** | -- | -- | 0.5 | 0.5 | 0.7 | 1.4 | 2.0 | 1.9 | 4.5 | 6.3 | 9.9 | 15.0 | 20.4 | 22.4 | 29.2 | 27.2 | 32.7 | 32.2 | 66 |
| **Ovary** | 0.2 | 0.2 | 0.5 | 0.6 | 1.1 | 2.3 | 3.3 | 4.1 | 4.8 | 13.8 | 20.1 | 21.5 | 27.6 | 31.7 | 36.8 | 40.1 | 44.1 | 37.4 | 64 |
| **Pancreas** | -- | -- | 0.1 | 0.2 | -- | 0.2 | 0.7 | 1.7 | 2.9 | 4.3 | 10.6 | 17.1 | 26.0 | 45.0 | 59.1 | 80.1 | 90.2 | 90.2 | 73 |
| **Stomach** | -- | -- | -- | 0.3 | 0.2 | 0.3 | 0.7 | 2.1 | 3.4 | 4.2 | 4.4 | 6.7 | 8.0 | 12.3 | 20.1 | 21.8 | 32.2 | 32.0 | 71 |
| **Thyroid** | 0.1 | 0.2 | 1.4 | 4.0 | 14.2 | 25.3 | 37.4 | 42.6 | 44.9 | 50.6 | 47.1 | 47.7 | 41.4 | 42.5 | 39.5 | 34.3 | 25.5 | 11.9 | 50 |
| **Urinary Bladder** | -- | -- | 0.3 | 0.2 | 0.2 | 0.2 | 0.5 | 1.1 | 2.2 | 3.1 | 9.2 | 15.8 | 22.7 | 37.1 | 57.0 | 74.9 | 83.7 | 75.5 | 73 |
| **Other Sites** | 8.4 | 2.9 | 3.1 | 3.2 | 3.2 | 4.8 | 6.8 | 9.5 | 14.4 | 22.1 | 31.9 | 50.4 | 67.5 | 96.3 | 132.6 | 182.1 | 217.4 | 254.2 | 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, 2013-2017**

#### **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** | 24.0 | 14.3 | 13.8 | 21.9 | 36.9 | 62.9 | 102.8 | 151.6 | 243.5 | 365.3 | 592.4 | 843.4 | 1184.8 | 1584.4 | 2023.9 | 2290.2 | | 2386.9 | 2072.9 | | 66 |
| **Brain & Other Nervous System** | 4.2 | 3.6 | 2.6 | 2.8 | 2.1 | 3.8 | 4.0 | 4.3 | 5.0 | 5.0 | 8.0 | 10.6 | 12.9 | 17.0 | 23.2 | | 25.1 | 25.9 | 17.6 | | 60 |
| **Breast** | -- | -- | -- | 0.1 | 0.8 | 6.0 | 16.2 | 36.4 | 74.5 | 108.6 | 133.3 | 143.4 | 191.9 | 245.7 | 280.5 | | 285.8 | 270.3 | 207.8 | | 63 |
| **Breast *in situ2*** |  |  | 0.0 | 0.1 | 0.1 | 0.8 | 2.4 | 6.2 | 33.2 | 48.1 | 49.3 | 46.8 | 49.1 | 62.9 | 64.1 | | 59.2 | 36.0 | 15.3 | | 58 |
| **Bronchus & Lung** | 0.2 | -- | 0.1 | 0.1 | 0.2 | 0.4 | 1.1 | 2.8 | 7.1 | 19.4 | 48.0 | 97.9 | 152.4 | 239.4 | 381.9 | | 452.9 | 458.5 | 326.2 | | 71 |
| **Cervix Uteri** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | -- | -- | -- | | -- |
| **Colon / Rectum** | -- | 0.2 | 0.2 | 1.0 | 1.4 | 2.5 | 5.4 | 11.3 | 21.0 | 31.8 | 60.5 | 54.8 | 70.8 | 93.8 | 133.7 | | 183.8 | 217.0 | 261.3 | | 68 |
| **Corpus Uteri & Uterus, NOS** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | -- | -- | -- | | -- |
| **Esophagus** | -- | -- | -- | -- | 0.0 | 0.1 | 0.2 | 0.5 | 1.2 | 3.0 | 4.9 | 11.0 | 16.0 | 19.9 | 30.5 | | 31.1 | 31.9 | 28.7 | | 69 |
| **Hodgkin Lymphoma** | -- | 0.4 | 1.3 | 3.7 | 4.5 | 4.5 | 4.4 | 2.7 | 3.0 | 2.4 | 2.4 | 2.8 | 2.8 | 2.8 | 3.3 | | 4.4 | 4.2 | 2.5 | | 38 |
| **Kidney & Renal Pelvis** | 1.5 | 0.7 | 0.2 | 0.4 | 0.3 | 1.5 | 2.8 | 5.7 | 11.5 | 16.6 | 25.8 | 34.8 | 44.2 | 56.2 | 67.7 | | 70.7 | 62.5 | 45.4 | | 64 |
| **Larynx** | -- | -- | 0.0 | -- | -- | 0.0 | 0.1 | 0.2 | 0.7 | 2.0 | 4.8 | 9.1 | 9.9 | 12.0 | 14.9 | | 13.4 | 15.2 | 9.8 | | 65 |
| **Leukemia** | 7.0 | 4.0 | 2.6 | 1.9 | 2.9 | 2.3 | 3.2 | 3.7 | 5.2 | 7.5 | 10.9 | 16.7 | 24.8 | 34.2 | 47.2 | | 65.2 | 71.6 | 73.6 | | 67 |
| **Liver & Intrahepatic Bile Ducts** | 1.0 | -- | 0.3 | 0.3 | 0.2 | 0.1 | 0.4 | 0.9 | 1.8 | 3.4 | 9.7 | 21.7 | 32.6 | 33.8 | 33.5 | | 43.1 | 43.3 | 30.8 | | 65 |
| **Melanoma of Skin** | 0.1 | 0.2 | 0.2 | 0.7 | 2.7 | 6.2 | 9.6 | 10.7 | 15.9 | 20.4 | 29.0 | 40.5 | 51.3 | 64.0 | 82.0 | | 109.9 | 119.7 | 106.2 | | 65 |
| **Multiple Myeloma** | -- | -- | -- | -- | -- | 0.2 | 0.2 | 1.0 | 2.5 | 4.4 | 7.0 | 11.4 | 16.9 | 25.2 | 32.0 | | 36.9 | 45.6 | 33.5 | | 69 |
| **Non-Hodgkin Lymphoma** | 0.7 | 1.1 | 1.3 | 1.7 | 2.9 | 2.7 | 4.6 | 6.7 | 10.7 | 14.0 | 22.8 | 29.4 | 44.1 | 58.8 | 78.9 | | 100.9 | 122.0 | 98.9 | | 67 |
| **Oral Cavity & Pharynx** | -- | 0.1 | 0.3 | 0.3 | 0.5 | 1.3 | 1.8 | 3.0 | 7.0 | 11.9 | 21.3 | 31.9 | 39.6 | 43.9 | 45.0 | | 44.5 | 45.3 | 40.3 | | 63 |
| **Ovary** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | -- | -- | -- | | -- |
| **Pancreas** | -- | -- | 0.1 | 0.1 | -- | 0.2 | 0.7 | 1.4 | 3.2 | 6.1 | 12.7 | 20.8 | 31.0 | 49.1 | 66.3 | | 85.1 | 100.9 | 97.3 | | 71 |
| **Prostate** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | -- | -- | -- | | -- |
| **Stomach** | -- | -- | 0.0 | 0.1 | 0.1 | 0.4 | 1.0 | 2.2 | 3.4 | 5.0 | 6.8 | 10.9 | 14.1 | 21.0 | 32.2 | | 36.7 | 46.4 | 43.0 | | 69 |
| **Testis** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | -- | -- | -- | | -- |
| **Thyroid** | 0.2 | 0.2 | 0.8 | 2.5 | 8.8 | 15.6 | 23.5 | 28.5 | 30.3 | 33.3 | 32.2 | 34.7 | 31.3 | 33.4 | 31.8 | | 29.8 | 23.4 | 11.2 | | 51 |
| **Urinary Bladder** | 0.1 | -- | 0.1 | 0.3 | 0.4 | 0.3 | 0.9 | 1.5 | 3.9 | 7.4 | 15.4 | 27.9 | 47.3 | 77.8 | 125.0 | | 164.6 | 194.1 | 176.2 | | 72 |
| **Other Sites** | 8.6 | 3.7 | 3.1 | 4.3 | 3.4 | 4.9 | 7.1 | 10.4 | 13.9 | 21.0 | 33.0 | 49.4 | 73.1 | 101.3 | 146.3 | | 205.6 | 259.5 | 296.5 | | 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, 2013-2017**



\*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 (CV greater 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, 2013-2017**



\*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 1 and 30). NA indicates an unreliable trend (CV greater than 30) therefore the APC is not presented Source: Massachusetts Cancer Registry.

**Table 4.**

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

**Massachusetts, 2013-2017**

**MALES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Cancer Site / Type** | **2013** | **2014** | **2015** | **2016** | **2017** |
| **All Sites** | 483.1 | 480.3 | 482.9 | 491.0 | 480.1 |
| **Brain & Other Nervous System** | 9.1 | 7.6 | 7.1 | 8.4 | 8.4 |
| **Breast** | 1.5 | 1.4 | 1.2 | 1.2 | 1.7 |
| **Breast *in situ*3** | 0.1 | 0.1 | 0.3 | 0.2 | 0.2 |
| **Bronchus & Lung** | 67.2 | 68.8 | 66.3 | 64.3 | 62.9 |
| **Colon / Rectum** | 40.6 | 44.0 | 39.1 | 38.8 | 37.7 |
| **Esophagus** | 9.8 | 9.1 | 8.8 | 9.3 | 9.3 |
| **Hodgkin Lymphoma** | 3.0 | 3.1 | 2.8 | 3.0 | 3.0 |
| **Kidney & Renal Pelvis** | 23.2 | 23.2 | 23.7 | 21.9 | 20.8 |
| **Larynx** | 6.3 | 5.7 | 5.2 | 5.0 | 4.6 |
| **Leukemia** | 16.0 | 16.5 | 15.4 | 14.9 | 15.5 |
| **Liver & Intrahepatic Bile Ducts** | 12.5 | 12.6 | 13.0 | 14.3 | 13.5 |
| **Melanoma of Skin** | 25.1 | 22.7 | 26.2 | 31.5 | 32.0 |
| **Multiple Myeloma** | 8.9 | 7.5 | 8.1 | 8.7 | 7.7 |
| **Non-Hodgkin Lymphoma** | 23.5 | 23.9 | 23.9 | 23.0 | 22.4 |
| **Oral Cavity & Pharynx** | 16.7 | 18.0 | 17.8 | 18.1 | 18.0 |
| **Pancreas** | 14.7 | 13.9 | 15.5 | 15.9 | 15.4 |
| **Prostate** | 97.8 | 93.2 | 104.0 | 107.6 | 108.0 |
| **Stomach** | 10.3 | 10.0 | 8.5 | 9.7 | 8.9 |
| **Testis** | 6.6 | 6.5 | 6.0 | 5.4 | 5.4 |
| **Thyroid** | 9.3 | 11.4 | 11.3 | 10.2 | 9.3 |
| **Urinary Bladder** | 39.6 | 39.0 | 39.8 | 38.9 | 36.4 |

