
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



This page intentionally left blank.

CANCER INCIDENCE AND MORTALITY IN MASSACHUSETTS 2013 – 2017

STATEWIDE REPORT

Charlie Baker, Governor
Karyn Polito, Lieutenant Governor
Marylou Sudders, Secretary of Health and Human Services
Monica Bharel, Commissioner of Public Health
Abigail Averbach, Assistant Commissioner and Director,
Office of Population Health

Candace Nelson, Acting Director, Office of Data Management and
Outcomes Assessment

Susan T. Gershman, Director, Massachusetts Cancer Registry

Massachusetts Department of Public Health

May 2021

ACKNOWLEDGMENTS

This report was prepared by Susan T. Gershman, Director, Massachusetts Cancer Registry, and Massachusetts Cancer Registry staff. Special thanks are given to Annie MacMillan and Richard Knowlton for their diligent work in preparing the data for this report. Thanks are given to Vanessa Neergheen formerly of the Massachusetts Registry of Vital Records and Statistics for providing the mortality data. Also, thanks are given to Joshua Nyambose for editing and checking the report.

Massachusetts Cancer Registry Staff

Susan T. Gershman, MS, MPH, PhD, CTR, *Director*
Abdulrasaq Ajao, CTR, *Cancer Registrar*
Amarilis Cora, *Office Support Specialist*
Nancy Donovan, MA, CTR, *Cancer Registrar/Quality Control Coordinator*
Nancy Klein, CTR, *Cancer Registrar*
Richard Knowlton, MS, *Epidemiologist*
Ann MacMillan, MPH, *Epidemiologist*
Fernanda Silva Michels, PhD, CTR, *Assistant Director of Operations*
Joshua Nyambose, PhD, *Epidemiology Supervisor*
Mary Mroszczyk, CTR, *Geocoding/ Special Projects*
Jeremiah Nesser, *Technical Assistant for Special Projects*
Jayne Nussdorfer, CTR, *Cancer Registrar/Data Transmission Coordinator*
Barbara J. Rhodes, CMA, CTR, *Cancer Registrar/Death Clearance Coordinator*
Pamela Shuttle, CTR, RHIT, *Cancer Registrar/Non-Hospital Reporting Coordinator*
Stacie Sullivan, *Cancer Registrar*
Hung Tran, *Software Developer*
Projects Coordinator

Massachusetts Cancer Registry Advisory Committee

Lindsay Frazier, MD, ScM (*Chair*)
Martie Carnie, *Community Representative*
Anita Christie, RN, MHA, CPHQ
Deborah Dillon, MD
Joanna Haas, MD
Joseph Jacobson, MD
Benjamin C. James, MD, MS, FACS
Nancy Keating, MD, MPH
Carol Lowenstein, CTR, MBA
Larissa Nekhlyudov, MD, MPH
Al Ozonoff, MA, PhD
Sigalle Reiss, MPH, RS/REHS
Deb Schrag, MD, MPH
Sabrina Selk, ScM, ScD
Ingrid Stendhal, CTR
Susan Sturgeon, DrPH, MPH
Jan Sullivan, MS
Michelle A. Williams, MS, SM, ScD
Torunn Yock, MD, MCH

The data in this report are intended for public use and may be reproduced without permission. Proper acknowledgement of the source is requested.

For further information, please contact the following:

Massachusetts Cancer Registry.....(617) 624-5642
Research and Epidemiology.....(617) 624-5642
Occupational Health Surveillance.....(617) 624-5632
Bureau of Environmental Health.....(617) 624-5757
Cancer Prevention and Control Initiative.....(617) 624-5479
Massachusetts Department of Public Health website.....www.mass.gov/dph

We acknowledge the Centers for Disease Control and Prevention for its support of the staff under cooperative agreement NU58DP006271-04-00 and the National Cancer Institute under contract HHSN261201800008I awarded to the Massachusetts Department of Public Health.. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention nor the National Cancer Institute.

TABLE OF CONTENTS

	<u>Page</u>
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 be 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.

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:

