
CANCER INCIDENCE AND MORTALITY IN MASSACHUSETTS 2007 – 2011:

STATEWIDE REPORT

The Office of Data Management and Outcomes Assessment

Massachusetts Department of Public Health

December 2014



This page intentionally left blank.

CANCER INCIDENCE AND MORTALITY IN MASSACHUSETTS 2007 – 2011:

STATEWIDE REPORT

Deval L. Patrick, Governor
John W. Polanowicz, Secretary of Health and Human Services
Eileen Sullivan, Acting Commissioner of Public Health

Tom Land, Director, Office of Data Management and Outcomes Assessment
Susan T. Gershman, Director, Massachusetts Cancer Registry, Office of Data Management
and Outcomes Assessment

Massachusetts Department of Public Health

December 2014

This page intentionally left blank.

ACKNOWLEDGMENTS

This report was prepared by Susan T. Gershman, Director, Massachusetts Cancer Registry, and Massachusetts Cancer Registry staff and consultants. Special thanks are given to Annie MacMillan and Richard Knowlton for their diligent work in preparing the data for this report. Thanks are also given to consultant Nancy Weiss for her editing efforts. Thanks are given to Charlene Zion, Kevin Foster, and staff in the Registry of Vital Records and Statistics for providing the mortality data and to James West, formerly of the Division of Research and Epidemiology, for providing the population data. Thanks are also given to Anita Christie, Gail Merriam, Joshua Nyambose, and Cherline Gene of the Office of Preventive Services, Bureau of Community Health and Prevention, for their contributions to the Prostate Cancer Special Section.

Massachusetts Cancer Registry Staff

Susan T. Gershman, MS, MPH, PhD, CTR, <i>Director</i>	
Bruce Caldwell, <i>Research Analyst/Geocoder</i>	Jeremiah Nesser
Nancy Donovan, MA, CTR, <i>Cancer Registrar</i>	Jayne Nussdorfer, CTR, <i>Cancer Registrar</i>
Patricia J. Drew, CTR, <i>Cancer Registrar/Quality Assurance Coordinator</i>	Barbara J. Rhodes, CMA, CTR, <i>Cancer Registrar/Death Clearance Coordinator</i>
Loi Huynh, <i>Software Developer</i>	Pamela Shuttle, CTR, RHIT, <i>Cancer Registrar/Non-Hospital Reporting Coordinator</i>
Richard Knowlton, MS, <i>Epidemiologist</i>	Hung Tran, <i>Software Developer</i>
Ann MacMillan, MPH, <i>Epidemiologist</i>	
Mary Mroszczyk, CTR, <i>Geocoding/ Special Projects Coordinator</i>	

Massachusetts Cancer Registry Advisory Committee

Lawrence N. Shulman, M.D. (<i>Chair</i>)	
Anita Christie, RN, MHA, CPHQ	Larissa Nekhlyudov, MD, MPH
Suzanne Condon, MS	Al Ozonoff, MA, PhD
Deborah Dillon, MD	Paul C. Shroy, MD, MPH
Joanna Haas, MD	Janet McGrail Spillane, RN
Carol Lowenstein, CTR, MBA	Ingrid Stendhal, CTR
Reggie Mead	Susan Sturgeon, DrPH, MPH
Gail Merriam, MSW, MPH	
J. David Naparstek, ScM, CHO	

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) 624-5635
Occupational Health Surveillance.....	(617) 624-5626
Bureau of Environmental Health.....	(617) 624-5757
Cancer Prevention and Control Initiative.....	(617) 624-5484
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 and the printing and distribution of this report under cooperative agreement 1 U58 DP003920-04 awarded to the Massachusetts Cancer Registry at 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.

This page intentionally left blank.

TABLE OF CONTENTS

	<u>Page</u>
Executive Summary.....	1
Introduction.....	7
Overall Content.....	8
Special Overview: Prostate Cancer.....	10
Figures & Tables.....	14
Figure 1. Percentage of cancer incidence cases by cancer type and sex, Massachusetts, 2007-2011.....	15
Figure 2. Incidence rates for ten leading cancer types by sex, Massachusetts, 2007-2011.....	16
Figure 3. Percentage of cancer deaths by cancer type and sex, 2007-2011.....	17
Figure 4. Mortality rates for ten leading cancer types by sex, Massachusetts, 2007-2011.....	18
Table 1. Age-specific incidence rates and median ages for selected cancer sites, Massachusetts, 2007-2011, males	19
Table 2. Age-specific incidence rates and median ages for selected cancer sites, Massachusetts, 2007-2011, females	20
Table 3. Age-specific incidence rates and median ages for selected cancer sites, Massachusetts, 2007-2011, total	21
Figure 5. Annual Percent Change (APC) in age-adjusted cancer rates among males, Massachusetts, 2007-2011	22
Figure 6. Annual Percent Change (APC) in age-adjusted cancer rates among females, Massachusetts, 2007-2011.....	23
Table 4. Annual age-adjusted incidence rates for selected cancer sites, Massachusetts, 2007-2011, males.....	24
Table 5. Annual age-adjusted incidence rates for selected cancer sites, Massachusetts, 2007-2011, females.....	25
Table 6. Annual age-adjusted incidence rates for selected cancer sites, Massachusetts, 2007-2011, total	26
Table 7. Annual age-adjusted mortality rates for selected cancer sites, Massachusetts, 2007-2011, males	27
Table 8. Annual age-adjusted mortality rates for selected cancer sites, Massachusetts, 2007-2011, females.....	28

Table 9. Annual age-adjusted mortality rates for selected cancer sites, Massachusetts, 2007-2011, total	29
Table 10. Five leading cancer incidence rates by race/ethnicity and sex, Massachusetts, 2007-2011	30
Table 11. Number and percentage of incident cases for selected cancer sites by race/ethnicity, Massachusetts, males, 2007-2011	31
Table 12. Number and percentage of incident cases for selected cancer sites by race/ethnicity, Massachusetts, females, 2007-2011	32
Table 13. Number and percentage of incident cases for selected cancer sites by race/ethnicity, Massachusetts, total, 2007-2011	33
Table 14. Age-adjusted incidence rates and 95% confidence limits (95% CL) for selected cancer sites by race/ethnicity, Massachusetts, 2007-2011, males.....	34
Table 15. Age-adjusted incidence rates and 95% confidence limits (95% CL) for selected cancer sites by race/ethnicity, Massachusetts, 2007-2011, females.....	35
Table 16. Age-adjusted incidence rates and 95% confidence limits (95% CL) for selected cancer sites by race/ethnicity, Massachusetts, 2007-2011, total.....	36
Table 17. Five leading cancer mortality rates by race/ethnicity and sex, Massachusetts, 2007-2011	37
Table 18. Number and percentage of deaths for selected cancer sites by race/ethnicity, Massachusetts, 2007-2011, males	38
Table 19. Number and percentage of deaths for selected cancer sites by race/ethnicity, Massachusetts, 2007-2011, females	39
Table 20. Number and percentage of deaths for selected cancer sites by race/ethnicity, Massachusetts, 2007-2011, total	40
Table 21. Age-adjusted mortality rates and 95% confidence limits (95% CL) for selected cancer sites by race/ethnicity, Massachusetts, 2007-2011, males	41
Table 22. Age-adjusted mortality rates and 95% confidence limits (95% CL) for selected cancer sites by race/ethnicity, Massachusetts, 2007-2011, females.....	42
Table 23. Age-adjusted mortality rates and 95% confidence limits (95% CL) for selected cancer sites by race/ethnicity, Massachusetts, 2007-2011, total	43
Table 24. Incidence rates for selected cancer sites by sex, Massachusetts and U.S. (2007-2010)	44
Table 25. Mortality rates for selected cancer sites by sex, Massachusetts and U.S. (2007-2011)	45

Appendices.....	46
Appendix I. ICD codes used for this report	48
Appendix II. Population and rate changes	50
Appendix III. Population estimates by age, race/ethnicity, and sex, Massachusetts, 2007-2011	52
Appendix IV. Racial/Ethnic Breakdown of the Massachusetts and NAACCR Populations, 2007-2011	53
References	55

This page intentionally left blank

EXECUTIVE SUMMARY

This page intentionally left blank.

EXECUTIVE SUMMARY

Cancer Incidence and Mortality in Massachusetts, 2007-2011: Statewide Report presents cancer incidence and mortality data for the Commonwealth from 2007 through 2011. The report includes numbers and rates for 24 types of cancer, information on age-specific patterns, a discussion of cancer trends, 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.

All counts and average annual age-adjusted rates presented in this Executive Summary are for the period 2007-2011 and are for Massachusetts residents, unless otherwise stated.

OVERALL:

- Total number of new cases – 183,867, an average of 36,773 annually
- Total number of cancer deaths – 64,803, an average of 12,960 annually
- Incidence rate for all cancers combined for total population – 500.0 per 100,000 persons
- Mortality rate for all cancer deaths combined for total population – 173.1 per 100,000 persons.

MOST COMMONLY DIAGNOSED CANCERS & CANCER DEATH CAUSES BY SEX:

Incidence (newly diagnosed cases)

- Males – *prostate cancer* accounted for 27.8% of all newly diagnosed cancers among males
- Females – *invasive breast cancer* accounted for 29.0% of all newly diagnosed cancers among females.

Mortality (causes of cancer death)

- Males – *cancer of the bronchus and lung* accounted for 27.7% of all cancer deaths among males
- Females – *cancer of the bronchus and lung* accounted for 26.9% of all cancer deaths among females.

TRENDS 2006-2010:

Statistically Significant Incidence Trends – Males

- All cancers combined decreased 3.4% per year.
- Bronchus and lung cancer decreased 2.9% per year.
- Colon and rectum cancer decreased 5.5% per year.
- Prostate cancer decreased by 5.6% per year.
- Urinary bladder cancer decreased 3.3% per year

Statistically Significant Mortality Trends – Males

- All cancers deaths combined decreased 2.4% per year.
- Bronchus and lung cancer decreased 3.9% per year.
- Prostate cancer decreased 4.4% per year.
- Colon and rectum cancer decreased 3.3% per year.
- Kidney and renal pelvis cancer decreased 8.9% per year.

Statistically Significant Incidence Trends – Females

- Colon and rectum cancer decreased 4.6% per year.
- *In Situ* breast cancer decreased 4.1% per year.
- Melanoma of skin decreased 1.6% per year.

Statistically Significant Mortality Trends – Females

- Corpus uteri & uterine, NOS cancer increased 5.3% per year.
- Bronchus and lung cancer decreased 2.3% per year.

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

Males Incidence

- Black, non-Hispanic males had the highest total age-adjusted incidence rates, significantly higher than those of all other racial/ethnic groups.
- Cancers of prostate, bronchus and lung, and colon/rectum were the leading cancer types in each racial/ethnic group.

Males Mortality

- Black, non-Hispanic males had the highest total cancer mortality rate, significantly higher compared to all other racial/ethnic groups.
- Cancer of the bronchus and lung was the leading cause of cancer death for each racial/ethnic group. White and black, non-Hispanics had significantly elevated rates compared to the other two racial/ethnic groups.
- The mortality rate for prostate cancer was significantly elevated among black, non-Hispanic males compared to the other racial/ethnic groups.

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.

Females Mortality

- Black, non-Hispanic females had the highest total cancer mortality rate, significantly higher than for Asian, non-Hispanic and Hispanic females but not compared to white, non-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 a significantly elevated breast cancer mortality rate when compared to the other racial/ethnic groups. Their rate was nearly triple that of Asian, non-Hispanic and Hispanic females.

MASSACHUSETTS VS. NATIONAL RATES

Males and Females Incidence

Overall age-adjusted cancer incidence rates in Massachusetts were significantly higher than national rates for both males and females. Among the cancers significantly elevated for females were invasive and in situ breast, bronchus and lung, liver, melanoma, pancreas, thyroid, and urinary bladder. Among those elevated for males were esophageal, liver, melanoma, prostate, stomach, testicular, thyroid, and urinary bladder.

Males and Females Mortality

While overall age-adjusted cancer mortality rates in Massachusetts were not significantly different from national rates for both males and females, there were some significant differences among individual cancers. Female bronchus and lung and male and female liver and intrahepatic bile duct cancers were among the cancers with significantly elevated mortality rates compared to the U.S. while male bronchus and lung and female breast cancers rates were significantly lower.

This page intentionally left blank.

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, 2007-2011: 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 2007 through 2011;*
- Provides detailed information on the most commonly occurring types of cancer for 2007 through 2011;
- Examines cancer incidence patterns by age, sex, and race/ethnicity;
- Reviews Massachusetts cancer incidence and mortality trends for 2007 through 2011;
- Compares Massachusetts incidence and mortality data with respective national data; and
- Features a special section on prostate cancer in Massachusetts.

The report is organized into the following sections:

- **SPECIAL OVERVIEW** which provides more detailed information on a specific cancer of interest in Massachusetts. This report has a special overview of prostate cancer.
- **FIGURES & TABLES** which present cancer incidence and mortality data for 24 types of cancer for 2007-2011. There are 6 figures and 24 tables in this section with breakdowns by sex, race/ethnicity, year, age group, state and national comparisons, and cancer type.
- **APPENDICES** which provide information supplemental to this report, including a listing of codes used to prepare the report, information on population and rate changes, and population estimates.
- **REFERENCES**

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

Note: For more detailed information on the methods of the Massachusetts Cancer Registry, please refer to Cancer Incidence and Mortality in Massachusetts 2006-2010: Statewide Report (1). For national trends, please refer to the Annual Report to the Nation on the Status of Cancer, 1975-2011 (2).

This page intentionally left blank.

SPECIAL OVERVIEW: PROSTATE CANCER

PROSTATE CANCER IN MASSACHUSETTS: AN EVOLVING STORY

Nationally, the incidence of prostate cancer showed a statistically significant decrease of 5.2% per year from 2006-2010, similar to that seen for Massachusetts men. The decrease in prostate cancer incidence is likely related to declines in prostate specific antigen (PSA) testing. In 2008, the US Preventive Services Task Force (USPSTF) recommended against prostate cancer screening for men aged 75 and older. They also stated that there was insufficient evidence to recommend for or against screening for men under 75 years old. In 2012 the USPSTF recommended against prostate-specific antigen (PSA)-based screening for prostate cancer (1). These USPSTF recommendations may have resulted in lower screening and detection of early stage prostate cancer as men are now encouraged to talk to their providers about the pros and cons of prostate cancer screening using the PSA. While not presented by stage at diagnosis in this state report, national rates for all men from 2009-2010 demonstrated a decrease in the incidence of local stage prostate cancers, a stabilization of incidence of regional prostate cancers and an increase in the incidence of late stage prostate cancers (2).

In 2012, in an effort to address the controversy around prostate cancer screening and to establish more comprehensive guidelines for providers in Massachusetts, the University of Massachusetts Medical School applied for and received a grant from the Patient Centered Outcomes Research Institute (PCORI). The research and facilitation teams implementing the PCORI grant identified and convened a 21 member Massachusetts Prostate Cancer Screening Guideline Panel comprised of various stakeholders. This panel in collaboration with the Massachusetts Health Quality Partners (MHQP) developed the Massachusetts prostate cancer screening guidelines that were later adopted by MHQP. The guidelines state that:

- *For average risk men ages 50-69 and high risk men (black men or men with a family history of prostate cancer (brother or father)) starting at age 45:*
 - *Screening for prostate cancer with the prostate specific antigen (PSA) should not be performed or offered routinely without patient education and informed consent.*
 - *PSA screening may be offered to men who express a clear preference for screening after demonstrating an understanding of the harms and benefits (e.g. through a shared decision-making process) and who have a life expectancy >10 years.*
 - *For men who express a clear preference for screening after shared decision-making:*
 - *Screen with PSA every 2 years.*
 - *For confirmed PSA>4.0, assess/refer for possible prostate biopsy.*
- *Providers are encouraged to make men aware that PSA screening is controversial and associated with a significant risk of harm, but that screening is an option available to them. Providers are also encouraged to facilitate access to information on harms and benefits for men who may be interested in PSA screening.*

In July 2013, the Massachusetts Comprehensive Cancer Prevention and Control Network convened its first meeting of the Prostate Cancer Workgroup in part to address how to ensure dissemination and adoption of the new Massachusetts prostate cancer screening guidelines. The Workgroup is comprised of primary care providers, an urologist, a researcher, and a patient

navigator. The aim of this Workgroup is to increase the education of men and their providers about shared decision-making in prostate cancer screening.