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, 2013-2017**

**FEMALES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Cancer Site / Type** | **2013** | **2014** | **2015** | **2016** | **2017** |
| **All Sites** | 446.0 | 445.2 | 448.5 | 447.9 | 425.8 |
| **Brain & Other Nervous System** | 6.2 | 5.5 | 6.4 | 6.3 | 5.6 |
| **Breast** | 136.8 | 137.9 | 136.9 | 141.2 | 134.9 |
| **Breast *in situ*3** | 42.3 | 40.7 | 38.7 | 38.7 | 36.6 |
| **Bronchus & Lung** | 60.8 | 58.4 | 59.6 | 60.2 | 57.9 |
| **Cervix Uteri** | 4.9 | 5.5 | 5.1 | 5.9 | 4.8 |
| **Colon / Rectum** | 33.1 | 32.1 | 32.7 | 31.5 | 27.8 |
| **Corpus Uteri & Uterus, NOS** | 29.7 | 27.4 | 29.9 | 29.3 | 28.0 |
| **Esophagus** | 2.4 | 2.5 | 2.2 | 2.0 | 1.9 |
| **Hodgkin Lymphoma** | 2.3 | 2.8 | 2.7 | 2.7 | 2.4 |
| **Kidney & Renal Pelvis** | 10.7 | 10.7 | 10.9 | 9.9 | 9.6 |
| **Larynx** | 1.2 | 1.2 | 1.4 | 1.0 | 0.9 |
| **Leukemia** | 10.3 | 8.9 | 10.1 | 9.4 | 9.2 |
| **Liver & Intrahepatic Bile Ducts** | 4.1 | 4.1 | 3.6 | 4.4 | 3.8 |
| **Melanoma of Skin** | 16.1 | 15.7 | 19.0 | 20.0 | 22.4 |
| **Multiple Myeloma** | 5.3 | 5.0 | 4.8 | 5.3 | 5.2 |
| **Non-Hodgkin Lymphoma** | 16.7 | 15.9 | 15.2 | 15.3 | 14.7 |
| **Oral Cavity & Pharynx** | 7.3 | 6.7 | 7.6 | 6.9 | 6.5 |
| **Ovary** | 10.5 | 11.3 | 11.2 | 9.7 | 9.3 |
| **Pancreas** | 11.6 | 12.1 | 12.0 | 11.4 | 12.2 |
| **Stomach** | 4.3 | 5.0 | 5.0 | 4.1 | 4.0 |
| **Thyroid** | 26.8 | 31.2 | 28.9 | 26.8 | 24.1 |
| **Urinary Bladder** | 10.7 | 10.8 | 10.8 | 10.4 | 10.2 |

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, 2013-2017**

**TOTAL5**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Cancer Site / Type** | **2013** | **2014** | **2015** | **2016** | **2017** |
| **All Sites** | 458.9 | 456.5 | 459.3 | 463.0 | 446.4 |
| **Brain & Other Nervous System** | 7.5 | 6.5 | 6.7 | 7.2 | 6.9 |
| **Breast** | --4 | -- | -- | -- | -- |
| **Breast *in situ*3** | -- | -- | -- | -- | -- |
| **Bronchus & Lung** | 63.2 | 62.5 | 62.2 | 61.6 | 59.8 |
| **Cervix Uteri** | -- | -- | -- | -- | -- |
| **Colon / Rectum** | 36.4 | 37.4 | 35.4 | 34.7 | 32.4 |
| **Corpus Uteri & Uterus, NOS** | -- | -- | -- | -- | -- |
| **Esophagus** | 5.7 | 5.5 | 5.2 | 5.3 | 5.1 |
| **Hodgkin Lymphoma** | 2.7 | 2.9 | 2.7 | 2.8 | 2.7 |
| **Kidney & Renal Pelvis** | 16.3 | 16.5 | 16.8 | 15.4 | 14.7 |
| **Larynx** | 3.5 | 3.2 | 3.1 | 2.8 | 2.6 |
| **Leukemia** | 12.8 | 12.2 | 12.4 | 11.8 | 12.1 |
| **Liver & Intrahepatic Bile Ducts** | 8.0 | 8.0 | 7.9 | 8.9 | 8.3 |
| **Melanoma of Skin** | 19.8 | 18.6 | 21.8 | 24.8 | 26.3 |
| **Multiple Myeloma** | 6.9 | 6.1 | 6.3 | 6.8 | 6.3 |
| **Non-Hodgkin Lymphoma** | 19.8 | 19.4 | 19.0 | 18.7 | 18.1 |
| **Oral Cavity & Pharynx** | 11.7 | 11.9 | 12.3 | 12.1 | 11.8 |
| **Ovary** | -- | -- | -- | -- | -- |
| **Pancreas** | 13.0 | 12.9 | 13.6 | 13.4 | 13.6 |
| **Prostate** | -- | -- | -- | -- | -- |
| **Stomach** | 6.9 | 7.2 | 6.5 | 6.6 | 6.2 |
| **Testis** | -- | -- | -- | -- | -- |
| **Thyroid** | 18.4 | 21.6 | 20.4 | 18.7 | 16.8 |
| **Urinary Bladder** | 23.0 | 22.7 | 23.1 | 22.6 | 21.4 |

1Rates 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).

5Total includes persons classified as a transgender and persons of unknown sex

Source: Massachusetts Cancer Registry

**Table 7.**

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

**Massachusetts, 2013-2017**

**MALES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Cancer Site / Type** | **2013** | **2014** | **2015** | **2016** | **2017** |
| **All Sites** | 188.6 | 186.6 | 179.5 | 179.4 | 176.8 |
| **Brain & Other Nervous System** | 5.3 | 5.4 | 5.9 | 5.9 | 5.6 |
| **Breast** | \* | \* | \* | \* | \* |
| **Bronchus & Lung** | 44.6 | 44.2 | 42.1 | 42.4 | 39.4 |
| **Colon / Rectum** | 13.5 | 14.3 | 12.7 | 12.2 | 13.7 |
| **Esophagus** | 7.2 | 7.8 | 8.3 | 7.3 | 7.8 |
| **Hodgkin Lymphoma** | \* | \* | \* | \* | \* |
| **Kidney & Renal Pelvis** | 4.6 | 5.1 | 4.9 | 4.4 | 4.3 |
| **Larynx** | 1.4 | 1.4 | 1.2 | 1.1 | 1.6 |
| **Leukemia** | 8.7 | 7.6 | 7.0 | 7.3 | 8.5 |
| **Liver & Intrahepatic Bile Ducts** | 9.9 | 9.2 | 8.8 | 10.3 | 9.6 |
| **Melanoma of Skin** | 4.0 | 3.7 | 3.1 | 3.2 | 3.3 |
| **Multiple Myeloma** | 3.2 | 4.0 | 3.7 | 4.0 | 3.5 |
| **Non-Hodgkin Lymphoma** | 6.1 | 6.2 | 6.3 | 6.4 | 7.0 |
| **Oral Cavity & Pharynx** | 3.4 | 3.1 | 3.4 | 2.8 | 3.8 |
| **Pancreas** | 12.1 | 11.4 | 11.8 | 13.2 | 13.1 |
| **Prostate** | 16.9 | 17.3 | 17.0 | 17.8 | 17.9 |
| **Stomach** | 3.3 | 4.0 | 4.3 | 4.0 | 4.5 |
| **Testis** | \* | \* | \* | \* | \* |
| **Thyroid** | 0.7 | \* | 0.6 | \* | \* |
| **Urinary Bladder** | 7.5 | 7.4 | 7.7 | 8.9 | 8.6 |

**Table 8**

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

**Massachusetts, 2013-2017**

**FEMALES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Cancer Site / Type** | **2013** | **2014** | **2015** | **2016** | **2017** |
| **All Sites** | 137.9 | 131.3 | 133.0 | 127.8 | 128.3 |
| **Brain & Other Nervous System** | 3.4 | 3.7 | 4.0 | 3.8 | 3.4 |
| **Breast** | 16.9 | 17.0 | 16.9 | 16.5 | 18.7 |
| **Bronchus & Lung** | 33.6 | 33.5 | 33.6 | 31.7 | 32.0 |
| **Cervix Uteri** | 0.9 | 1.2 | 1.0 | 1.1 | 1.1 |
| **Colon / Rectum** | 10.8 | 10.0 | 10.3 | 10.4 | 9.2 |
| **Corpus Uteri & Uterus, NOS** | 4.7 | 4.2 | 4.5 | 4.2 | 4.5 |
| **Esophagus** | 1.2 | 1.9 | 1.8 | 1.7 | 1.8 |
| **Hodgkin Lymphoma** | \* | \* | \* | \* | \* |
| **Kidney & Renal Pelvis** | 1.9 | 1.7 | 2.1 | 1.9 | 1.6 |
| **Larynx** | \* | \* | 0.4 | \* | \* |
| **Leukemia** | 4.8 | 4.1 | 4.4 | 4.3 | 4.2 |
| **Liver & Intrahepatic Bile Ducts** | 3.6 | 3.5 | 3.2 | 3.4 | 3.7 |
| **Melanoma of Skin** | 2.1 | 1.7 | 1.5 | 1.4 | 1.6 |
| **Multiple Myeloma** | 2.5 | 2.5 | 2.2 | 2.2 | 2.4 |
| **Non-Hodgkin Lymphoma** | 4.2 | 4.0 | 4.0 | 4.0 | 4.1 |
| **Oral Cavity & Pharynx** | 1.2 | 1.3 | 1.3 | 1.3 | 1.2 |
| **Ovary** | 7.4 | 6.3 | 6.6 | 6.5 | 7.1 |
| **Pancreas** | 8.7 | 9.3 | 9.9 | 9.6 | 10.0 |
| **Stomach** | 2.3 | 2.1 | 2.1 | 1.9 | 2.2 |
| **Thyroid** | 0.4 | 0.4 | \* | 0.4 | 0.7 |
| **Urinary Bladder** | 2.6 | 2.1 | 2.2 | 2.2 | 2.2 |

**Table 9.**

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

**Massachusetts, 2013-2017**

**TOTAL3**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Cancer Site / Type** | **2013** | **2014** | **2015** | **2016** | **2017** |
| **All Sites** | 158.4 | 153.9 | 151.6 | 148.6 | 148.2 |
| **Brain & Other Nervous System** | 4.2 | 4.3 | 4.8 | 4.8 | 4.7 |
| **Breast** | - | - | - | - | - |
| **Bronchus & Lung** | 38.2 | 38.0 | 37.2 | 36.2 | 35.1 |
| **Cervix Uteri** | - | - | - | - | - |
| **Colon / Rectum** | 12.0 | 11.8 | 11.3 | 11.1 | 11.2 |
| **Corpus Uteri & Uterus, NOS** | - | - | - | - | - |
| **Esophagus** | 3.8 | 4.5 | 4.6 | 4.2 | 4.4 |
| **Hodgkin Lymphoma** | 0.2 | \* | \* | 0.2 | \* |
| **Kidney & Renal Pelvis** | 3.1 | 3.3 | 3.3 | 3.0 | 2.8 |
| **Larynx** | 0.8 | 0.8 | 0.7 | 0.7 | 0.8 |
| **Leukemia** | 6.6 | 5.6 | 5.5 | 5.5 | 5.9 |
| **Liver & Intrahepatic Bile Ducts** | 6.5 | 6.1 | 5.7 | 6.5 | 6.4 |
| **Melanoma of Skin** | 2.9 | 2.5 | 2.2 | 2.2 | 2.3 |
| **Multiple Myeloma** | 2.8 | 3.1 | 2.8 | 3.0 | 2.9 |
| **Non-Hodgkin Lymphoma** | 5.0 | 5.0 | 5.0 | 5.0 | 5.3 |
| **Oral Cavity & Pharynx** | 2.2 | 2.1 | 2.2 | 2.0 | 2.4 |
| **Ovary** | - | - | - | - | - |
| **Pancreas** | 10.2 | 10.3 | 10.8 | 11.3 | 11.4 |
| **Prostate** | - | - | - | - | - |
| **Stomach** | 2.7 | 3.0 | 3.1 | 2.8 | 3.2 |
| **Testis** | - | - | - | - | - |
| **Thyroid** | 0.6 | 0.4 | 0.5 | 0.4 | 0.6 |
| **Urinary Bladder** | 4.6 | 4.2 | 4.5 | 4.8 | 4.8 |