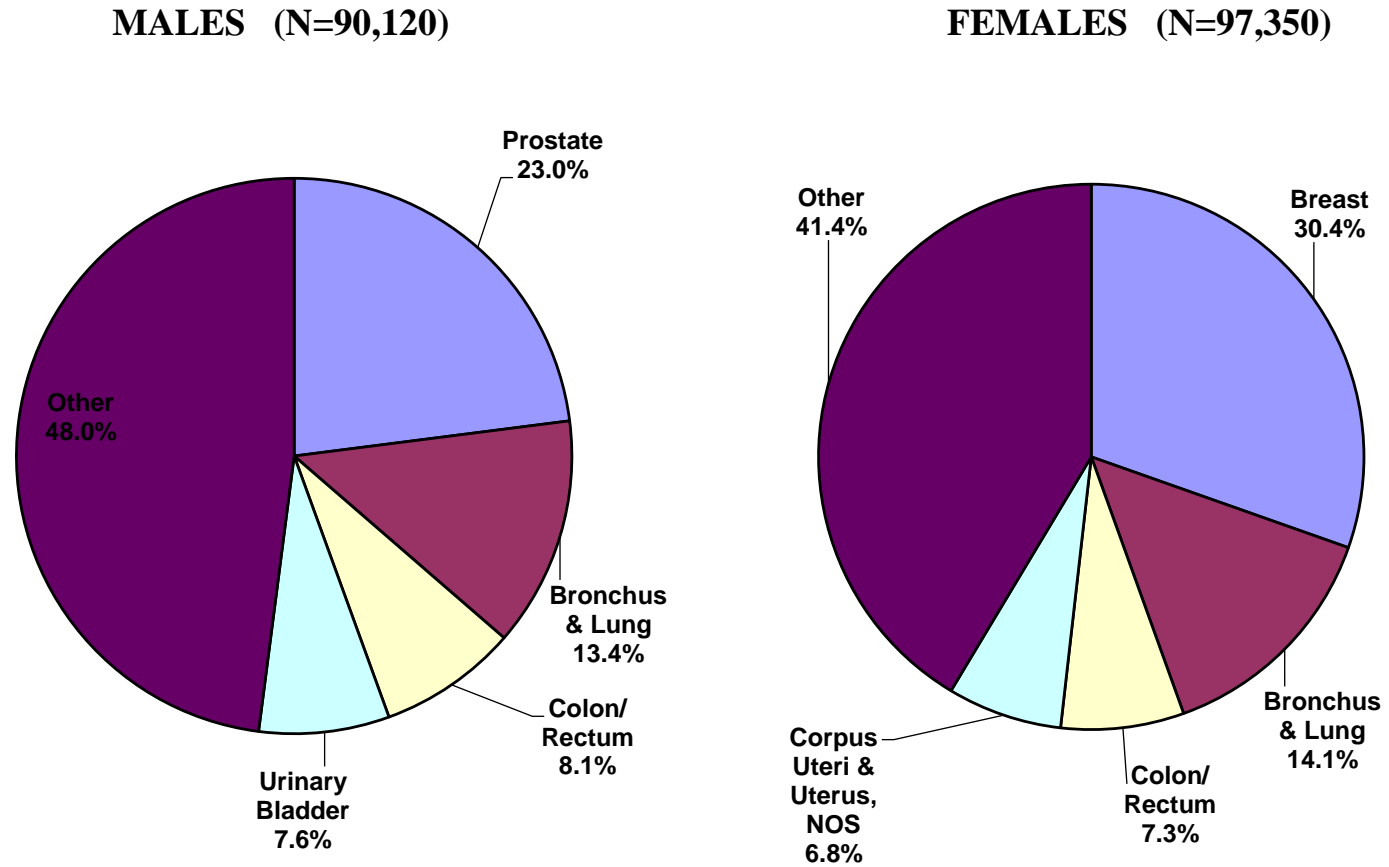
- **FIGURES & TABLES** which present cancer incidence and mortality data for 24 types of cancer for 2013-2017. There are 6 figures and 24 tables in this section with breakdowns by sex, race/ethnicity, year, age group, state and national comparisons, and cancer type.
- **APPENDICES** which provide information 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)*.

