Massachusetts Deaths 2009

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Massachusetts Department of Public Health

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Table 1. Trends in Mortality Characteristics, Massachusetts: 1999-2009

Year		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Resident deaths[1]	Number	55,763	56,591	56,733	56,881	56,194	54,419	53,776	53,293	52,690	53,341	51,915
	Crude rate[2,3,4]	881.9	889.5	887.1	887.0	875.2	848.1	840.4	827.9	816.9	820.9	787.4
	Age-adjusted rate[5]	808.8	812.2	803.4	793.8	772.6	739.3	720.6	717.6	704.4	703.5	675.1
Race/ethnicity of decedent [6,7]												
White non-Hispanic	Number	52,282	52,959	52,792	52,839	52,050	50,439	49,639	49,132	48,518	49,059	47,520
	Percent[8]	93.8	93.6	93.1	92.9	92.6	92.7	92.3	92.2	92.1	92.0	91.5
	Age-adjusted rate	808.7	814.5	804.4	796.0	775.2	744.7	725.0	723.3	711.1	710.7	682.8
Black non-Hispanic	Number	2,018	2,109	2,226	2,275	2,378	2,225	2,263	2,233	2,211	2,222	2,288
	Percent	3.6	3.7	3.9	4.0	4.2	4.1	4.2	4.2	4.2	4.2	4.4
	Age-adjusted rate	995.2	933.5	951.0	935.6	949.1	866.2	865.8	838.4	820.5	805.8	812.2
Asian non-Hispanic	Number	449	467	510	531	579	531	570	635	610	692	697
	Percent	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.2	1.2	1.3	1.3
	Age-adjusted rate	422.4	401.4	396.9	397.6	411.9	353.7	345.0	379.0	342.0	372.5	353.1
Hispanic	Number	975	1,014	1,059	1,166	1,121	1,115	1,230	1,194	1,264	1,275	1,337
	Percent	1.7	1.8	1.9	2.0	2.0	2.1	2.3	2.2	2.4	2.4	2.6
	Age-adjusted rate	507.8	585.2	556.5	591.0	520.6	482.1	500.4	479.9	477.7	458.2	439.8
Gender of decedent [7]												
Female	Number	29,786	30,465	30,780	30,427	30,053	29,067	28,695	28,508	27,851	28,246	27,356
	Age-adjusted rate	676.9	688.8	689.5	674.4	659.3	632.3	617.8	612.7	596.3	595.9	572.8
Male	Number	25,977	26,126	25,953	26,454	26,141	25,352	25,079	24,785	24,838	25,095	24,557
	Age-adjusted rate	1,001.6	988.7	957.6	955.1	923.3	878.0	852.5	858.9	853.3	852.2	822.1
Age of decedent [7]												
<1 year	Number	418	377	407	397	383	376	391	369	380	381	366
1-14 years	Number	165	181	169	167	149	137	113	124	128	119	118
15-24 years	Number	407	403	444	460	490	517	489	471	505	421	440
25-44 years	Number	2,397	2,375	2,571	2,490	2,484	2,247	2,173	1,953	2,023	1,906	1,974
45-64 years	Number	7,431	7,841	8,004	8,344	8,476	8,347	8,355	8,660	8,560	8,426	8,688
65-74 years	Number	9,782	9,746	9,323	8,922	8,611	8,126	7,905	7,572	7,494	7,425	7,380
75-84 years	Number	17,397	17,554	17,416	17,262	16,973	16,342	15,632	15,333	14,781	14,970	13,943
85+ years	Number	17,765	18,113	18,395	18,838	18,627	18,327	18,718	18,811	18,816	19,692	19,004

1. Deaths presented in all tables and figures are resident deaths. 2. Deaths per 100,000 residents. 3. See Glossary for further definition of terms and rates. 4. Rate calculations are based on resident population estimates from MISER for 1994-1995 (released in September 1999), 1996-1997 (released in November 1999), and 1998 (released in September 2000). Resident death data for 2000-2009 are calculated using the Massachusetts (Department of Public Health) Modified Age, Race/Ethnicity, & Sex Estimates 2000-2009 (MMARS00-06), released July 2010. Population estimates from the National Center for Health Statistics for 2009 were used to calculate death rates at the state level. 5. Rates are age-adjusted per 100,000 residents using the 2000 US standard population. 6. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in race categories. Please see the Technical Notes in the Appendix for a more detailed explanation. 7. Column sum may not equal total because the race, gender or age of some decedents was unknown. 8. Percent of all resident deaths in that year.

Table 2. Five Leading Causes of Death[1], Age-Adjusted Rates, Massachusetts and United States: 1999-2009

Year[2]	Age-Adjusted Rates	Heart Disease		Cancer		Stroke	
		MA	US	MA	US	MA	US
1999	Rate	222.1	265.9	206.6	201.6	50.2	61.4
	% of Total	27.9	30.3	24.8	23.0	6.4	7.0
2000	Rate	216.7	258.2	206.1	200.9	50.9	60.9
	% of Total	27.1	29.5	24.8	23.0	6.4	6.9
2001	Rate	211.0	247.7	200.0	195.8	46.7	57.9
	% of Total	26.7	28.9	24.2	22.9	6.2	6.8
2002	Rate	201.1	240.4	200.1	194.0	48.1	56.3
	% of Total	26.0	28.4	24.0	22.8	6.0	6.7
2003	Rate	196.6	232.3	193.0	190.1	45.0	53.5
	% of Total	26.0	28.0	24.1	22.7	6.0	6.5
2004	Rate	182.8	217.0	188.4	185.8	42.5	50.0
	% of Total	25.3	27.2	24.5	23.1	6.0	6.3
2005	Rate	172.2	211.0	184.9	183.8	38.1	46.6
	% of Total	24.6	26.6	24.5	22.8	5.5	5.9
2006	Rate	168.8	199.4	186.3	180.8	36.7	43.6
	% of Total	24.2	25.9	25.1	23.1	5.4	5.7
2007	Rate	165.7	199.4	179.2	180.8	35.0	43.6
	% of Total	24.2	25.9	24.6	23.1	5.1	5.7
2008	Rate	165.5	190.9	177.8	178.4	33.7	42.2
	% of Total	24.1	25.4	24.4	23.2	4.9	5.6
2009	Rate	155.2[4]	179.8[5]	174.0[4]	173.6[5]	32.2[4]	38.9[5]
	% of Total	23.6	24.6	25.1	23.3	4.9	5.3

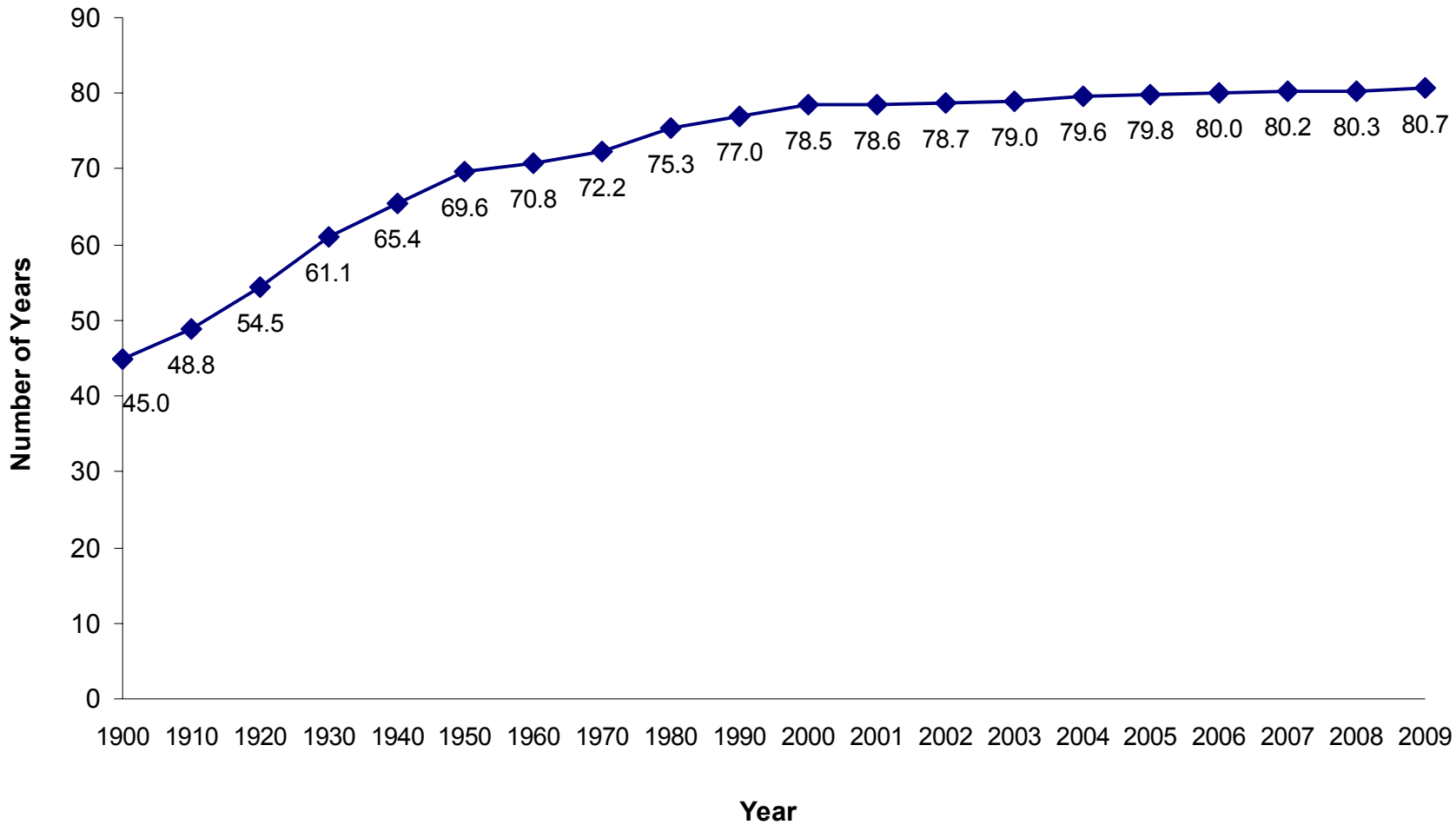
1. Cause of death: the disease or injury that initiated the events leading to death; or the circumstances of the unintentional or intentional injury that resulted in the death. 2. Data coded according to ICD-10. ICD-9 and ICD-10 codes used in this publication are listed in the Appendix. 3. MA population denominators are from the NCHS Modified Age, Race/Ethnicity, & Sex Estimates 2009, released July 2010. 4. US data for 2009 obtained from NCHS. Deaths: Preliminary Data for 2009, Volume 59, Number 4, March 16, 2011.

Table 2 (continued). Five Leading Causes of Death[1], Age-Adjusted Rates, Massachusetts and United States: 1999-2009

Year[2]	Age-Adjusted Rates	Influenza/Pneumonia		Unintentional Injuries		All Causes	
		MA	US	MA	US	MA	US
1999	Rate	30.3	23.4	19.3	35.9	808.8	881.9
	% of Total	3.9	2.7	2.3	4.1		
2000	Rate	29.1	23.7	20.2	35.6	812.2	872.0
	% of Total	3.7	2.8	2.4	3.9		
2001	Rate	24.0	21.8	21.9	34.3	803.5	855.0
	% of Total	3.1	2.6	2.6	4.0		
2002	Rate	27.3	22.7	20.5	35.3	793.8	846.8
	% of Total	4.0	2.7	2.0	4.2		
2003	Rate	26.0	22.0	20.1[7]	37.3	772.6	832.7
	% of Total	3.6	2.7	2.5	4.3		
2004	Rate	24.9	19.8	19.4	37.7	739.3	800.8
	% of Total	3.6	2.5	2.5	4.7		
2005	Rate	24.2	20.3	27.4	39.1	720.6	798.8
	% of Total	3.6	2.6	3.5	4.8		
2006	Rate	22.0	17.7	31.4	38.5	717.6	776.4
	% of Total	3.3	2.3	4.1	4.8		
2007	Rate	19.4	17.7	30.5	38.5	704.4	776.4
	% of Total	2.9	2.3	4.0	4.9		
2008	Rate	20.0	16.2	28.6	40.0	703.5	760.2
	% of Total	3.0	2.2	3.8	5.1		
2009	Rate	16.8[7]	16.2[8]	28.5[7]	37.0[8]	675.1	741.0[8]
	% of Total	2.6	2.2	3.9	4.8		

1. Cause of death: the disease or injury that initiated the events leading to death; or the circumstances of the unintentional or intentional injury that resulted in the death. 2. Data coded according to ICD-10. ICD-9 and ICD-10 codes used in this publication are listed in the Appendix. 3. MA population denominators are from the NCHS Modified Age, Race/Ethnicity, & Sex Estimates 2009, released July 2010. 4. US data for 2007 obtained from NCHS. Deaths: Preliminary Data for 2009, Volume 59, Number 4, March 16, 2011.

Figure 1. Life Expectancy at Birth, Massachusetts: 1900-2009



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

Figure 2. Expected Years of Life Remaining at Different Ages by Race and Hispanic Ethnicity, Massachusetts: 2009

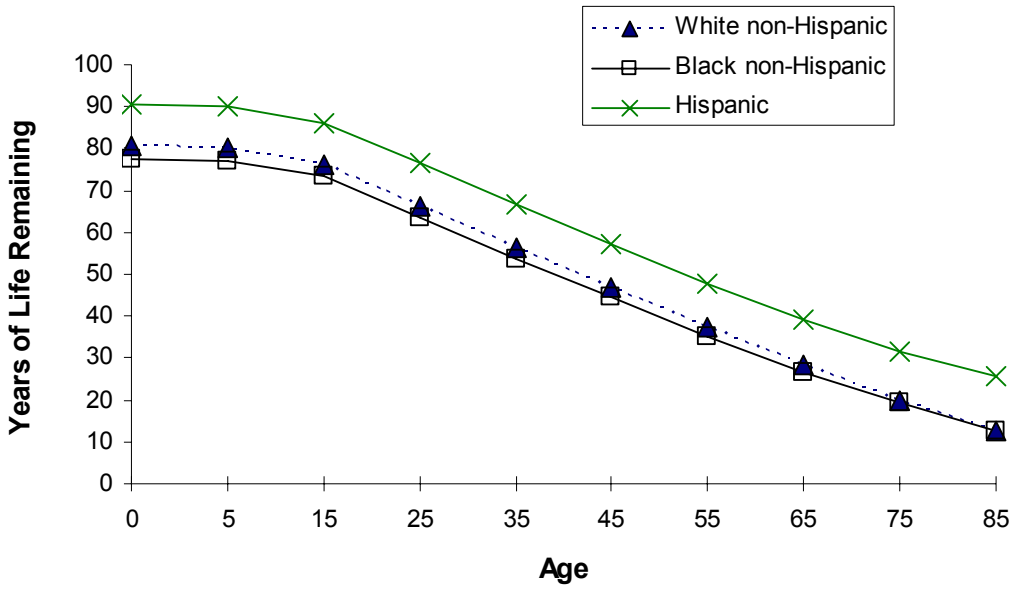
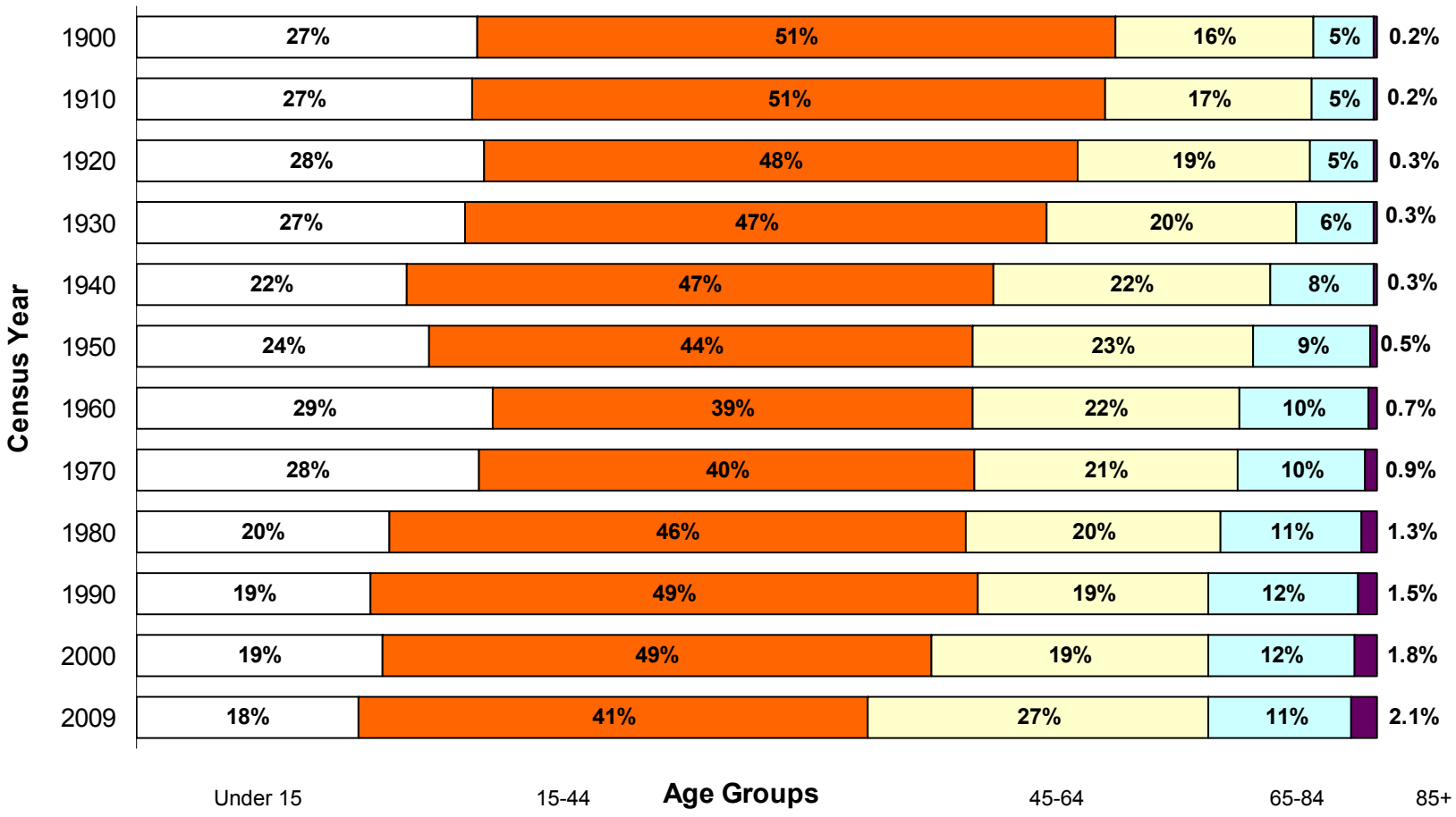


Table 3. Years of Life Remaining[1] by Race and Hispanic Ethnicity and Gender, Massachusetts: 2009

At Age:	All	Females	White non-Hispanic Females	Black non-Hispanic Females	Hispanic Females[2]	Males	White non-Hispanic Males	Black non-Hispanic Males	Hispanic Males[2]
Birth	80.7	83.0	83.0	80.0	94.4	78.3	78.3	74.4	86.3
1 year old	80.1	82.4	82.3	79.8	93.9	77.7	77.6	74.2	85.9
5 years old	76.2	78.4	78.3	75.8	90.0	73.7	73.7	70.3	82.0
15 years old	66.3	68.5	68.3	65.9	80.1	63.8	63.7	60.4	72.1
25 years old	56.6	58.7	58.5	56.1	70.4	54.2	54.1	51.1	62.7
35 years old	47.0	48.9	48.7	46.5	60.6	44.7	44.6	41.8	53.3
45 years old	37.5	39.3	39.1	37.4	51.1	35.4	35.3	32.8	44.2
55 years old	28.6	30.2	30.0	28.6	41.9	26.6	26.5	24.3	35.6
65 years old	20.2	21.5	21.3	20.7	33.7	18.5	18.4	17.3	28.9
75 years old	12.9	13.9	13.7	13.5	26.5	11.4	11.2	11.2	24.4
85 years old	7.5	8.2	8.0	7.6	22.8	6.2	6.0	6.0	21.3

1. Years of Life Remaining calculated using the Greville Abridged Life Table Method (source: Dublin LI. Length of Life - A Study of the Life Table. Ronald Press Co. New York. 1949). 2. Population estimates are from the NCHS Modified Age, Race/Ethnicity, & Sex Estimates 2009, released July, 2010. 3. There are well-known difficulties in calculating accurate mortality rates for Massachusetts smaller populations such as Asians, Native Americans and Hispanics- please use caution.