**Table 10.**

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

**Massachusetts, 2013-2017**

**MALES**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **AGE-ADJUSTED[[8]](#footnote-8) INCIDENCE RATE[[9]](#footnote-9)** | | | | |
| **RANK** | **White, non-Hispanic** | **Black, non-Hispanic** | **Asian, non-Hispanic** | **Hispanic** |
| 1 | Prostate  97.4 | Prostate  178.5 | Bronchus & Lung  55.9 | Prostate  99.1 |
| 2 | Bronchus & Lung  68.0 | Bronchus & Lung  60.1 | Prostate  55.5 | Bronchus & Lung  38.6 |
| 3 | Urinary Bladder  41.5 | Colon / Rectum  49.6 | Colon / Rectum  33.8 | Colon / Rectum  32.5 |
| 4 | Colon / Rectum  40.3 | Kidney and Renal Pelvis  21.1 | Liver and Intrahepatic Bile Ducts  26.4 | Non-Hodgkin Lymphoma  20.4 |
| 5 | Melanoma of Skin  29.6 | Liver and Intrahepatic Bile Ducts  19.3 | Urinary Bladder  14.8 | Liver and Intrahepatic Bile Ducts  19.8 |

**FEMALES**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **AGE-ADJUSTED1 INCIDENCE RATE2** | | | | |
| **RANK** | **White, non-Hispanic** | **Black, non-Hispanic** | **Asian, non-Hispanic** | **Hispanic** |
| 1 | Breast3  144.4 | Breast  128.6 | Breast  98.0 | Breast  91.9 |
| 2 | Bronchus & Lung  63.5 | Bronchus & Lung  43.3 | Bronchus & Lung  34.7 | Thyroid  26.9 |
| 3 | Colon / Rectum  32.1 | Colon / Rectum  34.4 | Thyroid  27.4 | Bronchus & Lung  26.5 |
| 4 | Corpus Uteri & Uterus, NOS  29.8 | Corpus Uteri &  Uterus, NOS  29.4 | Colon/Rectum  25.4 | Colon/Rectum  23.0 |
| 5 | Thyroid  28.2 | Thyroid  21.6 | Corpus Uteri &  Uterus, NOS  16.6 | Corpus Uteri &  Uterus, NOS  22.4 |

**Table 11.**

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

**Massachusetts, 2013-2017**

**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** | 90120 | 100.0 | 77398 | 100.0 | 4715 | 100.0 | 2445 | 100.0 | 3626 | 100.0 |
| **Brain & Other Nervous System** | 1439 | 1.6 | 1261 | 1.6 | 38 | 0.8 | 43 | 1.8 | 77 | 2.1 |
| **Breast3** | 261 | 0.3 | 222 | 0.3 | 19 | 0.4 | 9 | 0.4 | 10 | 0.3 |
| **Bronchus & Lung** | 12059 | 13.4 | 10775 | 13.9 | 509 | 10.8 | 389 | 15.9 | 315 | 8.7 |
| **Colon / Rectum** | 7261 | 8.1 | 6168 | 8.0 | 454 | 9.6 | 260 | 10.6 | 318 | 8.8 |
| **Esophagus** | 1735 | 1.9 | 1599 | 2.1 | 54 | 1.1 | 41 | 1.7 | 32 | 0.9 |
| **Hodgkin Lymphoma** | 517 | 0.6 | 413 | 0.5 | 38 | 0.8 | 15 | 0.6 | 47 | 1.3 |
| **Kidney & Renal Pelvis** | 4235 | 4.7 | 3703 | 4.8 | 202 | 4.3 | 85 | 3.5 | 185 | 5.1 |
| **Larynx** | 1031 | 1.1 | 892 | 1.2 | 42 | 0.9 | 9 | 0.4 | 73 | 2.0 |
| **Leukemia** | 2774 | 3.1 | 2412 | 3.1 | 120 | 2.5 | 81 | 3.3 | 115 | 3.2 |
| **Liver & Intrahepatic Bile Ducts** | 2605 | 2.9 | 1965 | 2.5 | 201 | 4.3 | 202 | 8.3 | 203 | 5.6 |
| **Melanoma of Skin** | 4988 | 5.5 | 4503 | 5.8 | 4 | 0.1 | 10 | 0.4 | 18 | 0.5 |
| **Multiple Myeloma** | 1512 | 1.7 | 1245 | 1.6 | 141 | 3.0 | 32 | 1.3 | 70 | 1.9 |
| **Non-Hodgkin Lymphoma** | 4201 | 4.7 | 3681 | 4.8 | 157 | 3.3 | 109 | 4.5 | 210 | 5.8 |
| **Oral Cavity & Pharynx** | 3467 | 3.8 | 3050 | 3.9 | 128 | 2.7 | 126 | 5.2 | 134 | 3.7 |
| **Pancreas** | 2781 | 3.1 | 2446 | 3.2 | 156 | 3.3 | 70 | 2.9 | 87 | 2.4 |
| **Prostate** | 20694 | 23.0 | 16828 | 21.7 | 1750 | 37.1 | 416 | 17.0 | 960 | 26.5 |
| **Stomach** | 1720 | 1.9 | 1302 | 1.7 | 150 | 3.2 | 98 | 4.0 | 142 | 3.9 |
| **Testis** | 972 | 1.1 | 854 | 1.1 | 15 | 0.3 | 17 | 0.7 | 59 | 1.6 |
| **Thyroid** | 1832 | 2.0 | 1543 | 2.0 | 49 | 1.0 | 113 | 4.6 | 88 | 2.4 |
| **Urinary Bladder** | 6879 | 7.6 | 6394 | 8.3 | 139 | 2.9 | 97 | 4.0 | 164 | 4.5 |
| **Other Sites** | 7157 | 7.9 | 6142 | 7.9 | 349 | 7.4 | 223 | 9.1 | 319 | 8.8 |

**Table 12.**

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

**Massachusetts, 2013-2017**

**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** | 97350 | 100.0 | 83904 | 100.0 | 4814 | 100.0 | 2989 | 100.0 | 4250 | 100.0 |
| **Brain & Other Nervous System** | 1202 | 1.2 | 1021 | 1.2 | 54 | 1.1 | 42 | 1.4 | 73 | 1.7 |
| **Breast3** | 29614 | 30.4 | 25600 | 30.5 | 1521 | 31.6 | 994 | 33.3 | 1274 | 30.0 |
| **Bronchus & Lung** | 13737 | 14.1 | 12577 | 15.0 | 501 | 10.4 | 294 | 9.8 | 298 | 7.0 |
| **Cervix Uteri** | 983 | 1.0 | 676 | 0.8 | 104 | 2.2 | 70 | 2.3 | 124 | 2.9 |
| **Colon / Rectum** | 7095 | 7.3 | 6116 | 7.3 | 406 | 8.4 | 229 | 7.7 | 290 | 6.8 |
| **Corpus Uteri & Uterus, NOS** | 6645 | 6.8 | 5720 | 6.8 | 356 | 7.4 | 171 | 5.7 | 308 | 7.2 |
| **Esophagus** | 528 | 0.5 | 483 | 0.6 | 24 | 0.5 | 11 | 0.4 | 7 | 0.2 |
| **Hodgkin Lymphoma** | 463 | 0.5 | 371 | 0.4 | 24 | 0.5 | 15 | 0.5 | 52 | 1.2 |
| **Kidney & Renal Pelvis** | 2282 | 2.3 | 1927 | 2.3 | 148 | 3.1 | 44 | 1.5 | 126 | 3.0 |
| **Larynx** | 273 | 0.3 | 243 | 0.3 | 18 | 0.4 | 2 | 0.1 | 7 | 0.2 |
| **Leukemia** | 2076 | 2.1 | 1760 | 2.1 | 100 | 2.1 | 68 | 2.3 | 114 | 2.7 |
| **Liver & Intrahepatic Bile Ducts** | 935 | 1.0 | 709 | 0.8 | 72 | 1.5 | 76 | 2.5 | 71 | 1.7 |
| **Melanoma of Skin** | 3989 | 4.1 | 3519 | 4.2 | 7 | 0.1 | 9 | 0.3 | 44 | 1.0 |
| **Multiple Myeloma** | 1190 | 1.2 | 911 | 1.1 | 157 | 3.3 | 27 | 0.9 | 80 | 1.9 |
| **Non-Hodgkin Lymphoma** | 3486 | 3.6 | 2992 | 3.6 | 151 | 3.1 | 103 | 3.4 | 189 | 4.4 |
| **Oral Cavity & Pharynx** | 1581 | 1.6 | 1367 | 1.6 | 59 | 1.2 | 67 | 2.2 | 69 | 1.6 |
| **Ovary** | 2299 | 2.4 | 1986 | 2.4 | 111 | 2.3 | 81 | 2.7 | 92 | 2.2 |
| **Pancreas** | 2788 | 2.9 | 2432 | 2.9 | 153 | 3.2 | 73 | 2.4 | 103 | 2.4 |
| **Stomach** | 1007 | 1.0 | 734 | 0.9 | 109 | 2.3 | 65 | 2.2 | 88 | 2.1 |
| **Thyroid** | 5175 | 5.3 | 4013 | 4.8 | 263 | 5.5 | 312 | 10.4 | 450 | 10.6 |
| **Urinary Bladder** | 2475 | 2.5 | 2288 | 2.7 | 70 | 1.5 | 20 | 0.7 | 54 | 1.3 |
| **Other Sites** | 7527 | 7.7 | 6459 | 7.7 | 406 | 8.4 | 216 | 7.2 | 337 | 7.9 |