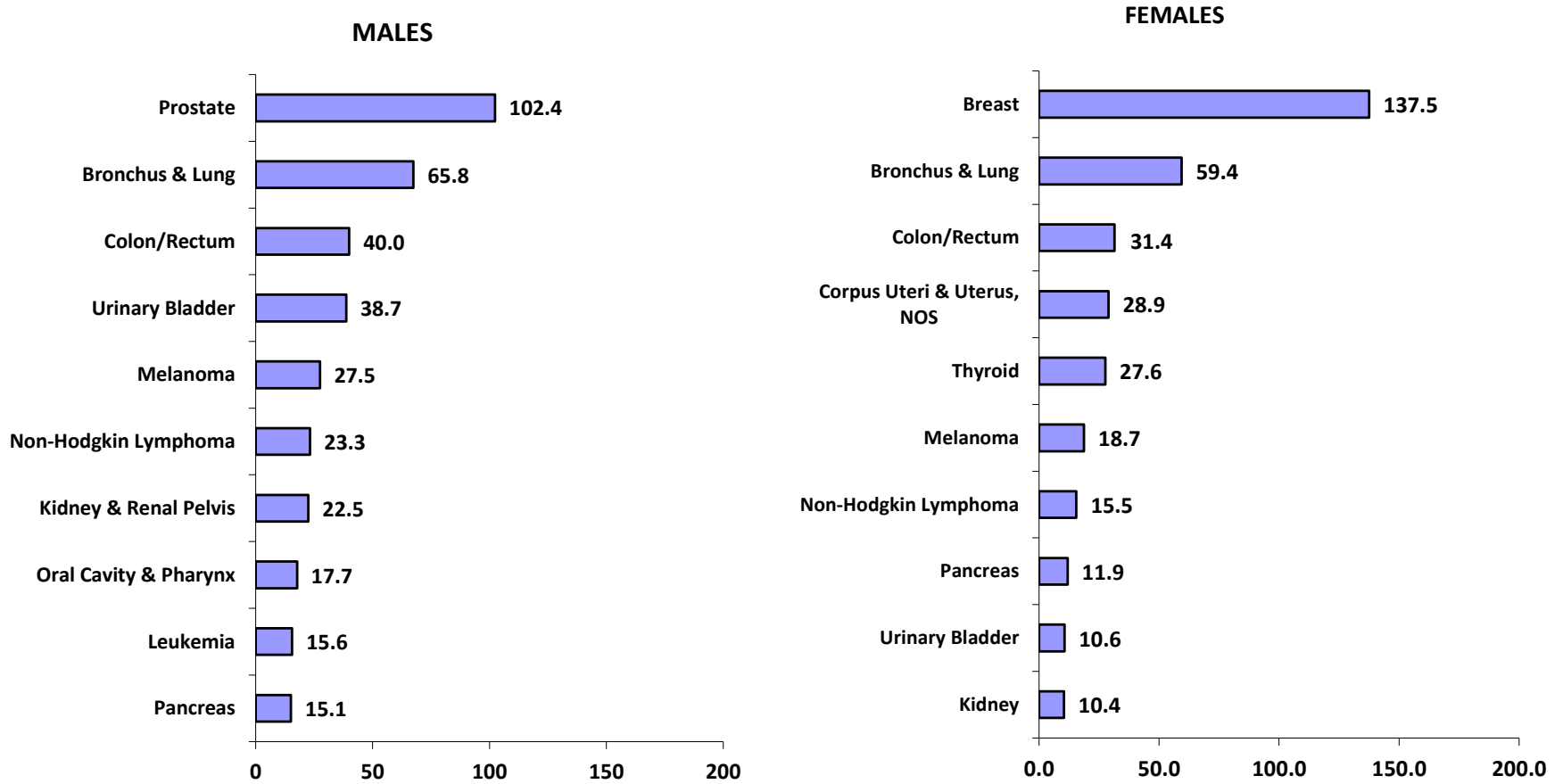
FIGURES & TABLES

Figure 1.
PERCENTAGE OF CANCER INCIDENT CASES BY CANCER TYPE AND SEX
Massachusetts, 2013-2017



Source: Massachusetts Cancer Registry

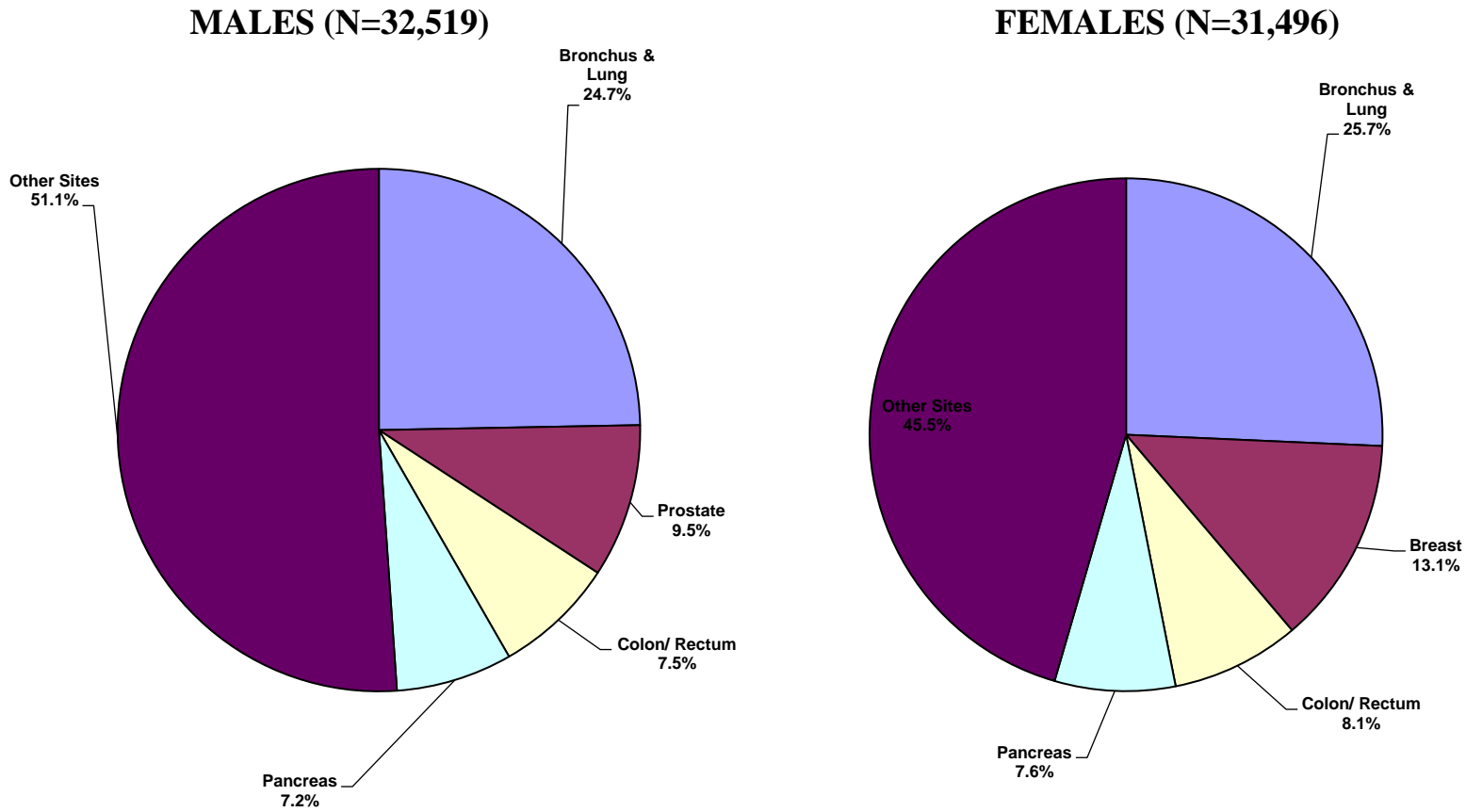
Figure 2.
INCIDENCE RATES¹ FOR TEN LEADING CANCER TYPES BY SEX
Massachusetts, 2013-2017