Figure 3. Changes in Age Composition of the Population, Massachusetts: 1900-2009



Source: US Census Bureau 1900-1999. Resident death data for 2000 are calculated using the Massachusetts (Department of Public Health) Modified Age, Race/Ethnicity, & Sex Estimates 2000 (MMARS00), released October 2006. Population estimates for 2009 are from the NCHS Modified Age, Race/Ethnicity, & Sex Estimates 2009.

Figure 4. Trends in Percentage of Deaths from Selected Causes, Massachusetts: 1842-2009

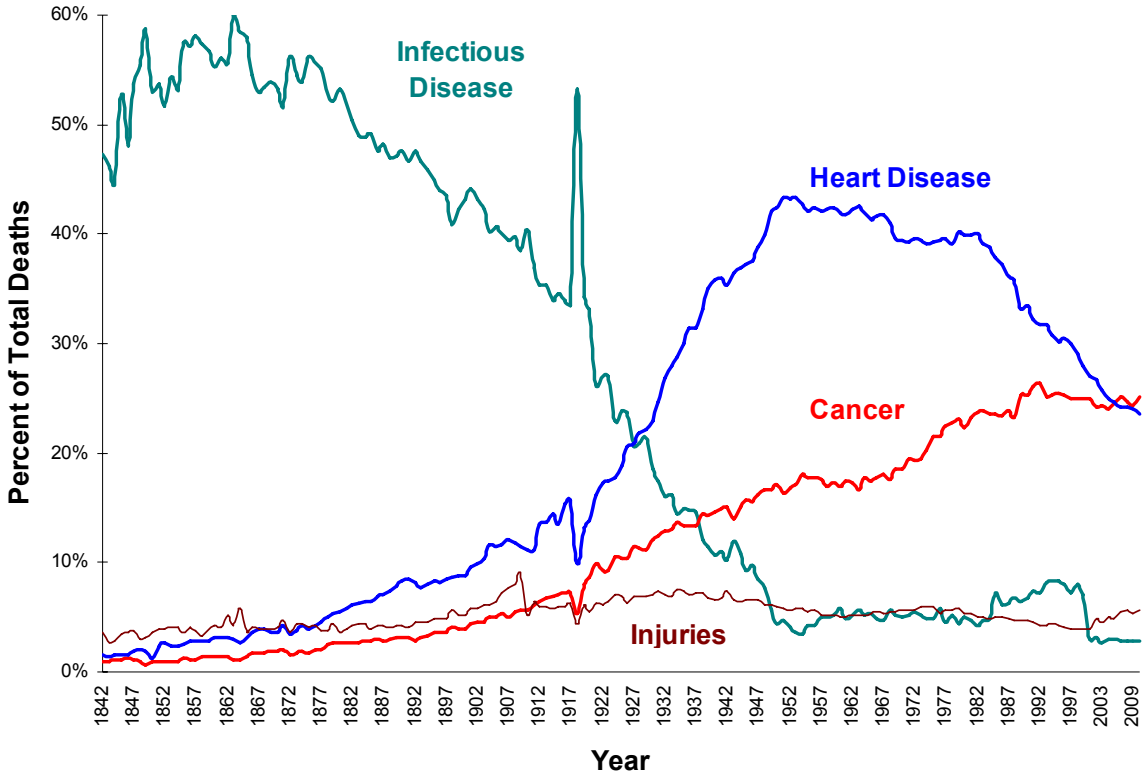
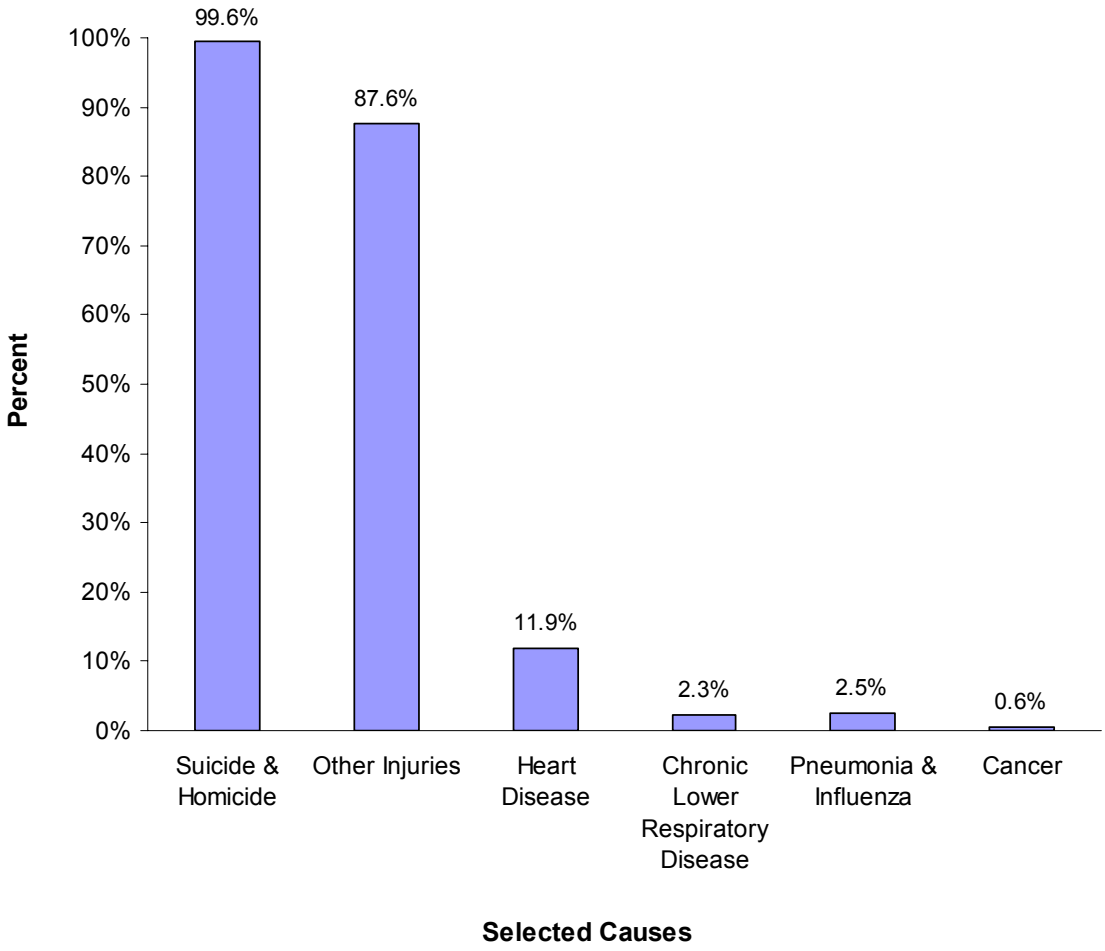


Table 4. Distribution of Deaths by Place of Occurrence, Massachusetts: 2005-2009

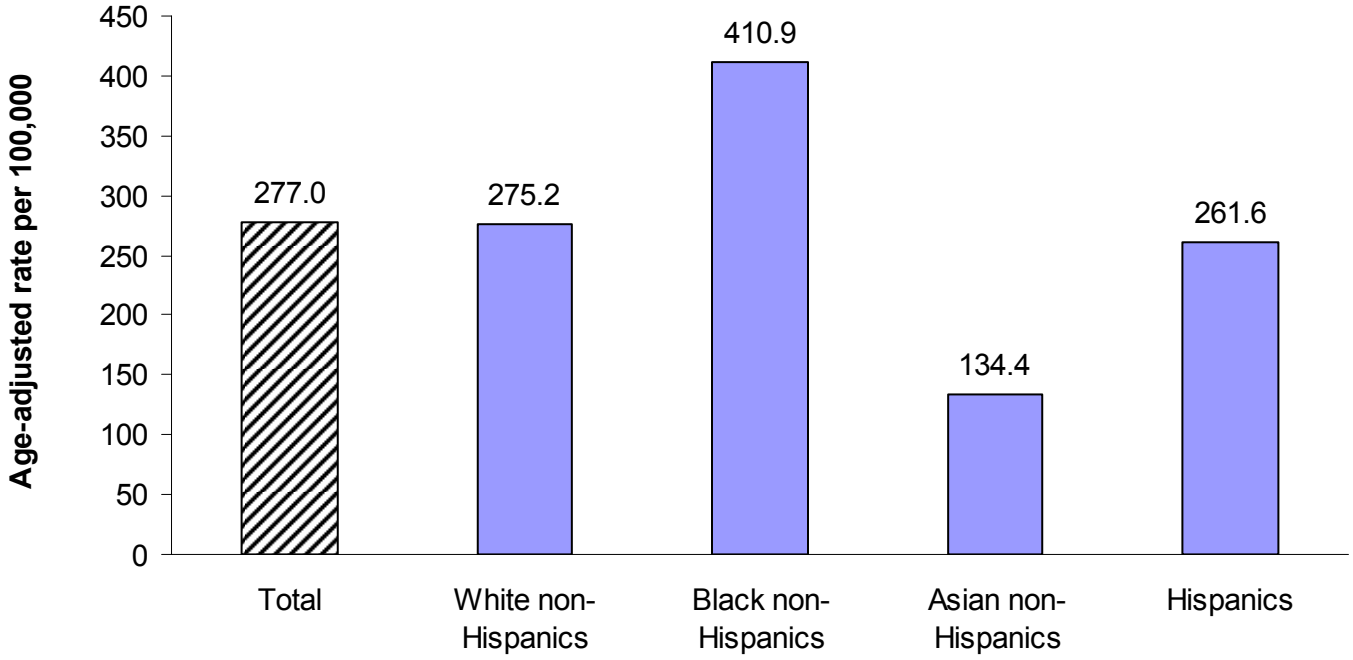
Type of Place where Death Occurred	2005		2006		2007		2008		2009	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Hospital (inpatient/outpatient)	23,129	43%	22,512	42%	22,097	42%	22,301	42%	21,197	41%
Dead on Arrival	871	2%	692	1%	613	1%	585	1%	504	1%
Nursing Home	16,446	31%	16,205	30%	15,924	30%	16,098	30%	15,185	29%
At Home	12,004	22%	12,372	23%	12,524	24%	12,490	23%	12,940	25%
Other	1,311	2%	1,491	3%	1,498	3%	1,820	3%	2,060	4%
Unknown	15	0.03%	21	0.04%	34	0.1%	47	0.1%	29	0.1%

Figure 5. Proportion of Deaths Certified by Medical Examiner for Selected Causes of Death, Massachusetts: 2009



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

Figure 6. Premature Mortality Rate (PMR) by Race and Hispanic Ethnicity, Massachusetts: 2009



Premature Mortality Rate is defined as deaths that occur before the age of 75 years per 100,000, age-adjusted to the 2000 US standard population under 75 years of age.

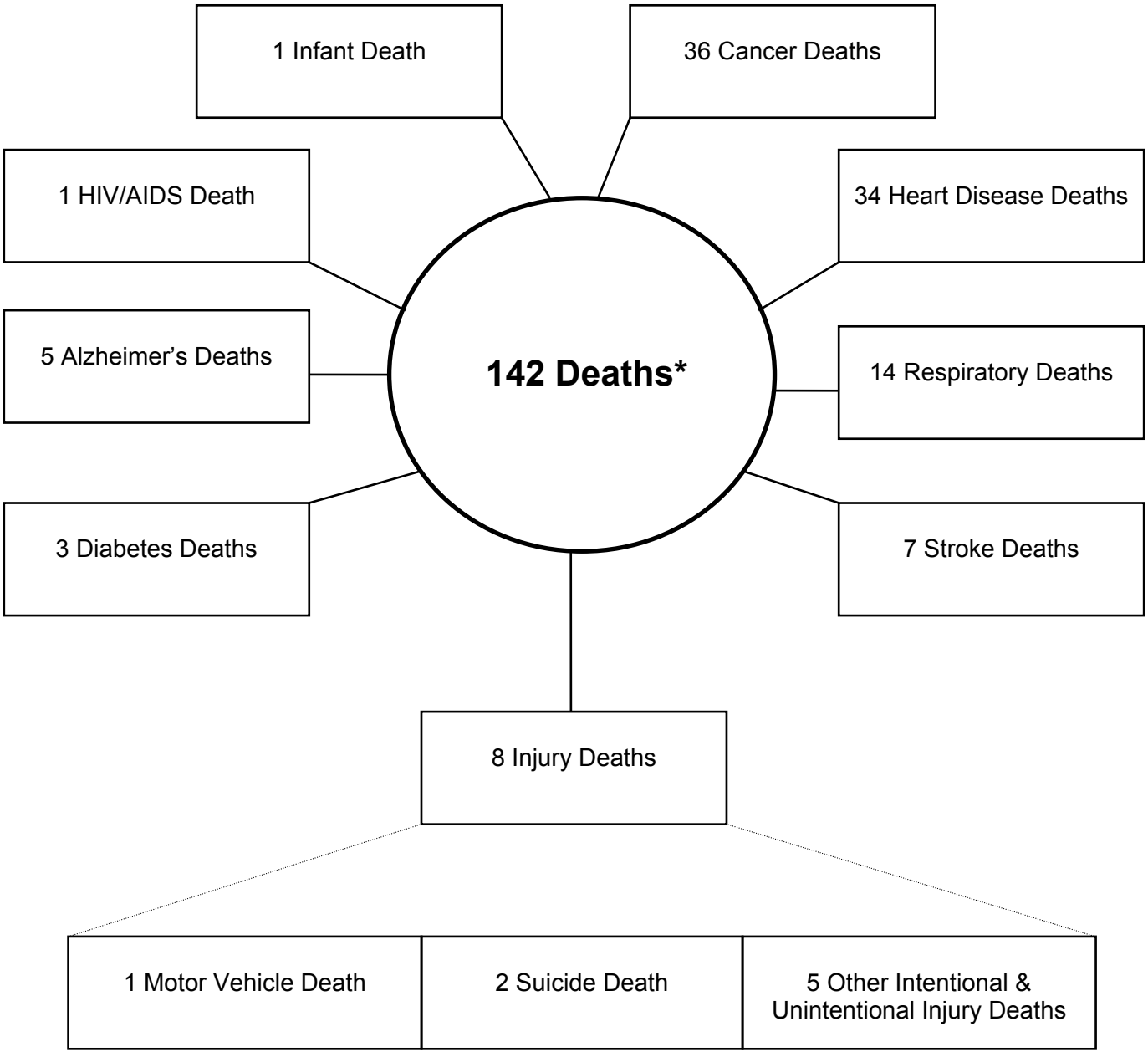
Table 5. Age-Adjusted Death Rates for Ages 25-64 Years by Educational Attainment, Massachusetts: 2009

	Age-Specific Rates			Age-Adjusted Rates
	25-34 years	**35-44 years**	**45-64 years**	**25-64 years**
Years of school completed*				
High school or less	145.1	224.1	956.7	**528.4**
13+ Education	33.0	62.7	371.5	**194.5**

*Note: For this table, 2000 denominator figures are used since these are the latest numbers available for population by age and education. Rates are per 100,000 age-adjusted to the 2000 U.S. standard population.

Figure 7. Daily Mortality Statistics, Massachusetts: 2009

Every day in 2009, in Massachusetts there were on average:



*includes 33 deaths due to other causes

Table 6. Top Ten Leading Underlying Causes of Death by Age, Massachusetts: 2009

	Age Groups (number of deaths)								
Rank[1]	**<1 year**	**1-14 years**	**15-24 years**	**25-44 years**	**45-64 years**	**65-74 years**	**75-84 years**	**85+ years**	**All**
1	Short gestation and LBW (83)	Cancer (21)	Unintentional Injuries (180)	Unintentional Injuries (526)	Cancer (3,257)	Cancer (3,030)	Cancer (3,846)	Heart Disease (5,565)	**Cancer (13,042)**
2	Congenital malformations (57)	Unintentional Injuries (17)	Homicide (67)	Cancer (333)	Heart Disease (1,665)	Heart Disease (1,444)	Heart Disease (3,296)	Cancer (2,530)	**Heart Disease (12,233)**
3	SIDS (34)	Congenital malformations (10)	Suicide (50)	Heart Disease (234)	Unintentional Injuries (575)	Chronic Lower Respiratory Disease (497)	Chronic Lower Respiratory Disease (923)	Stroke (1,313)	**Stroke (2,552)**
4	Pregnancy Complications (26)	Heart Disease (6)	Cancer (24)	Suicide (178)	Chronic liver disease (296)	Stroke (245)	Stroke (745)	Alzheimer's Disease (1,132)	**Chronic Lower Respiratory Disease (2,546)**
5	Complications of placenta (15)	Ill-defined conditions-signs and symptoms (6)	Heart Disease (20)	Homicide (73)	Chronic Lower Respiratory Disease (261)	Diabetes (201)	Alzheimer's Disease (471)	Chronic Lower Respiratory Disease (844)	**Unintentional Injuries (2,034)**
6	Respiratory distress (12)	Influenza & Pneumonia (5)	Ill-defined conditions-signs and symptoms (15)	Chronic liver disease (47)	Suicide (240)	Nephritis (177)	Nephritis (374)	Influenza & Pneumonia (706)	**Alzheimer's Disease (1,690)**
7	Bacterial sepsis of newborn (10)	Homicide (5)	Congenital malformations (10)	Stroke (45)	Diabetes (220)	Unintentional Injuries (136)	Influenza & Pneumonia (363)	Nephritis (588)	**Influenza & Pneumonia (1,335)**
8	Neonatal hemorrhage (9)	Injuries of Undetermined Intent (3)	Influenza & Pneumonia (7)	Ill-defined conditions-signs and symptoms (44)	Stroke (200)	Influenza & Pneumonia (120)	Diabetes (276)	Unintentional Injuries (356)	**Nephritis (1,267)**
9	Hematological disorders (5)	Septicemia (2)	Injuries of Undetermined Intent (7)	Injuries of Undetermined Intent (32)	Nephritis (114)	Septicemia (112)	Septicemia (241)	Septicemia (277)	**Diabetes (995)**
10	Necrotizing entercolitis (5)	Other infections (2)	other infect (3)	HIV/AIDS (31)	Influenza & Pneumonia (109)	Chronic liver disease (108)	Unintentional Injuries (240)	Pneumonitis (270)	**Septicemia (753)**
All Causes	**366**	**118**	**440**	**1,974**	**8,688**	**7,380**	**13,943**	**19,004**	**51,915**

[1] Ranking based on number of deaths. The number of deaths is shown in parentheses.

Injuries is subdivided into 4 separate categories by intent (unintentional, homicide, suicide) and injuries of undetermined intent (deaths where investigation has not determined whether injuries were accidental or purposely inflicted).

Table 7. Leading Underlying Causes of Death, Numbers and Age-Specific Rates by Gender, Massachusetts: 2009

		Total		Female		Male	
Age	**Cause of death[1]**	**Number**	**Rate[2]**	**Number**	**Rate[2]**	**Number**	**Rate[2]**
1-14 years	**TOTAL**	**118**	**10.7**	**49**	**9.1**	**69**	**12.3**
	Cancer	21	1.9	9	1.7	12	2.1
	Unintentional Injuries	17	1.5	5	0.9	12	2.1
	Congenital malformations	10	0.9	4	--[5]	6	1.1
	Heart Disease	6	0.5	1	--[5]	5	0.9
15-24 years	**TOTAL**	**440**	**47.6**	**130**	**28.3**	**310**	**66.7**
	Unintentional Injuries	180	19.5	45	9.8	135	29.0
	Homicide	67	7.2	14	3.0	53	11.4
	Suicide	50	5.4	13	2.8	37	8.0
	Cancer	24	2.6	10	2.2	14	3.0
25-44 years	**TOTAL**	**1,974**	**110.4**	**669**	**74.6**	**1,305**	**146.5**
	Unintentional Injuries	526	29.4	129	14.4	397	44.6
	Cancer	333	18.6	191	21.3	142	15.9
	Heart Disease	234	13.1	61	6.8	173	19.4
	Suicide	178	10.0	33	3.7	145	16.3
45-64 years	**TOTAL**	**8,688**	**479.8**	**3,460**	**371.9**	**5,228**	**593.8**
	Cancer	3,257	179.9	1,607	172.8	1,650	187.4
	Heart Disease	1,665	92.0	454	48.8	1,211	137.6
	Unintentional Injuries	575	31.8	174	18.7	401	45.5
	Chronic Liver disease	296	16.3	93	10	203	23.1
65+ years[4]	**TOTAL**	**40,327**	**4,508.3**	**22,881**	**4,345.8**	**17,444**	**4,740.2**
	Heart Disease	10,305	1,152.0	5,669	1,076.7	4,636	1,259.8
	Cancer	9,406	1,051.5	4,801	911.9	4,604	1,251.1
	Stroke	2,303	257.5	1,523	289.3	780	212.0
	Chronic Lower Resp. Disease[3]	2,264	253.1	1,329	252.4	935	254

1. Cause of Death classified using ICD-10 ranked based on number of deaths for all persons at specific age group. See Appendix for a list of ICD-10 codes.
2. Number of deaths per 100,000 residents in each age group. 3. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title). 4. See Table 8 for leading causes of death for detailed age groups for persons ages 65+ years. 5. Calculations based on values 1-4 are excluded.