**Table 13.**

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

**Massachusetts, 2013-2017**

**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** | 187490 | 100.0 | 161316 | 100.0 | 9532 | 100.0 | 5435 | 100.0 | 7876 | 100.0 |
| **Brain & Other Nervous System** | 2641 | 1.4 | 2282 | 1.4 | 92 | 1.0 | 85 | 1.6 | 150 | 1.9 |
| **Breast4** | 29875 | 15.9 | 25822 | 16.0 | 1540 | 16.2 | 1003 | 18.5 | 1284 | 16.3 |
| **Bronchus & Lung** | 25799 | 13.8 | 23354 | 14.5 | 1010 | 10.6 | 683 | 12.6 | 613 | 7.8 |
| **Cervix Uteri** | 983 | 0.5 | 676 | 0.4 | 104 | 1.1 | 70 | 1.3 | 124 | 1.6 |
| **Colon / Rectum** | 14357 | 7.7 | 12285 | 7.6 | 860 | 9.0 | 489 | 9.0 | 608 | 7.7 |
| **Corpus Uteri & Uterus, NOS** | 6646 | 3.5 | 5721 | 3.5 | 356 | 3.7 | 171 | 3.1 | 308 | 3.9 |
| **Esophagus** | 2263 | 1.2 | 2082 | 1.3 | 78 | 0.8 | 52 | 1.0 | 39 | 0.5 |
| **Hodgkin Lymphoma** | 980 | 0.5 | 784 | 0.5 | 62 | 0.7 | 30 | 0.6 | 99 | 1.3 |
| **Kidney & Renal Pelvis** | 6519 | 3.5 | 5632 | 3.5 | 350 | 3.7 | 129 | 2.4 | 311 | 3.9 |
| **Larynx** | 1304 | 0.7 | 1135 | 0.7 | 60 | 0.6 | 11 | 0.2 | 80 | 1.0 |
| **Leukemia** | 4851 | 2.6 | 4172 | 2.6 | 221 | 2.3 | 149 | 2.7 | 229 | 2.9 |
| **Liver & Intrahepatic Bile Ducts** | 3541 | 1.9 | 2675 | 1.7 | 273 | 2.9 | 278 | 5.1 | 274 | 3.5 |
| **Melanoma of Skin** | 8978 | 4.8 | 8023 | 5.0 | 11 | 0.1 | 19 | 0.3 | 62 | 0.8 |
| **Multiple Myeloma** | 2702 | 1.4 | 2156 | 1.3 | 298 | 3.1 | 59 | 1.1 | 150 | 1.9 |
| **Non-Hodgkin Lymphoma** | 7689 | 4.1 | 6674 | 4.1 | 309 | 3.2 | 212 | 3.9 | 399 | 5.1 |
| **Oral Cavity & Pharynx** | 5048 | 2.7 | 4417 | 2.7 | 187 | 2.0 | 193 | 3.6 | 203 | 2.6 |
| **Ovary** | 2300 | 1.2 | 1987 | 1.2 | 111 | 1.2 | 81 | 1.5 | 92 | 1.2 |
| **Pancreas** | 5569 | 3.0 | 4878 | 3.0 | 309 | 3.2 | 143 | 2.6 | 190 | 2.4 |
| **Prostate** | 20695 | 11.0 | 16829 | 10.4 | 1750 | 18.4 | 416 | 7.7 | 960 | 12.2 |
| **Stomach** | 2727 | 1.5 | 2036 | 1.3 | 259 | 2.7 | 163 | 3.0 | 230 | 2.9 |
| **Testis** | 972 | 0.5 | 854 | 0.5 | 15 | 0.2 | 17 | 0.3 | 59 | 0.7 |
| **Thyroid** | 7008 | 3.7 | 5556 | 3.4 | 313 | 3.3 | 425 | 7.8 | 538 | 6.8 |
| **Urinary Bladder** | 9355 | 5.0 | 8683 | 5.4 | 209 | 2.2 | 117 | 2.2 | 218 | 2.8 |
| **Other Sites** | 14688 | 7.8 | 12603 | 7.8 | 755 | 7.9 | 440 | 8.1 | 656 | 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, 2013-2017**

**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** | 483.5 | 480.3-486.8 | 491.4 | 487.8-495.0 | 503.3 | 487.9-518.7 | 319.0 | 305.7-332.2 | 364.8 | 351.3-378.3 |
| **Brain & Other Nervous System** | 8.1 | 7.7-8.6 | 8.8 | 8.3-9.3 | 3.4 | 2.2-4.5 | 4.3 | 3.0-5.7 | 5.0 | 3.7-6.3 |
| **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 | 0.1-0.3 | \* | \* | \* | \* | \* | \* |
| **Bronchus & Lung** | 65.8 | 64.6-67.0 | 68.0 | 66.7-69.3 | 60.1 | 54.5-65.7 | 55.9 | 50.1-61.7 | 38.6 | 33.8-43.4 |
| **Colon / Rectum** | 40.0 | 39.0-40.9 | 40.3 | 39.3-41.3 | 49.6 | 44.7-54.5 | 33.8 | 29.4-38.1 | 32.5 | 28.4-36.6 |
| **Esophagus** | 9.3 | 8.8-9.7 | 9.9 | 9.4-10.4 | 6.2 | 4.5-8.0 | 5.5 | 3.7-7.3 | 3.3 | 2.0-4.6 |
| **Hodgkin Lymphoma** | 3.0 | 2.7-3.3 | 3.2 | 2.9-3.5 | 3.4 | 2.3-4.5 | \* | \* | 3.0 | 1.9-4.1 |
| **Kidney & Renal Pelvis** | 22.5 | 21.8-23.2 | 23.6 | 22.8-24.4 | 21.1 | 18.0-24.2 | 10.1 | 7.9-12.4 | 16.4 | 13.8-19.0 |
| **Larynx** | 5.3 | 5.0-5.6 | 5.4 | 5.0-5.7 | 4.3 | 3.0-5.7 | \* | \* | 7.5 | 5.5-9.4 |
| **Leukemia** | 15.6 | 15.0-16.2 | 16.3 | 15.6-17.0 | 13.0 | 10.5-15.5 | 9.8 | 7.5-12.0 | 9.9 | 7.7-12.0 |
| **Liver & Intrahepatic Bile Ducts** | 13.2 | 12.7-13.7 | 11.7 | 11.2-12.3 | 19.3 | 16.5-22.1 | 26.4 | 22.6-30.2 | 19.8 | 16.8-22.8 |
| **Melanoma of Skin** | 27.5 | 26.8-28.3 | 29.6 | 28.8-30.5 | \* | \* | \* | \* | \* | \* |
| **Multiple Myeloma** | 8.2 | 7.8-8.6 | 7.9 | 7.4-8.3 | 15.6 | 12.9-18.4 | 4.2 | 2.7-5.7 | 7.0 | 5.2-8.8 |
| **Non-Hodgkin Lymphoma** | 23.3 | 22.6-24.1 | 24.3 | 23.5-25.1 | 15.5 | 12.9-18.1 | 13.8 | 11.1-16.5 | 20.4 | 17.2-23.6 |
| **Oral Cavity & Pharynx** | 17.7 | 17.1-18.3 | 18.5 | 17.8-19.2 | 13.5 | 11.0-16.0 | 14.5 | 11.9-17.1 | 13.4 | 10.8-15.9 |
| **Pancreas** | 15.1 | 14.5-15.7 | 15.5 | 14.8-16.1 | 18.1 | 15.1-21.2 | 9.3 | 7.0-11.5 | 10.3 | 7.8-12.7 |
| **Prostate** | 102.4 | 100.9-103.8 | 97.4 | 95.9-98.9 | 178.5 | 169.5-187.4 | 55.5 | 50.0-61.1 | 99.1 | 92.2-105.9 |
| **Stomach** | 9.5 | 9.0-9.9 | 8.4 | 7.9-8.8 | 18.1 | 15.0-21.2 | 13.3 | 10.5-16.0 | 15.7 | 12.8-18.6 |
| **Testis** | 6.0 | 5.6-6.4 | 7.5 | 6.9-8.0 | \* | \* | \* | \* | 2.6 | 1.9-3.3 |
| **Thyroid** | 10.3 | 9.8-10.8 | 11.0 | 10.4-11.6 | 4.7 | 3.3-6.0 | 11.3 | 9.1-13.4 | 6.3 | 4.9-7.8 |
| **Urinary Bladder** | 38.7 | 37.8-39.7 | 41.5 | 40.4-42.5 | 16.9 | 13.9-19.9 | 14.8 | 11.7-17.9 | 19.5 | 16.1-22.8 |

**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, 2013-2017**

**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** | 442.6 | 439.7-445.5 | 459.1 | 455.9-462.4 | 409.6 | 397.9-421.4 | 307.6 | 296.2-319.0 | 315.0 | 304.9-325.1 |
| **Brain & Other Nervous System** | 6.0 | 5.6-6.4 | 6.4 | 6.0-6.8 | 4.6 | 3.4-5.8 | 4.2 | 2.9-5.5 | 4.7 | 3.5-5.9 |
| **Breast** | 137.5 | 135.9-139.1 | 144.4 | 142.5-146.2 | 128.6 | 122.1-135.2 | 98.0 | 91.7-104.2 | 91.9 | 86.6-97.2 |
| **Breast *in situ*4** | 39.4 | 38.5-40.3 | 41.6 | 40.6-42.7 | 37.9 | 34.4-41.4 | 33.9 | 30.2-37.5 | 26.9 | 24.1-29.8 |
| **Bronchus & Lung** | 59.4 | 58.4-60.4 | 63.5 | 62.4-64.6 | 43.3 | 39.4-47.1 | 34.7 | 30.6-38.7 | 26.5 | 23.3-29.7 |
| **Cervix Uteri** | 5.2 | 4.9-5.6 | 4.7 | 4.4-5.1 | 9.0 | 7.2-10.7 | 6.2 | 4.7-7.7 | 8.5 | 6.9-10.1 |
| **Colon / Rectum** | 31.4 | 30.6-32.2 | 32.1 | 31.3-33.0 | 34.4 | 31.0-37.9 | 25.4 | 22.0-28.8 | 23.0 | 20.2-25.8 |
| **Corpus Uteri & Uterus, NOS** | 28.9 | 28.2-29.6 | 29.8 | 29.0-30.6 | 29.4 | 26.3-32.5 | 16.6 | 14.0-19.1 | 22.4 | 19.8-25.0 |
| **Esophagus** | 2.2 | 2.0-2.4 | 2.4 | 2.1-2.6 | 2.1 | 1.2-2.9 | \* | \* | \* | \* |
| **Hodgkin Lymphoma** | 2.6 | 2.3-2.8 | 2.8 | 2.5-3.1 | 1.9 | 1.1-2.7 | \* | \* | 3.1 | 2.2-4.0 |
| **Kidney & Renal Pelvis** | 10.4 | 9.9-10.8 | 10.5 | 10.0-11.0 | 12.3 | 10.3-14.3 | 4.9 | 3.4-6.4 | 9.4 | 7.7-11.2 |
| **Larynx** | 1.2 | 1.0-1.3 | 1.2 | 1.1-1.4 | \* | \* | \* | \* | \* | \* |
| **Leukemia** | 9.6 | 9.2-10.0 | 9.8 | 9.3-10.3 | 8.6 | 6.8-10.3 | 6.8 | 5.1-8.5 | 7.9 | 6.3-9.5 |
| **Liver & Intrahepatic Bile Ducts** | 4.0 | 3.7-4.3 | 3.6 | 3.3-3.9 | 5.9 | 4.5-7.3 | 9.0 | 6.9-11.1 | 6.2 | 4.7-7.7 |
| **Melanoma of Skin** | 18.7 | 18.1-19.3 | 20.7 | 19.9-21.4 | \* | \* | \* | \* | 3.2 | 2.2-4.3 |
| **Multiple Myeloma** | 5.1 | 4.8-5.4 | 4.5 | 4.2-4.9 | 14.1 | 11.8-16.3 | 3.2 | 2.0-4.4 | 6.6 | 5.1-8.1 |
| **Non-Hodgkin Lymphoma** | 15.5 | 15.0-16.1 | 15.9 | 15.3-16.5 | 12.8 | 10.7-14.9 | 10.5 | 8.4-12.6 | 15.3 | 13.0-17.6 |
| **Oral Cavity & Pharynx** | 7.0 | 6.6-7.3 | 7.2 | 6.8-7.6 | 4.6 | 3.4-5.8 | 7.0 | 5.3-8.7 | 5.4 | 4.1-6.8 |
| **Ovary** | 10.4 | 9.9-10.8 | 10.8 | 10.3-11.3 | 9.0 | 7.3-10.7 | 8.5 | 6.6-10.4 | 6.0 | 4.7-7.3 |
| **Pancreas** | 11.9 | 11.4-12.3 | 12.0 | 11.5-12.5 | 13.7 | 11.5-15.9 | 8.5 | 6.5-10.5 | 8.9 | 7.1-10.7 |
| **Stomach** | 4.5 | 4.2-4.8 | 3.8 | 3.5-4.1 | 9.8 | 8.0-11.7 | 7.4 | 5.5-9.2 | 6.9 | 5.3-8.4 |
| **Thyroid** | 27.6 | 26.8-28.3 | 28.2 | 27.2-29.1 | 21.6 | 18.9-24.2 | 27.4 | 24.3-30.5 | 26.9 | 24.3-29.4 |
| **Urinary Bladder** | 10.6 | 10.2-11.0 | 11.4 | 11.0-11.9 | 6.3 | 4.8-7.9 | 2.3 | 1.3-3.4 | 5.1 | 3.7-6.6 |