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

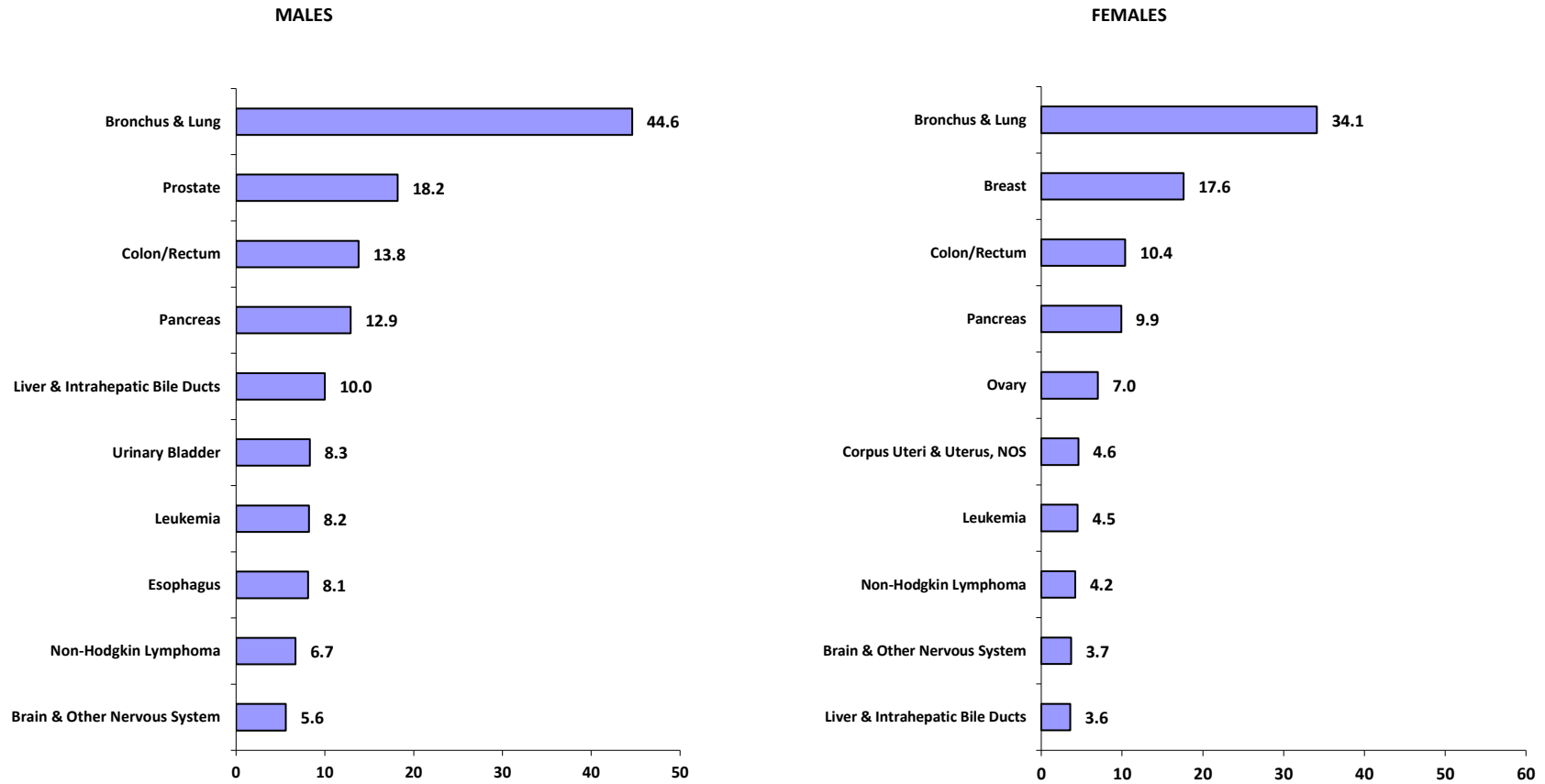
Source: Massachusetts Cancer Registry

Figure 3.
PERCENTAGE OF CANCER DEATHS BY CANCER TYPE AND SEX
Massachusetts, 2013-2017



Source: Massachusetts Registry of Vital Records and Statistics

Figure 4.
MORTALITY 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 Registry of Vital Records and Statistics

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 <i>in situ</i>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 <i>in situ</i> 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