The Prostate Cancer Workgroup set out to develop patient decision aids that would help patients understand the risks and benefits of PSA screening for prostate cancer and inform patients that their preferences was an important factor in the decision-making process. The Workgroup felt it necessary to convey to men that there is potentially more than one decision to make when it comes to screening for prostate cancer. A simple blood test could open doors to further decisions to be made in the near future. Hence, the Workgroup contracted with a communication vendor to create these decisional aids that would facilitate the discussion between a patient and provider, yielding in a shared decision. Through focus group testing, concept testing, and prototype testing, the vendor was able to create three products: a decision aid to be used in the provider office, a decision aid that men would take home or be used as a stand-alone tool in community settings, and an online widget that provides more in-depth information about the risks and benefits of screening.

Next steps for the Prostate Workgroup include: pilot testing the decision aids by partnering with community health centers; refining the message concepts to implement a targeted media campaign for men and plans to educate providers on the advancement in prostate education in screening, diagnosis, treatment, and survivorship through CMEs; a series of televised health news segments; and a symposium. In addition, the Massachusetts Comprehensive Cancer Prevention and Control Network plans to provide these decision aids to Men of Color programs who are currently working on prostate cancer health education and shared decision-making. The awareness of advantages and disadvantages of prostate screening is part of the new Massachusetts State Health Improvement Plan (SHIP).

Prostate cancer was the most common type of cancer diagnosed in Massachusetts men from 2007 through 2011. Prostate cancer alone comprised approximately 28% of all cancers diagnosed in men. During this time period, a total of 25,390 new cases of prostate cancer were diagnosed, an average of 5,078 annually. The table below illustrates prostate cancer incidence and mortality rates for 2007-2011.

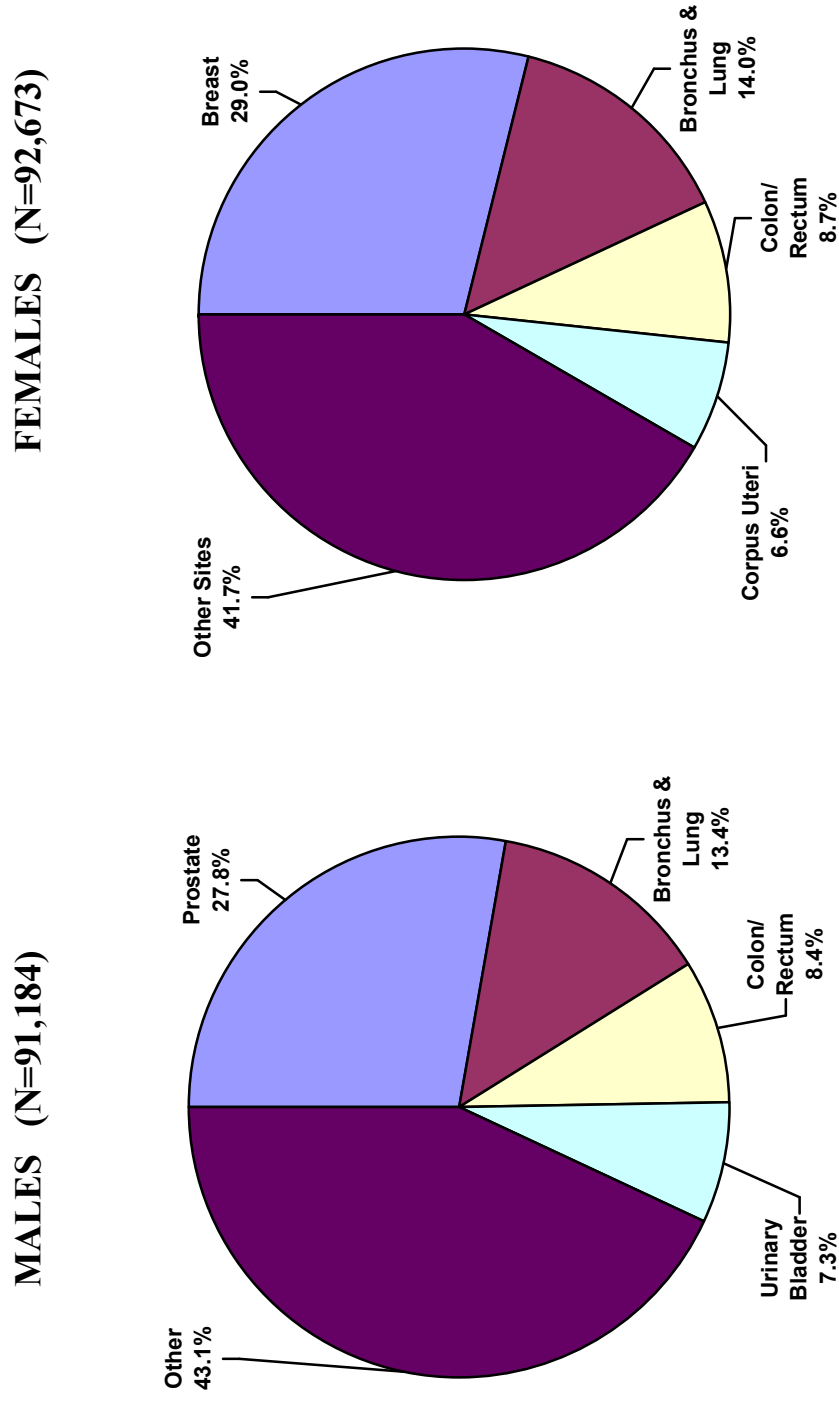
Prostate Cancer Incidence and Mortality Rates by Race/Ethnicity, Massachusetts Males, 2007-2011					
	All Races	White, NH	Black, NH	Asian, NH	Hispanic
Incidence Rate	149.6	138.8	244.8	72.7	162.9
Mortality Rate	21.5	21.2	45.9	8.5	15.2

Among Massachusetts men, the incidence rate of prostate cancer decreased by 5.6% per year from 2007 through 2011, a statistically significant decrease. The incidence rate of prostate cancer declined from 170.9 cases per 100,000 men in 2007 to 136.3 cases per 100,000 men in 2011. The trend in the prostate cancer mortality rate also showed a significant decrease of 4.4% per year. The mortality rate declined from 23.8 cases per 100,000 in 2007 to 19.4 cases per 100,000 in 2011.

This page intentionally left blank.

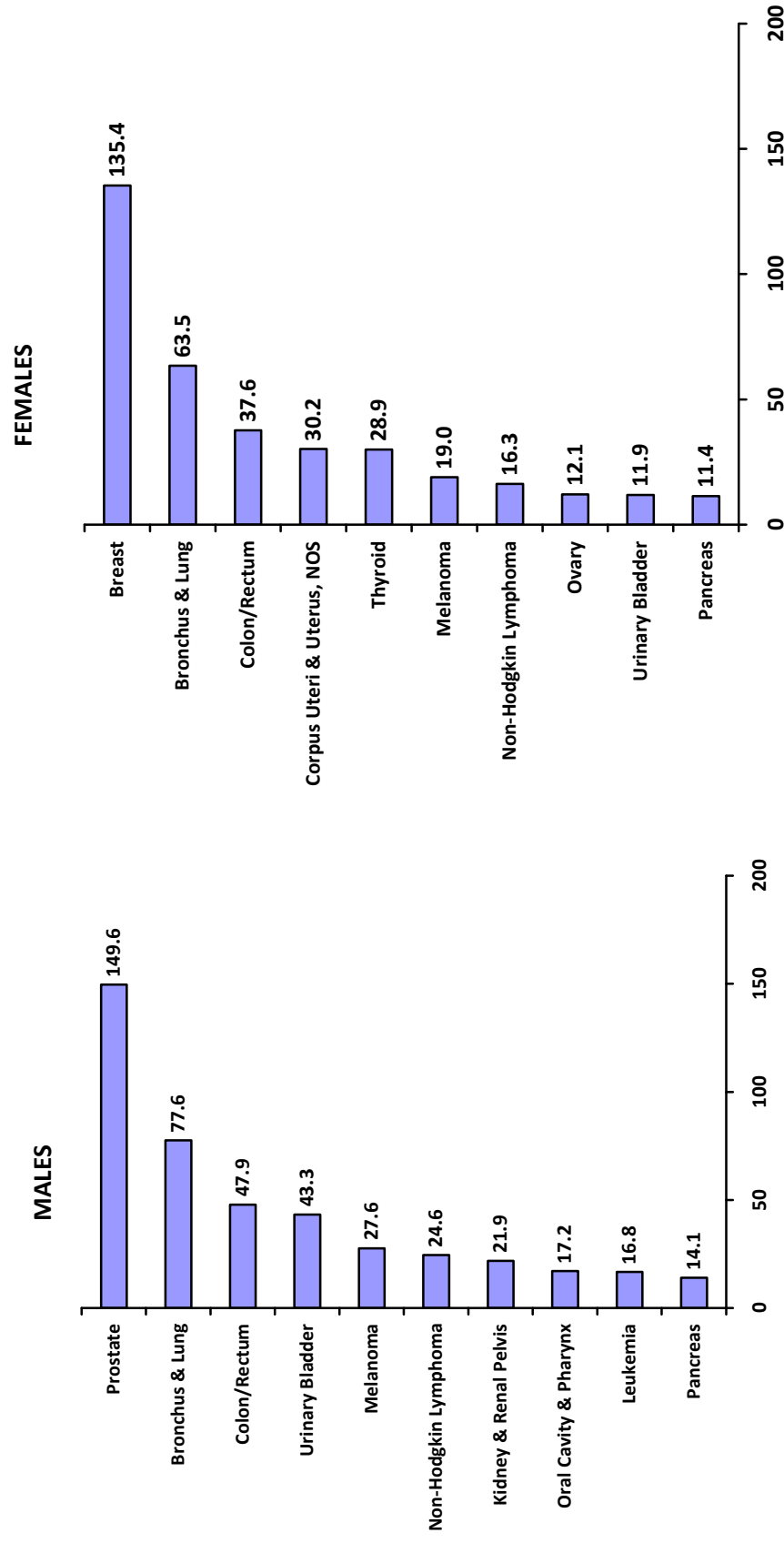
FIGURES & TABLES

Figure 1.
PERCENTAGE OF CANCER INCIDENT CASES BY CANCER TYPE AND SEX
 Massachusetts, 2007-2011



Source: Massachusetts Cancer Registry

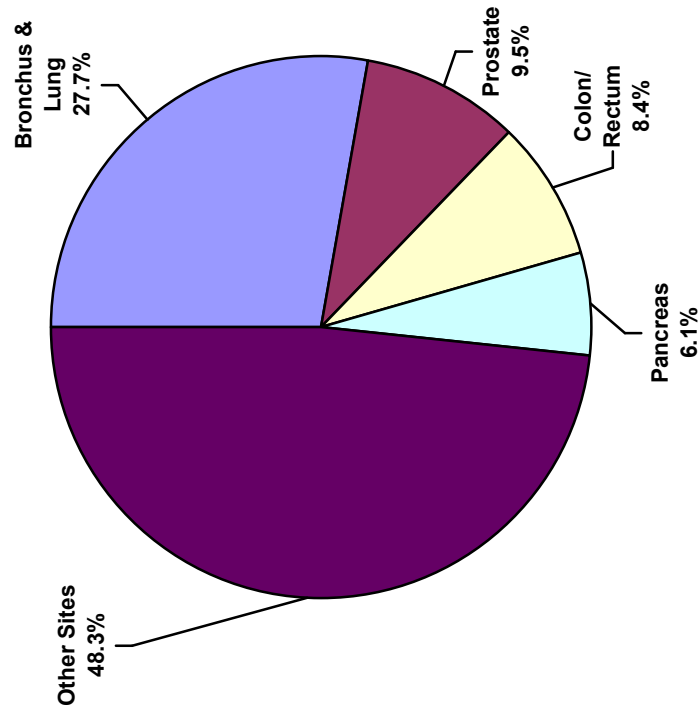
Figure 2.
INCIDENCE RATES¹ FOR TEN LEADING CANCER TYPES BY SEX
Massachusetts, 2007-2011



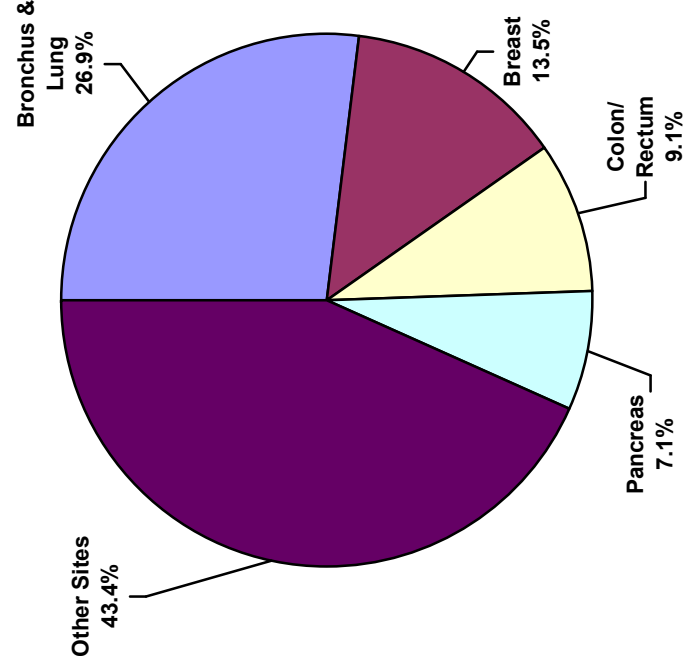
¹Rates are age-adjusted to the 2000 U.S. Standard Population. *NOS – Not Otherwise Specified.
Source: Massachusetts Cancer Registry

Figure 3.
PERCENTAGE OF CANCER DEATHS BY CANCER TYPE AND SEX
Massachusetts, 2007-2011

MALES (N=32,626)