**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, 2013-2017**

**TOTAL6**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **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** | 456.8 | 454.6-458.9 | 469.1 | 466.7-471.5 | 447.0 | 437.7-456.3 | 311.2 | 302.5-319.8 | 332.7 | 324.6-340.7 |
| **Brain & Other Nervous System** | 7.0 | 6.7-7.2 | 7.5 | 7.2-7.8 | 4.0 | 3.2-4.9 | 4.3 | 3.3-5.2 | 4.9 | 4.0-5.7 |
| **Breast** | --5 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **Breast *in situ*4** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **Bronchus & Lung** | 61.8 | 61.1-62.6 | 65.1 | 64.2-65.9 | 50.1 | 46.9-53.3 | 44.1 | 40.7-47.5 | 31.3 | 28.7-34.0 |
| **Cervix Uteri** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **Colon / Rectum** | 35.2 | 34.6-35.8 | 35.8 | 35.1-36.4 | 40.8 | 38.0-43.6 | 29.2 | 26.5-31.9 | 26.9 | 24.6-29.3 |
| **Corpus Uteri & Uterus, NOS** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **Esophagus** | 5.3 | 5.1-5.6 | 5.8 | 5.5-6.0 | 3.8 | 3.0-4.7 | 3.1 | 2.2-4.0 | 1.7 | 1.1-2.3 |
| **Hodgkin Lymphoma** | 2.8 | 2.6-2.9 | 3.0 | 2.8-3.2 | 2.6 | 2.0-3.3 | 1.2 | 0.7-1.6 | 3.0 | 2.4-3.7 |
| **Kidney & Renal Pelvis** | 15.9 | 15.5-16.3 | 16.6 | 16.1-17.0 | 16.1 | 14.4-17.8 | 7.3 | 6.0-8.6 | 12.6 | 11.0-14.1 |
| **Larynx** | 3.0 | 2.9-3.2 | 3.1 | 2.9-3.3 | 2.7 | 2.0-3.3 | \* | \* | 3.5 | 2.6-4.3 |
| **Leukemia** | 12.3 | 11.9-12.6 | 12.7 | 12.3-13.1 | 10.4 | 9.0-11.8 | 8.2 | 6.8-9.6 | 8.8 | 7.5-10.0 |
| **Liver & Intrahepatic Bile Ducts** | 8.2 | 7.9-8.5 | 7.3 | 7.0-7.6 | 12.0 | 10.5-13.4 | 17.0 | 14.9-19.0 | 12.2 | 10.6-13.7 |
| **Melanoma of Skin** | 22.3 | 21.8-22.8 | 24.3 | 23.8-24.9 | \* | \* | \* | \* | 2.7 | 1.9-3.4 |
| **Multiple Myeloma** | 6.5 | 6.2-6.7 | 6.0 | 5.8-6.3 | 14.8 | 13.1-16.6 | 3.7 | 2.7-4.6 | 6.8 | 5.6-7.9 |
| **Non-Hodgkin Lymphoma** | 19.0 | 18.6-19.4 | 19.6 | 19.1-20.1 | 14.2 | 12.6-15.8 | 12.0 | 10.3-13.7 | 17.5 | 15.6-19.4 |
| **Oral Cavity & Pharynx** | 12.0 | 11.6-12.3 | 12.5 | 12.1-12.9 | 8.4 | 7.2-9.7 | 10.5 | 9.0-12.1 | 8.8 | 7.5-10.1 |
| **Ovary** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **Pancreas** | 13.3 | 12.9-13.7 | 13.5 | 13.1-13.9 | 15.6 | 13.8-17.4 | 8.9 | 7.4-10.4 | 9.4 | 7.9-10.8 |
| **Prostate** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **Stomach** | 6.7 | 6.4-6.9 | 5.8 | 5.5-6.1 | 13.2 | 11.5-14.8 | 10.1 | 8.5-11.7 | 10.5 | 9.0-12.0 |
| **Testis** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **Thyroid** | 19.2 | 18.7-19.6 | 19.8 | 19.2-20.3 | 13.8 | 12.2-15.3 | 19.8 | 17.8-21.7 | 17.1 | 15.6-18.6 |
| **Urinary Bladder** | 22.6 | 22.1-23.0 | 24.3 | 23.7-24.8 | 10.7 | 9.2-12.2 | 7.9 | 6.4-9.4 | 11.2 | 9.6-12.8 |

**Table 17.**

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

**Massachusetts, 2013-2017**

**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 46.3 | Bronchus & Lung 40.9 | Bronchus & Lung 36.6 | Bronchus & Lung 19.4 |
| 2 | Prostate 17.9 | Prostate 36.2 | Liver & Intrahepatic Bile Duct 18.0 | Prostate 17.6 |
| 3 | Colon/Rectum 14.0 | Colon/Rectum 17.0 | Colon/Rectum 9.4 | Liver & Intrahepatic Bile Duct 13.7 |
| 4 | Pancreas 13.3 | Pancreas 14.6 | Stomach 7.3 | Colon/Rectum 8.7 |
| 5 | Liver & Intrahepatic Bile Duct and Urinary Bladder 9.0 | Liver & Intrahepatic Bile Duct 14.3 | Pancreas 6.9 | Stomach 7.7 |

**FEMALES**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **AGE-ADJUSTED1 MORTALITY RATE2** | | | | |
| **RANK** | **White, non-Hispanic** | **Black, non-Hispanic** | **Asian, non-Hispanic** | **Hispanic** |
| 1 | Bronchus & Lung 36.6 | Bronchus & Lung 23.7 | Bronchus & Lung 19.9 | Bronchus & Lung 12.1 |
| 2 | Breast 18.1 | Breast 19.9 | Breast 8.7 | Breast 11.6 |
| 3 | Colon/Rectum 10.5 | Colon/Rectum 11.2 | Colon/Rectum 7.4 | Colon/Rectum 7.8 |
| 4 | Pancreas 10.2 | Pancreas 9.1 | Pancreas 6.9 | Pancreas 6.7 |
| 5 | Ovary 7.5 | Corpus Uteri & Uterus, NOS 7.7 | Liver & Intrahepatic Bile Duct 5.5 | Liver & Intrahepatic Bile Duct 5.3 |

**Table 18.**

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

**Massachusetts, 2013-2017**

**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** | 32519 | 100 | 28916 | 100 | 1501 | 100 | 843 | 100 | 976 | 100 |
| **Brain & Other Nervous System** | 1037 | 3.2 | 945 | 3.3 | 32 | 2.1 | 19 | 2.3 | 31 | 3.2 |
| **Breast** | 49 | 0.2 | 46 | 0.2 | 1 | 0.1 | 2 | 0.2 | 0 | 0.0 |
| **Bronchus & Lung** | 8024 | 24.7 | 7245 | 25.1 | 332 | 22.1 | 237 | 28.1 | 156 | 16.0 |
| **Colon / Rectum** | 2450 | 7.5 | 2151 | 7.4 | 140 | 9.3 | 67 | 7.9 | 69 | 7.1 |
| **Esophagus** | 1497 | 4.6 | 1405 | 4.9 | 37 | 2.5 | 24 | 2.8 | 21 | 2.2 |
| **Hodgkin Lymphoma** | 53 | 0.2 | 40 | 0.1 | 2 | 0.1 | 2 | 0.2 | 8 | 0.8 |
| **Kidney & Renal Pelvis** | 887 | 2.7 | 812 | 2.8 | 31 | 2.1 | 12 | 1.4 | 28 | 2.9 |
| **Larynx** | 259 | 0.8 | 230 | 0.8 | 11 | 0.7 | 3 | 0.4 | 14 | 1.4 |
| **Leukemia** | 1402 | 4.3 | 1279 | 4.4 | 38 | 2.5 | 27 | 3.2 | 43 | 4.4 |
| **Liver & Intrahepatic Bile Ducts** | 1918 | 5.9 | 1492 | 5.2 | 140 | 9.3 | 129 | 15.3 | 135 | 13.8 |
| **Melanoma of Skin** | 637 | 2.0 | 620 | 2.1 | 5 | 0.3 | 0 | 0.0 | 7 | 0.7 |
| **Multiple Myeloma** | 668 | 2.1 | 566 | 2.0 | 53 | 3.5 | 18 | 2.1 | 24 | 2.5 |
| **Non-Hodgkin Lymphoma** | 1150 | 3.5 | 1032 | 3.6 | 32 | 2.1 | 31 | 3.7 | 38 | 3.9 |
| **Oral Cavity & Pharynx** | 659 | 2.0 | 561 | 1.9 | 35 | 2.3 | 30 | 3.6 | 27 | 2.8 |
| **Pancreas** | 2348 | 7.2 | 2093 | 7.2 | 120 | 8.0 | 49 | 5.8 | 61 | 6.3 |
| **Prostate** | 3088 | 9.5 | 2691 | 9.3 | 230 | 15.3 | 34 | 4.0 | 104 | 10.7 |
| **Stomach** | 751 | 2.3 | 560 | 1.9 | 63 | 4.2 | 53 | 6.3 | 67 | 6.9 |
| **Testis** | 29 | 0.1 | 28 | 0.1 | 0 | 0.0 | 0 | 0.0 | 1 | 0.1 |
| **Thyroid** | 101 | 0.3 | 89 | 0.3 | 4 | 0.3 | 3 | 0.4 | 4 | 0.4 |
| **Urinary Bladder** | 1430 | 4.4 | 1366 | 4.7 | 31 | 2.1 | 5 | 0.6 | 17 | 1.7 |
| **Other Sites** | 4082 | 12.6 | 3665 | 12.7 | 164 | 10.9 | 98 | 11.6 | 121 | 12.4 |