Table 8. Leading Underlying Causes of Death, Numbers and Age-Specific Rates (Ages 65 and older) by Gender, Massachusetts: 2009

		Total		Female		Male	
Age	**Cause of death[1]**	**Number**	**Rate[2]**	**Number**	**Rate[2]**	**Number**	**Rate[2]**
65-74 years	**Total**	**7,380**	**1,637.9**	**3,345**	**1,364.0**	**4,035**	**1,964.9**
	Cancer	3,030	672.5	1,420	579.0	1,610	784.0
	Heart Disease	1,444	320.5	557	227.1	887	431.9
	Chronic Lower Resp. Disease[3]	497	110.3	285	116.2	212	103.2
	Stroke	245	54.4	126	51.4	119	57.9
75-84 years	**Total**	**13,943**	**4,613.7**	**7,170**	**3,972.5**	**6,772**	**5,563.7**
	Cancer	3,846	1,272.6	1,976	1,094.8	1,869	1,535.5
	Heart Disease	3,296	1,090.6	1,575	872.6	1,721	1,413.9
	Chronic Lower Resp. Disease[3]	923	305.4	503	278.7	420	345.1
	Stroke	745	246.5	430	238.2	315	258.8
85+ years	**Total**	**19,004**	**13,409.4**	**12,366**	**12,269.1**	**6,637**	**16,214.7**
	Heart Disease	5,565	3,926.7	3,537	3,509.3	2,028	4,954.6
	Cancer	2,530	1,785.2	1,405	1,394.0	1,125	2,748.5
	Stroke	1,313	926.5	967	959.4	346	845.3
	Alzheimer's Disease	1,132	798.7	855	848.3	277	676.7

1. Cause of Death classified according to ICD-10 ranked based on number of deaths for all persons at specific age group. See Appendix for a list of-10 codes.
2. Number of deaths per 100,000 residents in each age group. 3. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title).

Table 9. Leading Causes of Death[1] and Age-Adjusted Death Rates by Race and Hispanic Ethnicity, Massachusetts: 2009

White non-Hispanic[2]

Cause[3]	#	Rate[4]
Total	**47,520**	**682.8**
Cancer	11,961	177.7
Heart Disease	11,425	158.4
Chronic Lower Resp. Dis[5]	2,434	35.2
Stroke	2,345	32.1
Unintentional Injuries[6]	1,792	30.1
Alzheimer's Disease	1,630	21.3
Influenza & Pneumonia	1,247	17.1
Nephritis	1,136	15.7
Diabetes	856	12.5
Septicemia	674	9.7

Black non-Hispanic[2]

Cause	#	Rate
Total	**2,288**	**812.2**
Cancer	547	193.0
Heart Disease	481	181.6
Stroke	108	42.8
Unintentional Injuries[6]	96	25.4
Nephritis	84	32.5
Diabetes	83	30.6
Homicide	69	14.8
Chronic Lower Resp. Dis[5]	49	16.5
Septicemia	48	18.4
Ill-defined conditions-signs and symptoms	41	12.4

Asian non-Hispanic[2]

Cause	#	Rate
Total	**697**	**353.1**
Cancer	208	94.3
Heart Disease	103	60.1
Stroke	48	28.1
Unintentional Injuries[6]	39	17.6
Influenza & Pneumonia	25	14.7
Chronic Lower Resp. Dis[5]	22	13.6
Diabetes	18	9.4
Nephritis	18	10.7
Perinatal conditions	16	4.0
Suicide	16	5.2

Hispanic

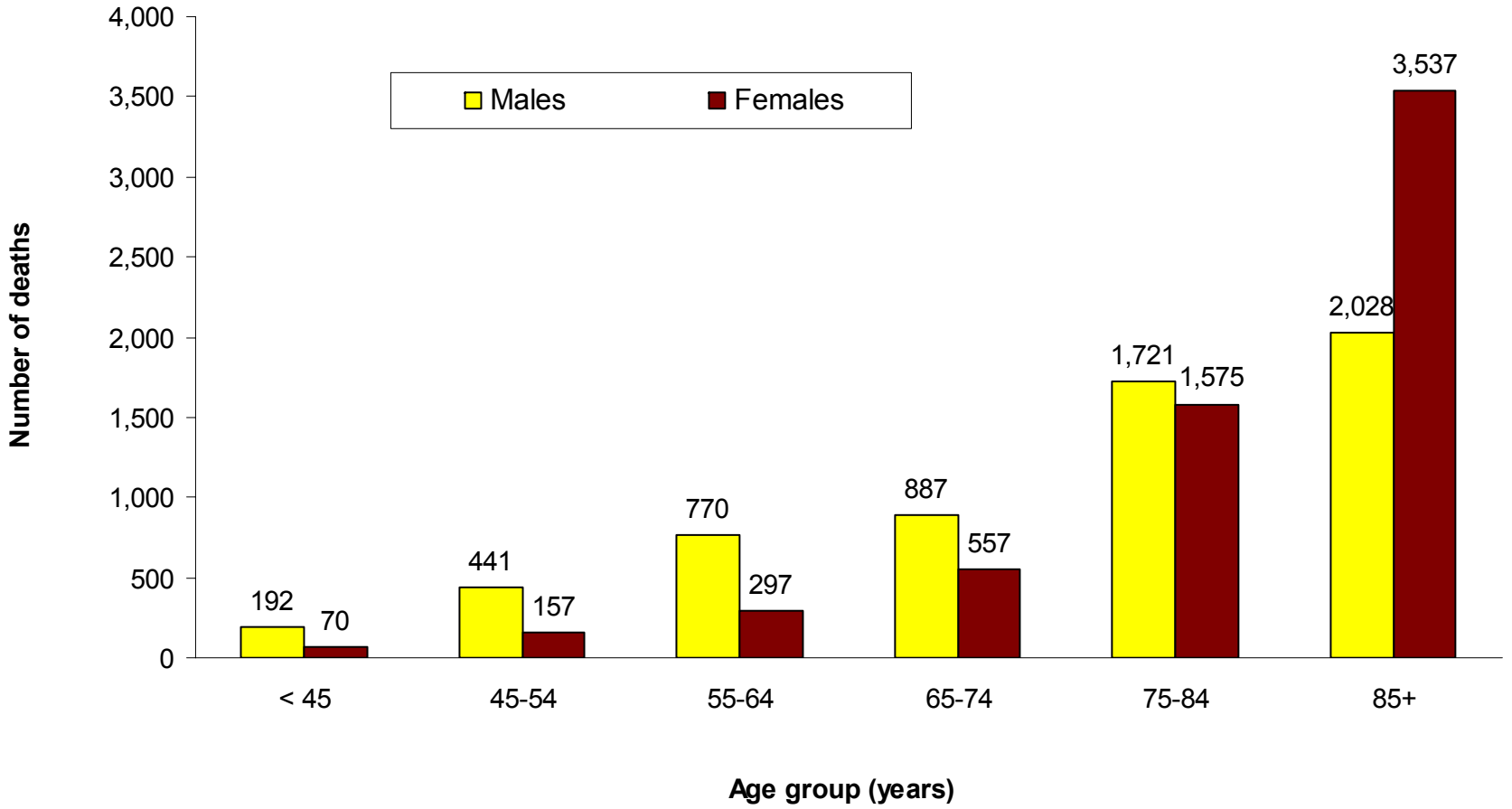
Cause	#	Rate
Total	**1,337**	**439.8**
Cancer	308	111.7
Heart Disease	210	83.8
Unintentional Injuries[6]	104	21.4
Homicide	55	8.0
Stroke	47	19.9
Perinatal conditions	45	4.9
Chronic Lower Resp. Dis[5]	39	16.5
Diabetes	38	15.9
Chronic liver disease	37	9.8
Ill-defined conditions-signs and symptoms	37	8.3

Total

Cause	#	Rate
Total	**51,915**	**675.1**
Cancer	13,042	174.0
Heart Disease	12,233	155.2
Stroke	2,552	32.2
Chronic Lower Resp. Dis[5]	2,546	33.6
Unintentional Injuries	2,034	28.5
Alzheimer's Disease	1,690	20.6
Influenza & Pneumonia	1,335	16.8
Nephritis	1,267	16.1
Diabetes	995	13.1
Septicemia	753	9.8

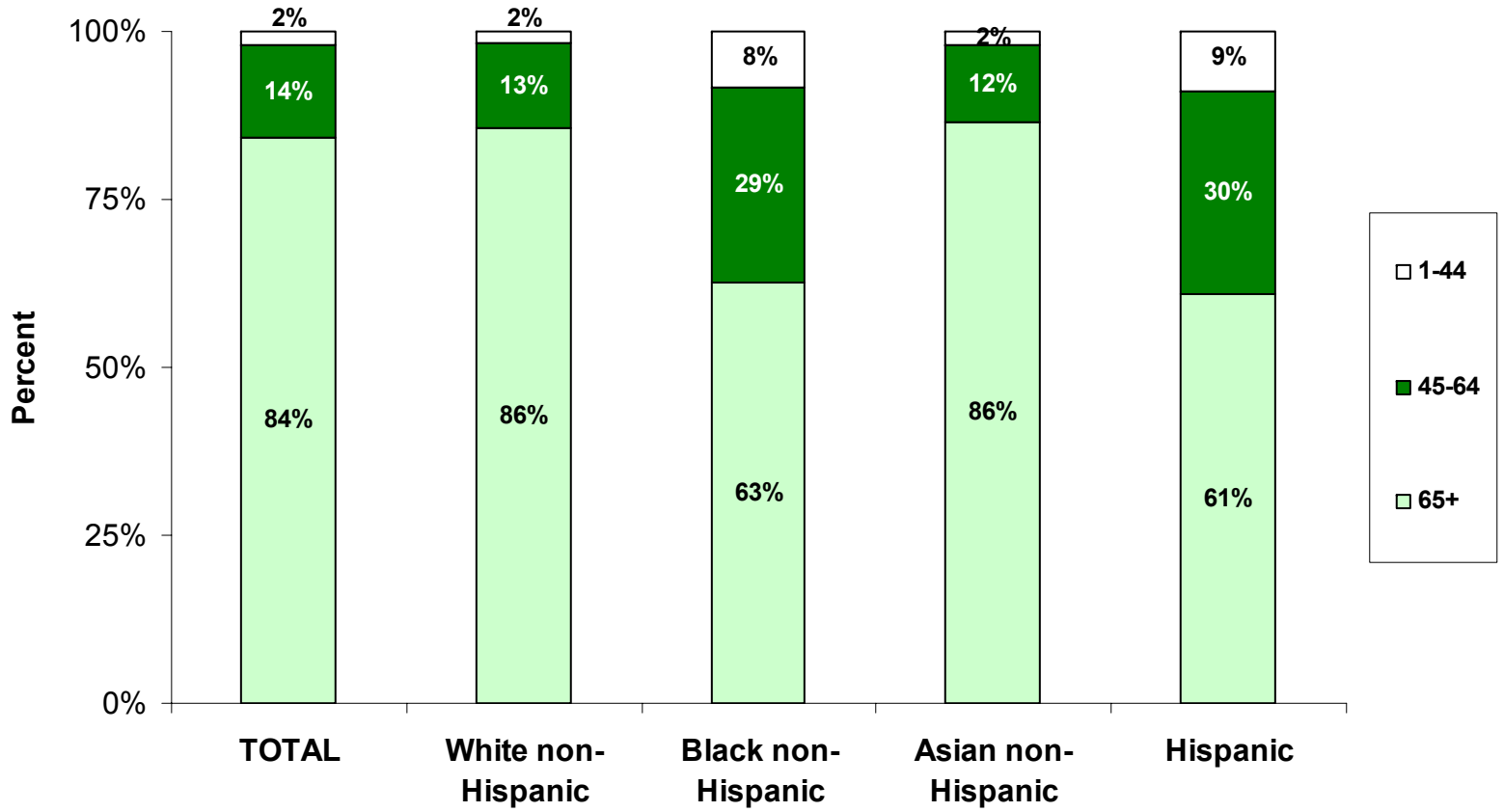
1. Ranking based on number of deaths. 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in a race category. Please see the Technical Notes in the Appendix for a more detailed explanation. 3. Underlying Cause of Death based on ICD-10 (Please see Appendix for a list of ICD-10 codes used). 4. All rates are age-adjusted per 100,000 residents using the 2000 US standard population. 5. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title). 6. Unintentional injuries such as motor vehicle-related and other transportation related deaths, falls, fires, and drownings that were not intended to occur.

Figure 8. Number of Heart Disease Deaths by Age Group and Gender, Massachusetts: 2009



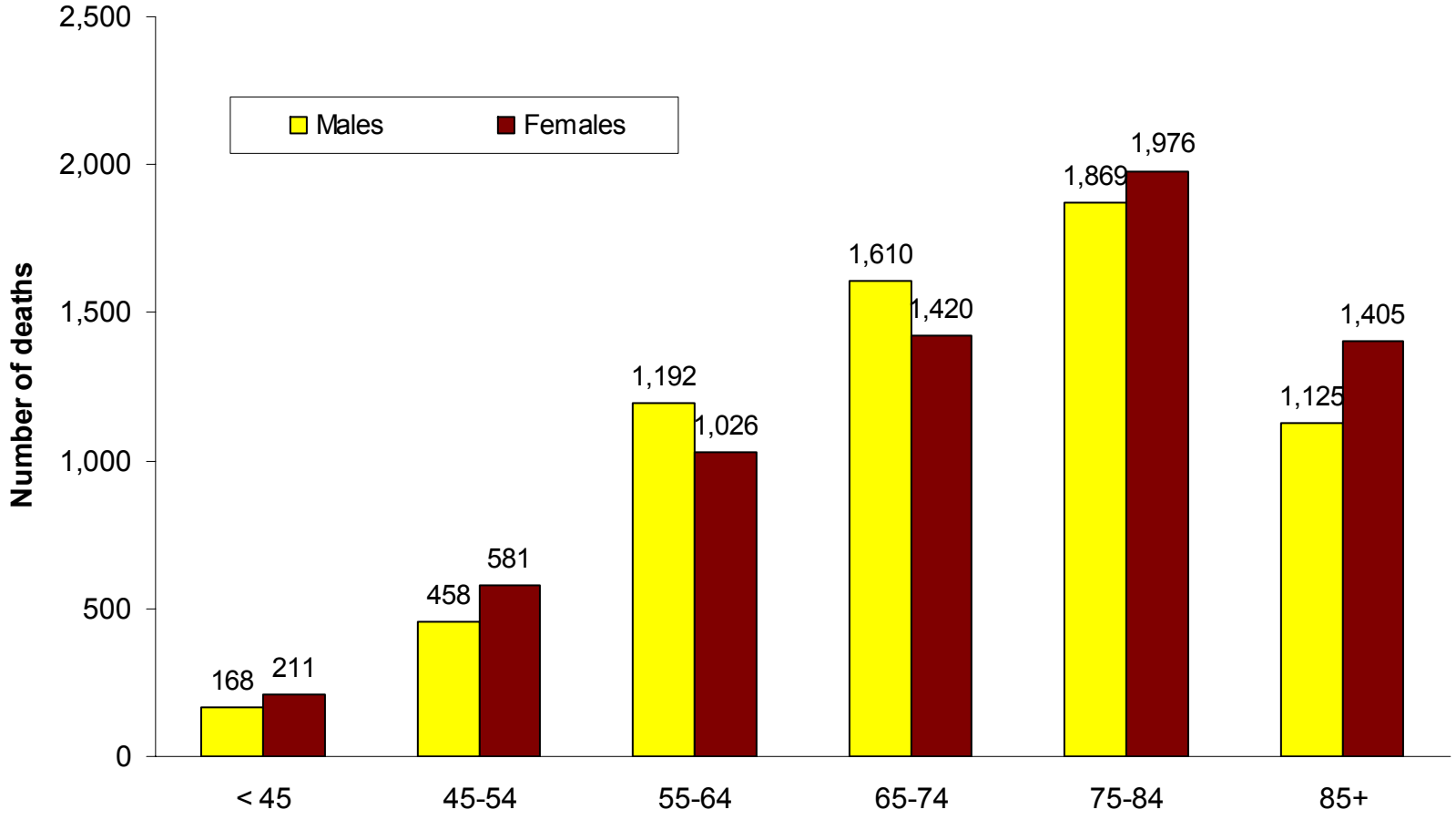
ICD-10: I00-I09, I11, I13, I20-I51

Figure 9. Age Distribution by Race and Ethnicity for Heart Disease Deaths, Massachusetts: 2009



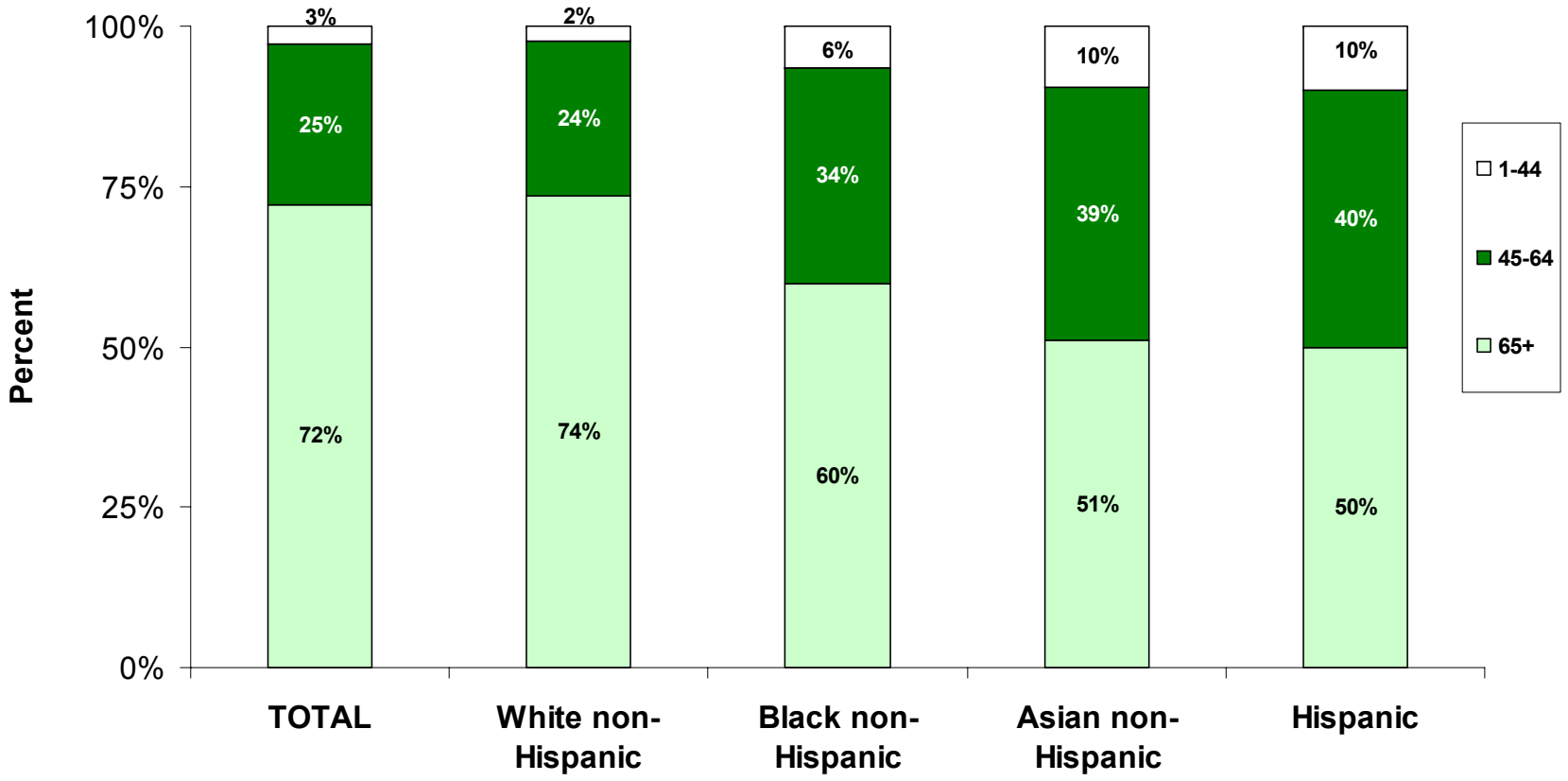
ICD-10: I00-I09, I11, I13, I20-I51

Figure 10. Number of Cancer Deaths by Age Group and Gender, Massachusetts: 2009



ICD-10: C00-C97

Figure 11. Age Distribution by Race and Ethnicity for Cancer Deaths, Massachusetts: 2009



ICD-10: C00-C97

Table 10. Heart Disease and Cancer Deaths by Race and Gender, Age-Adjusted Rates, Massachusetts: 1999-2009

Heart Disease[1]

Year	White non-Hispanic[2] Male	White non-Hispanic[2] Female	White non-Hispanic[2] Total	Black non-Hispanic[2] Male	Black non-Hispanic[2] Female	Black non-Hispanic[2] Total
1999	289.8	178.4	224.3	296.5	211.5	248.0
2000	282.4	174.4	219.3	235.1	203.6	221.9
2001	265.9	174.0	213.4	295.2	181.3	228.6
2002	254.7	163.5	202.3	242.2	177.6	205.9
2003	250.3	160.2	198.5	272.1	188.5	223.9
2004	233.1	150.3	185.7	268.1	148.3	198.8
2005	220.6	139.1	174.9	233.7	174.5	199.8
2006	216.5	138.8	172.2	222.3	127.6	165.3
2007	216.2	134.2	168.5	233.5	142.7	180.8
2008	217.1	133.1	167.9	226.7	151.7	181.7
2009	211.3	122.6	158.4	217.3	157.3	181.6

Year	Asian non-Hispanic[2] Male	Asian non-Hispanic[2] Female	Asian non-Hispanic[2] Total	Hispanic Male	Hispanic Female	Hispanic Total
1999	119.6	73.7	94.7	143.4	83.5	108.2
2000	111.2	65.5	85.6	122.1	106.6	115.6
2001	113.5	62.6	85.1	148.7	110.0	126.9
2002	94.6	69.5	79.9	174.1	101.2	131.9
2003	115.2	65.0	87.6	124.8	96.2	109.7
2004	56.9	54.3	56.1	129.9	77.4	100.3
2005	77.5	48.2	61.3	118.5	83.7	99.2
2006	73.6	70.0	72.8	124.2	84.9	102.3
2007	83.3	52.9	67.4	124.9	61.8	88.3
2008	86.0	51.7	66.3	93.2	66.1	78.3
2009	69.6	51.3	60.1	111.6	62.7	83.8

1. Rates are per 100,000 age-adjusted to the 2000 US standard population. 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in a race category. Please see the Technical Notes in the Appendix for a more detailed explanation.