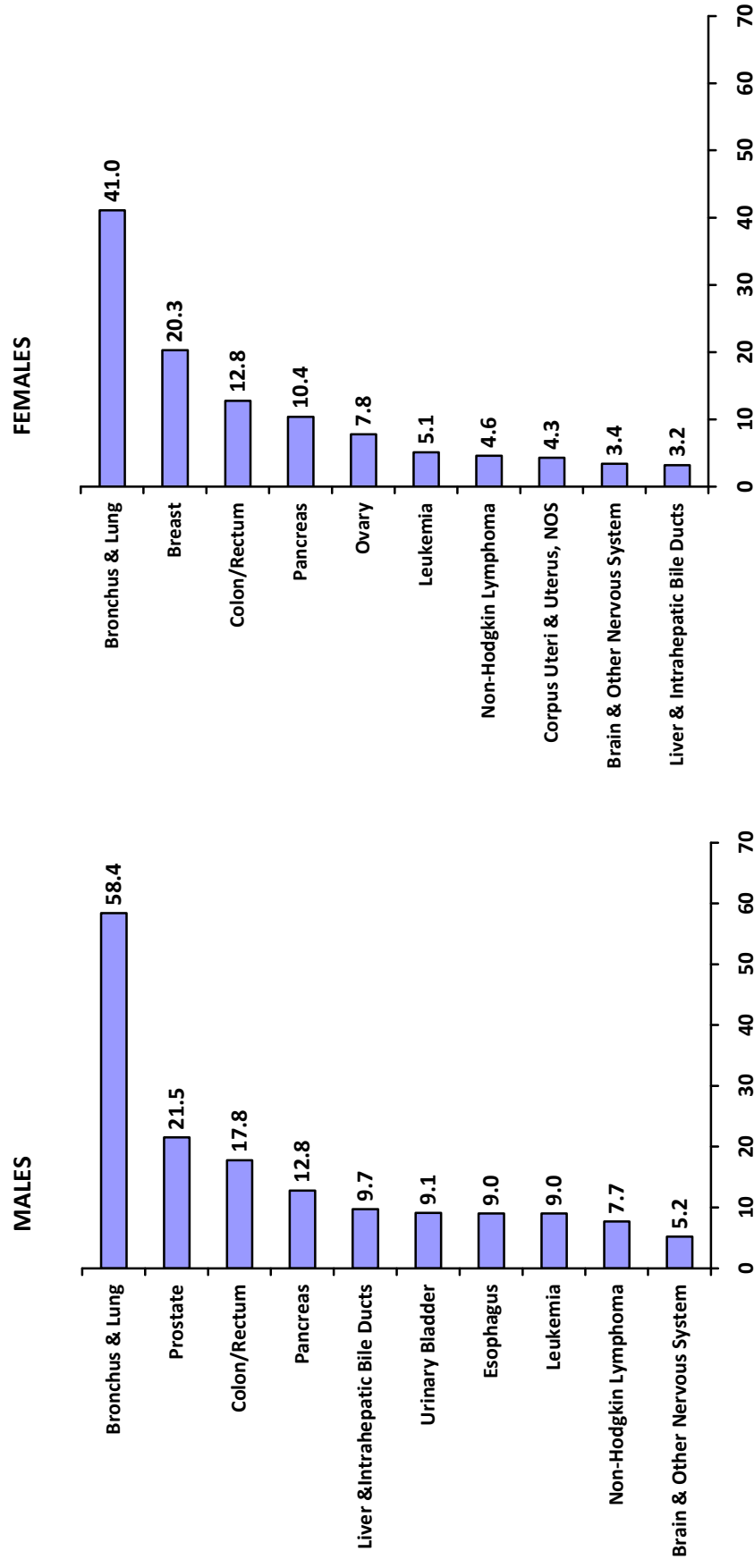


FEMALES (N=32,176)



Source: Massachusetts Vital Statistics

Figure 4.
MORTALITY RATES¹ FOR TEN LEADING CANCER TYPES BY SEX
Massachusetts, 2007-2011



¹Rates are age-adjusted to the 2000 U.S. Standard Population. *NOS – Not Otherwise Specified.
Source: Massachusetts Vital Statistics

Table 1.
AGE-SPECIFIC INCIDENCE RATES¹ AND MEDIAN AGE AT DIAGNOSIS FOR SELECTED CANCER SITES
Massachusetts, 2007-2011
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	24.3	14.1	14.6	25.4	37.3	55.5	69.4	102	167.5	309.2	624.9	1021.5	1557.3	2243.6	2749.5	3038.4	3173.2	3143.1	66
Brain & Other Nervous System	4.6	5.0	3.1	2.8	2.0	4.0	4.1	3.8	5.5	9.0	9.6	14.1	16.6	18.4	26.4	27.9	32.5	25.4	57
Breast								0.1	0.5	0.9	0.9	2.0	3.0	6.0	5.4	7.6	10.7	10.6	69
Breast <i>in situ</i>²									0.1	0.1	0.2	0.1	0.5	0.1	0.9	0.7	0.6	0.9	65
Bronchus & Lung			0.2	0.3	0.6	0.6	1.6	3.2	9.4	25.1	61.1	109.2	188.3	315.8	445.8	570.3	584.9	467.9	70
Colon / Rectum			0.1	0.3	0.6	1.6	4.3	10.4	18.4	31.3	68.7	72.1	97.9	157.4	208.7	267.7	316.9	406	68
Esophagus					0.1	0.1	0.3	0.8	1.8	5.4	12.5	21.4	37.1	48.4	58.5	59.3	62.7	59.1	66
Hodgkin Lymphoma	0.1	0.5	1.5	2.7	5.1	6.3	4.4	4.4	4.9	4.4	3.7	3.3	4.3	4.1	4.9	5.5	5.7	4.2	42
Kidney & Renal Pelvis	2.4	0.8	0.1	0.2	0.9	1.2	3.6	7.8	13.0	23.2	32.9	45.9	60.6	85.7	92.9	95.0	99.0	68.7	63
Larynx						0.1	0.1	0.6	1.1	3.6	8.0	13.2	19.4	26.9	31.1	31.4	32.5	21.7	66
Leukemia	8.0	3.7	3.3	3.5	3.0	3.2	3.4	4.0	6.2	9.3	13.3	20.8	34.6	45.8	66.0	89.5	109.0	133.8	67
Liver & Intrahepatic Bile Ducts																			
Melanoma of Skin			0.3	1.2	2.4	4.9	7.2	11.1	14.9	19.1	31.4	48.1	62.7	93.3	122.2	143.3	170.1	150.0	66
Multiple Myeloma						0.1	0.2	1.0	2.4	4.7	7.8	12.5	19.1	25.5	42.8	44.2	54.3	49.4	68
Non-Hodgkin Lymphoma	0.9	1.4	1.9	2.9	3.5	4.1	6.4	8.8	12.2	19.9	27.3	36.7	51.0	72.9	99.2	125.6	165.9	159.2	66
Oral Cavity & Pharynx	0.1	0.1	0.1	0.3	0.8	1.0	2.1	4.7	9.6	18.6	31.7	48.9	59.4	63.4	58.3	65.7	54.3	61.4	61
Pancreas				0.1	0.1	0.3	0.6	1.8	2.3	5.8	11.2	21.5	33.4	52.5	67.6	101.4	99.0	114.9	70
Prostate							0.2	1.0	13.9	55.4	186.8	370.3	608.3	846.1	876.4	696.4	480.9	445.3	65
Stomach					0.1	0.5	1.1	1.5	3.5	5.2	10.1	15.3	22.6	37.5	47.3	59.0	71.9	82.6	69
Testis		0.5	0.5	0.1	4.6	9.7	15.1	14.0	13.5	9.6	8.0	5.0	3.8	2.1	1.5	0.9	0.3	1.8	35
Thyroid		0.1	0.3	1.5	2.8	5.3	5.7	9.5	12.0	15.1	17.0	20.5	25.3	26.6	26.2	26.2	16.8	12.0	55
Urinary Bladder		0.1	0.1	0.1	0.5	1.1	1.9	2.8	7.5	11.7	28.7	49.6	88.4	148.5	225.6	309.5	387.7	397.3	73
Other Sites	6.7	2.0	3.6	5.0	5.0	5.5	7.4	10.2	15.8	24	34.6	54.3	80.8	128.2	187.2	253.7	358.2	427.3	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, 2007-2011
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	24.1	11.0	15.2	21.5	44.6	73.9	131.8	199.2	330.0	485.8	670.5	836.2	1140.0	1499.6	1800.4	2067.3	2204.6	1872.1	65
Brain & Other Nervous System	4.9	3.4	3.8	1.8	2.6	2.8	3.2	3.1	4.4	4.2	5.9	9.6	11.3	17.5	17.7	20.6	23.3	18.3	61
Breast	-	-	-	0.1	2.0	8.5	28.6	66.2	143.4	218.7	251.7	281.5	363.8	437.9	460.7	479.6	473.9	341.3	62
Breast <i>in situ</i>²	-	-	-	0.3	0.2	1.1	4.0	18.8	66.7	110.3	121.9	104.9	120.4	132.2	128.9	114.8	75.9	30.0	56
Bronchus & Lung	-	-	-	-	0.6	0.5	1.8	3.3	13.7	30.8	63.1	91.9	171.0	288.7	389.8	427.4	398.7	241.7	71
Cervix Uteri	-	-	-	0.3	0.6	3.2	7.6	8.0	9.4	10.3	7.9	10.0	8.4	11.3	9.2	8.2	7.8	6.2	51
Colon / Rectum	-	-	-	0.1	1.5	1.6	4.5	9.6	16.6	28.8	51.5	51.0	71.7	103.8	151.6	212.7	301.1	313.2	74
Corpus Uteri & Uterus, NOS	-	-	-	-	0.3	1.8	4.5	8.0	15.4	28.3	61.3	88.7	120.3	120.4	118.3	102.8	79.9	57.4	62
Esophagus	-	-	-	-	-	-	0.1	0.2	0.4	0.7	1.6	3.6	6.0	9.3	13.9	17.5	20.0	14.9	73.5
Hodgkin Lymphoma	-	0.3	1.2	3.2	5.6	4.4	3.8	3.9	2.7	1.4	2.3	2.6	2.8	3.8	3.2	5.5	5.4	2.6	39
Kidney & Renal Pelvis	-	1.3	1.2	0.1	0.7	0.8	1.8	4.4	6.5	9.6	15.8	19.3	29.2	37.4	50.6	50.1	49.2	34.6	66
Larynx	-	-	-	-	-	0.1	0.3	0.3	0.5	1.0	2.9	3.6	4.8	8.3	7.7	7.2	4.7	3.8	65.5
Leukemia	9.2	3.4	3.2	2.1	2.5	2.8	3.6	3.0	5.0	6.6	9.0	12.4	19.7	26.1	36.3	44.9	56.1	61.6	68
Liver & Intrahepatic Bile Ducts	-	-	0.5	0.2	0.2	0.1	0.3	0.3	1.3	1.9	5.0	7.7	9.0	13.1	15.1	20.4	23.1	18.1	69
Melanoma of Skin	-	-	0.5	2.6	7.2	10.6	15.1	14.5	19.2	23.6	28.4	32.2	42.9	44.8	55.7	58.6	70.7	59.2	60
Multiple Myeloma	-	-	-	-	-	-	0.2	0.5	1.0	2.7	5.4	8.7	12.9	17.8	23.9	32.0	29.9	30.2	71
Non-Hodgkin Lymphoma	0.3	0.8	0.9	1.9	1.2	2.6	4.2	7.2	7.7	9.8	19.1	29.0	38.5	56.9	66.0	87.2	91.4	88.2	68
Oral Cavity & Pharynx	0.1	0.1	0.2	0.4	0.4	1.1	1.6	2.4	3.9	5.5	10.7	14.9	17.8	22.3	21.8	29.7	29.9	27.0	65
Ovary	-	0.1	0.2	1.0	1.7	1.9	3.2	5.3	6.9	14.0	22.4	25.1	34.7	39.8	44.8	43.0	51.4	45.1	63
Pancreas	-	-	-	-	0.1	0.4	0.4	1.2	2.7	4.2	7.6	16.2	25.5	39.8	57.0	81.1	88.1	98.4	75
Stomach	-	-	-	0.3	0.1	0.2	0.7	0.6	2.3	3.0	4.8	6.7	7.1	12.4	18.1	29.3	35.8	45.3	75
Thyroid	0.1	0.1	1.3	4.5	14.9	25.2	38.9	44.5	46.9	51.6	52.2	48.3	44.9	47.6	39.9	37.5	26.4	10.7	49
Urinary Bladder	-	-	-	0.2	0.1	0.2	0.4	1.4	1.9	5.6	8.3	19.2	27.4	44.1	60.8	82.1	85.8	92.8	74
Other Sites	7.6	1.6	3.8	3.0	2.6	5.2	7.1	11.3	18.0	23.6	33.7	54.2	70.3	96.5	138.3	190.0	251.9	261.4	72

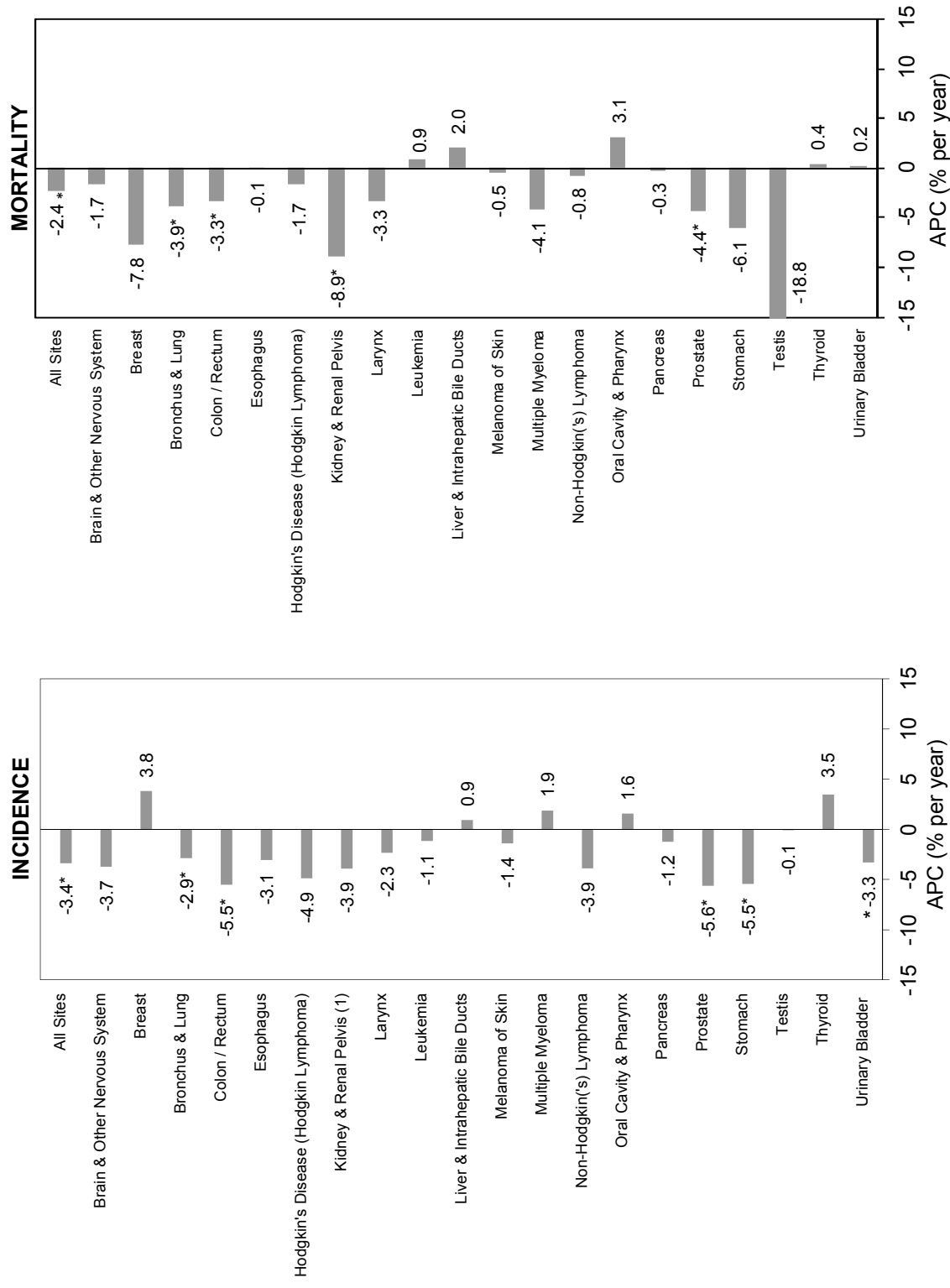
¹ per 100,000 ² Breast *in situ* is excluded from 'All Sites'. ³ Dashes indicate age groups with no incident cases. Source: Massachusetts Cancer Registry