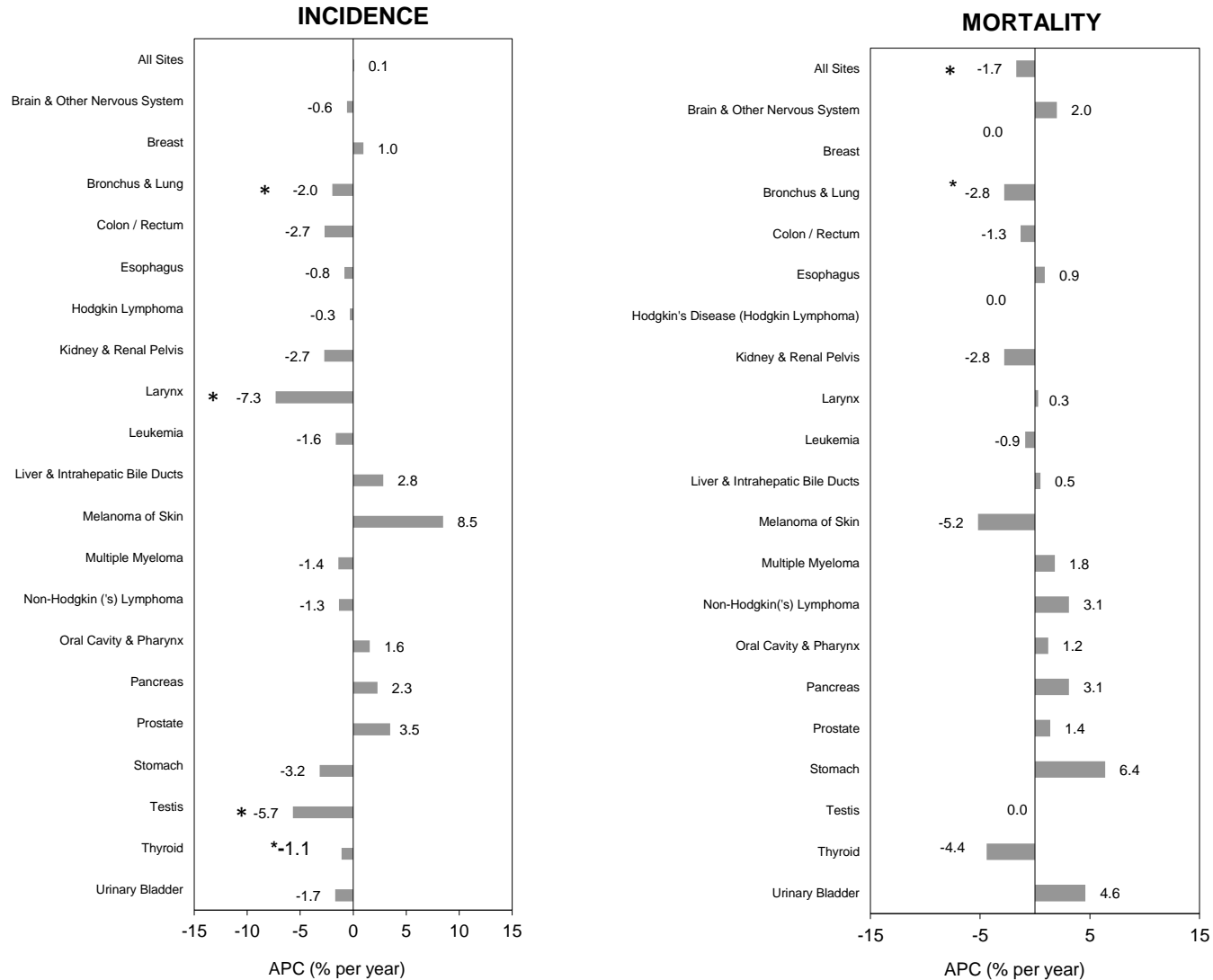
Table 3.
AGE-SPECIFIC INCIDENCE RATES¹ AND MEDIAN AGE AT DIAGNOSIS FOR SELECTED CANCER SITES
Massachusetts, 2013-2017
TOTAL

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 <i>in situ</i>²			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