Table 10 (continued). Heart Disease and Cancer Deaths by Race and Gender, Age-Adjusted Rates, Massachusetts: 1999-2009

Cancer[1]

Year	White non-Hispanic[2] Male	White non-Hispanic[2] Female	White non-Hispanic[2] Total	Black non-Hispanic[2] Male	Black non-Hispanic[2] Female	Black non-Hispanic[2] Total
1999	263.4	174.3	207.7	337.2	195.7	251.5
2000	258.7	179.0	209.0	348.1	167.4	237.8
2001	249.2	175.8	203.5	264.7	176.4	212.1
2002	245.7	175.3	202.2	293.5	179.5	224.3
2003	237.1	169.4	195.7	304.5	199.0	238.7
2004	230.4	168.4	192.5	277.6	155.7	200.1
2005	226.1	163.2	188.1	264.2	168.1	204.1
2006	234.9	161.5	190.0	265.6	180.9	212.4
2007	226.0	156.5	183.2	270.7	159.7	201.7
2008	221.4	154.8	180.6	255.0	163.7	197.9
2009	212.7	157.0	177.7	244.7	164.7	193.1

Year	Asian non-Hispanic[2] Male	Asian non-Hispanic[2] Female	Asian non-Hispanic[2] Total	Hispanic Male	Hispanic Female	Hispanic Total
1999	162.8	116.9	136.7	141.8	92.5	113.8
2000	104.7	92.1	99.0	151.9	104.5	123.8
2001	98.3	105.6	103.1	142.9	97.4	116.4
2002	145.8	90.0	114.3	144.3	103.3	120.6
2003	134.6	87.4	109.3	110.0	76.6	90.0
2004	109.5	79.7	93.1	125.6	82.5	100.4
2005	138.9	79.5	106.1	118.2	97.3	105.7
2006	126.0	91.7	107.2	119.9	74.3	93.7
2007	124.4	76.4	98.4	125.0	90.0	104.7
2008	132.1	89.3	109.0	141.2	83.1	107.8
2009	123.2	71.0	94.3	129.9	98.2	111.8

1. Rates are per 100,000 age-adjusted to the 2000 US standard population. 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in a race category. Please see the Technical Notes in the Appendix for a more detailed explanation.

Table 11. Number and Age-Adjusted Rates of Cancer Deaths by Selected Causes and Gender, Massachusetts: 2009

Cause of Death[1]	ICD-10 Code	Total		Female		Male	
		#	Rate[2,3]	#	Rate	#	Rate
Total Cancer Deaths	**C00-C97**	**13,042**	**174.0**	**6,453**	**151.6**	**6,543**	**218.5**
Bladder	C67	401	5.3	145	3.0	256	8.7
Brain and nervous system	C70-C72	343	4.7	168	4.1	175	5.5
Cervix	C53	67	1.7	67	1.7	NA	NA
Colorectal	C18-C21	1,151	15.1	581	12.8	569	18.7
Esophagus	C15	369	5.0	93	2.1	276	8.7
Female breast	C50[4]	943	22.2	943	22.2	NA	NA
Hodgkin disease	C81	36	0.5	12	0.3	24	0.7
Kidney and other urinary organs	C64, C65	272	3.6	123	2.8	149	4.7
Leukemia	C91-C95	488	6.5	238	5.5	250	8.3
Lung	C33, C34	3,564	48.4	1,753	41.8	1,811	58.5
Melanoma of the skin	C43	223	3.0	81	1.9	142	4.5
Multiple myeloma	C88, C90	272	3.6	132	3.0	140	4.6
Non-Hodgkin lymphoma	C82-C85	416	5.4	200	4.3	216	7.2
Ovary	C56	332	7.7	332	7.7	NA	NA
Pancreas	C25	827	10.9	442	9.8	385	12.4
Prostate	C61	616	21.7	NA	NA	616	21.7
Stomach	C16	253	3.4	103	2.2	150	4.8
Uterus	C54, C55	181	4.3	181	4.3	NA	NA
All other cancers	Residual	2,288	30.5	1,025	23.6	1,263	39.9

1. Common terms are used to describe the causes of cancer deaths. For detailed terminology of cancer sites, please see the ICD-10 code list in the Appendix. 2. All rates are age-adjusted by the direct method using the 2000 US standard population. Rates are per 100,000 population. 3. The total resident population is used to calculate all "Total Rates" except for ICD-10 codes C50, C53-C56, which are based on the total female population, and ICD-10 C61, which is based on the total male population. 4. Includes only female breast cancer.

Table 12. Selected Causes of Cancer Deaths by Age, Massachusetts: 2009

Age	Cause of death[1]	ICD-10 Code	Number	Age-specific rate[2]
1-14 years	**Total**		**21**	**1.9**
	Brain and nervous system	C70-C72	8	0.7
	Leukemia	C91-C95	6	0.5
15-24 years	**Total**		**24**	**2.6**
	Leukemia	C91-C95	7	0.8
	Brain and nervous system	C70-C72	3	--[3]
	Melanoma of the skin	C43	2	--[3]
	Stomach	C16	1	--[3]
25-44 years	**Total**		**333**	**18.6**
	Female breast cancer[4]	C50	54	6.0
	Lung	C33, C34	49	2.7
	Brain and nervous system	C70-C72	37	2.1
	Colorectal	C18-C21	25	1.4
45- 64 years	**Total**		**3,257**	**179.9**
	Lung	C33, C34	854	47.2
	Female breast cancer[4]	C50	331	35.6
	Colorectal	C18-C21	274	15.1
	Pancreas	C25	209	11.5
65+ years	**Total**		**9,406**	**1,051.5**
	Lung	C33, C34	2,661	297.5
	Colorectal	C18-C21	852	95.2
	Pancreas	C25	607	67.9
	Female breast cancer[4]	C50	558	106.0
65-74 years	**Total**		**3,030**	**672.5**
	Lung	C33, C34	1,029	228.4
	Colorectal	C18-C21	210	46.6
	Pancreas	C25	180	39.9
	Female breast cancer[4]	C50	173	70.5
75-84 years	**Total**		**3,846**	**1,272.6**
	Lung	C33, C34	1,168	386.5
	Colorectal	C18-C21	330	109.2
	Pancreas	C25	251	83.1
	Prostate[5]	C61	219	179.9
85+ years	**Total**		**2,530**	**1,785.2**
	Lung	C33, C34	464	327.4
	Colorectal	C18-C21	312	220.1
	Prostate[5]	C61	233	569.2
	Pancreas	C25	176	124.2

1. Common terms are used to describe causes of cancer death. For detailed terminology, please see the ICD-10 codes listed in the Appendix.
2. Number of deaths per 100,000 residents in each age group. 3. Calculations based on fewer than five events are excluded. 4. Calculation based on female population in specified age group. 5. Calculation based on male population in specified age group.

Table 13. Leading Causes of Cancer Deaths and Age-Adjusted Rates by Race and Hispanic Ethnicity, Massachusetts: 2009

White non-Hispanic[1]			Black non-Hispanic[1]			Asian non-Hispanic[1]			Hispanic		
Cause[2]	**#**	**Rate[3]**	**Cause**	**#**	**Rate**	**Cause**	**#**	**Rate**	**Cause**	**#**	**Rate**
Lung	3,360	50.8	Lung	95	33.6	Lung	44	21.9	Lung	60	22.9
Colorectal	1,042	15.1	Female Breast[4]	54	30.7	Colorectal	25	12.3	Colorectal	29	11.8
Female Breast[4]	852	22.6	Colorectal	53	17.7	Pancreas	14	6.5	Female Breast[4]	23	11.5
Pancreas	753	11.0	Prostate[5]	42	44.9	Female Breast[4]	14	9.6	Stomach	22	7.3
Prostate[5]	558	21.5	Pancreas	40	14.5	Leukemia	10	4.9	Pancreas	20	8.2
Total Cancer	**11,961**	**177.7**	**Total Cancer**	**547**	**193.0**	**Total Cancer**	**208**	**94.3**	**Total Cancer**	**308**	**111.7**

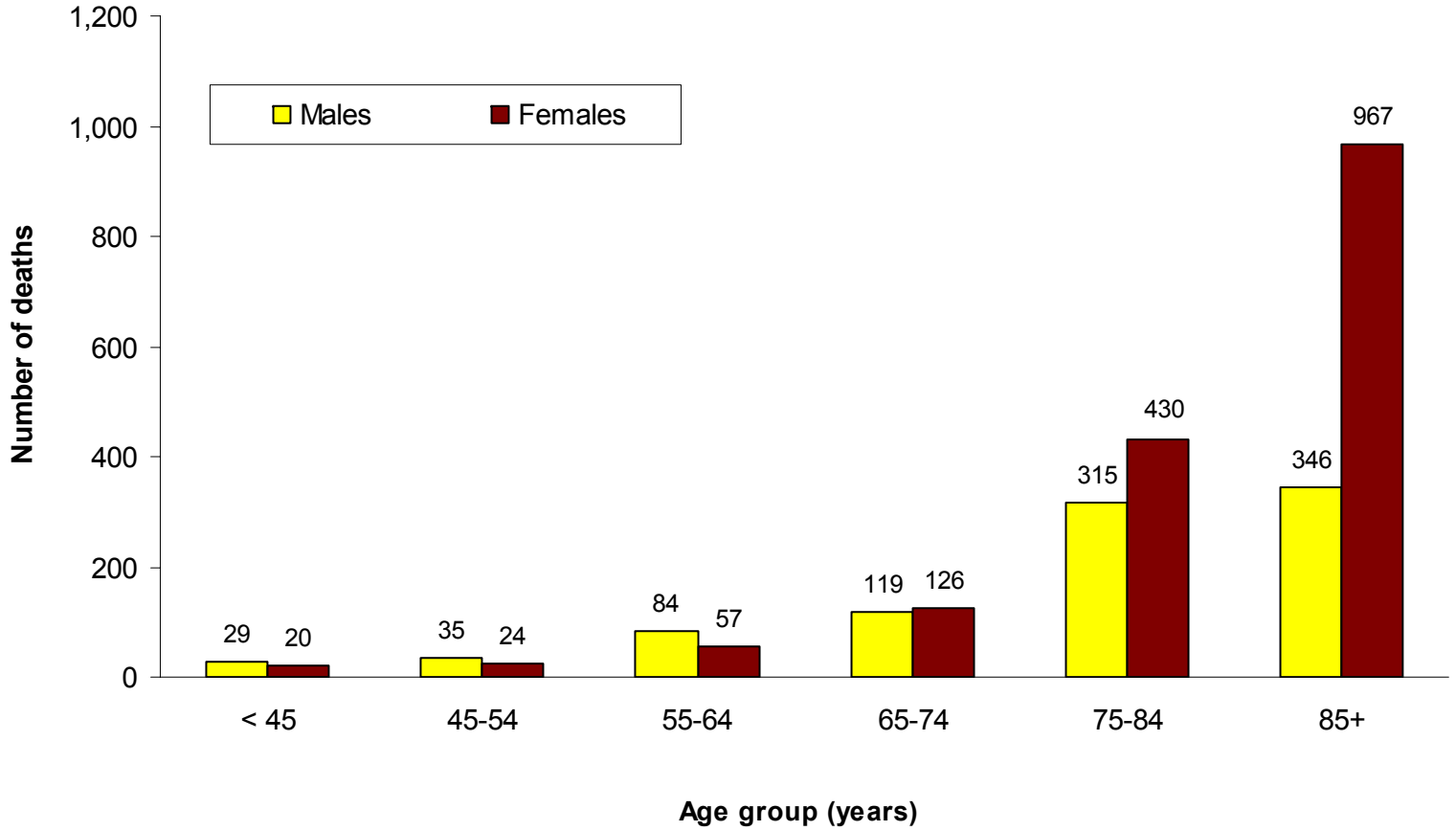
1. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in a race category. Please see the Technical Notes in the Appendix for a more detailed explanation. 2. ICD-10 codes used. Please see the ICD-10 codes listing in the Appendix for detailed terminology. 3. All rates are age-adjusted by the direct method using the 2000 US standard population. Rates are per 100,000 population. 4. Calculation based on female population. 5. Calculation based on male population.

Table 14. Number, Percent, and Age-Adjusted Rates of Stroke Deaths by Type and Gender, Massachusetts: 2009

Cause of Death	ICD-10 Code	Total			Female			Male		
		#	%	Rate[1]	#	%	Rate[1]	#	%	Rate[1]
Total Stroke Deaths	**I60-I69**	**2,552**	**100%**	**32.2**	**1,624**	**100%**	**31.5**	**928**	**100%**	**32.4**
Subarachnoid hemorrhage	I60	108	4.2%	1.5	56	3.4%	1.3	52	5.6%	1.7
Intracerebral and other intracranial hemorrhage	I61-I62	560	21.9%	7.4	311	19.2%	6.6	249	26.8%	8.4
Cerebral infarction	I63	150	5.9%	1.9	107	6.6%	2.1	43	4.6%	1.5
Stroke, not specified	I64	1,284	50.3%	15.9	870	53.6%	16.2	414	44.6%	14.7
Other	I67, I69	450	17.6%	5.6	280	17.2%	5.2	170	18.3%	6.0

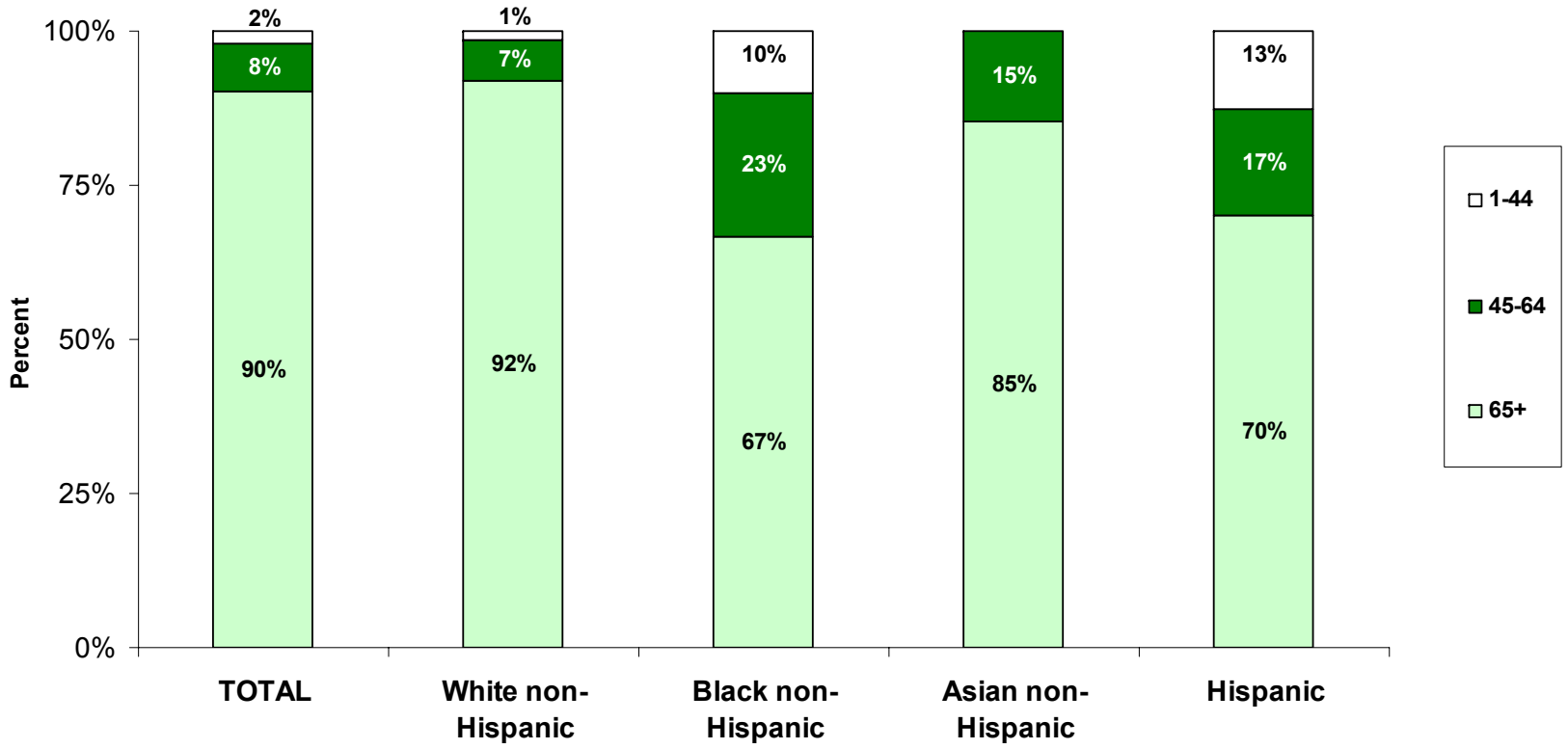
1. All rates are age-adjusted to the 2000 US Standard Population. Rates are per 100,000 population.

Figure 12. Number of Stroke Deaths by Age Group and Gender, Massachusetts: 2009



ICD-10: I60-I69

Figure 13. Age Distribution by Race and Ethnicity for Stroke Deaths, Massachusetts: 2009



ICD-10: I60-I69

Table 15. Stroke Deaths by Race and Gender, Age-Adjusted Rates[1], Massachusetts: 1999-2009

Year	White non-Hispanic[2]			Black non-Hispanic[2]		
	Male	Female	Total	Male	Female	Total
1999	52.1	48.5	50.2	71.5	47.5	57.5
2000	48.8	50.6	50.5	65.3	56.4	60.8
2001	51.5	46.0	48.5	50.8	61.5	59.3
2002	50.2	45.7	47.9	57.9	60.2	59.5
2003	44.7	43.9	44.7	45.9	54.9	52.7
2004	42.8	40.4	41.9	52.1	58.3	56.2
2005	37.7	37.3	37.9	50.6	44.9	47.5
2006	37.5	35.6	36.7	57.6	51.9	54.5
2007	35.4	34.0	34.8	34.4	36.4	35.6
2008	33.1	33.4	33.6	53.5	40.7	45.5
2009	31.7	31.7	32.0	51.7	36.0	42.7

Year	Asian non-Hispanic[2]			Hispanic		
	Male	Female	Total	Male	Female	Total
1999	51.3	28.6	37.6	38.3	30.0	33.8
2000	50.9	49.4	50.4	40.6	47.1	45.0
2001	23.8	38.0	32.0	39.4	28.5	33.2
2002	21.2	28.7	25.6	49.6	30.2	38.3
2003	39.3	28.7	33.4	44.3	36.0	39.3
2004	35.2	32.7	34.1	39.7	32.6	35.5
2005	28.2	27.5	28.1	33.2	24.5	28.2
2006	34.5	41.9	39.2	26.5	29.6	28.8
2007	26.7	29.5	28.4	32.0	26.7	28.9
2008	23.4	27.1	25.6	23.9	18.4	21.1
2009	38.1	22.0	28.1	23.9	16.7	19.9

1. Rates are per 100,000 age-adjusted to the 2000 US standard population. 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in a race category. Please see the Technical Notes in the Appendix for a more detailed explanation.