Table 3.
AGE-SPECIFIC INCIDENCE RATES¹ AND MEDIAN AGE AT DIAGNOSIS FOR SELECTED CANCER SITES
Massachusetts, 2007-2011
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	24.2	12.6	14.9	23.4	41.0	64.7	100.8	151.5	250.3	399.2	648.4	925.8	1338.6	1844.7	2223.3	2475.3	2574.0	2254.9	66
Brain & Other Nervous System	4.7	4.2	3.4	2.3	2.3	3.4	3.7	3.4	4.9	6.6	7.7	11.7	13.8	17.9	21.6	23.7	26.8	20.4	59
Breast	-	-	-	0	1.0	4.2	14.4	33.7	73.3	111.7	129.6	146.6	192.1	237.5	257.8	281.3	297.3	241.7	62
Breast <i>in situ</i>²	-	-	-	0.1	0.1	0.6	2.1	9.5	34.0	56.2	62.5	54.5	63.2	71.3	71.8	66.8	46.9	21.3	56
Bronchus & Lung	-	-	0.1	0.1	0.6	0.6	1.7	3.3	11.6	28.0	62.1	100.3	179.3	301.3	414.8	487.4	469.7	309.8	71
Cervix Uteri	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Colon / Rectum	-	-	0.1	0.1	1.0	1.6	4.4	10.0	17.4	30.0	59.9	61.3	84.2	128.6	177.1	235.8	307.2	341.2	71
Corpus Uteri & Uterus, NOS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Esophagus	-	-	-	-	0	0	0.2	0.5	1.1	3.0	6.9	12.2	20.8	27.4	33.8	35.0	36.3	28.2	68
Hodgkin Lymphoma	0.1	0.4	1.3	2.9	5.3	5.4	4.1	4.1	3.8	2.9	3.0	2.9	3.5	4.0	4.0	5.5	5.5	3.1	41
Kidney & Renal Pelvis	1.9	1.0	0	0.1	0.8	1.0	2.7	6.1	9.7	16.3	24.1	32.1	44.1	59.8	69.5	69.0	68.2	44.9	64
Larynx	-	-	-	-	-	0.1	0.2	0.4	0.8	2.3	5.4	8.2	11.7	16.9	18.1	17.3	15.3	9.2	66
Leukemia	8.6	3.5	3.2	2.8	2.7	3.0	3.5	3.5	5.6	7.9	11.1	16.4	26.8	35.2	49.5	63.6	76.2	83.4	67
Liver & Intrahepatic Bile Ducts	-	-	0.6	0.1	0.2	0.3	0.5	0.6	2.1	5.6	13.6	22.4	24.9	25.2	33.3	36.6	37.2	26.1	64
Melanoma of Skin	-	-	0.4	1.9	4.8	7.8	11.2	12.9	17.1	21.4	29.8	39.9	52.3	67.3	85.3	94.2	108.6	86.5	63
Multiple Myeloma	-	-	-	-	-	0	0.2	0.8	1.7	3.7	6.6	10.5	15.8	21.4	32.3	37.1	39.2	36.0	70
Non-Hodgkin Lymphoma	0.6	1.1	1.4	2.4	2.4	3.3	5.3	8.0	9.9	14.8	23.1	32.7	44.4	64.3	80.8	103.3	119.8	109.6	67
Oral Cavity & Pharynx	0.1	0.1	0.1	0.3	0.6	1.1	1.8	3.5	6.7	11.9	20.9	31.3	37.6	41.3	38.1	44.8	39.2	37.4	62
Ovary	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pancreas	-	-	-	0	0.1	0.3	0.5	1.5	2.5	5.0	9.4	18.8	29.3	45.7	61.7	89.6	92.3	103.4	73
Prostate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stomach	-	-	-	0.1	0.1	0.3	0.9	1.1	2.9	4.1	7.4	10.8	14.4	24.0	31.1	41.8	49.6	56.5	71
Testis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thyroid	0.1	0.1	0.8	3.0	8.8	15.2	22.4	27.3	29.8	33.7	35.0	34.9	35.6	37.8	33.8	32.7	22.7	11.1	50
Urinary Bladder	-	0.1	0.1	0.1	0.3	0.6	1.1	2.1	4.6	8.6	18.2	33.9	56.5	92.5	134.2	177.7	200.9	184.5	73
Other Sites	7.1	1.8	3.7	4.0	3.8	5.4	7.2	10.7	16.9	23.8	34.2	54.3	75.3	111.2	160.1	216.8	292.4	311.5	71

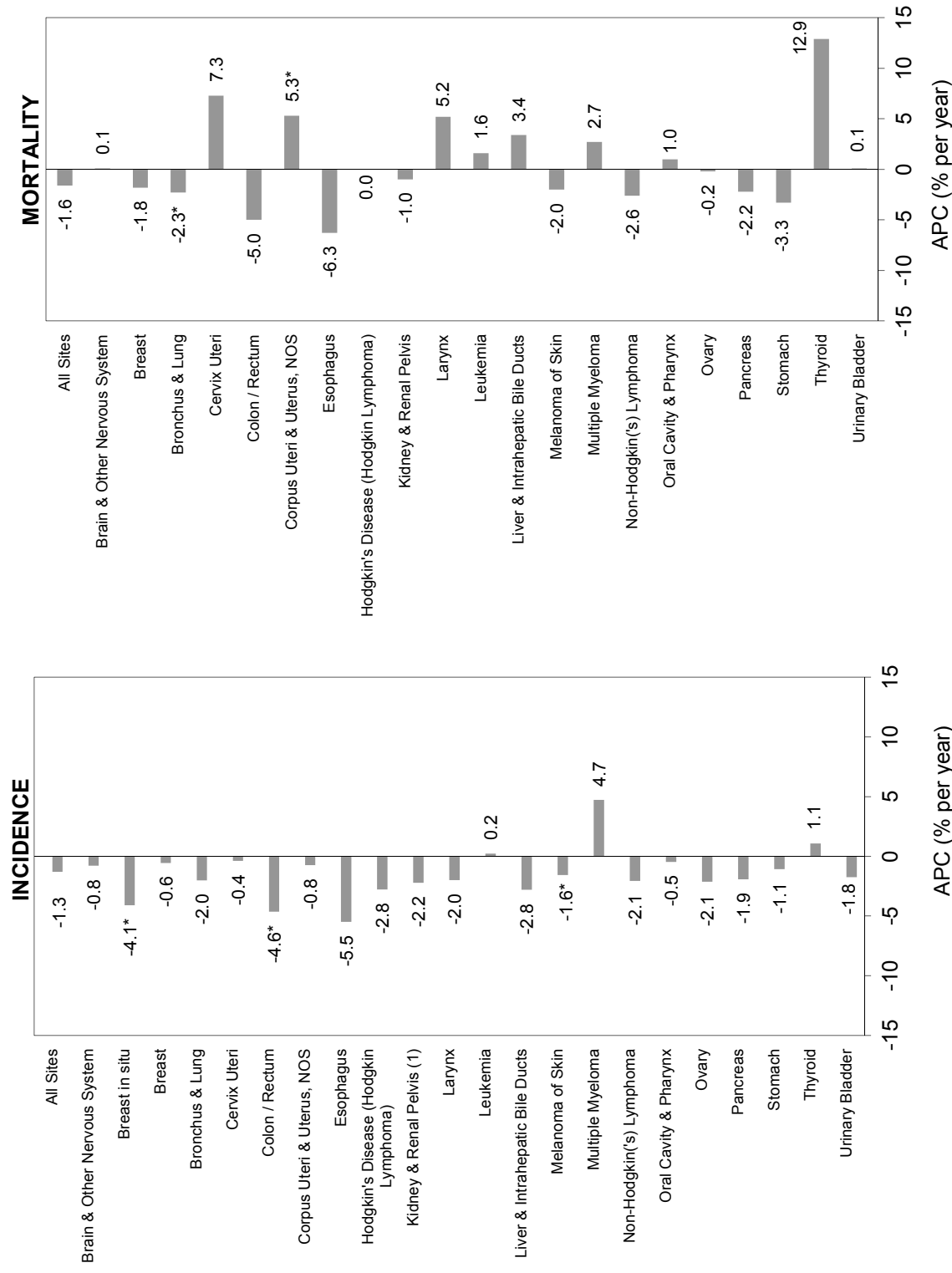
¹ per 100,000 ² Breast *in situ* is excluded from 'All Sites'. ³ Dashes indicate age groups with no incident cases or cancers found in only one sex. Source: Massachusetts Cancer Registry

Figure 5.
ANNUAL PERCENT CHANGE (APC) IN AGE-ADJUSTED CANCER RATES AMONG MALES
Massachusetts, 2007-2011



* APC is statistically significant ($p \leq 0.05$). Values appearing directly on a bar have been bolded for ease of reading only.
 Source: Massachusetts Cancer Registry.

Figure 6.
ANNUAL PERCENT CHANGE (APC) IN AGE-ADJUSTED CANCER RATES AMONG FEMALES
Massachusetts, 2007-2011



*APC is statistically significant ($p \leq 0.05$). Values appearing directly on a bar have been bolded for ease of reading only.
Source: Massachusetts Cancer Registry.

Table 4.
ANNUAL AGE-ADJUSTED¹ INCIDENCE RATES² FOR SELECTED CANCER SITES
Massachusetts, 2007-2011
MALES

Cancer Site / Type	2007	2008	2009	2010	2011
All Sites	601.5	585.6	563.2	529.4	532.6
Brain & Other Nervous System	9.5	8.4	7.7	8.3	7.9
Breast	1.3	1.1	1.4	1.2	1.5
Breast <i>in situ</i> ³	0.1	0.2	0.1	0.2	0.2
Bronchus & Lung	81.7	80.7	78.6	73.4	74.0
Colon / Rectum	53.1	51.2	48.4	44.6	42.8
Esophagus	11.7	11.6	11.3	9.8	10.9
Hodgkin Lymphoma	4.2	4.0	3.2	3.3	3.6
Kidney & Renal Pelvis	22.5	24.3	22.8	19.8	20.4
Larynx	5.9	6.0	6.8	6.1	5.2
Leukemia	17.1	16.7	17.7	15.6	16.7
Liver & Intrahepatic Bile Ducts	11.7	12.8	13.2	12.5	12.4
Melanoma of Skin	29.1	28.5	26.7	25.1	28.9
Multiple Myeloma	7.3	7.3	8.2	7.7	7.8
Non-Hodgkin Lymphoma	25.8	25.3	26.3	23.6	21.9
Oral Cavity & Pharynx	16.5	17.3	16.7	17.4	17.8
Pancreas	14.2	14.5	14.7	12.8	14.2
Prostate	170.9	158.8	144.3	139.7	136.3
Stomach	10.8	11.4	9.7	9.8	8.8
Testis	6.4	5.9	6.5	5.5	6.6
Thyroid	9.0	9.8	10.4	9.4	10.9
Urinary Bladder	46.1	45.1	43.9	40.2	41.3

¹ 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, 2007-2011
FEMALES

Cancer Site / Type	2007	2008	2009	2010	2011
All Sites	464.2	477.4	465.6	440.5	452.6
Brain & Other Nervous System	6.4	6.5	5.6	6.0	6.4
Breast	133.9	141.6	136.1	129.9	135.9
Breast <i>in situ</i> ³	48.5	49.2	47.9	44.9	41.2
Bronchus & Lung	64.5	66.4	64.7	62.3	60.1
Cervix Uteri	5.4	5.4	5.5	5.6	5.2
Colon / Rectum	40.8	39.4	38.3	35.7	33.8
Corpus Uteri & Uterus, NOS	29.9	32.2	30.2	27.6	31.1
Esophagus	2.5	2.7	2.6	2.4	2.0
Hodgkin Lymphoma	2.7	3.2	2.9	2.6	2.6
Kidney & Renal Pelvis	10.9	11.4	10.9	10.2	10.3
Larynx	1.5	1.6	1.9	1.5	1.4
Leukemia	9.8	10.7	9.7	10.5	10.0
Liver & Intrahepatic Bile Ducts	3.6	3.8	3.8	3.4	3.3
Melanoma of Skin	19.4	19.6	18.8	18.4	18.5
Multiple Myeloma	4.4	4.7	4.8	4.3	5.8
Non-Hodgkin Lymphoma	17.3	15.9	16.3	16.5	15.3
Oral Cavity & Pharynx	6.4	6.4	7.0	6.3	6.3
Ovary	12.0	12.9	13.2	10.4	12.0
Pancreas	11.2	12.1	12.1	10.7	10.8
Stomach	4.7	4.7	4.4	4.6	4.5
Thyroid	28.5	28.1	30.1	27.1	30.6
Urinary Bladder	12.3	12.6	11.5	10.9	12.1

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

² per 100,000 males

³ Breast *in situ* is excluded from "All Sites"

Source: Massachusetts Cancer Registry

Table 6.
ANNUAL AGE-ADJUSTED¹ INCIDENCE RATES² FOR SELECTED CANCER SITES
Massachusetts, 2007-2011

TOTAL					
Cancer Site / Type	2007	2008	2009	2010	2011
All Sites	519.0	519.4	503.1	475.8	484.4
Brain & Other Nervous System	7.8	7.4	6.6	7.0	7.1
Breast	73.2	77.2	74.1	70.7	73.9
Breast <i>in situ</i>³	25.8	26.1	25.2	23.8	21.8
Bronchus & Lung	71.2	71.9	70.0	66.6	65.8
Cervix Uteri	--	--	--	--	--
Colon / Rectum	46.1	44.6	42.7	39.6	37.7
Corpus Uteri & Uterus, NOS	--	--	--	--	--
Esophagus	6.6	6.7	6.4	5.7	5.9
Hodgkin Lymphoma	3.4	3.6	3.0	2.9	3.1
Kidney & Renal Pelvis	16.0	17.2	16.3	14.6	15.0
Larynx	3.4	3.5	4.0	3.5	3.1
Leukemia	12.9	13.2	13.1	12.6	12.9
Liver & Intrahepatic Bile Ducts	7.3	7.8	8.0	7.5	7.5
Melanoma of Skin	23.3	23.0	21.9	21.1	22.8
Multiple Myeloma	5.6	5.8	6.3	5.8	6.7
Non-Hodgkin Lymphoma	20.9	20.0	20.6	19.6	18.1
Oral Cavity & Pharynx	11.0	11.3	11.5	11.4	11.6
Ovary	--	--	--	--	--
Pancreas	12.5	13.1	13.2	11.7	12.4
Prostate	--	--	--	--	--
Stomach	7.3	7.6	6.7	6.8	6.4
Testis	--	--	--	--	--
Thyroid	19.0	19.1	20.5	18.5	21.0
Urinary Bladder	26.3	26.1	25.0	23.1	24.5

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

² per 100,000 total population

³ Breast *in situ* is excluded from "All Sites"

⁴ Dashes indicate cancers found in only one sex.