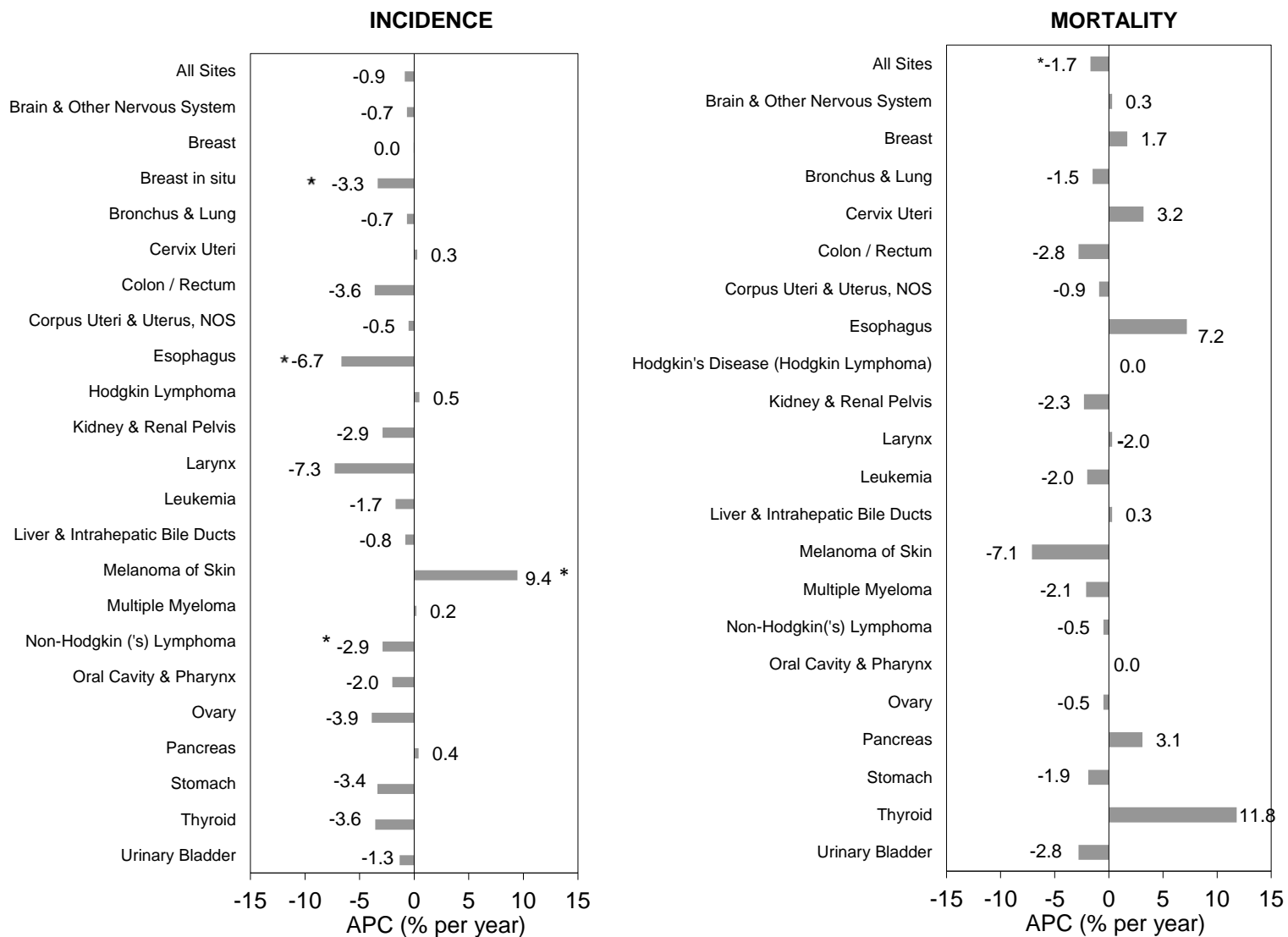
Figure 5.

ANNUAL PERCENT CHANGE (APC) IN AGE-ADJUSTED CANCER RATES AMONG MALES Massachusetts, 2013-2017



*APC is statistically significant ($p \leq 0.05$). 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



*APC is statistically significant ($p \leq 0.05$). 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 <i>in situ</i>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 <i>in situ</i>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 <i>in situ</i> 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-ADJUSTED¹ MORTALITY RATES² 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

¹ Rates are age-adjusted to the 2000 U.S. Standard Population.

² 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

Table 8
ANNUAL AGE-ADJUSTED¹ MORTALITY RATES² 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

¹ Rates are age-adjusted to the 2000 U.S. Standard Population.

² 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

Table 9.
ANNUAL AGE-ADJUSTED¹ MORTALITY RATES² 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

¹ Rates are age-adjusted to the 2000 U.S. Standard Population.

² 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

Table 10.
FIVE LEADING CANCER INCIDENCE RATES BY RACE/ETHNICITY AND SEX
Massachusetts, 2013-2017

MALES

AGE-ADJUSTED¹ INCIDENCE RATE²				
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	Breast ³ 144.4	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

¹ Rates are age-adjusted to the 2000 U.S. Standard Population.

² per 100,000

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

Source: Massachusetts Cancer Registry

Table 11.
NUMBER AND PERCENTAGE OF INCIDENT CASES FOR SELECTED CANCER SITES BY RACE/ETHNICITY¹
Massachusetts, 2013-2017
MALES

Cancer Site / Type	All Races ²		White, non-Hispanic		Black, non-Hispanic		Asian, non-Hispanic		Hispanic	
	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

¹ Race/ethnicity categories are mutually exclusive. Cases are only included in one race/ethnicity category.

² 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

Table 12.
NUMBER AND PERCENTAGE OF INCIDENT CASES FOR SELECTED CANCER SITES BY RACE/ETHNICITY¹
Massachusetts, 2013-2017
FEMALES

Cancer Site / Type	All Races ²		White, non-Hispanic		Black, non-Hispanic		Asian, non-Hispanic		Hispanic	
	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
Breast ³	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

¹ Race/ethnicity categories are mutually exclusive. Cases are only included in one race/ethnicity category.