**Table 19.**

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

**Massachusetts, 2013-2017**

**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** | 31496 | 100 | 28121 | 100 | 1423 | 100 | 696 | 100 | 985 | 100 |
| **Brain & Other Nervous System** | 816 | 2.6 | 742 | 2.6 | 22 | 1.5 | 24 | 3.4 | 26 | 2.6 |
| **Breast** | 4136 | 13.1 | 3616 | 12.9 | 234 | 16.4 | 84 | 12.1 | 152 | 15.4 |
| **Bronchus & Lung** | 8091 | 25.7 | 7480 | 26.6 | 267 | 18.8 | 159 | 22.8 | 130 | 13.2 |
| **Cervix Uteri** | 230 | 0.7 | 164 | 0.6 | 23 | 1.6 | 13 | 1.9 | 23 | 2.3 |
| **Colon / Rectum** | 2543 | 8.1 | 2243 | 8.0 | 127 | 8.9 | 60 | 8.6 | 89 | 9.0 |
| **Corpus Uteri & Uterus, NOS** | 1106 | 3.5 | 934 | 3.3 | 90 | 6.3 | 20 | 2.9 | 52 | 5.3 |
| **Esophagus** | 421 | 1.3 | 388 | 1.4 | 13 | 0.9 | 6 | 0.9 | 11 | 1.1 |
| **Hodgkin Lymphoma** | 41 | 0.1 | 35 | 0.1 | 0 | 0.0 | 1 | 0.1 | 5 | 0.5 |
| **Kidney & Renal Pelvis** | 487 | 1.6 | 443 | 1.6 | 18 | 1.3 | 6 | 0.9 | 14 | 1.4 |
| **Larynx** | 82 | 0.3 | 76 | 0.3 | 3 | 0.2 | 1 | 0.1 | 1 | 0.1 |
| **Leukemia** | 1096 | 3.5 | 983 | 3.5 | 47 | 3.3 | 18 | 2.6 | 41 | 4.2 |
| **Liver & Intrahepatic Bile Ducts** | 869 | 2.8 | 709 | 2.5 | 47 | 3.3 | 47 | 6.8 | 58 | 5.9 |
| **Melanoma of Skin** | 404 | 1.3 | 395 | 1.4 | 2 | 0.1 | 2 | 0.3 | 4 | 0.4 |
| **Multiple Myeloma** | 605 | 1.9 | 502 | 1.8 | 62 | 4.4 | 6 | 0.9 | 26 | 2.6 |
| **Non-Hodgkin Lymphoma** | 1025 | 3.2 | 922 | 3.3 | 36 | 2.5 | 24 | 3.4 | 35 | 3.6 |
| **Oral Cavity & Pharynx** | 326 | 1.0 | 295 | 1.0 | 8 | 0.6 | 10 | 1.4 | 11 | 1.1 |
| **Ovary** | 1650 | 5.2 | 1503 | 5.3 | 61 | 4.3 | 35 | 5.0 | 37 | 3.8 |
| **Pancreas** | 2392 | 7.6 | 2146 | 7.6 | 102 | 7.2 | 55 | 7.9 | 73 | 7.4 |
| **Stomach** | 522 | 1.7 | 388 | 1.4 | 45 | 3.2 | 38 | 5.5 | 44 | 4.5 |
| **Thyroid** | 117 | 0.4 | 96 | 0.3 | 11 | 0.8 | 3 | 0.4 | 7 | 0.7 |
| **Urinary Bladder** | 604 | 1.9 | 567 | 2.0 | 22 | 1.5 | 8 | 1.1 | 6 | 0.6 |
| **Other Sites** | 3933 | 12.5 | 3494 | 12.4 | 183 | 12.9 | 76 | 10.9 | 140 | 14.2 |

**Table 20.**

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

**Massachusetts, 2013-2017**

**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** | 64017 | 100 | 57039 | 100 | 2924 | 100 | 1539 | 100 | 1961 | 100 |
| **Brain & Other Nervous System** | 1853 | 2.9 | 1687 | 3.0 | 54 | 1.8 | 43 | 2.8 | 57 | 2.9 |
| **Breast** | 4185 | 6.5 | 3662 | 6.4 | 235 | 8.0 | 86 | 5.6 | 152 | 7.8 |
| **Bronchus & Lung** | 16116 | 25.2 | 14726 | 25.8 | 599 | 20.5 | 396 | 25.7 | 286 | 14.6 |
| **Cervix Uteri** | 230 | 0.4 | 164 | 0.3 | 23 | 0.8 | 13 | 0.8 | 23 | 1.2 |
| **Colon / Rectum** | 4993 | 7.8 | 4394 | 7.7 | 267 | 9.1 | 127 | 8.3 | 158 | 8.1 |
| **Corpus Uteri & Uterus, NOS** | 1106 | 1.7 | 934 | 1.6 | 90 | 3.1 | 20 | 1.3 | 52 | 2.7 |
| **Esophagus** | 1918 | 3.0 | 1793 | 3.1 | 50 | 1.7 | 30 | 1.9 | 32 | 1.6 |
| **Hodgkin Lymphoma** | 94 | 0.1 | 75 | 0.1 | 2 | 0.1 | 3 | 0.2 | 13 | 0.7 |
| **Kidney & Renal Pelvis** | 1374 | 2.1 | 1255 | 2.2 | 49 | 1.7 | 18 | 1.2 | 42 | 2.1 |
| **Larynx** | 341 | 0.5 | 306 | 0.5 | 14 | 0.5 | 4 | 0.3 | 15 | 0.8 |
| **Leukemia** | 2498 | 3.9 | 2262 | 4.0 | 85 | 2.9 | 45 | 2.9 | 84 | 4.3 |
| **Liver & Intrahepatic Bile Ducts** | 2787 | 4.4 | 2201 | 3.9 | 187 | 6.4 | 176 | 11.4 | 193 | 9.8 |
| **Melanoma of Skin** | 1041 | 1.6 | 1015 | 1.8 | 7 | 0.2 | 2 | 0.1 | 11 | 0.6 |
| **Multiple Myeloma** | 1273 | 2.0 | 1068 | 1.9 | 115 | 3.9 | 24 | 1.6 | 50 | 2.6 |
| **Non-Hodgkin Lymphoma** | 2175 | 3.4 | 1954 | 3.4 | 68 | 2.3 | 55 | 3.6 | 73 | 3.7 |
| **Oral Cavity & Pharynx** | 985 | 1.5 | 856 | 1.5 | 43 | 1.5 | 40 | 2.6 | 38 | 1.9 |
| **Ovary** | 1650 | 2.6 | 1503 | 2.6 | 61 | 2.1 | 35 | 2.3 | 37 | 1.9 |
| **Pancreas** | 4740 | 7.4 | 4239 | 7.4 | 222 | 7.6 | 104 | 6.8 | 134 | 6.8 |
| **Prostate** | 3089 | 4.8 | 2692 | 4.7 | 230 | 7.9 | 34 | 2.2 | 104 | 5.3 |
| **Stomach** | 1273 | 2.0 | 948 | 1.7 | 108 | 3.7 | 91 | 5.9 | 111 | 5.7 |
| **Testis** | 29 | <0.1 | 28 | <0.1 | 0 | 0 | 0 | 0 | 1 | <0.1 |
| **Thyroid** | 218 | 0.3 | 185 | 0.3 | 15 | 0.5 | 6 | 0.4 | 11 | 0.6 |
| **Urinary Bladder** | 2034 | 3.2 | 1933 | 3.4 | 53 | 1.8 | 13 | 0.8 | 23 | 1.2 |
| **Other Sites** | 8015 | 12.5 | 7159 | 12.6 | 347 | 11.9 | 174 | 11.3 | 261 | 13.3 |

**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, 2013-2017**

**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** | 182.0 | 180.0-184.0 | 186.6 | 184.5-188.8 | 189.4 | 179.8-199.0 | 123.7 | 115.3-132.0 | 117.7 | 110.3-125.1 |
| **Brain & Other Nervous System** | 5.6 | 5.3-6.0 | 6.1 | 5.7-6.5 | 2.9 | 1.9-3.9 | \* | \* | 2.4 | 1.6-3.2 |
| **Breast** | 0.3 | 0.2-0.4 | 0.3 | 0.2-0.4 | \* | \* | \* | \* | \* | \* |
| **Bronchus & Lung** | 44.6 | 43.6-45.6 | 46.3 | 45.3-47.4 | 40.9 | 36.5-45.3 | 36.6 | 31.9-41.2 | 19.4 | 16.4-22.5 |
| **Colon / Rectum** | 13.8 | 13.2-14.3 | 14.0 | 13.4-14.6 | 17.0 | 14.2-19.8 | 9.4 | 7.1-11.6 | 8.7 | 6.6-10.7 |
| **Esophagus** | 8.1 | 7.7-8.5 | 8.8 | 8.3-9.2 | 4.8 | 3.2-6.3 | 3.6 | 2.2-5.1 | 2.3 | 1.3-3.3 |
| **Hodgkin Lymphoma** | 0.3 | 0.2-0.4 | 0.3 | 0.2-0.4 | \* | \* | \* | \* | \* | \* |
| **Kidney & Renal Pelvis** | 4.9 | 4.5-5.2 | 5.2 | 4.8-5.5 | 4.3 | 2.8-5.7 | \* | \* | 2.8 | 1.8-3.8 |
| **Larynx** | 1.4 | 1.2-1.6 | 1.4 | 1.2-1.6 | \* | \* | \* | \* | \* | \* |
| **Leukemia** | 8.2 | 7.7-8.6 | 8.6 | 8.1-9.1 | 4.9 | 3.4-6.5 | 3.8 | 2.4-5.3 | 5.2 | 3.7-6.8 |
| **Liver & Intrahepatic Bile Ducts** | 10.0 | 9.5-10.4 | 9.0 | 8.6-9.5 | 14.3 | 11.9-16.6 | 18.0 | 14.9-21.1 | 13.7 | 11.4-16.0 |
| **Melanoma of Skin** | 3.6 | 3.3-3.9 | 4.1 | 3.7-4.4 | \* | \* | \* | \* | \* | \* |
| **Multiple Myeloma** | 3.8 | 3.5-4.1 | 3.7 | 3.4-4.0 | 7.1 | 5.2-9.0 | \* | \* | 3.3 | 2.0-4.6 |
| **Non-Hodgkin Lymphoma** | 6.7 | 6.3-7.1 | 6.9 | 6.5-7.3 | 4.0 | 2.6-5.3 | 4.7 | 3.0-6.3 | 4.5 | 3.1-6.0 |
| **Oral Cavity & Pharynx** | 3.5 | 3.2-3.7 | 3.4 | 3.1-3.7 | 4.2 | 2.8-5.5 | 4.0 | 2.5-5.4 | 3.0 | 1.9-4.2 |
| **Pancreas** | 12.9 | 12.3-13.4 | 13.3 | 12.7-13.8 | 14.6 | 12.0-17.2 | 6.9 | 5.0-8.8 | 6.7 | 5.0-8.3 |
| **Prostate** | 18.2 | 17.5-18.8 | 17.9 | 17.2-18.5 | 36.2 | 31.5-40.9 | 6.4 | 4.2-8.5 | 17.6 | 14.2-21.0 |
| **Stomach** | 4.2 | 3.9-4.5 | 3.6 | 3.3-3.9 | 8.1 | 6.1-10.1 | 7.3 | 5.3-9.3 | 7.7 | 5.8-9.5 |
| **Testis** | 0.2 | 0.1-0.2 | 0.2 | 0.1-0.3 | \* | \* | \* | \* | \* | \* |
| **Thyroid** | 0.6 | 0.5-0.7 | 0.6 | 0.5-0.7 | \* | \* | \* | \* | \* | \* |
| **Urinary Bladder** | 8.3 | 7.9-8.8 | 9.0 | 8.6-9.5 | 4.4 | 2.9-6.0 | \* | \* | \* | \* |