Source: Massachusetts Cancer Registry

Table 7.
ANNUAL AGE-ADJUSTED¹ MORTALITY RATES² FOR SELECTED CANCER SITES
Massachusetts, 2007-2011
MALES

Cancer Site / Type	2007	2008	2009	2010	2011
All Sites	222.2	218.7	209.2	208.3	201.2
Brain & Other Nervous System	5.5	4.9	5.5	5.0	5.0
Breast	0.3	0.3	0.2	0.3	0.2
Bronchus & Lung	62.6	61.1	58.8	56.7	53.2
Colon / Rectum	19.0	18.0	18.7	17.5	16.3
Esophagus	9.0	9.2	8.7	8.5	9.3
Hodgkin Lymphoma	0.4	0.4	0.7	0.6	0.3
Kidney & Renal Pelvis	6.1	5.4	4.8	4.1	4.4
Larynx	2.0	2.4	1.8	1.9	1.9
Leukemia	9.1	8.8	8.4	9.2	9.3
Liver & Intrahepatic Bile Ducts	9.1	9.9	9.6	10.2	9.9
Melanoma of Skin	4.4	3.9	4.5	4.5	4.0
Multiple Myeloma	4.9	5.0	4.6	3.9	4.5
Non-Hodgkin Lymphoma	8.0	8.0	7.1	7.6	7.9
Oral Cavity & Pharynx	4.1	4.1	3.3	4.4	3.8
Pancreas	13.0	13.0	12.5	12.2	13.2
Prostate	23.8	22.0	21.6	21.1	19.4
Stomach	5.0	5.7	4.8	4.3	4.2
Testis	0.2	0.2	0.1	0.1	0.1
Thyroid	0.7	0.5	0.5	0.4	0.8
Urinary Bladder	8.5	10.2	8.8	9.7	8.3

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

² per 100,000 males

Source: Massachusetts Vital Statistics

Table 8
ANNUAL AGE-ADJUSTED¹ MORTALITY RATES² FOR SELECTED CANCER SITES
Massachusetts, 2007-2011
FEMALES

Cancer Site / Type	2007	2008	2009	2010	2011
All Sites	151.5	151.2	152.4	145.4	141.9
Brain & Other Nervous System	3.2	3.5	4.1	2.8	3.6
Breast	20.1	21.2	22.0	19.1	19.3
Bronchus & Lung	42.9	41.5	41.8	40.6	38.6
Cervix Uteri	1.1	1.2	1.7	1.3	1.5
Colon / Rectum	13.6	13.8	12.6	12.9	10.9
Corpus Uteri & Uterus, NOS	3.7	4.3	4.3	4.3	4.8
Esophagus	2.0	2.2	2.1	1.8	1.6
Hodgkin Lymphoma	0.3	0.3	0.3	0.3	0.3
Kidney & Renal Pelvis	2.4	2.1	2.7	1.9	2.4
Larynx	0.6	0.3	0.3	0.5	0.6
Leukemia	4.4	5.5	5.4	5.0	5.0
Liver & Intrahepatic Bile Ducts	3.0	3.0	3.3	3.7	3.2
Melanoma of Skin	1.9	2.2	2.0	1.8	1.9
Multiple Myeloma	2.7	2.3	3.0	2.6	2.9
Non-Hodgkin Lymphoma	4.7	5.0	4.2	4.6	4.3
Oral Cavity & Pharynx	1.4	1.2	1.3	1.8	1.2
Ovary	8.3	7.5	7.7	7.0	8.5
Pancreas	11.2	10.5	9.8	10.1	10.2
Stomach	2.5	2.7	2.2	2.5	2.2
Thyroid	0.4	0.4	0.6	0.6	0.6
Urinary Bladder	2.4	2.9	3.0	2.7	2.5

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

² per 100,000 females

Source: Massachusetts Vital Statistics

Table 9.
ANNUAL AGE-ADJUSTED¹ MORTALITY RATES² FOR SELECTED CANCER SITES
Massachusetts, 2007-2011
TOTAL³

Cancer Site / Type	2007	2008	2009	2010	2011
All Sites	178.9	177.4	173.7	170.3	165.6
Brain & Other Nervous System	4.2	4.1	4.7	3.8	4.3
Breast	10.9	11.6	12.3	10.7	11.0
Bronchus & Lung	50.8	49.4	48.5	47.2	44.6
Cervix Uteri	-	-	-	-	-
Colon / Rectum	15.8	15.5	15.0	14.9	13.2
Corpus Uteri & Uterus, NOS	-	-	-	-	-
Esophagus	5.1	5.2	5.0	4.7	4.9
Hodgkin Lymphoma	0.4	0.3	0.5	0.5	0.3
Kidney & Renal Pelvis	4.0	3.5	3.6	2.8	3.3
Larynx	1.2	1.2	1.0	1.1	1.1
Leukemia	6.2	6.7	6.5	6.7	6.8
Liver & Intrahepatic Bile Ducts	5.7	6.0	6.1	6.6	6.2
Melanoma of Skin	2.9	2.9	3.0	3.0	2.8
Multiple Myeloma	3.5	3.4	3.6	3.1	3.5
Non-Hodgkin Lymphoma	6.0	6.2	5.4	5.9	5.8
Oral Cavity & Pharynx	2.6	2.5	2.2	3.0	2.3
Ovary	-	-	-	-	-
Pancreas	12.0	11.6	11.0	11.1	11.5
Prostate	-	-	-	-	-
Stomach	3.5	4.0	3.3	3.3	3.0
Testis	-	-	-	-	-
Thyroid	0.5	0.4	0.6	0.6	0.7
Urinary Bladder	4.7	5.7	5.2	5.4	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.

Table 10.
FIVE LEADING CANCER INCIDENCE RATES BY RACE/ETHNICITY AND SEX
Massachusetts, 2007-2011

MALES

AGE-ADJUSTED¹ INCIDENCE RATE²				
RANK	White, non-Hispanic	Black, non-Hispanic	Asian, non-Hispanic	Hispanic
1	Prostate 138.8	Prostate 244.8	Prostate 72.7	Prostate 162.9
2	Bronchus & Lung 79.1	Bronchus & Lung 78.4	Bronchus & Lung 61.0	Bronchus & Lung 48.3
3	Colon / Rectum 47.7	Colon / Rectum 56.2	Colon / Rectum 37.1	Colon / Rectum 36.8
4	Urinary Bladder 45.3	Kidney & Renal Pelvis 22.2	Liver & Intrahepatic Bile Ducts 33.7	Liver & Intrahepatic Bile Ducts 21.1
5	Melanoma of Skin 28.7	Urinary Bladder 20.9	Stomach 14.2	Stomach 17.7

FEMALES

AGE-ADJUSTED¹ INCIDENCE RATE²				
RANK	White, non-Hispanic	Black, non-Hispanic	Asian, non-Hispanic	Hispanic
1	Breast ³ 140.3	Breast 122.4	Breast 82.6	Breast 90.0
2	Bronchus & Lung 67.2	Bronchus & Lung 43.1	Colon / Rectum 34.8	Colon / Rectum 30.0
3	Colon / Rectum 37.4	Colon / Rectum 40.9	Thyroid 30.0	Bronchus & Lung 27.1
4	Corpus Uteri & Uterus, NOS 31.0	Thyroid 27.7	Bronchus & Lung 29.1	Thyroid 25.3
5	Thyroid 28.9	Corpus Uteri & Uterus, NOS 26.4	Corpus Uteri & Uterus, NOS 17.3	Corpus Uteri & Uterus, NOS 20.7

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

² per 100,000

³Breast 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, 2007-2011
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	91184	100.0	79730	100.0	4276	100.0	1858	100.0	2980	100.0
Brain & Other Nervous System	1346	1.5	1210	1.5	39	0.9	28	1.5	63	2.1
Breast³	210	0.2	193	0.2	9	0.2	6	0.3	2	0.1
Bronchus & Lung	12209	13.4	11152	14.0	485	11.3	295	15.9	249	8.4
Colon / Rectum	7634	8.4	6729	8.4	374	8.7	201	10.8	227	7.6
Esophagus	1817	2.0	1695	2.1	66	1.5	24	1.3	29	1.0
Hodgkin Lymphoma	589	0.6	492	0.6	32	0.7	13	0.7	47	1.6
Kidney & Renal Pelvis	3637	4.0	3234	4.1	173	4.0	67	3.6	141	4.7
Larynx	992	1.1	880	1.1	42	1.0	11	0.6	48	1.6
Leukemia	2627	2.9	2333	2.9	71	1.7	56	3.0	97	3.3
Liver & Intrahepatic Bile Ducts	2136	2.3	1609	2.0	154	3.6	201	10.8	158	5.3
Melanoma of Skin	4443	4.9	4042	5.1	6	0.1	5	0.3	15	0.5
Multiple Myeloma	1220	1.3	1008	1.3	115	2.7	23	1.2	55	1.8
Non-Hodgkin Lymphoma	3917	4.3	3498	4.4	156	3.6	81	4.4	130	4.4
Oral Cavity & Pharynx	2952	3.2	2629	3.3	115	2.7	69	3.7	120	4.0
Pancreas	2222	2.4	2014	2.5	100	2.3	33	1.8	70	2.3
Prostate	25390	27.8	20926	26.2	1740	40.7	365	19.6	996	33.4
Stomach	1601	1.8	1311	1.6	101	2.4	72	3.9	110	3.7
Testis	980	1.1	883	1.1	16	0.4	16	0.9	53	1.8
Thyroid	1662	1.8	1442	1.8	59	1.4	77	4.1	56	1.9
Urinary Bladder	6683	7.3	6287	7.9	123	2.9	66	3.6	98	3.3
Other Sites	6917	7.6	6163	7.7	300	7.0	149	8.0	216	7.2

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, 2007-2011
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	92673	100.0	82648	100.0	3838	100.0	2127	100.0	2993	100.0
Brain & Other Nervous System	1156	1.2	1038	1.3	40	1.0	21	1.0	54	1.8
Breast³	26876	29.0	24075	29.1	1169	30.5	629	29.6	872	29.1
Bronchus & Lung	13009	14.0	12219	14.8	387	10.1	173	8.1	200	6.7
Cervix Uteri	981	1.1	733	0.9	92	2.4	49	2.3	95	3.2
Colon / Rectum	8022	8.7	7125	8.6	373	9.7	214	10.1	247	8.3
Corpus Uteri & Uterus, NOS	6151	6.6	5511	6.7	248	6.5	130	6.1	209	7.0
Esophagus	512	0.6	452	0.5	29	0.8	11	0.5	20	0.7
Hodgkin Lymphoma	486	0.5	419	0.5	21	0.5	10	0.5	32	1.1
Kidney & Renal Pelvis	2144	2.3	1900	2.3	120	3.1	34	1.6	76	2.5
Larynx	316	0.3	287	0.3	13	0.3	4	0.2	10	0.3
Leukemia	2015	2.2	1745	2.1	81	2.1	58	2.7	92	3.1
Liver & Intrahepatic Bile Ducts	744	0.8	587	0.7	45	1.2	56	2.6	51	1.7
Melanoma of Skin	3683	4.0	3270	4.0	13	0.3	17	0.8	22	0.7
Multiple Myeloma	1017	1.1	815	1.0	118	3.1	15	0.7	48	1.6
Non-Hodgkin Lymphoma	3332	3.6	2945	3.6	137	3.6	75	3.5	118	3.9
Oral Cavity & Pharynx	1323	1.4	1189	1.4	37	1.0	39	1.8	48	1.6
Ovary	2455	2.6	2220	2.7	76	2.0	67	3.1	74	2.5
Pancreas	2449	2.6	2210	2.7	130	3.4	50	2.4	57	1.9
Stomach	987	1.1	781	0.9	81	2.1	59	2.8	65	2.2
Thyroid	5153	5.6	4187	5.1	283	7.4	253	11.9	320	10.7
Urinary Bladder	2536	2.7	2380	2.9	51	1.3	18	0.8	40	1.3
Other Sites	7326	7.9	6560	7.9	294	7.7	145	6.8	243	8.1

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. ³ Breast *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, 2007-2011
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	183867	100.0	162385	100.0	8115	100.0	3985	100.0	5974	100.0
Brain & Other Nervous System	2503	1.4	2249	1.4	79	1.0	49	1.2	117	2.0
Breast ⁴	27086	14.7	24268	14.9	1178	14.5	635	15.9	874	14.6
Bronchus & Lung	25219	13.7	23372	14.4	872	10.7	468	11.7	449	7.5
Cervix Uteri	981	0.5	733	0.5	92	1.1	49	1.2	95	1.6
Colon / Rectum	15657	8.5	13855	8.5	747	9.2	415	10.4	474	7.9
Corpus Uteri & Uterus, NOS	6151	3.3	5511	3.4	248	3.1	130	3.3	209	3.5
Esophagus	2329	1.3	2147	1.3	95	1.2	35	0.9	49	0.8
Hodgkin Lymphoma	1075	0.6	911	0.6	53	0.7	23	0.6	79	1.3
Kidney & Renal Pelvis	5781	3.1	5134	3.2	293	3.6	101	2.5	217	3.6
Larynx	1308	0.7	1167	0.7	55	0.7	15	0.4	58	1.0
Leukemia	4642	2.5	4078	2.5	152	1.9	114	2.9	189	3.2
Liver & Intrahepatic Bile Ducts	2881	1.6	2196	1.4	199	2.5	257	6.4	209	3.5
Melanoma of Skin	8126	4.4	7312	4.5	19	0.2	22	0.6	37	0.6
Multiple Myeloma	2237	1.2	1823	1.1	233	2.9	38	1.0	103	1.7
Non-Hodgkin Lymphoma	7252	3.9	6445	4.0	294	3.6	156	3.9	248	4.2
Oral Cavity & Pharynx	4275	2.3	3818	2.4	152	1.9	108	2.7	168	2.8
Ovary	2455	1.3	2220	1.4	76	0.9	67	1.7	74	1.2
Pancreas	4671	2.5	4224	2.6	230	2.8	83	2.1	127	2.1
Prostate	25390	13.8	20926	12.9	1740	21.4	365	9.2	996	16.7
Stomach	2588	1.4	2092	1.3	182	2.2	131	3.3	175	2.9
Testis	980	0.5	883	0.5	16	0.2	16	0.4	53	0.9
Thyroid	6815	3.7	5629	3.5	342	4.2	330	8.3	376	6.3
Urinary Bladder	9219	5.0	8667	5.3	174	2.1	84	2.1	138	2.3
Other Sites	14246	7.7	12725	7.8	594	7.3	294	7.4	460	7.7