Figure 14. Diabetes Deaths, Massachusetts: 1999-2009

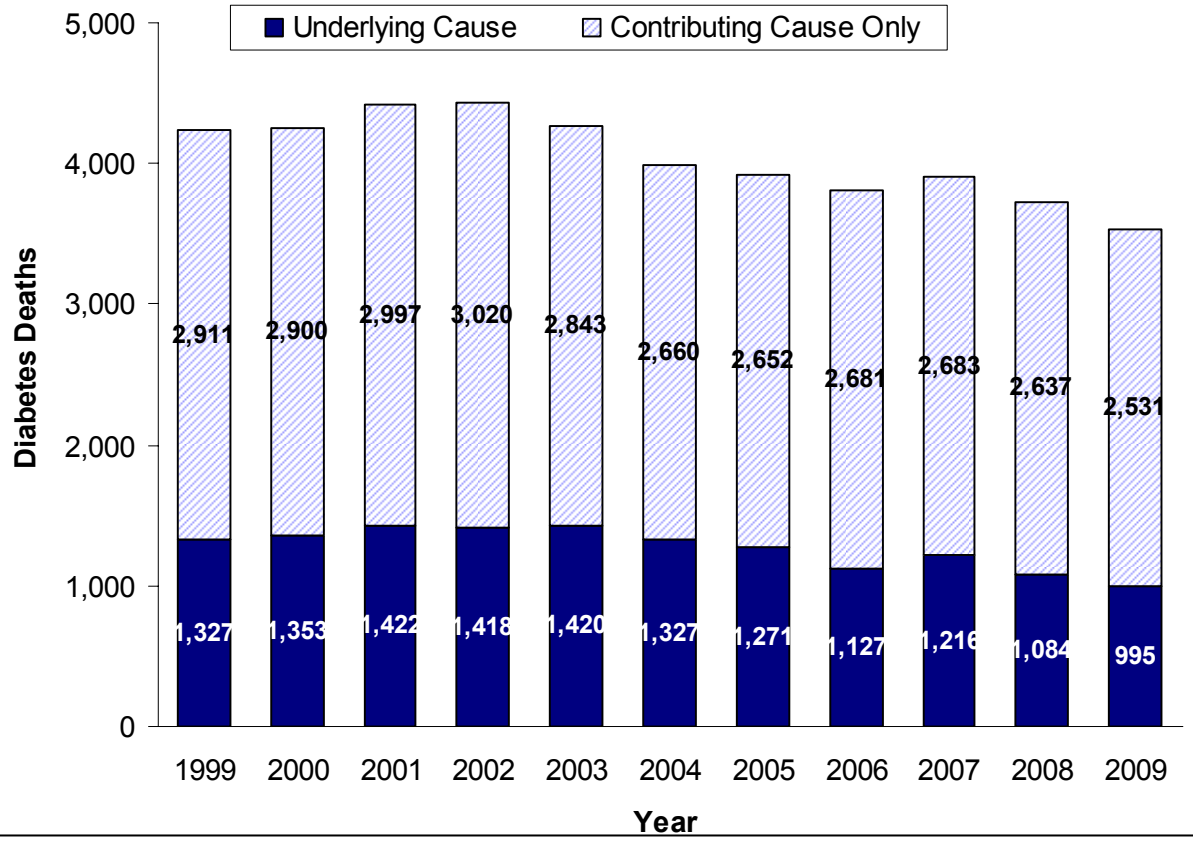


Table 16. Diabetes Deaths by Gender, Massachusetts: 2009

	Proportion of all deaths (%)			Number		
Cause of death	Males	Females	Total	Males	Females	Total
Underlying	2.2%	1.7%	1.9%	535	460	995
Contributing/Associated	5.3%	4.5%	4.9%	1,302	1,229	2,531
Total diabetes-related	7.5%	6.2%	6.8%	1,837	1,689	3,526
Total deaths (all causes)	***100%***	***100%***	***100%***	***24,557***	***27,356***	***51,915***

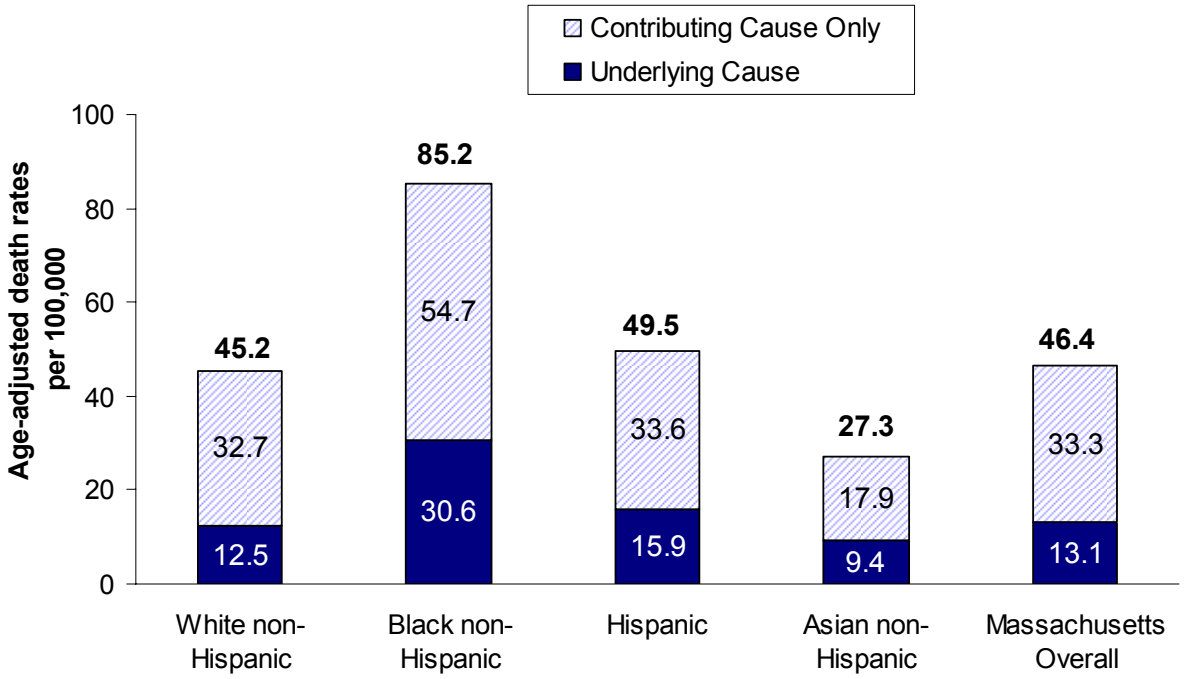
ICD-10: E10-E14

Table 17. Diabetes Deaths by Race and Hispanic Ethnicity, Massachusetts: 2009

Cause of death	Race/Hispanic Ethnicity				
	White non-Hispanic	Black non-Hispanic	Hispanic	Asian non-Hispanic	Total
	Number				
Underlying	856	83	38	18	995
Contributing/Associated	2,262	147	87	32	2,531
Total diabetes-related	3,118	230	125	50	3,526
Total deaths (all causes)	***47,520***	***2,288***	***1,337***	***697***	***51,915***
	Proportion of all deaths (%)				
Underlying	1.8	3.6	2.8	2.6	1.9
Contributing/Associated	4.8	6.4	6.5	4.6	4.9
Total diabetes-related	***6.6***	***10.1***	***9.3***	***7.2***	***6.8***

[1] **ICD-10: E10-E14**

Figure 15. Diabetes Death Rates by Race and Hispanic Ethnicity, Massachusetts: 2009



ICD-10: E10-E14. Rates are per 100,000 age-adjusted to the 2000 U.S. standard population.

Figure 16. Age Distribution of Diabetes Deaths, Massachusetts: 2009

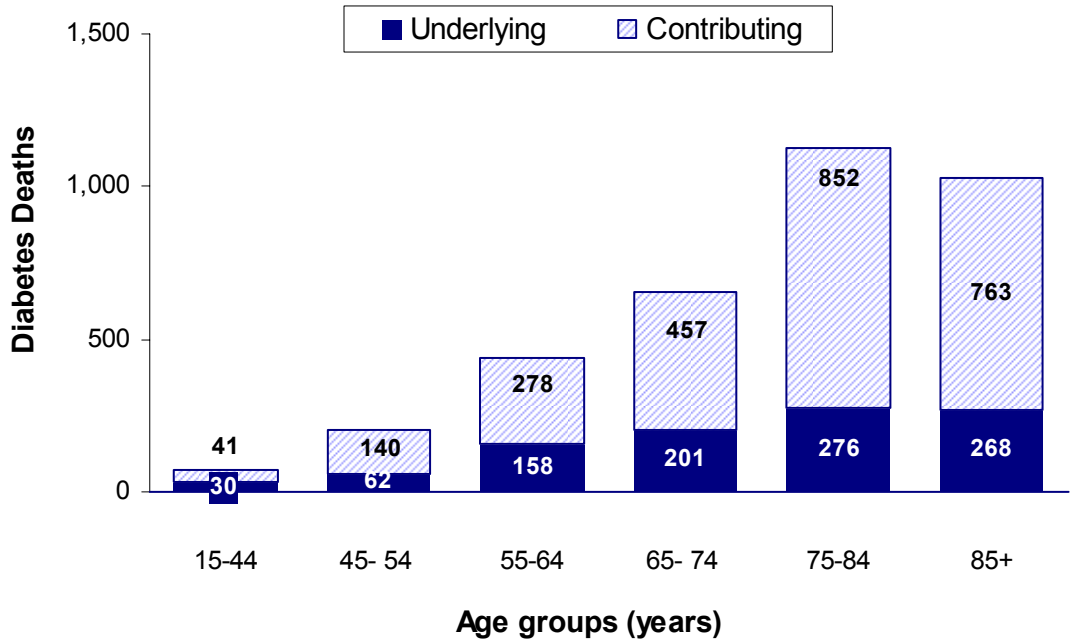
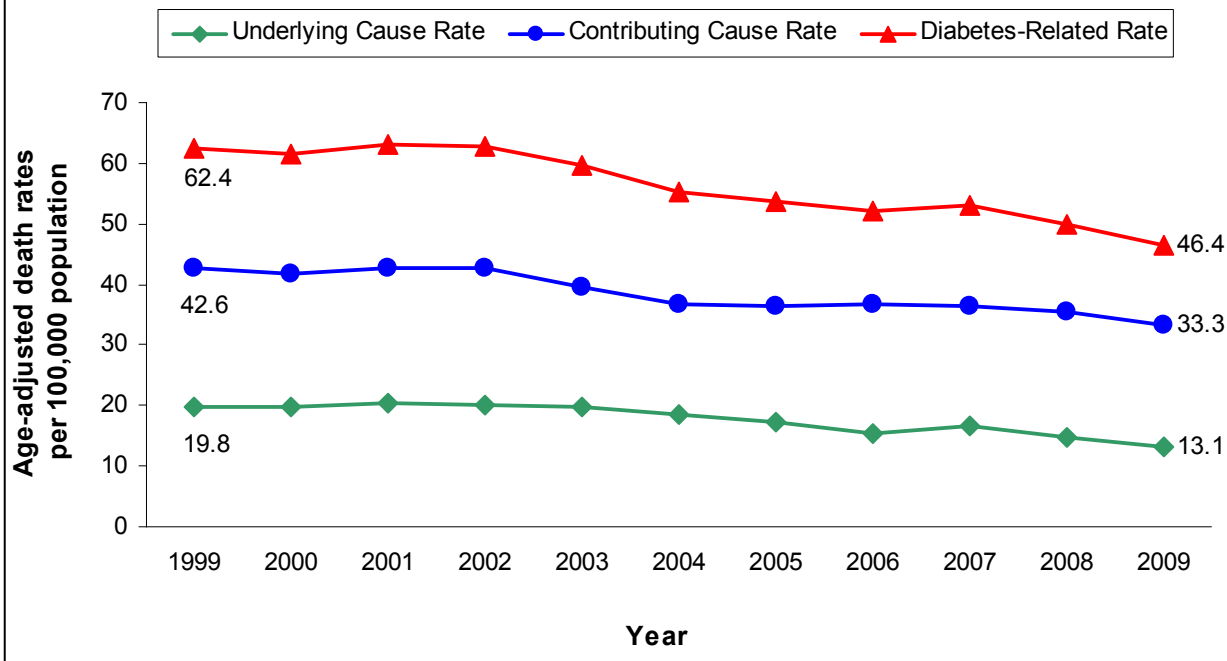


Figure 17. Diabetes Death Rates, Massachusetts: 1999-2009



ICD-10: E10-E14. Rates are per 100,000 age-adjusted to the 2000 U.S. standard

Table 18. Injury Deaths by Leading Causes, Gender, Age: Numbers, Age-Adjusted, and Age-Specific Rates, Massachusetts: 2009

	All Injury Deaths[1]		Poisoning[2]		Falls		Motor Vehicle-related[3]		Hanging, strangulation, or suffocation		Firearm		Other[4]	
	Number	Rate[5]	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
All Persons	**2,920**	**41.4**	**941**	**13.8**	**512**	**6.6**	**374**	**5.5**	**379**	**5.4**	**207**	**3.1**	**507**	**7.1**
<1	9	11.7	1	--[6]	0	0.0	0	0.0	2	--[6]	0	0.0	6	7.8
1-14	28	2.5	1	--[6]	2	--[6]	8	0.7	3	--[6]	0	0.0	14	1.3
15-24	309	33.4	73	7.9	3	--[6]	95	10.3	34	3.7	58	6.3	46	5.0
25-44	818	45.8	413	23.1	24	1.3	104	5.8	100	5.6	78	4.4	99	5.5
45-64	891	49.2	405	22.4	74	4.1	100	5.5	137	7.6	47	2.6	128	7.1
65-74	192	42.6	29	6.4	44	9.8	29	6.4	27	6.0	12	2.7	51	11.3
75-84	293	97.0	12	4.0	147	48.6	25	8.3	34	11.3	8	2.6	67	22.2
85+	379	267.4	7	4.9	218	153.8	13	9.2	42	29.6	4	--[6]	95	67.0
All Females	**976**	**24.1**	**288**	**8.1**	**252**	**5.0**	**114**	**3.2**	**113**	**2.7**	**23**	**0.7**	**186**	**4.4**
<1	2	--[6]	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	--[6]
1-14	12	2.2	1	--[6]	0	0.0	2	--[6]	2	--[6]	0	0.0	7	1.3
15-24	74	16.1	16	3.5	0	0.0	29	6.3	10	2.2	11	2.4	8	1.7
25-44	188	21.0	112	12.5	5	0.6	28	3.1	16	1.8	6	0.7	21	2.3
45-64	252	27.1	135	14.5	23	2.5	26	2.8	29	3.1	5	0.5	34	3.7
65-74	75	30.6	14	5.7	18	7.3	12	4.9	10	4.1	1	--[6]	20	8.2
75-84	132	73.1	7	3.9	63	34.9	12	6.6	15	8.3	0	0.0	35	19.4
85+	241	239.1	3	--[6]	143	141.9	5	5.0	31	30.8	0	0.0	59	58.5
All Males	**1,944**	**60.3**	**653**	**19.6**	**260**	**8.9**	**260**	**8.0**	**266**	**8.1**	**184**	**5.7**	**321**	**10.1**
<1	7	17.7	1	--[6]	0	0.0	0	0.0	2	--[6]	0	0.0	4	--[6]
1-14	16	2.9	0	0.0	2	--[6]	6	1.1	1	--[6]	0	0.0	7	1.2
15-24	235	50.5	57	12.3	3	--[6]	66	14.2	24	5.2	47	10.1	38	8.2
25-44	630	70.7	301	33.8	19	2.1	76	8.5	84	9.4	72	8.1	78	8.8
45-64	639	72.6	270	30.7	51	5.8	74	8.4	108	12.3	42	4.8	94	10.7
65-74	117	57.0	15	7.3	26	12.7	17	8.3	17	8.3	11	5.4	31	15.1
75-84	161	132.3	5	4.1	84	69.0	13	10.7	19	15.6	8	6.6	32	26.3
85+	138	337.1	4	--[6]	75	183.2	8	19.5	11	26.9	4	--[6]	36	88.0

1. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Includes drug overdoses, which account for the largest percentage (74%). 3. Motor vehicle deaths to occupants, pedestrians, motorcyclists and bicyclists. 4. All remaining injury causes. 5. Number of deaths per 100,000 persons in each age group; rates for all rows except the age group rows are age-adjusted to the 2000 US standard population. 6. Calculations based on values 1-4 are excluded.

Table 19. Injury Deaths by Leading Causes, Gender and Race and Hispanic Ethnicity: Numbers and Age Adjusted Rates, Massachusetts: 2009

	All Injury Deaths[1]		Poisoning[2]		Falls		Motor Vehicle-related[3]		Hanging, strangulation, or suffocation		Firearm		Other[4]	
	Number	Rate[5]	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
White non-Hispanic	**2,454**	**41.8**	**823**	**15.2**	**479**	**6.8**	**314**	**5.7**	**328**	**5.6**	**103**	**1.8**	**407**	**6.6**
Females	872	25.2	260	9.1	241	5.1	102	3.6	96	2.7	12	0.4	161	4.2
Males	1,582	60.0	563	21.5	238	9.1	212	8.1	232	8.7	91	3.4	246	9.3
Black non-Hispanic	**200**	**49.3**	**61**	**16.0**	**7**	**1.9**	**21**	**4.9**	**16**	**4.9**	**60**	**13.0**	**35**	**8.6**
Females	47	23.1	18	8.9	2	--[6]	3	--[6]	6	3.8	6	2.3	12	5.6
Males	153	78.1	43	24.9	5	2.5	18	9.2	10	5.0	54	24.2	23	12.4
Asian non-Hispanic	**61**	**24.7**	**4**	**--[6]**	**11**	**6.5**	**15**	**5.8**	**14**	**6.2**	**4**	**--[6]**	**13**	**4.0**
Females	21	16.4	0	0.0	5	5.5	8	5.4	5	4.0	1	--[6]	2	--[6]
Males	40	34.9	4	--[6]	6	7.9	7	6.5	9	9.2	3	--[6]	11	7.3
Hispanic	**197**	**37.4**	**52**	**9.9**	**14**	**4.2**	**23**	**3.6**	**20**	**4.6**	**38**	**5.2**	**50**	**9.9**
Females	33	12.7	10	3.7	3	--[6]	1	--[6]	6	2.5	3	--[6]	10	3.6
Males	164	64.0	42	16.3	11	7.4	22	6.8	14	7.3	35	9.2	40	16.9

1. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Includes drug overdoses, which account for the largest percentage (74%). 3. Motor vehicle deaths to occupants, pedestrians, motorcyclists and bicyclists. 4. All remaining injury causes. 5. Number of deaths per 100,000 persons in each group; rates are age-adjusted to the 2000 US standard population. 6. Calculations based on values 1-4 are excluded.