² 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

Table 13.
NUMBER AND PERCENTAGE OF INCIDENT CASES FOR SELECTED CANCER SITES BY RACE/ETHNICITY¹
Massachusetts, 2013-2017
TOTAL²

Cancer Site / Type	All Races ³		White, non-Hispanic		Black, non-Hispanic		Asian, non-Hispanic		Hispanic	
	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
Breast ⁴	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

¹ 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.

⁴Breast in situ cases are excluded from 'All Sites' and from breast cancer counts. Source: Massachusetts Cancer Registry

Table 14.
AGE-ADJUSTED¹ INCIDENCE RATES² AND 95% CONFIDENCE LIMITS (95% CL)
FOR SELECTED CANCER SITES BY RACE/ETHNICITY³
Massachusetts, 2013-2017
MALES

Cancer Site / Type	All Races		White, non-Hispanics		Black, non-Hispanics		Asian, non-Hispanics		Hispanics	
	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 <i>in situ</i>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

¹ Rates are age-adjusted to the 2000 U.S. Standard Population.

² per 100,000

³ 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

Table 15.
AGE-ADJUSTED¹ INCIDENCE RATES² AND 95% CONFIDENCE LIMITS (95% CL)
FOR SELECTED CANCER SITES BY RACE/ETHNICITY³
Massachusetts, 2013-2017
FEMALES

Cancer Site / Type	All Races		White, non-Hispanics		Black, non-Hispanics		Asian, non-Hispanics		Hispanics	
	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 <i>in situ</i>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

¹ Rates are age-adjusted to the 2000 U.S. Standard Population.

² per 100,000

³ 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

Table 16.
AGE-ADJUSTED¹ INCIDENCE RATES² AND 95% CONFIDENCE LIMITS (95% CL)
FOR SELECTED CANCER SITES BY RACE/ETHNICITY³
Massachusetts, 2013-2017
TOTAL⁶

Cancer Site / Type	All Races		White, non-Hispanics		Black, non-Hispanics		Asian, non-Hispanics		Hispanics	
	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 <i>in situ</i> 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

¹ Rates are age-adjusted to the 2000 U.S. Standard Population. ²per 100,000

² 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

* An age-adjusted incidence rate was not calculated when there were fewer than 20 cases. Source: Massachusetts Cancer Registry

Table 17.
FIVE LEADING CANCER MORTALITY RATES BY RACE/ETHNICITY AND SEX
Massachusetts, 2013-2017

MALES

AGE-ADJUSTED¹ MORTALITY RATE²				
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

¹ Rates are age-adjusted to the 2000 U.S. Standard Population.

² per 100,000

Source: Massachusetts Registry of Vital Records and Statistics

Table 18.
NUMBER AND PERCENTAGE OF DEATHS FOR SELECTED CANCER SITES BY RACE/ETHNICITY¹
Massachusetts, 2013-2017
MALES

Cancer Site / Type	All Races ²		White, non-Hispanic		Black, non-Hispanic		Asian, non-Hispanic		Hispanic	
	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

¹ Race/ethnicity categories are mutually exclusive. Deaths are only included in one race/ethnicity category.

² The number of deaths for all races is not the sum of deaths by race/ethnicity.

Source: Massachusetts Registry of Vital Records and Statistics

Table 19.
NUMBER AND PERCENTAGE OF DEATHS FOR SELECTED CANCER SITES BY RACE/ETHNICITY¹
Massachusetts, 2013-2017
FEMALES

Cancer Site / Type	All Races ²		White, non-Hispanic		Black, non-Hispanic		Asian, non-Hispanic		Hispanic	
	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

¹ Race/ethnicity categories are mutually exclusive. Deaths are only included in one race/ethnicity category.

² The number of deaths for all races is not the sum of deaths by race/ethnicity.

Source: Massachusetts Registry of Vital Records and Statistics

Table 20.
NUMBER AND PERCENTAGE OF DEATHS FOR SELECTED CANCER SITES BY RACE/ETHNICITY¹
Massachusetts, 2013-2017
TOTAL

Cancer Site / Type	All Races ²		White, non-Hispanic		Black, non-Hispanic		Asian, non-Hispanic		Hispanic	
	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

¹ Race/ethnicity categories are mutually exclusive. Deaths are only included in one race/ethnicity category.

² The number of deaths for all races is not the sum of deaths by race/ethnicity.

Source: Massachusetts Registry of Vital Records and Statistics

Table 21.
AGE-ADJUSTED¹ MORTALITY RATES² AND 95% CONFIDENCE LIMITS (95% CL)
FOR SELECTED CANCER SITES BY RACE/ETHNICITY³
Massachusetts, 2013-2017
MALES

Cancer Site / Type	All Races		White, non-Hispanics		Black, non-Hispanics		Asian, non-Hispanics		Hispanics	
	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	*	*	*	*

¹ Rates are age-adjusted to the 2000 U.S. Standard Population.

² per 100,000

³ 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

Table 22.
AGE-ADJUSTED¹ MORTALITY RATES² AND 95% CONFIDENCE LIMITS (95% CL)
FOR SELECTED CANCER SITES BY RACE/ETHNICITY³
Massachusetts, 2013-2017
FEMALES

Cancer Site / Type	All Races		White, non-Hispanics		Black, non-Hispanics		Asian, non-Hispanics		Hispanics	
	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	*	*	*	*

¹ Rates are age-adjusted to the 2000 U.S. Standard Population.