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, 2007-2011
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	Rates	95% CL	Rates	95% CL	
All Sites	561.6	557.9-565.3	557.3	553.4-561.3	617	597-636.9	341.2	324.5-357.9	450	431.5-468.5					
Brain & Other Nervous System	8.3	7.9-8.8	8.9	8.4-9.4	4.7	3.1-6.3	4.2	2.4-6	7.0	4.9-9.2					
Breast	1.3	1.1-1.5	1.4	1.2-1.6	*	*	*	*	*	*					
Breast <i>in situ</i> ⁴	0.1	0.1-0.2	0.1	0.1-0.2	*	*	*	*	*	*					
Bronchus & Lung	77.6	76.2-79	79.1	77.7-80.6	78.4	70.9-85.9	61.0	53.6-68.4	48.3	41.6-54.9					
Colon / Rectum	47.9	46.8-49	47.7	46.5-48.8	56.2	50-62.3	37.1	31.6-42.7	36.8	31.3-42.2					
Esophagus	11.1	10.5-11.6	11.6	11-12.2	9.9	7.3-12.5	4.9	2.8-7	4.5	2.7-6.3					
Hodgkin Lymphoma	3.6	3.4-3.9	3.8	3.5-4.2	3.0	1.9-4	*	*	4.2	2.7-5.7					
Kidney & Renal Pelvis	21.9	21.2-22.6	22.3	21.6-23.1	22.2	18.6-25.7	10.9	8.1-13.8	17.4	14-20.7					
Larynx	6.0	5.6-6.4	6.0	5.6-6.4	6.5	4.4-8.6	*	*	6.8	4.7-8.8					
Leukemia	16.8	16.1-17.4	17.1	16.4-17.8	9.1	6.8-11.5	9.5	6.8-12.3	10.9	8.1-13.8					
Liver & Intrahepatic Bile Ducts	12.6	12-13.1	10.7	10.2-11.3	20.6	17-24.1	33.7	28.7-38.6	21.1	17.5-24.8					
Melanoma of Skin	27.6	26.8-28.5	28.7	27.8-29.6	*	*	*	*	*	*					
Multiple Myeloma	7.6	7.2-8.1	7.1	6.7-7.6	18.2	14.6-21.7	4.5	2.5-6.4	10.0	7-13					
Non-Hodgkin Lymphoma	24.6	23.8-25.3	25.2	24.3-26	20.0	16.6-23.4	13.4	10.2-16.6	16.7	13.3-20.1					
Oral Cavity & Pharynx	17.2	16.6-17.8	17.5	16.8-18.2	14.9	12-17.8	10.5	7.8-13.2	16.6	13.2-19.9					
Pancreas	14.1	13.5-14.7	14.3	13.7-14.9	16.6	13.1-20.2	7.1	4.5-9.6	13.1	9.7-16.6					
Prostate	149.6	147.7-151.5	138.8	136.9-140.7	244.8	232.6-257.1	72.7	64.9-80.5	162.9	151.8-174					
Stomach	10.1	9.6-10.6	9.3	8.8-9.8	16.4	12.9-19.8	14.2	10.6-17.7	17.7	13.9-21.5					
Testis	6.2	5.8-6.6	7.3	6.8-7.8	*	*	*	*	3.2	2.3-4.1					
Thyroid	9.9	9.4-10.4	10.2	9.7-10.8	6.9	5-8.7	10.1	7.7-12.4	6.4	4.5-8.4					
Urinary Bladder	43.3	42.2-44.3	45.3	44.2-46.5	20.9	16.9-24.8	14.0	10.4-17.7	17.4	13.5-21.3					

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, 2007-2011
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	Rates	95% CL	Rates	95% CL	Rates
All Sites	459.9	456.9-462.9	471.0	467.7-474.3	410.1	396.9-423.3	303.3	289.8-316.8	320.1	307.6-332.6					
Brain & Other Nervous System	6.2	5.8-6.5	6.6	6.2-7	3.9	2.6-5.1	2.6	1.4-3.8	4.5	3.1-5.8					
Breast	135.4	133.8-137.1	140.3	138.5-142.1	122.4	115.2-129.5	82.6	76-89.3	90.0	83.6-96.4					
Breast <i>in situ</i>⁴	46.2	45.3-47.2	47.7	46.7-48.8	41.2	37.1-45.3	32.7	28.6-36.9	35.0	31.2-38.8					
Bronchus & Lung	63.5	62.4-64.6	67.2	66-68.4	43.1	38.7-47.5	29.1	24.6-33.6	27.1	23.1-31.1					
Cervix Uteri	5.4	5.1-5.8	5.0	4.6-5.3	9.6	7.6-11.5	6.6	4.7-8.5	8.6	6.7-10.5					
Colon / Rectum	37.6	36.7-38.4	37.4	36.5-38.3	40.9	36.7-45.2	34.8	29.9-39.7	30	25.9-34					
Corpus Uteri & Uterus, NOS	30.2	29.4-31	31.0	30.2-31.9	26.4	23.1-29.8	17.3	14.3-20.4	20.7	17.7-23.6					
Esophagus	2.4	2.2-2.6	2.4	2.2-2.6	3.3	2.1-4.5	*	*	2.8	1.5-4.1					
Hodgkin Lymphoma	2.8	2.5-3	3.1	2.8-3.4	2.0	1.2-2.9	*	*	2.8	1.7-3.8					
Kidney & Renal Pelvis	10.7	10.3-11.2	10.9	10.4-11.4	12.9	10.5-15.2	5.2	3.4-7	8.1	6.1-10.1					
Larynx	1.6	1.4-1.7	1.6	1.4-1.8	*	*	*	*	*	*					
Leukemia	10.1	9.7-10.6	10.1	9.6-10.6	8.6	6.7-10.5	7.5	5.5-9.5	8.9	6.8-10.9					
Liver & Intrahepatic Bile Ducts	3.6	3.3-3.8	3.2	2.9-3.4	4.6	3.2-5.9	9.4	6.8-11.9	7.0	5.9-1					
Melanoma of Skin	19.0	18.3-19.6	20.1	19.3-20.8	*	*	*	*	2.0	1.1-3					
Multiple Myeloma	4.8	4.5-5.1	4.3	4-4.6	13.4	10.9-15.9	2.5	1.2-3.8	5.8	4.1-7.6					
Non-Hodgkin Lymphoma	16.3	15.7-16.8	16.3	15.7-17	14.5	12.1-17	11.3	8.6-14	13.8	11.1-16.5					
Oral Cavity & Pharynx	6.5	6.1-6.8	6.6	6.3-7	3.9	2.6-5.1	5.4	3.6-7.1	5.6	3.9-7.4					
Ovary	12.1	11.6-12.6	12.6	12-13.1	7.8	6-9.6	8.4	6.3-10.5	7.5	5.7-9.3					
Pancreas	11.4	10.9-11.9	11.5	11-12	14.7	12.2-17.3	8.7	6.2-11.2	7.8	5.6-10					
Stomach	4.6	4.3-4.9	4	3.7-4.3	9.3	7.3-11.4	9.9	7.2-12.5	7.7	5.6-9.7					
Thyroid	28.9	28.1-29.7	28.9	28-29.9	27.7	24.4-31	30.0	26.1-33.9	25.3	22.4-28.3					
Urinary Bladder	11.9	11.4-12.3	12.5	12-13	5.9	4.3-7.6	*	*	5.3	3.5-7					

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, 2007-2011
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	500	497.6-502.3		504.1	501.6-506.6		492.9	481.8-504		318.4	307.9-328.9		372	361.5-382.5	
Brain & Other Nervous System	7.2	6.9-7.4		7.7	7.3-8		4.2	3.2-5.1		3.3	2.3-4.3		5.5	4.3-6.7	
Breast	73.8	72.9-74.7		76.2	75.2-77.2		69.2	65.1-73.3		43.7	40.2-47.3		50.1	46.5-53.8	
Breast <i>in situ</i> ⁴	24.5	24-25		25.2	24.6-25.8		23.1	20.7-25.4		17.1	14.9-19.3		19.2	17-21.3	
Bronchus & Lung	69	68.1-69.9		71.7	70.8-72.7		56.9	52.9-60.8		43.5	39.4-47.6		35.7	32.1-39.2	
Cervix Uteri	-	-		-	-		-	-		-	-		-	-	
Colon / Rectum	42.1	41.4-42.7		41.9	41.2-42.6		47.1	43.6-50.6		36.1	32.4-39.7		32.7	29.5-36	
Corpus Uteri & Uterus, NOS	-	-		-	-		-	-		-	-		-	-	
Esophagus	6.2	6-6.5		6.5	6.2-6.8		6	4.7-7.2		3.3	2.1-4.4		3.5	2.5-4.6	
Hodgkin Lymphoma	3.2	3-3.4		3.4	3.2-3.7		2.6	1.9-3.3		1.2	0.7-1.8		3.4	2.6-4.3	
Kidney & Renal Pelvis	15.8	15.4-16.2		16.1	15.6-16.5		17.1	15-19.1		7.9	6.3-9.6		12.2	10.4-14	
Larynx	3.5	3.3-3.7		3.6	3.3-3.8		3.5	2.6-4.5		*	*		3.6	2.6-4.6	
Leukemia	12.9	12.5-13.3		13.1	12.6-13.5		8.8	7.3-10.3		8.3	6.6-9.9		9.8	8.1-11.4	
Liver & Intrahepatic Bile Ducts	7.6	7.4-7.9		6.6	6.3-6.8		11.3	9.7-13		20.8	18.2-23.5		13.4	11.4-15.4	
Melanoma of Skin	22.4	21.9-22.9		23.5	22.9-24.1		1.2	0.6-1.8		1.6	0.9-2.3		1.9	1.2-2.5	
Multiple Myeloma	6	5.8-6.3		5.5	5.3-5.8		15.3	13.2-17.3		3.4	2.2-4.5		7.5	5.9-9.1	
Non-Hodgkin Lymphoma	19.8	19.4-20.3		20.2	19.7-20.7		17	14.9-19		12.3	10.2-14.3		15.1	13-17.2	
Oral Cavity & Pharynx	11.4	11-11.7		11.6	11.3-12		8.7	7.3-10.1		7.8	6.2-9.4		10.4	8.7-12.2	
Ovary	-	-		-	-		-	-		-	-		-	-	
Pancreas	12.6	12.2-12.9		12.7	12.3-13.1		15.5	13.4-17.5		8	6.2-9.8		9.9	8.1-11.8	
Prostate	-	-		-	-		-	-		-	-		-	-	
Stomach	7	6.7-7.2		6.3	6-6.6		12.2	10.4-14.1		11.7	9.6-13.8		11.9	10-13.8	
Testis	-	-		-	-		-	-		-	-		-	-	
Thyroid	19.6	19.1-20.1		19.8	19.3-20.3		18	16-20		20.5	18.2-22.8		16.2	14.4-18	
Urinary Bladder	25	24.5-25.5		26.2	25.7-26.8		11.9	10.1-13.7		8	6.2-9.8		10.2	8.3-12.1	

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'.

⁵ Dashes indicate cancers found in only one sex.

Source: Massachusetts Cancer Registry

Table 17.
FIVE LEADING CANCER MORTALITY RATES BY RACE/ETHNICITY AND SEX
Massachusetts, 2007-2011

MALES

AGE-ADJUSTED¹ MORTALITY RATE²				
RANK	White, non-Hispanic	Black, non-Hispanic	Asian, non-Hispanic	Hispanic
1	Bronchus & Lung 60.0	Bronchus & Lung 58.6	Bronchus & Lung 38.8	Bronchus & Lung 27.6
2	Prostate 21.2	Prostate 45.9	Liver & Intrahepatic Bile Ducts 21.8	Prostate 15.2
3	Colon/Rectum 17.9	Colon/Rectum 24.0	Colon/Rectum 11.0	Liver & Intrahepatic Bile Ducts 11.9
4	Pancreas 13.0	Pancreas 16.2	Prostate 8.5	Colon/Rectum 11.1
5	Urinary Bladder 9.5	Liver & Intrahepatic Bile Ducts 13.8 9.5	Stomach 5.6	Pancreas 9.9

FEMALES

AGE-ADJUSTED¹ MORTALITY RATE²				
RANK	White, non-Hispanic	Black, non-Hispanic	Asian, non-Hispanic	Hispanic
1	Bronchus & Lung 43.6	Bronchus & Lung 28.8	Bronchus & Lung 16.4	Bronchus & Lung 13.4
2	Breast 20.8	Breast 25.8	Colon/Rectum 11.4	Colon/Rectum 10.7
3	Colon/Rectum 12.7	Colon/Rectum 15.3	Breast 9.6	Breast 9.0
4	Pancreas 10.5	Pancreas 13.5	Pancreas 7.5	Pancreas 7.2
5	Ovary 8.2	Corpus Uteri & Uterus, NOS 7.9	Liver & Intrahepatic Bile Ducts 7.0	Liver & Intrahepatic Bile Ducts 4.6

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

² per 100,000

Source: Massachusetts Vital Statistics

Table 18.
NUMBER AND PERCENTAGE OF DEATHS FOR SELECTED CANCER SITES BY RACE/ETHNICITY¹
Massachusetts, 2007-2011
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	32626	100.0	29804	100.0	1402	100.0	617	100.0	753	100.0
Brain & Other Nervous System	847	2.6	794	2.7	17	1.2	11	1.8	23	3.1
Breast	39	0.1	35	0.1	3	0.2	0	0.0	1	0.1
Bronchus & Lung	9027	27.7	8357	28.0	340	24.3	176	28.5	145	19.3
Colon / Rectum	2734	8.4	2469	8.3	144	10.3	54	8.8	65	8.6
Esophagus	1445	4.4	1358	4.6	48	3.4	17	2.8	19	2.5
Hodgkin Lymphoma	78	0.2	71	0.2	4	0.3	1	0.2	2	0.3
Kidney & Renal Pelvis	778	2.4	729	2.4	21	1.5	11	1.8	17	2.3
Larynx	317	1.0	279	0.9	21	1.5	3	0.5	12	1.6
Leukemia	1348	4.1	1254	4.2	40	2.9	25	4.1	28	3.7
Liver & Intrahepatic Bile Ducts	1604	4.9	1308	4.4	88	6.3	118	19.1	89	11.8
Melanoma of Skin	665	2.0	655	2.2	1	0.1	2	0.3	6	0.8
Multiple Myeloma	693	2.1	620	2.1	42	3.0	6	1.0	22	2.9
Non-Hodgkin Lymphoma	1165	3.6	1065	3.6	46	3.3	17	2.8	30	4.0
Oral Cavity & Pharynx	646	2.0	581	1.9	29	2.1	23	3.7	12	1.6
Pancreas	2000	6.1	1838	6.2	90	6.4	21	3.4	50	6.6
Prostate	3114	9.5	2809	9.4	204	14.6	29	4.7	62	8.2
Stomach	739	2.3	602	2.0	53	3.8	28	4.5	55	7.3
Testis	22	0.1	21	0.1	0	0.0	0	0.0	1	0.1
Thyroid	92	0.3	86	0.3	1	0.1	3	0.5	2	0.3
Urinary Bladder	1344	4.1	1286	4.3	32	2.3	8	1.3	18	2.4
Other Sites	3929	12.0	3587	12.0	178	12.7	64	10.4	94	12.5

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 Vital Statistics

Table 19.
NUMBER AND PERCENTAGE OF DEATHS FOR SELECTED CANCER SITES BY RACE/ETHNICITY¹
Massachusetts, 2007-2011
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	32176	100.0	29579	100.0	1367	100.0	511	100.0	682	100.0
Brain & Other Nervous System	695	2.2	645	2.2	18	1.3	10	2.0	21	3.1
Breast	4345	13.5	3950	13.4	238	17.4	62	12.1	91	13.3
Bronchus & Lung	8642	26.9	8207	27.7	245	17.9	88	17.2	94	13.8
Cervix Uteri	275	0.9	231	0.8	24	1.8	10	2.0	10	1.5
Colon / Rectum	2937	9.1	2663	9.0	131	9.6	64	12.5	77	11.3
Corpus Uteri & Uterus, NOS	914	2.8	801	2.7	64	4.7	16	3.1	30	4.4
Esophagus	417	1.3	384	1.3	16	1.2	4	0.8	11	1.6
Hodgkin Lymphoma	57	0.2	53	0.2	1	0.1	1	0.2	2	0.3
Kidney & Renal Pelvis	510	1.6	479	1.6	18	1.3	5	1.0	7	1.0
Larynx	94	0.3	90	0.3	1	0.1	0	0.0	3	0.4
Leukemia	1100	3.4	990	3.3	54	4.0	19	3.7	35	5.1
Liver & Intrahepatic Bile Ducts	690	2.1	578	2.0	39	2.9	40	7.8	30	4.4
Melanoma of Skin	411	1.3	399	1.3	5	0.4	3	0.6	3	0.4
Multiple Myeloma	594	1.8	518	1.8	50	3.7	5	1.0	19	2.8
Non-Hodgkin Lymphoma	1049	3.3	961	3.2	41	3.0	22	4.3	25	3.7
Oral Cavity & Pharynx	302	0.9	276	0.9	8	0.6	9	1.8	9	1.3
Ovary	1674	5.2	1571	5.3	59	4.3	18	3.5	26	3.8
Pancreas	2283	7.1	2075	7.0	115	8.4	39	7.6	52	7.6
Stomach	550	1.7	458	1.5	41	3.0	26	5.1	22	3.2
Thyroid	113	0.4	100	0.3	5	0.4	3	0.6	4	0.6
Urinary Bladder	635	2.0	602	2.0	22	1.6	4	0.8	7	1.0
Other Sites	3889	12.1	3548	12.0	172	12.6	63	12.3	104	15.2