**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, 2013-2017**

**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** | 131.5 | 130.1-133.0 | 136.1 | 134.5-137.7 | 124.9 | 118.4-131.4 | 81.1 | 75.1-87.1 | 86.2 | 80.8-91.6 |
| **Brain & Other Nervous System** | 3.7 | 3.4-3.9 | 4.0 | 3.7-4.3 | 1.9 | 1.1-2.7 | 2.4 | 1.4-3.4 | 2.1 | 1.3-2.9 |
| **Breast** | 17.6 | 17.1-18.2 | 18.1 | 17.5-18.7 | 19.9 | 17.3-22.4 | 8.7 | 6.8-10.5 | 11.6 | 9.7-13.4 |
| **Bronchus & Lung** | 34.1 | 33.4-34.9 | 36.6 | 35.7-37.4 | 23.7 | 20.8-26.5 | 19.9 | 16.8-22.9 | 12.1 | 10.1-14.2 |
| **Cervix Uteri** | 1.1 | 1.0-1.2 | 1.0 | 0.8-1.1 | 2.0 | 1.2-2.8 | \* | \* | 1.7 | 1.0-2.4 |
| **Colon / Rectum** | 10.4 | 10.0-10.8 | 10.5 | 10.1-11.0 | 11.2 | 9.2-13.1 | 7.4 | 5.5-9.3 | 7.8 | 6.2-9.5 |
| **Corpus Uteri & Uterus, NOS** | 4.6 | 4.3-4.9 | 4.5 | 4.2-4.8 | 7.7 | 6.1-9.3 | 2.2 | 1.2-3.1 | 4.7 | 3.5-6.0 |
| **Esophagus** | 1.7 | 1.6-1.9 | 1.8 | 1.7-2.0 | \* | \* | \* | \* | \* | \* |
| **Hodgkin Lymphoma** | 0.2 | 0.1-0.2 | 0.2 | 0.1-0.2 | \* | \* | \* | \* | \* | \* |
| **Kidney & Renal Pelvis** | 1.9 | 1.8-2.1 | 2.0 | 1.8-2.2 | \* | \* | \* | \* | \* | \* |
| **Larynx** | 0.3 | 0.3-0.4 | 0.4 | 0.3-0.4 | \* | \* | \* | \* | \* | \* |
| **Leukemia** | 4.5 | 4.2-4.8 | 4.6 | 4.4-4.9 | 4.3 | 3.0-5.5 | \* | \* | 3.7 | 2.5-4.8 |
| **Liver & Intrahepatic Bile Ducts** | 3.6 | 3.4-3.9 | 3.4 | 3.2-3.7 | 4.1 | 2.9-5.2 | 5.5 | 3.9-7.1 | 5.3 | 4.0-6.7 |
| **Melanoma of Skin** | 1.7 | 1.5-1.9 | 2.0 | 1.8-2.2 | \* | \* | \* | \* | \* | \* |
| **Multiple Myeloma** | 2.4 | 2.2-2.6 | 2.3 | 2.1-2.5 | 5.6 | 4.2-7.0 | \* | \* | 2.3 | 1.4-3.3 |
| **Non-Hodgkin Lymphoma** | 4.2 | 3.9-4.4 | 4.3 | 4.0-4.5 | 3.3 | 2.2-4.3 | 2.9 | 1.7-4.1 | 3.6 | 2.4-4.8 |
| **Oral Cavity & Pharynx** | 1.3 | 1.2-1.5 | 1.4 | 1.2-1.5 | \* | \* | \* | \* | \* | \* |
| **Ovary** | 7.0 | 6.7-7.4 | 7.5 | 7.2-7.9 | 5.0 | 3.8-6.3 | 3.8 | 2.5-5.0 | 3.0 | 2.0-3.9 |
| **Pancreas** | 9.9 | 9.5-10.2 | 10.2 | 9.7-10.6 | 9.1 | 7.3-10.8 | 6.9 | 5.0-8.7 | 6.7 | 5.2-8.2 |
| **Stomach** | 2.2 | 2.0-2.4 | 1.9 | 1.7-2.0 | 4.0 | 2.9-5.2 | 4.0 | 2.8-5.3 | 3.8 | 2.7-4.9 |
| **Thyroid** | 0.5 | 0.4-0.6 | 0.5 | 0.4-0.5 | \* | \* | \* | \* | \* | \* |
| **Urinary Bladder** | 2.3 | 2.1-2.5 | 2.5 | 2.3-2.7 | 2.1 | 1.2-3.0 | \* | \* | \* | \* |

**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, 2013-2017**

**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** | 152.0 | 150.8-153.2 | 156.6 | 155.3-157.9 | 149.6 | 144.2-155.0 | 100.0 | 95.0-105.0 | 98.8 | 94.4-103.2 |
| **Brain & Other Nervous System** | 4.6 | 4.4-4.8 | 4.9 | 4.7-5.2 | 2.4 | 1.7-3.0 | 2.3 | 1.6-2.9 | 2.3 | 1.7-2.9 |
| **Breast** | - | - | - | - | - | - | - | - | - | - |
| **Bronchus & Lung** | 38.5 | 37.9-39.1 | 40.6 | 39.9-41.2 | 30.8 | 28.3-33.2 | 27.3 | 24.6-30.0 | 15.2 | 13.4-17.0 |
| **Cervix Uteri** | - | - | - | - | - | - | - | - | - | - |
| **Colon / Rectum** | 11.8 | 11.5-12.1 | 12.0 | 11.7-12.4 | 13.6 | 12.0-15.2 | 8.3 | 6.9-9.8 | 8.1 | 6.8-9.3 |
| **Corpus Uteri & Uterus, NOS** | - | - | - | - | - | - | - | - | - | - |
| **Esophagus** | 4.5 | 4.3-4.7 | 4.9 | 4.7-5.1 | 2.5 | 1.8-3.2 | 2.0 | 1.3-2.7 | 1.5 | 1.0-2.0 |
| **Hodgkin Lymphoma** | 0.2 | 0.2-0.3 | 0.2 | 0.2-0.3 | \* | \* | \* | \* | \* | \* |
| **Kidney & Renal Pelvis** | 3.2 | 3.0-3.4 | 3.4 | 3.2-3.6 | 2.5 | 1.8-3.2 | \* | \* | 1.9 | 1.4-2.5 |
| **Larynx** | 0.8 | 0.7-0.9 | 0.8 | 0.7-0.9 | \* | \* | \* | \* | \* | \* |
| **Leukemia** | 6.0 | 5.8-6.3 | 6.3 | 6.0-6.6 | 4.5 | 3.5-5.4 | 2.9 | 2.1-3.8 | 4.3 | 3.4-5.2 |
| **Liver & Intrahepatic Bile Ducts** | 6.5 | 6.2-6.7 | 5.9 | 5.7-6.2 | 8.6 | 7.3-9.8 | 11.1 | 9.5-12.8 | 9.0 | 7.8-10.3 |
| **Melanoma of Skin** | 2.5 | 2.3-2.7 | 2.9 | 2.7-3.0 | \* | \* | \* | \* | \* | \* |
| **Multiple Myeloma** | 3.0 | 2.9-3.2 | 2.9 | 2.7-3.1 | 6.2 | 5.1-7.3 | 1.6 | 1.0-2.2 | 2.7 | 2.0-3.5 |
| **Non-Hodgkin Lymphoma** | 5.2 | 5.0-5.5 | 5.4 | 5.1-5.6 | 3.5 | 2.7-4.4 | 3.7 | 2.7-4.7 | 4.0 | 3.1-5.0 |
| **Oral Cavity & Pharynx** | 2.3 | 2.1-2.4 | 2.3 | 2.1-2.5 | 2.2 | 1.5-2.8 | 2.4 | 1.7-3.1 | 1.8 | 1.3-2.4 |
| **Ovary** | - | - | - | - | - | - | - | - | - | - |
| **Pancreas** | 11.2 | 10.9-11.5 | 11.6 | 11.2-11.9 | 11.5 | 10.0-13.0 | 6.9 | 5.6-8.2 | 6.7 | 5.6-7.9 |
| **Prostate** | - | - | - | - | - | - | - | - | - | - |
| **Stomach** | 3.1 | 2.9-3.2 | 2.6 | 2.5-2.8 | 5.6 | 4.6-6.7 | 5.5 | 4.4-6.7 | 5.4 | 4.4-6.4 |
| **Testis** | - | - | - | - | - | - | - | - | - | - |
| **Thyroid** | 0.5 | 0.4-0.6 | 0.5 | 0.4-0.6 | \* | \* | \* | \* | \* | \* |
| **Urinary Bladder** | 4.7 | 4.5-4.9 | 5.1 | 4.9-5.3 | 3.0 | 2.2-3.8 | \* | \* | 1.2 | 0.7-1.7 |

**Table 24.**

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

**Massachusetts (2013-2017) and U.S. (2013-2017)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **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** | 483.5\* | 480.3-486.8 | 487.8 | 487.3-488.3 | 442.6\* | 439.7-445.5 | 421.2 | 420.8-421.6 |
| **Brain & Other Nervous System** | 8.1 | 7.7-8.6 | 7.6 | 7.5-7.7 | 6.0\* | 5.6-6.4 | 5.5 | 5.4-5.5 |
| **Breast** | 1.4 | 1.2-1.6 | 1.3 | 1.3-1.3 | 137.5\* | 135.9-139.1 | 125.6 | 125.4-125.8 |
| **Breast *in situ2*** | 0.2 | 0.1-0.2 | N/A | N/A | 39.4\* | 38.5-40.3 | 29.7 | 29.6-29.8 |
| **Bronchus & Lung** | 65.8 | 64.6-67.0 | 67.1 | 66.9-67.3 | 59.4\* | 58.4-60.4 | 50.8 | 50.7-51.0 |
| **Cervix Uteri** | -- | -- | -- | -- | 5.2\* | 4.9-5.6 | 7.7 | 7.6-7.7 |
| **Colon / Rectum** | 40.0\* | 39.0-40.9 | 44.0 | 43.9-44.2 | 31.4\* | 30.6-32.2 | 33.7 | 33.6-33.8 |
| **Corpus Uteri & Uterus, NOS** | -- | -- | -- | -- | 28.9\* | 28.2-29.6 | 27.0 | 26.9-27.1 |
| **Esophagus** | 9.3\* | 8.8-9.7 | 7.8 | 7.7-7.9 | 2.2\* | 2.0-2.4 | 1.8 | 1.7-1.8 |
| **Hodgkin Lymphoma** | 3.0 | 2.7-3.3 | 3.0 | 3.0-3.0 | 2.6 | 2.3-2.8 | 2.3 | 2.3-2.4 |
| **Kidney & Renal Pelvis** | 22.5 | 21.8-23.2 | 22.7 | 22.6-22.8 | 10.4\* | 9.9-10.8 | 11.6 | 11.6-11.7 |
| **Larynx** | 5.3 | 5.0-5.6 | 5.6 | 5.5-5.6 | 1.2 | 1.0-1.3 | 1.2 | 1.2-1.3 |
| **Leukemia** | 15.6\* | 15.0-16.2 | 18.1 | 18.0-18.2 | 9.6\* | 9.2-10.0 | 11.0 | 11.0-11.1 |
| **Liver & Intrahepatic Bile Ducts** | 13.2 | 12.7-13.7 | 12.9 | 12.8-13.0 | 4.0\* | 3.7-4.3 | 4.6 | 4.5-4.6 |
| **Melanoma of Skin** | 27.5 | 26.8-28.3 | 28.4 | 28.3-28.5 | 18.7\* | 18.1-19.3 | 17.6 | 17.5-17.6 |
| **Multiple Myeloma** | 8.2 | 7.8-8.6 | 8.5 | 8.5-8.6 | 5.1\* | 4.8-5.4 | 5.6 | 5.6-5.6 |
| **Non-Hodgkin Lymphoma** | 23.3 | 22.6-24.1 | 23.2 | 23.1-23.3 | 15.5 | 15.0-16.1 | 15.9 | 15.8-16.0 |
| **Oral Cavity & Pharynx** | 17.7 | 17.1-18.3 | 18.0 | 17.9-18.0 | 7.0\* | 6.6-7.3 | 6.4 | 6.4-6.5 |
| **Ovary** | -- | -- | -- | -- | 10.4 | 9.9-10.8 | 10.9 | 10.8-11.0 |
| **Pancreas** | 15.1 | 14.5-15.7 | 14.7 | 14.6-14.8 | 11.9 | 11.4-12.3 | 11.3 | 11.2-11.4 |
| **Prostate** | 102.4\* | 100.9-103.8 | 104.9 | 104.7-105.2 | -- | -- | -- | -- |
| **Stomach** | 9.5\* | 9.0-9.9 | 8.9 | 8.8-8.9 | 4.5 | 4.2-4.8 | 4.6 | 4.6-4.7 |
| **Testis** | 6.0 | 5.6-6.4 | 5.7 | 5.6-5.7 | -- | -- | -- | -- |
| **Thyroid** | 10.3\* | 9.8-10.8 | 7.4 | 7.3-7.4 | 27.6\* | 26.8-28.3 | 21.4 | 21.3-21.5 |
| **Urinary Bladder** | 38.7\* | 37.8-39.7 | 34.4 | 34.3-34.6 | 10.6\* | 10.2-11.0 | 8.5 | 8.5-8.6 |