Table 20. Unintentional Injury Deaths by Gender, Age: Numbers, Age-Adjusted, and Age-Specific Rates, Massachusetts: 2009

	All Unintentional[1]		Poisonings		Falls		Motor Vehicle-related	
	Number	Rate[2]	Number	Rate[2]	Number	Rate[2]	Number	Rate[2]
All Persons	**2,034**	**28.5**	**767**	**11.3**	**491**	**6.3**	**374**	**5.5**
<1	4	--[3]	0	0.0	0	0.0	0	0.0
1-14	17	1.5	0	0.0	2	--[3]	8	0.7
15-24	180	19.5	66	7.1	1	--[3]	95	10.3
25-44	526	29.4	356	19.9	16	0.9	104	5.8
45-64	575	31.8	323	17.8	64	3.5	100	5.5
65-74	136	30.2	12	2.7	44	9.8	29	6.4
75-84	240	79.4	4	--[3]	146	48.3	25	8.3
85+	356	251.2	6	4.2	218	153.8	13	9.2
All Females	**747**	**17.7**	**215**	**6.1**	**248**	**4.8**	**114**	**3.2**
<1	1	--[3]	0	0.0	0	0.0	0	0.0
1-14	5	0.9	0	0.0	0	0.0	2	--[3]
15-24	45	9.8	14	3.0	0	0.0	29	6.3
25-44	129	14.4	92	10.3	2	--[3]	28	3.1
45-64	174	18.7	100	10.7	22	2.4	26	2.8
65-74	51	20.8	3	--[3]	18	7.3	12	4.9
75-84	112	62.1	3	--[3]	63	34.9	12	6.6
85+	230	228.2	3	--[3]	143	141.9	5	5.0
All Males	**1,287**	**40.4**	**552**	**16.6**	**243**	**8.4**	**260**	**8**
<1	3	--[3]	0	0.0	0	0.0	0	0.0
1-14	12	2.1	0	0.0	2	--[3]	6	1.1
15-24	135	29.0	52	11.2	1	--[3]	66	14.2
25-44	397	44.6	264	29.6	14	1.6	76	8.5
45-64	401	45.5	223	25.3	42	4.8	74	8.4
65-74	85	41.4	9	4.4	26	12.7	17	8.3
75-84	128	105.2	1	--[3]	83	68.2	13	10.7
85+	126	307.8	3	--[3]	75	183.2	8	19.5

1. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Number of deaths per 100,000 persons in each age group; rates for all rows except the age group rows are age-adjusted to the 2000 US standard population. 3. Calculations based on values 1-4 are excluded.

Table 21. Unintentional Injury Deaths by Gender and Race and Hispanic Ethnicity: Numbers, and Age-Adjusted Rates, Massachusetts: 2009

	All Unintentional[1]		Poisonings		Falls		Motor Vehicle-related	
	Number	Rate[2]	Number	Rate[2]	Number	Rate[2]	Number	Rate[2]
White non-Hispanic	**1,792**	**30.1**	**664**	**12.5**	**465**	**6.6**	**314**	**5.7**
Females	689	19.2	193	6.9	239	5.1	102	3.6
Males	1,103	42.2	471	18.1	226	8.7	212	8.1
Black non-Hispanic	**96**	**25.4**	**52**	**13.4**	**5**	**1.5**	**21**	**4.9**
Females	27	13.8	15	7.2	2	--[3]	3	--[3]
Males	69	39.1	37	21.1	3	--[3]	18	9.2
Asian non-Hispanic	**39**	**17.6**	**2**	**--[3]**	**11**	**6.5**	**15**	**5.8**
Females	16	13.7	0	0.0	5	5.5	8	5.4
Males	23	23.0	2	--[3]	6	7.9	7	6.5
Hispanic	**104**	**21.4**	**48**	**9.1**	**10**	**3.2**	**23**	**3.6**
Females	15	7	7	2.4	2	--[3]	1	--[3]
Males	89	37	41	16.0	8	5.4	22	6.8

1. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Number of deaths per 100,000 persons in each group; rates are age-adjusted to the 2000 US standard population. 3. Calculations based on values 1-4 are excluded.

Table 22. Intentional Injury Deaths by Gender, Age: Numbers, Age-Adjusted, and Age-Specific Rates, Massachusetts: 2009

	All Intentional[1]		Suicide		Homicide	
	Number	Rate[2]	Number	Rate[2]	Number	Rate[2]
All Persons	**711**	**10.4**	**531**	**7.7**	**180**	**2.8**
<1	1	--[3]	0	0.0	1	--[3]
1-14	7	0.6	2	--[3]	5	0.5
15-24	117	12.7	50	5.4	67	7.2
25-44	251	14.0	178	10.0	73	4.1
45-64	262	14.5	240	13.3	22	1.2
65-74	36	8.0	29	6.4	7	1.6
75-84	28	9.3	25	8.3	3	--[3]
85+	8	5.6	6	4.2	2	--[3]
All Females	**158**	**4.5**	**109**	**3.0**	**49**	**1.4**
<1	1	--[3]	0	0.0	1	--[3]
1-14	5	0.9	1	--[3]	4	--[3]
15-24	27	5.9	13	2.8	14	3.0
25-44	46	5.1	33	3.7	13	1.5
45-64	57	6.1	47	5.1	10	1.1
65-74	13	5.3	10	4.1	3	--[3]
75-84	6	3.3	4	--[3]	2	--[3]
85+	3	--[3]	1	--[3]	2	--[3]
All Males	**553**	**16.7**	**422**	**12.6**	**131**	**4.1**
<1	0	0.0	0	0.0	0	0.0
1-14	2	--[3]	1	--[3]	1	--[3]
15-24	90	19.4	37	8.0	53	11.4
25-44	205	23.0	145	16.3	60	6.7
45-64	205	23.3	193	21.9	12	1.4
65-74	23	11.2	19	9.3	4	--[3]
75-84	22	18.1	21	17.3	1	--[3]
85+	5	12.2	5	12.2	0	0.0

1. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Number of deaths per 100,000 persons in each age group; rates for all rows except the age group rows are age-adjusted to the 2000 US standard population. 3. Calculations based on values 1-4 are excluded.

Table 23. Intentional Injury Deaths by Gender and Race and Hispanic Ethnicity: Numbers and Age-Adjusted Rates, Massachusetts: 2009

	All Intentional[1]		Suicide		Homicide	
	Number	Rate[2]	Number	Rate[2]	Number	Rate[2]
White non-Hispanic	**520**	**9.3**	**470**	**8.3**	**50**	**0.9**
Females	124	4.3	98	3.4	26	0.9
Males	396	14.6	372	13.7	24	0.9
Black non-Hispanic	**90**	**20.0**	**21**	**5.1**	**69**	**14.8**
Females	13	5.6	2	--[3]	11	4.7
Males	77	34.9	19	9.7	58	25.2
Asian non-Hispanic	**20**	**6.4**	**16**	**5.2**	**4**	**--[3]**
Females	5	2.8	4	--[3]	1	--[3]
Males	15	10.3	12	8.5	3	--[3]
Hispanic	**77**	**12.5**	**22**	**4.4**	**55**	**8.0**
Females	14	4.1	4	--[3]	10	3.0
Males	63	21.1	18	8.4	45	12.7

1. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Number of deaths per 100,000 persons in each group; rates are age-adjusted to the 2000 US standard population. 3. Calculations based on values 1-4 are excluded.

Table 24. Injury Deaths by Intent, Method and Gender: Number and Age-Adjusted Rates, Massachusetts: 2009

Type of Injury[1]	All Injury Deaths		Female		Male	
	Number	Rate[2]	Number	Rate	Number	Rate
Unintentional Injuries (Accidents)	**2,034**	**28.5**	**747**	**17.7**	**1,287**	**40.4**
Motor Vehicle-related	374	5.5	114	3.2	260	8.0
Injury to pedestrian	62	0.9	17	0.5	45	1.4
Injury to pedal cyclist	4	--[3]	1	--[3]	3	--[3]
Injury to motorcyclist	59	0.9	8	0.2	51	1.6
Injury to occupant	43	0.6	19	0.6	24	0.7
Other and unspecified	206	3	69	1.9	137	4.2
Poisoning	767	11	215	6	552	17
Falls	491	6.3	248	4.8	243	8.4
Hanging/suffocation	112	1.4	61	1.2	51	1.7
Drowning/submersion	38	0.6	8	0.2	30	0.9
Exposure to smoke, fire and flames/ hot subs	22	0.3	9	0.2	13	0.4
Other and unspecified	205	2.7	88	1.8	117	3.8
Suicide	**531**	**7.7**	**109**	**3.0**	**422**	**12.6**
Hanging/strangulation/suffocation	257	3.8	43	1.2	214	6.5
Poisoning	122	1.7	47	1.3	75	2.2
Firearm discharge	89	1.3	9	0.3	80	2.4
Other and unspecified	63	0.9	10	0.3	53	1.5
Homicide	**180**	**2.8**	**49**	**1.4**	**131**	**4.1**
Firearm	108	1.7	14	0.4	94	2.9
Cut or pierce	36	0.5	14	0.4	22	0.7
Other and unspecified	36	0.5	21	0.6	15	0.5
Injury Deaths of Undetermined Intent	**103**	**1.5**	**35**	**1.0**	**68**	**2.1**
Poisoning	50	0.7	24	0.7	26	0.8
Other and unspecified	53	0.8	11	0.3	42	1.3
Legal Intervention	**9**	**0.1**	**0**	**0.0**	**9**	**0.3**
Firearm	6	0.1	0	0.0	6	0.2
Other and unspecified	3	--[3]	0	0.0	3	--[3]
Adverse Effects	**63**	**0.9**	**36**	**0.9**	**27**	**0.9**
Medical Care	53	0.7	32	0.8	21	0.7
Drugs	10	0.1	4	--[3]	6	0.2
ALL INJURIES	**2,920**	**41.4**	**976**	**24.1**	**1,944**	**60.3**

1. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Number of deaths per 100,000 persons; rates are adjusted to the 2000 US standard population. 3. Calculations based on values 1-4 are excluded.

Table 25. Type of Injury Deaths by Method and Intent Categories: Number and Age-Adjusted Rates, Massachusetts: 2009

Method	All Injury Deaths[1]		Intent									
			Unintentional		Intentional				Undetermined		Other[3]	
	Total		"Accidents"		Suicide		Homicide				Legal Intervention	
	Total Number	Rate[2]	Total Number	Rate	Total Number	Rate	Total Number	Rate	Total Number	Rate	Total Number	Rate
Poisoning	941	13.8	767	11.3	122	1.7	2	--[4]	50	0.7	0	0.0
Falls	512	6.6	491	6.3	17	0.2	1	--[4]	3	--[4]	0	0.0
Transport Injuries	401	5.9	399	5.9	0	0.0	1	--[4]	1	--[4]	0	0.0
Motor vehicle-related	374	5.5	374	5.5	0	0.0	0	0.0	0	0.0	0	0.0
Injury to pedestrian	62	0.9	62	0.9	0	0.0	0	0.0	0	0.0	0	0.0
Injury to pedal cyclist	4	--[4]	4	--[4]	0	0.0	0	0.0	0	0.0	0	0.0
Injury to motorcyclist	59	0.9	59	0.9	0	0.0	0	0.0	0	0.0	0	0.0
Injury to occupant	43	0.6	43	0.6	0	0.0	0	0.0	0	0.0	0	0.0
Other and unspecified	206	3	206	3.0	0	0.0	0	0.0	0	0.0	0	0.0
Other transport	27	0.4	25	0.4	0	0.0	1	--[4]	1	--[4]	0	0.0
Hanging, strangulation or suffocation	379	5.4	112	1.4	257	3.8	10	0.1	0	0	0	0.0
Firearm	207	3.1	1	--[4]	89	1.3	108	1.7	3	--[4]	6	0.1
Drowning and submersion	65	0.9	38	0.6	9	0.1	1	--[4]	17	0.2	0	0.0
Cut or pierce	63	0.9	0	0.0	0	0	0	0.0	0	0	0	0.0
Smoke, fire and flames	51	0.8	2	--[4]	13	0.2	36	0.5	0	0	0	0.0
Other and unspecified	273	3.7	202	2.6	22	0.3	18	0.3	28	0.4	3	--[4]
Adverse Effects	28	0.4	22	0.3	2	--[4]	3	--[4]	1	--[4]	0	0.0
ALL INJURIES	**2,920**	**41.4**	**2,034**	**28.5**	**531**	**7.7**	**180**	**2.8**	**103**	**1.5**	**9**	**0.1**

1. Data presented in this table are classified according to ICD-10. Please refer to Appendix for list of ICD-10 codes used in this table. 2. Number of deaths per 100,000; rates are adjusted to the 2000 US standard population. 3. Includes legal intervention and operations of war. 4. Calculations based on values 1-4 are excluded.

Table 26. Poisoning Deaths by Intent and Leading Agents, Massachusetts: 2000 and 2009

Poisoning Deaths – All Intents	2000 (N=586)		2009 (N= 941)	
	Deaths Associated by Agent/Class of Agent[2]			
Leading Agent / Class of Agents[1]	Number[2]	%[3]	Number[2]	%[3]
Opioids	363	61.9%	627	66.6%
Other and unspecified drugs, medicaments and biological substances	63	10.8%	216	23.0%
Alcohols	18	3.1%	176	18.7%
Cocaine	171	29.2%	163	17.3%
All other agents combined	45	7.7%	138	14.7%
Benzodiazepines	17	2.9%	104	11.1%
Antipsychotics & Neuroleptics	6	1.0%	33	3.5%
Carbon Monoxide	28	4.8%	30	3.2%
Antiepileptics	7	1.2%	26	2.8%
Antidepressants	46	7.8%	126	13.4%
Total Deaths All Intents	**586**	**100.0%**	**941**	**100.0%**

Unintentional/Undetermined Intent Poisoning Deaths[4]	2000 (N=485)		2009 (N=817)	
	Deaths Associated by Agent/Class of Agent[2]			
Leading Agent / Class of Agents	Number[2]	%[3]	Number[2]	%[3]
Opioids	338	69.7%	599	73.3%
Alcohols	17	3.5%	166	20.3%
Cocaine	167	34.4%	159	19.5%
Other and unspecified drugs, medicaments and biological substances	40	8.2%	146	17.9%
Antidepressants	19	3.9%	90	11.0%
Benzodiazepines	11	2.3%	87	10.6%
Antipsychotics & Neuroleptics	1	--[5]	20	2.4%
Antiepileptics	2	--[5]	16	2.0%
Carbon Monoxide	6	1.2%	6	0.7%
All other agents combined	30	6.2%	84	10.3%
Total Deaths	**485**	**100.0%**	**817**	**100.0%**

Table 26 (continued). Poisoning Deaths by Intent and Leading Agents, Massachusetts: 2000 and 2009

Suicide Poisoning Deaths	2000 (N=101)		2008 (N=122)	
	Deaths Associated by Agent/Class of Agent[2]			
Leading Agent / Class of Agents[1]	Number[2]	%[3]	Number[2]	%[3]
Other and unspecified drugs, medicaments and biological substances	23	22.8%	69	56.6%
Antidepressants	27	26.7%	36	29.5%
Opioids	25	24.8%	26	21.3%
Carbon Monoxide	22	21.8%	24	19.7%
Benzodiazepines	6	5.9%	17	13.9%
Antipsychotics & Neuroleptics	5	5.0%	13	10.7%
Alcohols	1	--[5]	10	8.2%
Antiepileptics	5	5.0%	10	8.2%
Cocaine	4	--[5]	4	--[5]
All other agents combined	15	14.9%	53	43.4%
Total Deaths	**101**	**100.0%**	**122**	**100.0%**

[1] Leading Agents/Class of Agents is sorted in descending order by their count in 2008. See the Appendix for a list of specific ICD10 codes used.
[2] The sum of the number of deaths associated with agents or class of agents is greater than the number of deaths because some deaths involve multiple agents or classes of agents.
[3] The sum of the percentage of deaths associated with agents or class of agents is greater than the number of deaths because some deaths involve multiple agents or classes of agents.
[4] There was a policy change at the MA Office of the Chief Medical Examiner in 2005, which affected the classification of poisoning deaths. In order to allow consistent comparisons and interpretation of historical trends, unintentional poisoning deaths and poisoning deaths of undetermined intent have been combined into one category, which is comparable to the sum of the categories from previous years. Suicide-associated poisoning deaths were not affected by the policy change.
[5] Calculations based on values 1-4 are excluded.

Table 27. HIV/AIDS[1] Deaths by Place of Occurrence, Massachusetts: 1994, 1998-2009

Year		Total		Place of Occurrence: At Home		Hospital		Out of State		Hospice/Nursing Home/Other	
		Comparability Unmodified	Comparability Modified[2]	Comparability Unmodified	Comparability Modified[2]	Comparability Unmodified	Comparability Modified[2]	Comparability Unmodified	Comparability Modified[2]	Comparability Unmodified	Comparability Modified[2]
1994	#	938	998	265	282	514	547	13	14	142	151
	%	100.0		28.3	28.3	54.8	54.8	1.4	1.4	15.1	15.1
1998	#	213	244	46	53	130	149	2	2	35	40
	%	100.0		21.6	21.7	61.0	61.1	-[5]	-[5]	16.4	16.4
1999	#		242[4]		55		142		2		43
	%		100.0		22.7		58.7		-[5]		17.8
2000	#		226[4]		48		145		0		33
	%		100.0		21.2		64.2		-[5]		14.6
2001	#		249[4]		47		164		4		34
	%		100.0		18.9		65.9		-[5]		13.7
2002	#		229[4]		33		156		4		36
	%		100.0		14.4		68.1		-[5]		15.7
2003	#		226[4]		55		134		5		32
	%		100.0		24.3		59.3		2.2		14.2
2004	#		211[4]		45		134		1		31
	%		100.0		21.3		63.5		-[5]		14.7
2005	#		180[4]		28		122		1		30
	%		100.0		15.6		67.8		-[5]		16.7
2006	#		179[4]		22		122		2		33
	%		100.0		12.3		68.2		-[5]		18.4
2007	#		143[4]		15		98		2		28
	%		100.0		10.5		68.5		-[5]		19.6
2008	#		143[4]		27		92		1		23
	%		100.0		18.9		64.3		-[5]		16.1
2009	#		124		25		76		1		22
	%		100.0		20.2		61.3		-[5]		17.7

**PLEASE NOTE: this table has been updated June 2001 to reflect the revised comparability ratio of HIV Disease Deaths, issued by the National Center for Health Statistics. 1. AIDS: Acquired Immune Deficiency Syndrome, HIV: Human Immunodeficiency Virus. The deaths reported are cases for which AIDS or HIV-related disease was the underlying cause of death. Deaths for 1992-1998 were coded according to the ICD-9 classification schedule, which began with 1987 death data (codes 042-044). Deaths for 1999-2008 were coded according to the ICD-10 (codes B20-B24). 2. Comparability Modified (CM): this number has been adjusted using the preliminary comparability ratio (CR) from NCHS (revised June 2001). CM data for 1994-1996 use 1996 based CR; CM data for 1997-1998 use revised 1998 based CR. 3. NA: Comparability ratio is not applicable for years prior to 1994. 4. When comparing data after 1994, please use the comparability modified number for years 1994-1998. Please see Appendix for a detailed explanation. 5. Calculations based on values 1-4 are excluded.

Table 28. HIV/AIDS[1] Deaths by Age, Massachusetts: 1994, 1998-2009

Year		Age (in years) <15		15-24		25-34		35-44		45+	
		Comparability Unmodified	Comparability Modified[2]	Comparability Unmodified	Comparability Modified[2]	Comparability Unmodified	Comparability Modified[2]	Comparability Unmodified	Comparability Modified[2]	Comparability Unmodified	Comparability Modified[2]
1994	#	7	7	8	9	272	289	464	494	187	199
	%	0.7	0.7	0.9	0.9	29.0	29.0	49.5	49.5	19.9	19.9
1998	#	0	0	0	0	47	54	106	121	60	69
	%	0.0	0.0	0.0	0.0	22.1	22.1	49.8	50.0	28.2	28.3
1999	#		2[4]		9[4]		34[4]		112[4]		85[4]
	%		-[5]		3.7		14.0		46.3		35.1
2000	#		4[4]		0[4]		26[4]		104[4]		92[4]
	%		-[5]		0.0[4]		11.5[4]		46.0[4]		40.7[4]
2001	#		1[4]		2[4]		25[4]		111[4]		110[4]
	%		-[5]		-[5]		10.0		44.6		44.2[4]
2002	#		1[4]		1[4]		10[4]		91[4]		126[4]
	%		-[5]		-[5]		4.4		39.7		55.0[4]
2003	#		1[4]		3[4]		14[4]		94[4]		114[4]
	%		-[5]		-[5]		6.2		41.6		50.4
2004	#		0[4]		2[4]		9[4]		79[4]		121[4]
	%		0.0		-[5]		4.3		37.4		57.4
2005	#		0[4]		1[4]		6[4]		64[4]		109[4]
	%		0.0		-[5]		3.3		35.6		60.6
2006	#		0[4]		1[4]		6[4]		71[4]		101[4]
	%		0.0		-[5]		3.4		39.7		56.4
2007	#		0[4]		0[4]		5[4]		34[4]		104[4]
	%		0.0		0.0		3.5		32.7		72.7
2008	#		0[4]		1[4]		6[4]		32[4]		104[4]
	%		0.0		-[5]		4.2		22.4		72.7
2009	#		0[4]		0[4]		6[4]		25[4]		93[4]
	%		0.0		0.0		4.8		20.2		75.0

**PLEASE NOTE: this table has been updated June 2001 to reflect the revised comparability ratio of HIV Disease Deaths, issued by the National Center for Health Statistics. 1.AIDS: Acquired Immune Deficiency Syndrome, HIV: Human Immunodeficiency Virus. The deaths reported are cases for which AIDS or HIV-related disease was the underlying cause of death. Deaths for 1992-1998 were coded according to the ICD-9 classification schedule, which began with 1987 death data (codes 042-044). Deaths for 1999-2008 were coded according to the ICD-10 (codes B20-B24). 2. Comparability Modified (CM): this number has been adjusted using the preliminary comparability ratio (CR) from NCHS (revised June 2001). CM data for 1994-1996 use 1996 based CR; CM data for 1997-1998 use revised 1998 based CR. 3. NA: Comparability ratio is not applicable for years prior to 1994. 4. When comparing data over time after 1994, please use the comparability modified number for years 1994-1998. Please see Appendix for a detailed explanation. 5. Calculations based on values 1-4 are excluded.