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 Vital Statistics

Table 20.
NUMBER AND PERCENTAGE OF DEATHS FOR SELECTED CANCER SITES BY RACE/ETHNICITY¹
Massachusetts, 2007-2011
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	64803	100.0	59384	100.0	2769	100.0	1128	100.0	1435	100.0
Brain & Other Nervous System	1542	2.4	1439	2.4	35	1.3	21	1.9	44	3.1
Breast	4384	6.8	3985	6.7	241	8.6	62	5.5	92	6.3
Bronchus & Lung	17669	27.3	16564	27.9	585	21.1	264	23.4	239	16.7
Cervix Uteri	275	0.4	231	0.4	24	0.9	10	0.9	10	0.7
Colon / Rectum	5672	8.8	5133	8.6	275	9.9	118	10.5	142	9.9
Corpus Uteri & Uterus, NOS	914	1.4	801	1.3	64	2.3	16	1.4	30	2.1
Esophagus	1862	2.9	1742	2.9	64	2.3	21	1.9	30	2.1
Hodgkin Lymphoma	135	0.2	124	0.2	5	0.2	2	0.2	4	0.3
Kidney & Renal Pelvis	1288	2.0	1208	2.0	39	1.4	16	1.4	24	1.7
Larynx	411	0.6	369	0.6	22	0.8	3	0.3	15	1.0
Leukemia	2448	3.8	2244	3.8	94	3.4	44	3.9	63	4.4
Liver & Intrahepatic Bile Ducts	2294	3.5	1886	3.2	127	4.6	158	14.0	119	8.3
Melanoma of Skin	1076	1.7	1054	1.8	6	0.2	5	0.4	9	0.6
Multiple Myeloma	1287	2.0	1138	1.9	92	3.3	11	1.0	41	2.9
Non-Hodgkin Lymphoma	2214	3.4	2026	3.4	87	3.1	39	3.5	55	3.8
Oral Cavity & Pharynx	948	1.5	880	1.5	34	1.2	28	2.5	20	1.4
Ovary	1674	2.6	1571	2.6	59	2.1	18	1.6	26	1.8
Pancreas	4283	6.6	3913	6.6	205	7.4	60	5.3	102	7.1
Prostate	3115	4.8	2810	4.7	204	7.4	29	2.6	62	4.3
Stomach	1289	2.0	1060	1.8	94	3.4	54	4.8	77	5.4
Testis	22	0.0	21	0.0	0	0.0	0	0.0	1	0.1
Thyroid	205	0.3	186	0.3	6	0.2	6	0.5	6	0.4
Urinary Bladder	1979	3.1	1888	3.2	54	2.0	12	1.1	25	1.7
Other Sites	7817	12.1	7146	12.0	356	12.9	131	11.6	200	13.9

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 Vital Statistics

Table 21.
AGE-ADJUSTED¹ MORTALITY RATES² AND 95% CONFIDENCE LIMITS (95% CL)
FOR SELECTED CANCER SITES BY RACE/ETHNICITY³
Massachusetts, 2007-2011
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	211.7	209.3-214.0		215.1	212.6-217.5		247.4	233.5-261.2		128.8	117.9-139.6		131.3	120.6-142.0	
Brain & Other Nervous System	5.2	4.8-5.6		5.6	5.2-6.0		*	*		*	*		3.1	1.5-4.7	
Breast	0.3	0.2-0.3		0.3	0.2-0.3		*	*		*	*		*	*	
Bronchus & Lung	58.4	57.2-59.6		60.0	58.7-61.3		58.6	52.0-65.3		38.8	32.7-44.8		27.6	22.6-32.6	
Colon / Rectum	17.8	17.2-18.5		17.9	17.2-18.6		24.0	19.7-28.2		11.0	7.9-14.1		11.1	8.0-14.2	
Esophagus	9.0	8.5-9.4		9.4	8.9-9.9		7.4	5.2-9.6		*	*		*	*	
Hodgkin Lymphoma	0.5	0.4-0.6		0.5	0.4-0.6		*	*		*	*		*	*	
Kidney & Renal Pelvis	4.9	4.6-5.3		5.1	4.8-5.5		3.9	2.1-5.7		*	*		*	*	
Larynx	2.0	1.8-2.2		2.0	1.7-2.2		3.1	1.7-4.5		*	*		*	*	
Leukemia	9.0	8.5-9.5		9.3	8.8-9.8		7.0	4.6-9.4		5.5	3.2-7.8		4.2	2.3-6.2	
Liver & Intrahepatic Bile Ducts	9.7	9.3-10.2		9.0	8.5-9.4		13.8	10.7-17.0		21.8	17.6-26.0		11.9	9.2-14.7	
Melanoma of Skin	4.3	3.9-4.6		4.7	4.3-5.1		*	*		*	*		*	*	
Multiple Myeloma	4.6	4.2-4.9		4.5	4.2-4.9		6.8	4.6-9.0		*	*		4.9	2.6-7.1	
Non-Hodgkin Lymphoma	7.7	7.3-8.2		7.8	7.4-8.3		7.2	5.0-9.5		*	*		4.6	2.7-6.5	
Oral Cavity & Pharynx	4.0	3.6-4.3		4.0	3.7-4.4		4.4	2.6-6.1		3.6	2.0-5.2		*	*	
Pancreas	12.8	12.2-13.3		13.0	12.5-13.7		16.2	12.6-19.8		4.5	2.5-6.6		9.9	6.8-12.9	
Prostate	21.5	20.8-22.3		21.2	20.4-21.9		45.9	39.3-52.4		8.5	5.3-11.7		15.2	11.2-19.2	
Stomach	4.8	4.4-5.1		4.4	4.0-4.7		9.5	6.8-12.3		5.6	3.4-7.9		8.4	5.9-11.0	
Testis	0.1	0.1-0.2		0.2	0.1-0.2		*	*		*	*		*	*	
Thyroid	0.6	0.5-0.7		0.6	0.5-0.7		*	*		*	*		*	*	
Urinary Bladder	9.1	8.6-9.6		9.5	9.0-10.0		6.0	3.8-8.2		*	*		*	*	

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 Vital Statistics

Table 22.
AGE-ADJUSTED¹ MORTALITY RATES² AND 95% CONFIDENCE LIMITS (95% CL)
FOR SELECTED CANCER SITES BY RACE/ETHNICITY³
Massachusetts, 2007-2011
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	148.4	146.8-150.1		152.1	150.3-153.9		157.6	149.1-166.0		87.3	79.4-95.1		89.1	81.9-96.2	
Brain & Other Nervous System	3.4	3.2-3.7		3.6	3.4-3.9		*	*		*	*		2.0	1.0-2.9	
Breast	20.3	19.7-20.9		20.8	20.1-21.5		25.8	22.5-29.2		9.6	7.1-12.0		9.0	7.1-11.0	
Bronchus & Lung	41.1	40.2-41.9		43.6	42.6-44.5		28.8	25.1-32.4		16.4	12.9-19.9		13.4	10.6-16.3	
Cervix Uteri	1.4	1.2-1.5		1.3	1.2-1.5		2.6	1.5-3.6		*	*		*	*	
Colon / Rectum	12.8	12.3-13.2		12.7	12.2-13.2		15.3	12.6-18.0		11.4	8.5-14.3		10.7	8.2-13.2	
Corpus Uteri & Uterus, NOS	4.3	4.0-4.6		4.2	3.9-4.5		7.9	5.9-9.8		*	*		4.2	2.6-5.7	
Esophagus	1.9	1.7-2.1		2.0	1.8-2.2		*	*		*	*		*	*	
Hodgkin Lymphoma	0.3	0.2-0.4		0.3	0.2-0.4		*	*		*	*		*	*	
Kidney & Renal Pelvis	2.3	2.1-2.5		2.4	2.2-2.6		*	*		*	*		*	*	
Larynx	0.5	0.4-0.6		0.5	0.4-0.6		*	*		*	*		*	*	
Leukemia	5.1	4.8-5.4		5.1	4.7-5.4		6.3	4.6-8.0		*	*		4.4	2.8-6.0	
Liver & Intrahepatic Bile Ducts	3.2	3.0-3.5		3.0	2.8-3.3		4.4	3.0-5.8		7.0	4.7-9.2		4.6	2.9-6.3	
Melanoma of Skin	1.9	1.8-2.1		2.2	1.9-2.4		*	*		*	*		*	*	
Multiple Myeloma	2.7	2.5-2.9		2.6	2.3-2.8		6.0	4.3-7.7		*	*		*	*	
Non-Hodgkin Lymphoma	4.6	4.3-4.8		4.6	4.3-4.9		5.0	3.4-6.5		3.8	2.2-5.5		3.6	2.1-5.0	
Oral Cavity & Pharynx	1.4	1.2-1.5		1.4	1.2-1.6		*	*		*	*		*	*	
Ovary	7.8	7.4-8.2		8.2	7.8-8.6		6.6	4.9-8.3		*	*		3.1	1.8-4.3	
Pancreas	10.4	9.9-10.8		10.5	10.0-10.9		13.5	11.0-16.0		7.5	5.1-9.9		7.2	5.1-9.3	
Stomach	2.4	2.2-2.6		2.2	2.0-2.4		4.8	3.3-6.3		4.4	2.6-6.1		2.5	1.3-3.6	
Thyroid	0.5	0.4-0.6		0.5	0.4-0.6		*	*		*	*		*	*	
Urinary Bladder	2.7	2.5-2.9		2.8	2.6-3.0		2.8	1.6-4.0		*	*		*	*	

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 Vital Statistics

Table 23.
AGE-ADJUSTED¹ MORTALITY RATES² AND 95% CONFIDENCE LIMITS (95% CL)
FOR SELECTED CANCER SITES BY RACE/ETHNICITY³
Massachusetts, 2007-2011
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	173.1	171.7-174.4		176.6	175.1-178.0		190.6	183.3-197.9		105.9	99.4-112.4		106.5	100.5-112.6	
Brain & Other Nervous System	4.2	4.0-4.4		4.5	4.3-4.8		2.1	1.4-2.8		1.5	0.8-2.2		2.4	1.6-3.2	
Breast	- ⁴	-		-	-		-	-		-	-		-	-	
Bronchus & Lung	48.1	47.3-48.8		50.2	49.4-51.0		40.6	37.2-44.0		26.4	23.1-29.7		19.3	16.7-22.0	
Cervix Uteri	-	-		-	-		-	-		-	-		-	-	
Colon / Rectum	14.9	14.5-15.3		14.9	14.5-15.3		18.9	16.6-21.2		11.4	9.3-13.6		11.0	9.0-12.9	
Corpus Uteri & Uterus, NOS	-	-		-	-		-	-		-	-		-	-	
Esophagus	5.0	4.7-5.2		5.2	5.0-5.5		4.1	3.0-5.1		2.1	1.2-3.0		2.4	1.5-3.3	
Hodgkin Lymphoma	0.4	0.3-0.4		0.4	0.3-0.5		*	*		*	*		*	*	
Kidney & Renal Pelvis	3.4	3.2-3.6		3.6	3.4-3.8		2.8	1.9-3.7		*	*		1.5	0.8-2.2	
Larynx	1.1	1.0-1.2		1.1	1.0-1.2		1.4	0.8-2.0		*	*		*	*	
Leukemia	6.6	6.3-6.9		6.7	6.4-7.0		6.4	5.1-7.8		3.8	2.6-4.9		4.4	3.2-5.6	
Liver & Intrahepatic Bile Ducts	6.1	5.9-6.4		5.6	5.4-5.9		8.2	6.7-9.7		13.9	11.6-16.2		8.0	6.4-9.5	
Melanoma of Skin	2.9	2.7-3.1		3.2	3.0-3.4		*	*		*	*		*	*	
Multiple Myeloma	3.4	3.3-3.6		3.4	3.2-3.6		6.3	5.0-7.7		*	*		3.6	2.4-4.8	
Non-Hodgkin Lymphoma	5.8	5.6-6.1		5.9	5.6-6.1		6.0	4.7-7.2		3.5	2.3-4.6		4.0	2.9-5.2	
Oral Cavity & Pharynx	2.5	2.4-2.7		2.6	2.4-2.7		2.3	1.5-3.1		2.5	1.6-3.4		1.6	0.9-2.4	
Ovary	-	-		-	-		-	-		-	-		-	-	
Pancreas	11.4	11.1-11.8		11.6	11.2-12.0		14.5	12.5-16.6		6.2	4.6-7.9		8.3	6.5-10.0	
Prostate	-	-		-	-		-	-		-	-		-	-	
Stomach	3.4	3.2-3.6		3.1	2.9-3.3		6.6	5.3-8.0		5.0	3.6-6.4		5.0	3.7-6.2	
Testis	-	-		-	-		-	-		-	-		-	-	
Thyroid	0.6	0.5-0.6		0.6	0.5-0.6		*	*		*	*		*	*	
Urinary Bladder	5.2	4.9-5.4		5.4	5.2-5.6		4.1	3.0-5.2		*	*		2.4	1.4-3.4	

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.

⁴ Dashed out cancer types appear either predominantly or exclusively in one sex.