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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 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. (2013-2017)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **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** | 182.0\* | 180.0-184.0 | 189.5 | 188.8-190.2 | 131.5\* | 130.1-133.0 | 135.7 | 135.2-136.2 |
| **Brain & Other Nervous System** | 5.6 | 5.3-6.0 | 5.4 | 5.3-5.5 | 3.7 | 3.4-3.9 | 3.6 | 3.5-3.7 |
| **Breast** | 0.3 | 0.2-0.4 | 0.3 | 0.3-0.3 | 17.6\* | 17.1-18.2 | 20.3 | 20.1-20.5 |
| **Bronchus & Lung** | 44.6\* | 43.6-45.6 | 49.3 | 49.0-49.6 | 34.1 | 33.4-34.9 | 33.2 | 33.0-33.4 |
| **Cervix Uteri** | N/A | N/A | N/A | N/A | 1.1\* | 1.0-1.2 | 2.3 | 2.2-2.4 |
| **Colon / Rectum** | 13.8\* | 13.2-14.3 | 16.6 | 16.4-16.8 | 10.4\* | 10.0-10.8 | 11.8 | 11.7-11.9 |
| **Corpus Uteri & Uterus, NOS** | N/A | N/A | N/A | N/A | 4.6 | 4.3-4.9 | 4.8 | 4.7-4.9 |
| **Esophagus** | 8.1\* | 7.7-8.5 | 7.0 | 6.9-7.1 | 1.7\* | 1.6-1.9 | 1.4 | 1.4-1.4 |
| **Hodgkin Lymphoma** | 0.3 | 0.2-0.4 | 0.4 | 0.4-0.4 | 0.2 | 0.1-0.2 | 0.2 | 0.2-0.2 |
| **Kidney & Renal Pelvis** | 4.9\* | 4.5-5.2 | 5.4 | 5.3-5.5 | 1.9\* | 1.8-2.1 | 2.3 | 2.2-2.4 |
| **Larynx** | 1.4 | 1.2-1.6 | 1.7 | 1.6-1.8 | 0.3 | 0.3-0.4 | 0.4 | 0.4-0.4 |
| **Leukemia** | 8.2 | 7.7-8.6 | 8.6 | 8.5-8.7 | 4.5 | 4.2-4.8 | 4.8 | 4.7-4.9 |
| **Liver & Intrahepatic Bile Ducts** | 10.0\* | 9.5-10.4 | 7.7 | 7.6-7.8 | 3.6\* | 3.4-3.9 | 2.5 | 2.4-2.6 |
| **Melanoma of Skin** | 3.6 | 3.3-3.9 | 3.5 | 3.4-3.6 | 1.7 | 1.5-1.9 | 1.5 | 1.4-1.6 |
| **Multiple Myeloma** | 3.8 | 3.5-4.1 | 4.1 | 4.0-4.2 | 2.4 | 2.2-2.6 | 2.6 | 2.5-2.7 |
| **Non-Hodgkin Lymphoma** | 6.7 | 6.3-7.1 | 7.1 | 7.0-7.2 | 4.2 | 3.9-4.4 | 4.2 | 4.1-4.3 |
| **Oral Cavity & Pharynx** | 3.5\* | 3.2-3.7 | 3.9 | 3.8-4.0 | 1.3 | 1.2-1.5 | 1.3 | 1.3-1.3 |
| **Ovary** | N/A | N/A | N/A | N/A | 7.0 | 6.7-7.4 | 6.9 | 6.8-7.0 |
| **Pancreas** | 12.9 | 12.3-13.4 | 12.7 | 12.5-12.9 | 9.9 | 9.5-10.2 | 9.6 | 9.5-9.7 |
| **Prostate** | 18.2\* | 17.5-18.8 | 19.1 | 18.9-19.3 | N/A | N/A | N/A | N/A |
| **Stomach** | 4.2 | 3.9-4.5 | 4.1 | 4.0-4.2 | 2.2 | 2.0-2.4 | 2.2 | 2.1-2.3 |
| **Testis** | 0.2\* | 0.1-0.2 | 0.3 | 0.3-0.3 | N/A | N/A | N/A | N/A |
| **Thyroid** | 0.6 | 0.5-0.7 | 0.5 | 0.5-0.5 | 0.5 | 0.4-0.6 | 0.5 | 0.5-0.5 |
| **Urinary Bladder** | 8.3\* | 7.9-8.8 | 7.5 | 7.4-7.6 | 2.3 | 2.1-2.5 | 2.1 | 2.0-2.2 |

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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 Registry of Vital Records and 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 SEER Site Recode\*** | **ICD-10\*\*** |
| **Brain & Other**  **Nervous System** | 31010, 31040 | C70-C72 |
| **Breast**  **(includes *in situ*)** | 26000 | C50 |
| **Bronchus & Lung** | 22030 | C34 |
| **Cervix Uteri** | 27010 | C53 |
| **Colon/ Rectum** | 21041-21052 | C18 – C20, C26.0 |
| **Corpus Uteri**  **& Uterus, NOS** | 27020, 27030 | C54 – C55 |
| **Esophagus** | 21010 | C15 |
| **Hodgkin Lymphoma** | 33011, 33012 | C81 |
| **Kidney &**  **Renal Pelvis** | 29020 | C64- C65 |
| **Larynx** | 22020 | C32 |
| **Leukemia** | 35011-35013, 35021, 35031, 35022, 35023, 35041,35043 | C90.1, C91 – C95 |
| **Liver and Intrahepatic**  **Bile Ducts** | 21071 | C22 |
| **Melanoma of Skin** | 25010 | C43 |
| **Multiple Myeloma** | 34000 | C90.0, C90.2 |
| **Non – Hodgkin**  **Lymphoma** | 33041,33042 | C82 – C85, C96.3 |
| **Oral Cavity**  **& Pharynx** | 21010-20100 | C00 – C14 |
| **Ovary** | 27040 | C56 |
| **Pancreas** | 21100 |  |
| **Prostate** | 28010 | C61 |
| **Stomach** | 21020 | C16 |
| **Testis** | 28020 | C62 |
| **Thyroid** | 32010 | C73 |
| **Urinary Bladder**  **(includes *in situ*)** | 29010 | C67 |

**\*** *International Classification**of Diseases for Oncology, 3d Ed.* *Surveillance, Epidemiology, and End Results Program (SEER) Site Recode ICD-O-3/WHO 2008 Definition*

<https://seer.cancer.gov/siterecode/icdo3_dwhoheme/index.html>

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

**Appendix II**

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

**Massachusetts, 2013-2017**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **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** | 560232 | 537084 | 1097317 | 82849 | 79282 | 162130 | 65533 | 63067 | 128600 | 181144 | 175473 | 356617 |
| **05-09** | 586949 | 559247 | 1146195 | 81974 | 77300 | 159274 | 64232 | 62849 | 127080 | 169383 | 163951 | 333334 |
| **10-14** | 681912 | 650410 | 1332322 | 81505 | 77990 | 159494 | 62586 | 63361 | 125946 | 162140 | 158160 | 320299 |
| **15-19** | 795296 | 782579 | 1577876 | 92551 | 90682 | 183232 | 73484 | 80655 | 154139 | 175179 | 166701 | 341879 |
| **20-24** | 842493 | 837421 | 1679914 | 108918 | 107396 | 216314 | 95631 | 104180 | 199812 | 195034 | 180997 | 376031 |
| **25-29** | 840234 | 839230 | 1679464 | 102978 | 100820 | 203796 | 108225 | 119528 | 227753 | 182291 | 170203 | 352493 |
| **30-34** | 758137 | 763298 | 1521434 | 85698 | 87927 | 173625 | 102059 | 114349 | 216407 | 159677 | 152140 | 311817 |
| **35-39** | 684827 | 701093 | 1385920 | 78687 | 82835 | 161521 | 88697 | 99766 | 188463 | 143594 | 144110 | 287704 |
| **40-44** | 733662 | 763937 | 1497600 | 74266 | 79967 | 154232 | 84037 | 90650 | 174688 | 118828 | 129647 | 248476 |
| **45-49** | 875016 | 915374 | 1790392 | 75597 | 83689 | 159287 | 70457 | 76487 | 146944 | 107030 | 117763 | 224792 |
| **50-54** | 985336 | 1031125 | 2016462 | 76488 | 82692 | 159181 | 60331 | 65482 | 125812 | 92147 | 102396 | 194543 |
| **55-59** | 972190 | 1026875 | 1999066 | 65718 | 73171 | 138888 | 48186 | 54711 | 102897 | 69013 | 80201 | 149214 |
| **60-64** | 854426 | 928068 | 1782494 | 50373 | 59028 | 109401 | 39157 | 45721 | 84877 | 50216 | 60018 | 110234 |
| **65-69** | 707750 | 795486 | 1503234 | 35651 | 43944 | 79594 | 29444 | 34546 | 63989 | 35576 | 45796 | 81372 |
| **70-74** | 488303 | 578913 | 1067216 | 22388 | 31571 | 53958 | 19776 | 23453 | 43229 | 22366 | 31040 | 53406 |
| **75-79** | 321585 | 417281 | 738865 | 14600 | 23660 | 38260 | 15041 | 18018 | 33058 | 13632 | 20072 | 33704 |
| **80-84** | 233018 | 345237 | 578255 | 9327 | 16376 | 25703 | 9067 | 11098 | 20164 | 7568 | 12975 | 20543 |
| **85+** | 236535 | 493897 | 730432 | 7849 | 17469 | 25319 | 7247 | 10625 | 17872 | 6641 | 12674 | 19316 |

Population Data Source:

State, County, and Small Area Population Estimates 2011-2020, version 2017, Massachusetts Department of Public Health, Bureau of Environmental Health. Population estimates used for years following the decennial census were developed by the University of Massachusetts Donahue Institute (UMDI) in partnership with the Massachusetts Department of Public Health, Bureau of Environmental Health.

**Appendix III**

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

**Massachusetts (2013-2017)**



**United States (2013-2017)**



Data Source: United States Census Data, American Community Survey, 2013-2017

\*Other includes people reporting 2 or more races.

.

**REFERENCES**

**REFERENCES**

* + - 1. Estimating and Mapping Reliability for American Community Survey Data, Tufts GIS Center, Written by Barbara M. Parmenter and Janet Lau, revised 2/14/2013

<http://sites.tufts.edu/gis/files/2013/11/Amercian-Community-Survey_Margin-of-error-tutorial.pdf>

* + - 1. National Cancer Institute. Cancer Disparities. Available at <https://www.cancer.gov/about-cancer/understanding/disparities>
      2. Massachusetts Cancer Registry, Cancer Incidence and Mortality in Massachusetts, 2006-2010: Statewide Report.

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

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

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

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

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

   Source: Massachusetts Registry of Vital Records and 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).

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

   Source: Massachusetts Registry of Vital Records and Statistics [↑](#footnote-ref-7)
8. Rates are age-adjusted to the 2000 U.S. Standard Population. [↑](#footnote-ref-8)
9. per 100,000

   3 Breast 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. 2per 100,000 [↑](#footnote-ref-21)
22. 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). 6Total includes persons classified as transgender and persons of unknown sex [↑](#footnote-ref-22)
23. \* 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 Registry of Vital Records and 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 Registry of Vital Records and 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 Registry of Vital Records and 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 Registry of Vital Records and 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 Registry of Vital Records and 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 Registry of Vital Records and 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 Registry of Vital Records and Statistics [↑](#footnote-ref-40)