Table 29. HIV/AIDS[1] Deaths by Gender, Race and Hispanic Ethnicity, Massachusetts: 1994, 1998-2009

		Gender				Race and Ethnicity							
		Male		Female		White non-Hispanic[2]		Black non-Hispanic[2]		Other[3]		Hispanic[2]	
		Comparability Unmodified	Comparability Modified[4]	Comparability Unmodified	Comparability Modified[4]	Comparability Unmodified	Comparability Modified[4]	Comparability Unmodified	Comparability Modified[4]	Comparability Unmodified	Comparability Modified[4]	Comparability Unmodified	Comparability Modified[4]
Year													
1994	#	763	812	175	186	581	618	193	205	7	7	157	167
	%	81.3	81.4	18.7	18.6	61.9	61.9	20.6	20.5	0.7	0.7	16.7	16.7
1998	#	169	193	44	50	104	119	51	58	0	0	58	66
	%	79.3	79.1	20.7	20.5	48.8	48.8	23.9	23.8	-[5]	-[5]	27.2	27.0
1999	#	177[6]		65[6]		126[6]		51[6]		2[6]		63[6]	
	%	73.1		26.9		52.1		21.1		-[5]		26.0	
2000	#	161[6]		65[6]		104[6]		61[6]		2[6]		59[6]	
	%	71.2		28.8		46.0		27.0		-[5]		26.1	
2001	#	182[6]		67[6]		125[6]		73[6]		0[6]		51[6]	
	%	73.1		26.9		50.2		29.3		-[5]		20.5	
2002	#	163[6]		66[6]		108[6]		68[6]		1[6]		52[6]	
	%	71.2		28.8		47.1		29.7		-[5]		22.7	
2003	#	150[6]		76[6]		113[6]		58[6]		2[6]		53[6]	
	%	66.4		33.6		50.0		25.7		-[5]		23.5	
2004	#	151[6]		60[6]		97[6]		55[6]		4[6]		55[6]	
	%	71.6		28.4		46.0		26.1		-[5]		26.1	
2005	#	122[6]		58[6]		75[6]		56[6]		4[6]		45[6]	
	%	67.8		32.2		41.7		31.1		-[5]		25.0	
2006	#	122[6]		57[6]		91[6]		49[6]		2[6]		37[6]	
	%	68.2		31.8		50.8		27.4		-[5]		20.7	
2007	#	96[6]		47[6]		58[6]		48[6]		0[6]		37[6]	
	%	67.4		32.9		40.6		33.6		0.0		25.9	
2008	#	101[6]		42[6]		69[6]		37[6]		5[6]		31[6]	
	%	70.6		29.4		48.6		26.1		3.5		21.8	
2009	#	89[6]		35[6]		48[6]		37[6]		6[6]		33[6]	
	%	71.8		28.2		38.7		29.8		4.8		26.6	

**PLEASE NOTE: this table was updated in June 2001 to reflect the revised comparability ratio of HIV Disease Deaths, issued by the National Center for Health Statistics. 1. AIDS: Acquired Immune Deficiency Syndrome, HIV: Human Immunodeficiency Virus. The deaths reported are cases for which AIDS or HIV-related disease was the underlying cause of death. Deaths for 1992-1998 were coded according to the ICD-9 classification schedule, which began with 1987 death data (codes 042-044). Deaths for 1999-2008 were coded according to the ICD-10 (codes B20-B24). 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in a race category. Please see the Technical Notes in the Appendix for a more detailed explanation. 3. The "Other" category represents Asian non-Hispanics, American Indian non-Hispanics, and other non-Hispanics. 4. Comparability Modified: this number has been adjusted using the preliminary comparability ratio (CR) from NCHS (June 2001). CM data for 1994-1996 use 1996 based CR; CM data for 1997-1998 use revised 1998 based CR. 5. Calculations based on values 1-4 are excluded. 6. When comparing data over time after 1994, please use the comparability modified number for years 1994-1998. Please see Appendix for a detailed explanation.

Table 30. HIV/AIDS[1] Deaths by Gender, Race and Hispanic Ethnicity: Numbers, Percent and Age-adjusted Rates, Massachusetts: 2000-2009

TOTAL	White non-Hispanic[2]			Black non-Hispanic[2]			Hispanic		
Year	#	Percent	Rate[3]	#	Percent	Rate[3]	#	Percent	Rate[3]
2000	104	46%	1.9	61	27%	18.3	59	26%	17.4
2001	125	50%	2.2	73	29%	21.1	51	20%	13.5
2002	108	47%	1.9	68	30%	20.3	52	23%	13.5
2003	113	50%	2.0	58	26%	17.2	53	23%	14.9
2004	97	46%	1.7	55	26%	15.8	55	26%	13.9
2005	75	42%	1.3	56	31%	16.0	45	25%	11.5
2006	91	51%	1.6	49	27%	13.7	37	21%	8.4
2007	58	41%	1.0	48	34%	13.0	37	26%	8.9
2008	69	50%	1.2	37	27%	10.6	31	23%	8.3
2009	48	41%	0.5	37	31%	15.2	33	28%	11.6
MALE									
2000	77	48%	2.8	40	25%	26.0	42	26%	27.7
2001	92	51%	3.3	50	27%	31.4	40	22%	22.5
2002	86	53%	3.1	43	26%	27.9	34	21%	18.7
2003	74	49%	2.7	36	24%	23.4	39	26%	23.8
2004	74	49%	2.7	39	26%	24.0	34	23%	18.4
2005	52	43%	1.9	34	28%	20.9	33	27%	18.4
2006	67	55%	2.4	33	27%	20.0	21	17%	9.8
2007	48	50%	1.7	23	24%	13.4	25	26%	13.3
2008	55	56%	1.9	25	26%	16.0	18	18%	11.0
2009	32	38%	1.1	29	34%	15.6	24	28%	12.4
FEMALE									
2000	27	42%	1.0	21	32%	11.4	17	26%	8.6
2001	33	49%	1.2	23	34%	12.1	11	16%	5.4
2002	22	33%	0.8	25	38%	13.8	18	27%	8.7
2003	39	51%	1.4	22	29%	12.0	14	18%	7.1
2004	23	38%	0.8	16	27%	8.7	21	35%	10.0
2005	23	40%	0.8	22	38%	11.8	12	21%	5.4
2006	24	42%	0.9	16	28%	8.3	16	28%	7.1
2007	10	21%	0.3	25	53%	12.8	12	26%	5.2
2008	14	36%	0.5	12	31%	6.4	13	33%	6.4
2009	16	48%	0.5	8	24%	3.8	9	27%	3.8

1. AIDS and HIV disease deaths coded using ICD-10: B20-B24. 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in a race category. Please see the Technical Notes in the Appendix for a more detailed explanation. 3. Number of deaths per 100,000 persons; rates are age-adjusted to the 2000 US standard population. Resident death rates for 2000-2005 are calculated using the Massachusetts (Department of Public Health) Modified Age, Race/Ethnicity, & Sex Estimates 2000-2005 (MMARS00-05), released October 2006. Population estimates are from the NCHS Modified Age, Race/Ethnicity, & Sex Estimates 2007, released September 5, 2008.

Table 31. Trends in Infant, Neonatal, and Post Neonatal Mortality, by Race and Hispanic Ethnicity, Massachusetts: 1999-2009

INFANT MORTALITY (less than one year of age)

	State Total[1]		White non-Hispanic		Black non-Hispanic		Hispanic		Asian non-Hispanic		Other[2]	
Year	#	Rate[3]	#	Rate[3]	#	Rate[3]	#	Rate[3]	#	Rate[3]	#	Rate[3]
1999	418	5.2	285	4.7	72	12.3	49	5.5	8	1.9	4	--[4]
2000	377	4.6	232	3.8	74	12.8	48	5.2	19	4.1	4	--[4]
2001	407	5.0	245	4.1	71	12.1	69	7.3	15	3.1	7	4.1
2002	397	4.9	239	4.1	69	11.6	67	7.0	16	3.0	6	3.8
2003	383	4.8	235	4.1	75	12.7	55	5.6	14	2.7	4	--[4]
2004	376	4.8	210	3.8	70	11.5	75	7.6	15	2.7	6	3.5
2005	391	5.1	230	4.3	57	9.4	77	7.7	18	3.4	8	4.3
2006	369	4.8	220	4.1	72	11.1	63	5.9	10	1.8	3	--[4]
2007	380	4.9	206	3.9	66	10.2	81	7.4	18	3.1	4	--[4]
2008	381	5.0	192	3.7	79	11.9	86	7.9	16	2.7	8	5.1
2009	366	4.9	205	4.1	54	7.8	78	7.1	20	3.4	9	7.8

NEONATAL MORTALITY (birth to 27 days)

	State Total[1]		White non-Hispanic		Black non-Hispanic		Hispanic		Asian, non-Hispanic		Other[2]	
Year	#	Rate[3]	#	Rate[3]	#	Rate[3]	#	Rate[3]	#	Rate[3]	#	Rate[3]
1999	332	4.1	226	3.7	58	9.9	39	4.4	5	1.2	4	--[4]
2000	288	3.5	177	2.9	57	9.9	37	4.0	14	3.0	3	--[4]
2001	308	3.8	190	3.2	56	9.5	49	5.2	10	2.1	3	--[4]
2002	299	3.7	185	3.2	49	8.2	50	5.2	13	2.4	2	--[4]
2003	285	3.6	179	3.1	56	9.5	38	3.9	10	1.9	2	--[4]
2004	291	3.7	167	3.0	51	8.4	57	5.8	12	2.2	4	--[4]
2005	282	3.7	168	3.1	40	6.6	57	5.8	11	2.1	5	2.7
2006	279	3.6	173	3.3	53	8.2	42	3.9	7	1.3	3	--[4]
2007	263	3.4	141	2.7	48	7.4	53	4.9	15	2.6	4	--[4]
2008	290	3.8	152	2.9	57	8.6	65	6.0	10	1.7	6	3.8
2009	276	3.7	162	3.2	36	5.2	54	4.9	17	2.9	7	6.0

POST NEONATAL MORTALITY (28-365 days)

	State Total[1]		White non-Hispanic		Black non-Hispanic		Hispanic		Asian non-Hispanic		Other[2]	
Year	#	Rate[3]	#	Rate[3]	#	Rate[3]	#	Rate[3]	#	Rate[3]	#	Rate[3]
1999	86	1.1	59	1.0	14	2.4	10	1.1	3	--[4]	0	0.0
2000	89	1.1	55	0.9	17	2.9	11	1.2	5	1.1	1	--[4]
2001	99	1.2	55	0.9	15	2.6	20	2.1	5	1.0	4	--[4]
2002	98	1.2	54	0.9	20	3.4	17	1.8	3	--[4]	4	--[4]
2003	98	1.2	56	1.0	19	3.2	17	1.7	4	--[4]	2	--[4]
2004	85	1.1	43	0.8	19	3.1	18	1.8	3	--[4]	2	--[4]
2005	109	1.4	62	1.2	17	2.8	20	2.0	7	1.3	3	--[4]
2006	90	1.2	47	0.9	19	2.9	21	2.0	3	--[4]	0	0.0
2007	117	1.5	65	1.2	18	2.8	28	2.6	3	--[4]	0	0.0
2008	91	1.2	40	0.8	22	3.3	21	1.9	6	1.0	2	--[4]
2009	90	1.2	43	0.9	18	2.6	24	2.2	3	--[4]	2	--[4]

1. Deaths of infants of unknown race are included in the total calculation. For rate computations, births of infants of unknown race are allocated into the race categories according to the distribution of births of known race. 2. Other: American Indian and Other races. 3. Rates are expressed per 1,000 live births.
4. Calculations based on values 1-4 are excluded.

Table 32. Infant, Neonatal, and Post Neonatal Deaths by Cause, Massachusetts: 2009

Cause of Death[1]	ICD-10 Code	Infant (<1 year) #	Infant (<1 year) %[2,3]	Neonatal (<28 days) #	Neonatal (<28 days) %[2,3]	Post Neonatal (28-365 days) #	Post Neonatal (28-365 days) %[2,3]
TOTAL		**366**	**100**	**276**	**100**	**90**	**100**
Infectious and parasitic diseases	**A00-B99**	**3**	**--[3]**	**0**	**0.0**	**3**	**--[3]**
Cancer	**C00-C97**	**1**	**--[3]**	**0**	**0.0**	**1**	**--[3]**
Diseases of the blood and blood forming organs (anemia)	**D50-D89**	**3**	**--[3]**	**1**	**--[3]**	**2**	**--[3]**
Diseases of nervous system and ear	**G00-G98, H60-H93**	**3**	**--[3]**	**0**	**0.0**	**3**	**--[3]**
Diseases of the respiratory system	**J00-J98**	**6**	**1.6**	**0**	**0.0**	**6**	**6.7**
Diseases of digestive system	**K00-K92**	**3**	**--[3]**	**1**	**--[3]**	**2**	**--[3]**
Congenital malformations	**Q00-Q99**	**57**	**15.6**	**41**	**14.9**	**16**	**17.8**
Congenital malformations of nervous system	Q00-Q07	8	2.2	6	2.2	2	--[3]
Anencephalus and similar malformations	Q00	3	--[3]	3	--[3]	0	0.0
Congenital malformations of eye, ear, face, and neck	Q10-Q18	0	0.0	0	0.0	0	0.0
Congenital malformations of heart	Q20-Q24	11	3.0	7	2.5	4	--[3]
Other congenital malformations of circulatory system	Q25-Q28	0	0.0	0	0.0	0	0.0
Congenital malformations of respiratory system	Q30-Q34	5	1.4	5	1.8	0	0.0
Cleft palate and other digestive tract malformations	Q35-Q45	0	0.0	0	0.0	0	0.0
Congenital malformations of genitourinary system	Q50-Q64	10	2.7	10	3.6	0	0.0
Congenital malformations of musculoskeletal system	Q65-Q85	5	1.4	3	--[3]	2	--[3]
Chromosomal abnormalities	Q90-Q99	10	2.7	6	2.2	4	--[3]
Certain conditions originating in the perinatal period	**P00-P96**	**218**	**59.6**	**212**	**76.8**	**6**	**6.7**
Newborn affected by maternal conditions which may be unrelated to present pregnancy	P00	3	--[3]	3	--[3]	0	0.0
Newborn affected by maternal complications of pregnancy	P01	26	7.1	26	9.4	0	0.0
Newborn affected by complications of placenta, cord and membrane	P02	15	4.1	15	5.4	0	0.0
Newborn affected by other complications of labor and delivery	P03	2	--[3]	2	--[3]	0	0.0
Disorders relating to short gestation and low birthweight	P07	83	22.7	81	29.3	2	--[3]
Birth trauma	P10-P15	0	0.0	0	0.0	0	0.0
Intrauterine hypoxia and birth asphyxia	P20-P21	2	--[3]	2	--[3]	0	0.0
Respiratory distress of newborn	P22	12	3.3	12	4.3	0	0.0
Other respiratory conditions of newborn	P23-P28	6	1.6	5	1.8	1	--[3]
Infections specific to the perinatal period	P35-P39	12	3.3	11	4.0	1	--[3]
Neonatal hemorrhage	P50-P52, P54	9	2.5	9	3.3	0	0.0
Other and ill-defined conditions originating in the perinatal period	P90-P96	11	3.0	10	3.6	1	--[3]
Symptoms, signs, and ill-defined conditions	**R00-R99**	**57**	**15.6**	**16**	**5.8**	**41**	**45.6**
Sudden Infant Death Syndrome (SIDS)	R95	34	9.3	9	3.3	25	27.8
Unintentional Injuries	**V01-X59**	**4**	**--[3]**	**1**	--[3]	**3**	--[3]
Homicide	**X85-Y09**	**1**	--[3]	**0**	**0.0**	**1**	--[3]
All other causes	**Residual**	**10**	**2.7**	**4**	--[3]	**6**	**6.7**

1. Please see the Technical Notes in the Appendix for an explanation of ICD-10 codes. 2. Percents not calculated for subcategories. 3. Calculations based on values 1-4 are excluded.

Table 33. Infant Deaths by Major Causes, Race and Hispanic Ethnicity, Massachusetts: 2009

Cause of Death[2]	ICD-10 Code	White non-Hispanic		Black non-Hispanic		Asian non-Hispanic		Hispanic	
		#	%	#	%	#	%	#	%
TOTAL		**205**	**100.0%**	**54**	**100.0%**	**20**	**100.0%**	**78**	**100.0%**
Certain conditions originating in the perinatal period	P00- P96	120	58.5%	30	55.6%	16	80.0%	45	57.7%
Congenital malformations	Q00-Q99	35	17.1%	6	11.1%	2	--[3]	12	15.4%
Symptoms, signs, and ill-defined conditions	R00-R99	28	13.7%	14	25.9%	1	--[3]	14	17.9%
SIDS	R95	15	7.3%	10	18.5%	0	0.0%	9	11.5%
Unintentional Injuries	V01-X59	3	--[3]	0	0.0%	0	0.0%	1	--[3]
Homicide	X85-Y09	0	0.0%	0	0.0%	0	0.0%	1	--[3]
All other causes	Residual	19	9.3%	4	--[3]	1	--[3]	5	6.4%

1. Race and ethnicity data in this table are presented as mutually exclusive categories and Cape Verdeans are not included with Blacks. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in a race category. Please see the Technical Notes in the Appendix for a more detailed explanation. 2. Deaths are coded according to ICD-10. Please see Appendix for comparability ratios. 3. Calculations based on values 1-4 are excluded.

Table 34. Target Status for Selected Healthy People 2010 Mortality Objectives

Objective Number	HEALTHY PEOPLE 2010 OBJECTIVE	TARGET 2010[1]	MA 2008	MA 2009[2]	US 2009[3]	TARGET STATUS
	Age-adjusted rates (per 100,000 population)					
3-1	Overall Cancer death rate	159.9	177.8	174.0	173.6	O
3-2	Lung Cancer	44.9	49.3	48.4	48.4	O
3-3	Female Breast Cancer (per 100,000 females)	22.3	21.2	22.2	NA	√
3-4	Uterine Cervix (per 100,000 females)	2.0	1.3	1.7	NA	√
3-5	Colorectal Cancer	13.9	15.6	15.1	16.0	O
3-6	Oropharyngeal Cancer	2.7	2.5	2.2	2.4	√
3-7	Prostate Cancer (per 100,000 males)	28.8	22.2	21.7	NA	√
3-8	Malignant Melanoma	2.5	3.4	3.6	2.8	●
12-1	Coronary Heart Disease	166.0	108.0	102.4	NA	√
12-7	Stroke	48.0	33.7	32.2	38.9	√
13-14	HIV/AIDS	0.7	2.0	1.7	3.0	●
26-2	Cirrhosis	3.0	5.4	5.5	9.2	●
26-3	Drug-induced deaths	1.0	13.1	13.8	12.1	●
	Injury Deaths					
15-3	Firearm- related	4.1	3.3	3.1	10.0	√
15-8	Poisonings	1.5	12.9	13.5	NA	●
15-9	Hanging, strangulation or suffocation	3.0	6.3	5.4	NA	●
15-13	Unintentional injuries (Accidents)	17.5	30.5	28.5	37.0	●
15-15	Motor vehicle crashes	9.0	6.6	5.5	11.7	√
15-25	Residential fire deaths	0.2	0.5	0.3	NA	●
15-27	Falls	3.0	6.5	6.6	NA	●
15-29	Drowning	0.9	1.0	1.0	NA	O
15-32	Homicide	3.0	2.9	2.8	5.5	√
18-1	Suicide	5.0	7.5	7.7	11.7	●
	Death Rates (per 1,000 live births)					
16-1c	Infant deaths	4.5	5.0	4.9	6.4	O
16-1d	Neonatal deaths	2.9	3.8	3.7	4.2	●
16-1e	Postneonatal deaths	1.2	1.2	1.2	2.2	O
16-1f	Birth defects	1.1	0.8	0.8	NA	√
16-1g	Congenital heart defects	0.38	0.17	0.15	NA	√
16-1h	Sudden infant death syndrome (SIDS)	0.25	0.40	0.45	NA	●
16-4	Maternal deaths (per 100,000 live births)	3.3	10.4	10.7	NA	●
	Child/Adolescent/Young Adults Death Rates (per 100,000 pop)					
16-2a	1-4 years old	25.0	16.7	13.9	26.2	√
16-2b	5-9 years old	14.3	7.8	7.9	NA	√
16-3a	10-14 years old	16.8	9.5	11.0	NA	√
16-3b	15-19 years old	43.2	33.4	30.7	NA	√
16-3c	20-24 years old	57.3	57.4	64.6	NA	O
24-1	Asthma deaths (per million)					
24-1a	Children under age 5 years	1.0	0.0	0.0	NA	√
24-1b	Children aged 5-14 years	1.0	0.0	0.0	NA	√
24-1c	Ages 15-34 years	3.0	2.8	5.6	NA	√
24-1d	Ages 35-64 years	9.0	6.3	6.6	NA	√
24-1e	Ages 65+ years	60.0	28.7	23.5	NA	√

✓ = YES, met target O = NO, but within 25% of target ● = NO, > 25% from target

1. Data 2010 the Healthy People 2010 Database. CDC Wonder website. 2. Death data for 2009 are calculated using 2009 Modified Age, Race/Ethnicity, and Sex (MARS) estimates, from the National Center for Health Statistics (NCHS) and the Census Bureau Population Estimates Program. 3. U.S. data for 2009 obtained from NCHS. Deaths: Preliminary Data for 2009. National Vital Statistics Report, Vol. 59, No. 4, March 16, 2011. 4. Calculations based on values 1-4 are excluded.