Table 24.
INCIDENCE RATES¹ FOR SELECTED CANCER SITES BY SEX
Massachusetts and U.S. (2007-2011)

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	561.6*	557.9-565.3	535.8	535.2-536.1	459.9*	456.9-462.9	419.1	418.7-419.3
Brain & Other Nervous System	8.3*	7.9-8.8	7.8	7.7-7.8	6.2*	5.8-6.5	5.7	5.6-5.7
Breast	1.3	1.1-1.5	1.4	1.4-1.4	135.4*	133.8-137.1	122.8	122.6-122.9
Breast <i>in situ</i>²	0.1	0.1-0.2	0.2	0.2-0.2	46.2*	45.3-47.2	31.1	31.2-40.0
Bronchus & Lung	77.6	76.2-79.0	78.6	78.4-78.7	63.5*	62.4-64.6	54.6	54.4-54.7
Cervix Uteri	N/A	N/A	N/A	N/A	5.4*	5.1-5.8	7.8	7.7-7.8
Colon / Rectum	47.9	46.8-49.0	49.0	48.8-49.1	37.6	36.7-38.4	37.8	37.6-37.9
Corpus Uteri & Uterus, NOS	N/A	N/A	N/A	N/A	30.2	29.4-31.0	24.2	24.1-24.3
Esophagus	11.1*	10.5-11.6	8.4	8.3-8.4	2.4*	2.2-2.6	1.9	1.9-1.9
Hodgkin Lymphoma	3.6*	3.4-3.9	3.2	3.2-3.2	2.8	2.5-3.0	2.5	2.5-2.5
Kidney & Renal Pelvis	21.9	21.2-22.6	21.5	21.4-21.6	10.7	10.3-11.2	11.2	11.1-11.2
Larynx	6.0	5.6-6.4	6.5	6.4-6.5	1.6	1.4-1.7	1.4	1.4-1.4
Leukemia	16.8	16.1-17.4	16.6	16.5-16.6	10.1	9.7-10.6	10.2	10.1-10.2
Liver & Intrahepatic Bile Ducts	12.6*	12.0-13.1	10.2	10.1-10.2	3.6*	3.3-3.8	3.1	3.1-3.1
Melanoma of Skin	27.6*	26.8-28.5	25.1	25.0-25.2	19.0*	18.3-19.6	15.8	15.7-15.8
Multiple Myeloma	7.6	7.2-8.1	7.5	7.4-7.5	4.8	4.5-5.1	4.9	4.9-4.9
Non-Hodgkin Lymphoma	24.6*	23.8-25.3	23.2	23.1-23.3	16.3	15.7-16.8	16.1	16.0-16.2
Oral Cavity & Pharynx	17.2	16.6-17.8	16.8	16.7-16.8	6.5	6.1-6.8	6.2	6.1-6.2
Ovary	N/A	N/A	N/A	N/A	12.1	11.6-12.6	12.1	12.0-12.1
Pancreas	14.1	13.5-14.7	13.8	13.7-13.9	11.4*	10.9-11.9	10.8	10.7-10.8
Prostate	149.6*	147.7-151.5	142.1	141.8-142.3	N/A	N/A	N/A	N/A
Stomach	10.1*	9.6-10.6	9.3	9.2-9.3	4.6	4.3-4.9	4.6	4.6-4.6
Testis	6.2*	5.8-6.6	5.5	5.4-5.5	N/A	N/A	N/A	N/A
Thyroid	9.9*	9.4-10.4	6.6	6.5-6.6	28.9*	28.1-29.7	19.4	19.3-19.4
Urinary Bladder	43.3*	42.2-44.3	36.7	36.5-37.0	11.9*	11.4-12.3	9.1	9.0-9.1

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

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

N/A – not applicable

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

Data Sources: Massachusetts: Massachusetts Cancer Registry and United States: National Association of Central Cancer Registries (NAACCR).

Table 25.
MORTALITY RATES¹ FOR SELECTED CANCER SITES BY SEX
Massachusetts and U.S. (2007-2011)

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	211.7	209.3-214.0	211.6	211.2-211.8	148.4	146.8-150.1	147.4	147.1-147.5
Brain & Other Nervous System	5.2	4.8-5.6	5.2	5.1-5.2	3.4	3.2-3.7	3.5	3.5-3.5
Breast	0.3	0.2-0.3	0.3	0.02-0.3	20.3*	19.7-20.9	22.2	22.1-22.2
Bronchus & Lung	58.4*	57.2-59.6	61.6	61.4-61.7	41.0*	40.2-41.9	38.5	38.4-38.6
Cervix Uteri	N/A	N/A	N/A	N/A	1.4*	1.2-1.5	2.3	2.3-2.3
Colon / Rectum	17.8*	17.2-18.5	19.1	19.0-19.2	12.8*	12.3-13.2	13.5	13.4-13.5
Corpus Uteri & Uterus, NOS	N/A	N/A	N/A	N/A	4.3	4.0-4.6	4.3	4.3-4.3
Esophagus	9.0*	8.5-9.4	7.5	7.4-7.5	1.9*	1.7-2.1	1.6	1.6-1.6
Hodgkin Lymphoma	0.5	0.4-0.6	0.5	0.5-0.5	0.3	0.2-0.4	0.3	0.3-0.3
Kidney & Renal Pelvis	4.9*	4.6-5.3	5.8	5.7-5.8	2.3*	2.1-2.5	2.6	2.6-2.6
Larynx	2.0	1.8-2.2	2	2.0-2.0	0.4	0.4-0.6	0.4	0.4-0.4
Leukemia	9.0	8.5-9.5	9.4	9.3-9.4	5.1	4.8-5.4	5.3	5.3-5.3
Liver & Intrahepatic Bile Ducts	9.7*	9.3-10.2	7	6.9-7.0	3.2*	3.0-3.5	2.2	2.2-2.2
Melanoma of Skin	4.3	3.9-4.6	4.1	4.1-4.1	1.9*	1.8-2.1	1.7	1.7-1.7
Multiple Myeloma	4.6	4.2-4.9	4.3	4.2-4.3	2.7	2.5-2.9	2.7	2.7-2.7
Non-Hodgkin Lymphoma	7.7	7.3-8.2	8.1	8.0-8.1	4.6*	4.3-4.8	5.0	5.0-5.0
Oral Cavity & Pharynx	4.0	3.6-4.3	3.8	3.8-3.8	1.4	1.2-1.5	1.4	1.4-1.4
Ovary	N/A	N/A	N/A	N/A	7.8	7.4-8.2	7.9	7.8-7.9
Pancreas	12.8	12.2-13.3	12.5	12.4-12.5	10.4*	9.9-10.8	9.6	9.5-9.6
Prostate	21.5	20.8-22.3	22.3	22.2-22.4	N/A	N/A	N/A	N/A
Stomach	4.8	4.4-5.1	4.7	4.6-4.7	2.4	2.2-2.6	2.5	2.5-2.5
Testis	0.1	0.1-0.2	0.2	0.2-0.2	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	9.1*	8.6-9.6	7.7	7.6-7.7	2.7*	2.5-2.9	2.2	2.2-2.2

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

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

N/A – not applicable

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

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

APPENDICES

This page intentionally left blank.

APPENDIX I

ICD CODES USED FOR THIS REPORT

Cancer Site/Type	 <i>C o d e s</i>	
	ICD-O-3*	ICD-10**
Brain & Other Nervous System	C70.0-C72.9 except 9590-9989	C70-C72
Breast (includes <i>in situ</i>)	C50.0 – C50.9 except 9590 -9989	C50
Bronchus & Lung	C34.0 – C34.9 except 9590-9989	C34
Cervix Uteri	C53.0 – C53.9 except 9590-9989	C53
Colon/ Rectum	C18.0-C18.9, C19.9, C20.9, C26.0 except 9590-9989	C18 – C20, C26.0
Corpus Uteri & Uterus, NOS	C54.0 – C54.9, C55.9 except 9590 – 9989	C54 – C55
Esophagus	C15.0-C15.9 except 9590 – 9989	C15
Hodgkin Lymphoma	C00.00 – C80.9 (includes 9650-9667)	C81
Kidney & Renal Pelvis	C64.9, C65.9 except 9590-9989	C64- C65
Larynx	C32.0 – C32.9 except 9590- 9989	C32
Leukemia	C00.0 – C80.9 (includes 9733, 9742, 9800 – 9820, 9826, 9831 – 9948, 9963 – 9964) C42.0, C42.1, C42.4 (includes 9823, 9827)	C90.1, C91 – C95
Liver and Intrahepatic Bile Ducts	C22.0, C22.1 except 9590 – 9989	C22

Cancer Site/ Type	C o d e s.....	
	ICD-O-3*	ICD-10**
Melanoma of Skin	C44.0 – C44.9 (includes 8720-8790)	C43
Multiple Myeloma	C00.0-C80.9 (includes 9731, 9732, 9734)	C90.0, C90.2
Non – Hodgkin Lymphoma	C00.0 – C80.9 (includes 9590 – 9596, 9670 – 9729) All sites except C42.0, C42.1, C42.4 (includes 9823, 9827)	C82 – C85, C96.3
Oral Cavity & Pharynx	C00.0 – C14.8 except 9590 – 9989	C00 – C14
Ovary	C56.9 except 9590- 9989	C56
Pancreas	C25.0 – C25.9 except 9590 – 9989	
Prostate	C61.9 except 9590 – 9989	C61
Stomach	C16.0 – C16.9 except 9590- 9989	C16
Testis	C62.0 – C62.9 except 9590 – 9989	C62
Thyroid	C73.9 except 9590 – 9989	C73
Urinary Bladder (includes <i>in situ</i>)	C67.0 – C67.9 except 9590 – 9989	C67

* *International Classification of Diseases for Oncology, 3d Ed.* (1) (includes codes added since publication) for incidence data

** *International Classification of Diseases, Tenth Revision* (3) (includes codes added since publication) for mortality data

APPENDIX II:

Population and Rate Changes

The population estimates for 2007-2011 used in this report were produced by the National Center for Health Statistics (NCHS) in collaboration with the U.S. Census Bureau's Population Estimation Program. The NCHS takes the Census Bureau population estimates file and reallocates the multiple race categories required by the 1997 Office of Management and Budget (OMB) specifications back into the four race categories specified in the 1977 OMB specifications so that the estimates will be compatible with previous years' populations. (4) The estimates are divided into mutually exclusive racial/ethnic categories similar to those of the MCR.

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

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

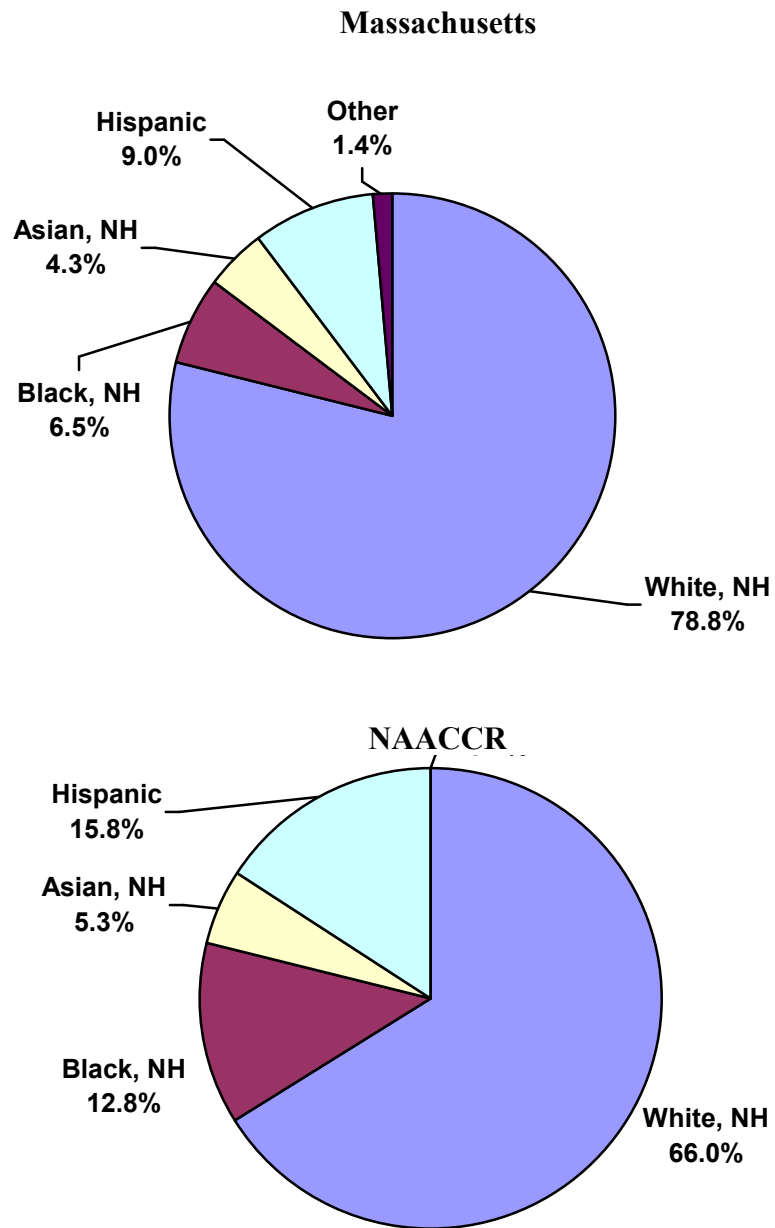
Appendix III

POPULATION ESTIMATES BY AGE, RACE/ETHNICITY, AND SEX Massachusetts, 2007-2011

Age Group	White, non-Hispanic			Black, non-Hispanic			Asian, non-Hispanic			Hispanic		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
00-04	653764	624489	1278253	86294	82899	169193	65505	63960	129465	151551	145635	297186
05-09	701665	671868	1373533	82316	79166	161482	60119	61052	121171	135806	130831	266637
10-14	761871	722836	1484707	82404	78947	161351	52527	54195	106722	130423	124514	254937
15-19	859974	837849	1697823	96837	94520	191357	59721	63712	123433	143482	136851	280333
20-24	850476	861724	1712200	94086	93391	187477	71364	79538	150902	140544	132558	273102
25-29	782939	785283	1568222	83960	82488	166448	81617	89213	170830	141227	128010	269237
30-34	723054	732976	1456030	73743	77168	150911	85361	90628	175989	130941	125197	256138
35-39	799612	826701	1626313	71453	77812	149265	85025	85463	170488	112046	115442	227488
40-44	945381	977848	1923229	74243	80244	154487	68944	71362	140306	101314	106098	207412
45-49	1053884	1086478	2140362	74103	78080	152183	58216	60204	118420	84361	92543	176904
50-54	1015076	1062524	2077600	63824	68037	131861	46617	50149	96766	64007	71813	135820
55-59	891322	945604	1836926	48304	54790	103094	37150	40816	77966	45467	53900	99367
60-64	751680	818225	1569905	34846	43226	78072	26485	29398	55883	32213	40044	72257
65-69	523165	598620	1121785	22933	31000	53933	19219	20941	40160	20638	26780	47418
70-74	382356	471259	853615	16400	23849	40249	14490	16203	30693	13251	19417	32668
75-79	313818	430806	744624	11180	18244	29424	9735	11752	21487	8723	13250	21973
80-84	242995	393875	636870	7067	13499	20566	5746	7914	13660	5342	8600	13942
85+	202375	474562	676937	5236	12441	17677	4268	6863	11131	4521	8572	13093

Population Data Source: [United States Census Data \(2007-2011\)](#)

Appendix IV
Racial/Ethnic Breakdown of the Massachusetts and NAACCR Populations, 2007-2011



Data Source: United States Census Data, 2007-2011

This page intentionally left blank

REFERENCES

This page intentionally left blank.

REFERENCES

1. Massachusetts Cancer Registry, Cancer Incidence and Mortality in Massachusetts, 2006-2010: Statewide Report, Available at: www.mass.gov/dph/mcr
2. Edwards BK, et al. Annual Report to the Nation on the Status of Cancer, 1975-2010, Featuring Prevalence of Comorbidity and Impact on Survival among Persons with Lung, Colorectal, Breast or Prostate Cancer. *Cancer*. Online Dec. 16, 2013. DOI: 10.1002/cncr.28509
3. United States Preventive Services Taskforce, Prostate Cancer Screening Recommendations Available at: <http://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/prostate-cancer-screening#Pod2> Accessed November 12, 2014.
4. Edwards BK, et al. Annual Report to the Nation on the Status of Cancer, 1975-2010, Featuring Prevalence of Comorbidity and Impact on Survival among Persons with Lung, Colorectal, Breast or Prostate Cancer. *Cancer*. Online Dec. 16, 2013. DOI: 10.1002/cncr.28509
5. National Center for Health Statistics, U.S. Department of Health and Human Services. Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Bridged-Race Population Estimates, United States July 1st resident population by state, county, age, sex, bridged-race, and Hispanic origin, compiled from 1990-1999 bridged-race intercensal population estimates and 2000-2009 (Vintage 2009) bridged-race postcensal population estimates. Available at: http://www.cdc.gov/nchs/nvss/bridged_race.htm Accessed August 28, 2012.