² per 100,000

³ 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

Table 23.
AGE-ADJUSTED¹ MORTALITY RATES² AND 95% CONFIDENCE LIMITS (95% CL)
FOR SELECTED CANCER SITES BY RACE/ETHNICITY³
Massachusetts, 2013-2017
TOTAL

Cancer Site / Type	All Races		White, non-Hispanics		Black, non-Hispanics		Asian, non-Hispanics		Hispanics	
	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

¹ Rates are age-adjusted to the 2000 U.S. Standard Population.

² per 100,000

³ 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

Table 24.
INCIDENCE RATES¹ FOR SELECTED CANCER SITES BY SEX
Massachusetts (2013-2017) and U.S. (2013-2017)

Cancer Site / Type	MALES				FEMALES			
	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 <i>in situ</i> ²	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

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.naacr.org/>. (Accessed on 1-12-2018)

Table 25.
MORTALITY RATES¹ FOR SELECTED CANCER SITES BY SEX
Massachusetts and U.S. (2013-2017)

Cancer Site / Type	MALES				FEMALES			
	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

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	<i>.....Codes.....</i>	
	ICD-O-3 SEER Site Recode*	ICD-10**
Brain & Other Nervous System	31010, 31040	C70-C72
Breast (includes <i>in situ</i>)	26000	C50
Bronchus & Lung	22030	C34
	27010	C53
Cervix Uteri 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 <i>in situ</i>)	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_dwho/home/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

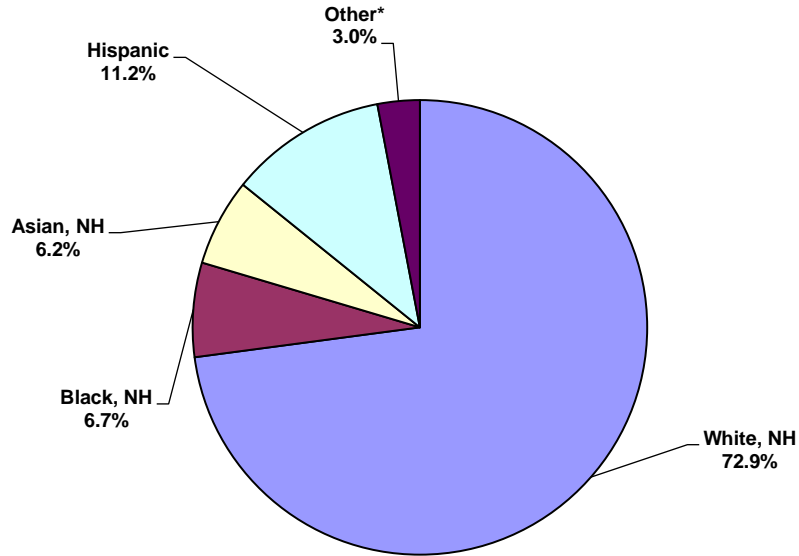
Age Group	White, non-Hispanic			Black, non-Hispanic			Asian, non-Hispanic			Males	Hispanic Females	Total
	Males	Females	Total	Males	Females	Total	Males	Females	Total			
00-04	560232	537084	1097317	82849	79282	162130	65533	63067	128600	181144	175473	356617
05-09	586949	559247	1146195	81974	77300	159274	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:

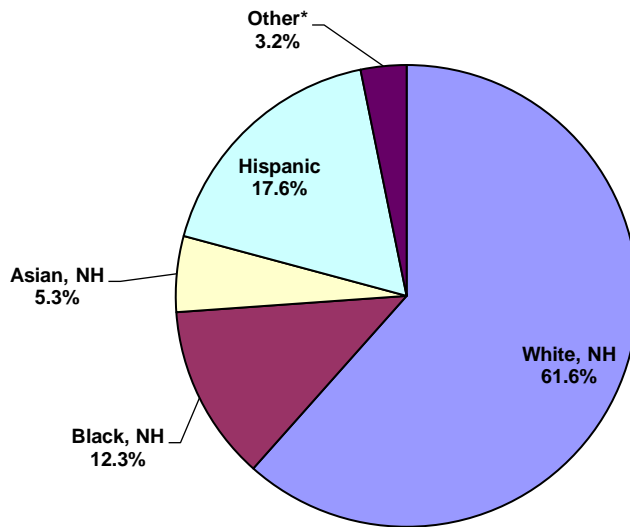
State, County, and Small Area Population Estimates 2011-2020, version 2017, Massachusetts Department of Public Health, Bureau of Environmental Health. Population estimates used for years following the decennial census were developed by the University of Massachusetts Donahue Institute (UMDI) in partnership 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/Americian-Community-Survey_Margin-of-error-tutorial.pdf
2. National Cancer Institute. Cancer Disparities. Available at <https://www.cancer.gov/about-cancer/understanding/disparities>
3. Massachusetts Cancer Registry, Cancer Incidence and Mortality in Massachusetts, 2006-2010: Statewide Report.