Table 35. Rank of Premature Mortality Rates for the Largest 30 Communities[1], Massachusetts: 2009 (Sorted by PMR)

City/Town	Number of Premature Deaths	PMR[2] (per 100,000)
Lowell	419	489.2*
New Bedford	409	464.8*
Springfield	565	423.8*
Fall River	361	422.3*
Revere	189	415.0*
Worcester	624	414.0*
Lynn	324	404.8*
Chicopee	222	389.7*
Taunton	197	378.3*
Attleboro	147	377.5*
Weymouth	215	373.7*
Pittsfield	172	373.7*
Brockton	323	367.9*
Haverhill	197	366.9*
Lawrence	216	361.2*
Boston	1,656	358.8*
Plymouth	177	356.2*
Leominster	140	351.0*
Barnstable	181	335.2*
Methuen	143	332.1
Quincy	285	309.0
Peabody	181	304.9
Malden	165	300.7
Medford	162	287.5
Waltham	150	268.8
Somerville	153	260.8
Cambridge	178	229.0*
Framingham	144	228.8*
Newton	143	170.2*
Brookline	69	139.9*
State Total	**18,966**	**277.0**

[1] Selected from among the 30 Massachusetts communities with the largest populations, based on 2000 Census. Rates for cities and towns were calculated using MDPH population estimates for 2005, which are the most up-to-date information available on the number of persons by age, race, and sex at the sub-state level.

[2] Rates are age-adjusted to the 2000 US Standard Population for person ages 0-74 years.

* significantly differently from State PMR.

Table 36 . Premature Mortality Rates by Community, Massachusetts: 2009

City/Town	Premature Deaths (#)	PMR[1] (per 100,000 population)
STATE	**18,966**	**277.0**
Abington	59	374.4
Acton	29	159.5
Acushnet	24	207.4
Adams	33	348.8
Agawam	96	330.9
Alford	1	--[2]
Amesbury	58	367.6
Amherst	42	241.6
Andover	59	187.9
Aquinnah	1	--[2]
Arlington	103	226.1
Ashburnham	18	314.2
Ashby	5	171.0
Ashfield	4	--[2]
Ashland	32	209.2
Athol	40	352.9
Attleboro	147	377.5
Auburn	51	274.5
Avon	18	345.5
Ayer	17	248.4
Barnstable	181	335.2
Barre	20	411.5
Becket	3	--[2]
Bedford	41	285.1
Belchertown	37	323.8
Bellingham	42	275.2
Belmont	36	143.4
Berkley	15	293.2
Berlin	7	226.6
Bernardston	5	169.8
Beverly	94	235.5
Billerica	131	381.6
Blackstone	31	397.6
Blandford	1	--[2]
Bolton	13	363.4
Boston	1,656	358.8
Bourne	67	322.2
Boxborough	7	132.8
Boxford	11	141.3
Boylston	9	229.2
Braintree	121	308.9
Brewster	32	247.2
Bridgewater	62	291.7
Brimfield	11	292.4
Brockton	323	367.9
Brookfield	9	317.7
Brookline	69	139.9

Table 36 . Premature Mortality Rates by Community, Massachusetts: 2009

City/Town	Premature Deaths (#)	PMR[1] (per 100,000 population)
Buckland	6	229.2
Burlington	60	218.7
Cambridge	178	229.0
Canton	54	240.7
Carlisle	8	211.5
Carver	45	380.1
Charlemont	6	450.9
Charlton	35	354.8
Chatham	26	250.3
Chelmsford	76	222.3
Chelsea	103	405.3
Cheshire	7	169.0
Chester	8	527.0
Chesterfield	2	--[2]
Chicopee	222	389.7
Chilmark	2	138.4
Clarksburg	6	261.7
Clinton	56	428.0
Cohasset	13	151.4
Colrain	3	--[2]
Concord	26	136.1
Conway	5	315.8
Cummington	4	--[2]
Dalton	19	255.6
Danvers	82	279.4
Dartmouth	83	273.2
Dedham	91	352.3
Deerfield	12	237.2
Dennis	66	340.6
Dighton	16	237.7
Douglas	19	331.0
Dover	6	154.1
Dracut	97	346.7
Dudley	33	332.1
Dunstable	6	268.6
Duxbury	26	165.2
East Bridgewater	50	387.8
East Brookfield	3	--[2]
East Longmeadow	46	279.7
Eastham	16	224.0
Easthampton	55	341.7
Easton	45	230.1
Edgartown	11	242.8
Egremont	2	--[2]
Erving	9	600.7
Essex	7	187.6
Everett	138	384.5
Fairhaven	65	370.1
Fall River	361	422.3
Falmouth	130	314.1

Table 36 . Premature Mortality Rates by Community, Massachusetts: 2009

City/Town	Premature Deaths (#)	PMR[1] (per 100,000 population)
Fitchburg	141	394.5
Florida	2	--[2]
Foxborough	30	176.9
Framingham	144	228.8
Franklin	72	286.6
Freetown	37	472.1
Gardner	67	335.1
Georgetown	21	305.6
Gill	5	266.5
Gloucester	98	274.5
Goshen	2	--[2]
Gosnold	0	0.0
Grafton	36	232.9
Granby	17	250.9
Granville	1	--[2]
Great Barrington	20	248.1
Greenfield	75	466.5
Groton	16	206.0
Groveland	18	295.7
Hadley	15	271.9
Halifax	30	387.9
Hamilton	13	174.2
Hampden	14	251.5
Hancock	3	--[2]
Hanover	30	232.7
Hanson	27	279.6
Hardwick	13	495.6
Harvard	21	275.2
Harwich	52	299.7
Hatfield	7	166.5
Haverhill	197	366.9
Hawley	0	0.0
Heath	1	--[2]
Hingham	35	153.2
Hinsdale	8	402.3
Holbrook	52	445.5
Holden	45	263.2
Holland	5	242.5
Holliston	25	214.0
Holyoke	145	405.8
Hopedale	9	143.3
Hopkinton	11	104.6
Hubbardston	10	240.9
Hudson	60	301.1
Hull	38	291.7
Huntington	6	308.8
Ipswich	41	286.8
Kingston	35	283.0
Lakeville	22	209.2
Lancaster	15	223.9

Table 36 . Premature Mortality Rates by Community, Massachusetts: 2009

City/Town	Premature Deaths (#)	PMR[1] (per 100,000 population)
Lanesborough	9	247.9
Lawrence	216	361.2
Lee	28	398.7
Leicester	40	399.8
Lenox	18	280.4
Leominster	140	351.0
Leverett	3	--[2]
Lexington	59	176.3
Leyden	5	941.3
Lincoln	8	108.9
Littleton	14	185.6
Longmeadow	25	151.1
Lowell	419	489.2
Ludlow	61	270.5
Lunenburg	30	302.6
Lynn	324	404.8
Lynnfield	22	168.1
Malden	165	300.7
Manchester	7	100.3
Mansfield	52	385.5
Marblehead	48	227.9
Marion	16	233.8
Marlborough	113	330.6
Marshfield	78	325.1
Mashpee	52	293.7
Mattapoisett	18	221.5
Maynard	31	317.0
Medfield	24	205.9
Medford	162	287.5
Medway	29	265.1
Melrose	77	276.1
Mendon	4	--[2]
Merrimac	22	341.7
Methuen	143	332.1
Middleborough	84	474.7
Middlefield	1	--[2]
Middleton	18	233.5
Milford	64	260.6
Millbury	66	471.8
Millis	22	290.8
Millville	1	--[2]
Milton	66	267.3
Monroe	0	0.0
Monson	35	442.6
Montague	32	355.7
Monterey	2	--[2]
Montgomery	3	334.4
Mount Washington	0	0.0
Nahant	14	301.5
Nantucket	25	268.0

Table 36 . Premature Mortality Rates by Community, Massachusetts: 2009

City/Town	Premature Deaths (#)	PMR[1] (per 100,000 population)
Natick	80	245.7
Needham	55	186.3
New Ashford	1	--[2]
New Bedford	409	464.8
New Braintree	2	--[2]
New Marlborough	3	--[2]
New Salem	1	--[2]
Newbury	17	242.6
Newburyport	35	184.3
Newton	143	170.2
Norfolk	19	285.3
North Adams	51	349.3
North Andover	54	222.9
North Attleboro	71	294.5
North Brookfield	16	336.3
North Reading	42	311.4
Northampton	90	345.3
Northborough	32	221.4
Northbridge	49	404.0
Northfield	6	175.5
Norton	44	327.5
Norwell	23	219.4
Norwood	78	257.8
Oak Bluffs	9	242.8
Oakham	6	496.1
Orange	29	360.8
Orleans	21	206.3
Otis	3	--[2]
Oxford	44	350.3
Palmer	51	398.3
Paxton	11	215.1
Peabody	181	304.9
Pelham	2	--[2]
Pembroke	63	379.1
Pepperell	33	356.2
Peru	3	--[2]
Petersham	2	--[2]
Phillipston	8	451.6
Pittsfield	172	373.7
Plainfield	4	--[2]
Plainville	20	251.2
Plymouth	177	356.2
Plympton	10	477.2
Princeton	3	--[2]
Provincetown	22	619.3
Quincy	285	309.0
Randolph	109	352.9
Raynham	40	299.5
Reading	55	232.0
Rehoboth	31	268.1

Table 36 . Premature Mortality Rates by Community, Massachusetts: 2009

City/Town	Premature Deaths (#)	PMR[1] (per 100,000 population)
Revere	189	415.0
Richmond	3	--[2]
Rochester	12	283.3
Rockland	76	423.5
Rockport	29	292.8
Rowe	2	--[2]
Rowley	11	238.2
Royalston	2	106.3
Russell	6	390.1
Rutland	14	221.2
Salem	111	274.2
Salisbury	27	296.8
Sandisfield	5	425.9
Sandwich	38	191.3
Saugus	80	251.5
Savoy	3	--[2]
Scituate	48	246.8
Seekonk	24	167.1
Sharon	27	135.4
Sheffield	10	261.6
Shelburne	12	573.6
Sherborn	9	204.9
Shirley	16	235.6
Shrewsbury	77	243.9
Shutesbury	2	--[2]
Somerset	58	263.0
Somerville	153	260.8
South Hadley	46	245.8
Southampton	22	394.9
Southborough	17	202.4
Southbridge	63	389.1
Southwick	30	330.7
Spencer	30	278.6
Springfield	565	423.8
Sterling	18	290.2
Stockbridge	8	227.0
Stoneham	67	280.2
Stoughton	89	312.6
Stow	17	283.8
Sturbridge	19	227.4
Sudbury	34	201.8
Sunderland	7	333.2
Sutton	21	265.0
Swampscott	27	188.2
Swansea	57	328.8
Taunton	197	378.3
Templeton	31	398.5
Tewksbury	97	333.0
Tisbury	9	216.9
Tolland	3	--[2]

Table 36 . Premature Mortality Rates by Community, Massachusetts: 2009

City/Town	Premature Deaths (#)	PMR[1] (per 100,000 population)
Topsfield	13	193.3
Townsend	20	337.7
Truro	5	166.0
Tyngsborough	24	292.5
Tyringham	1	--[2]
Upton	20	397.6
Uxbridge	39	359.1
Wakefield	61	239.9
Wales	12	727.8
Walpole	48	211.6
Waltham	150	268.8
Ware	40	401.4
Wareham	118	479.8
Warren	18	366.7
Warwick	1	--[2]
Washington	2	--[2]
Watertown	74	228.0
Wayland	22	155.2
Webster	72	434.8
Wellesley	32	116.2
Wellfleet	5	143.9
Wendell	1	--[2]
Wenham	6	135.2
West Boylston	17	231.4
West Bridgewater	30	385.7
West Brookfield	19	512.5
West Newbury	3	--[2]
West Springfield	96	335.1
West Stockbridge	1	--[2]
West Tisbury	6	263.2
Westborough	46	325.4
Westfield	150	404.4
Westford	45	295.3
Westhampton	3	--[2]
Westminster	25	341.5
Weston	18	133.2
Westport	37	222.5
Westwood	29	184.4
Weymouth	215	373.7
Whately	5	294.1
Whitman	45	344.7
Wilbraham	34	238.7
Williamsburg	8	361.8
Williamstown	18	233.3
Wilmington	59	302.7
Winchendon	40	465.3
Winchester	39	160.6
Windsor	0	0.0
Winthrop	66	377.1
Woburn	126	314.4

Table 36 . Premature Mortality Rates by Community, Massachusetts: 2009

City/Town	Premature Deaths (#)	PMR[1] (per 100,000 population)
Worcester	624	414.0
Worthington	4	--[2]
Wrentham	31	309.8
Yarmouth	112	375.4

[1] Premature Mortality Rates (PMR) for cities and towns were calculated using MDPH population estimates for 2005, which are the most up-to-date information available on the number of persons by age, race, and sex at the sub-state level. PMR are age-adjusted to the 2000 US Standard Population for persons ages 0-74 years.

[2] Age-adjusted rates based on values 1-4 are excluded.

Figure 18. Premature Mortality Rates adjusted by poverty level, Massachusetts: 2009

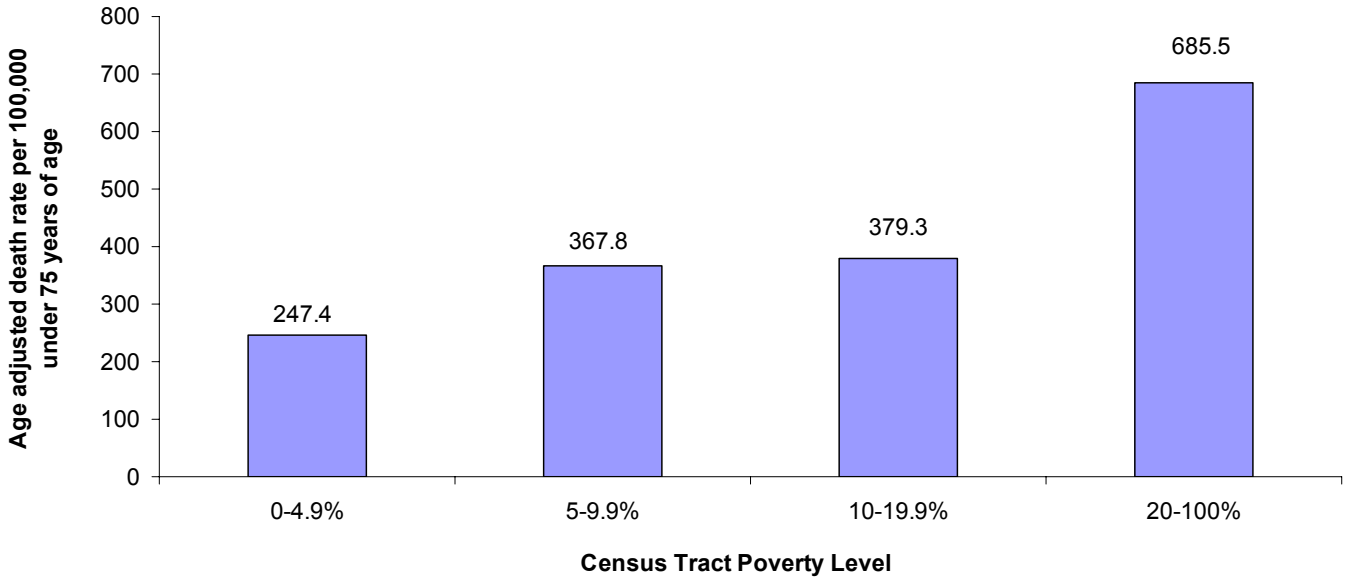


Figure 19. Infant Mortality rates adjusted by poverty level, Massachusetts: 2009

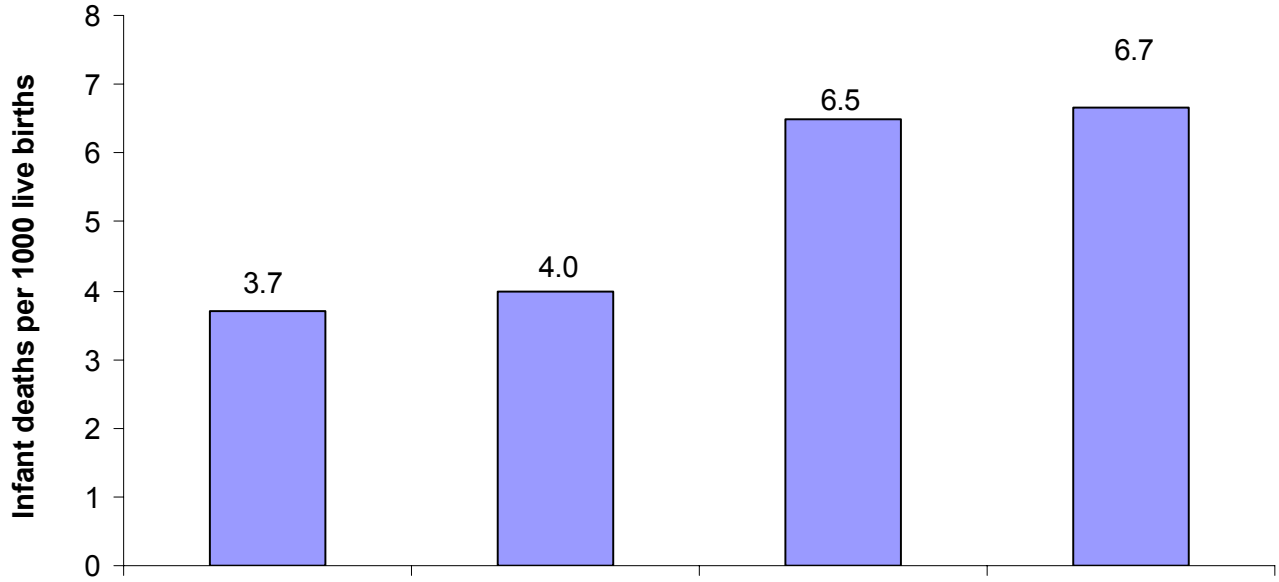


Figure 20. Percent Deaths Amenable to Health Care, Massachusetts: 2009

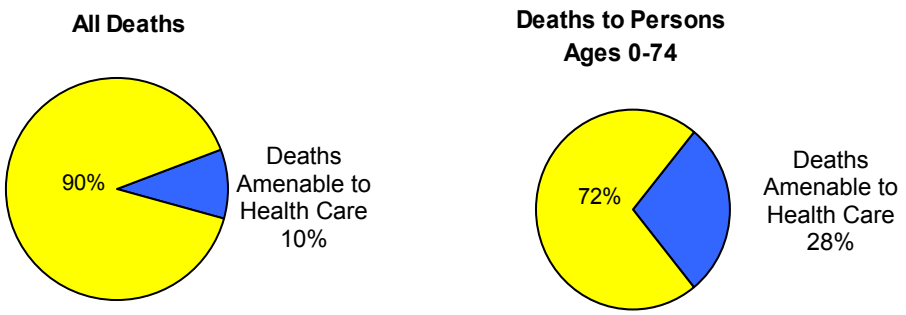


Figure 21. Amenable Mortality by race and Hispanic ethnicity, Massachusetts: 2000 and 2009

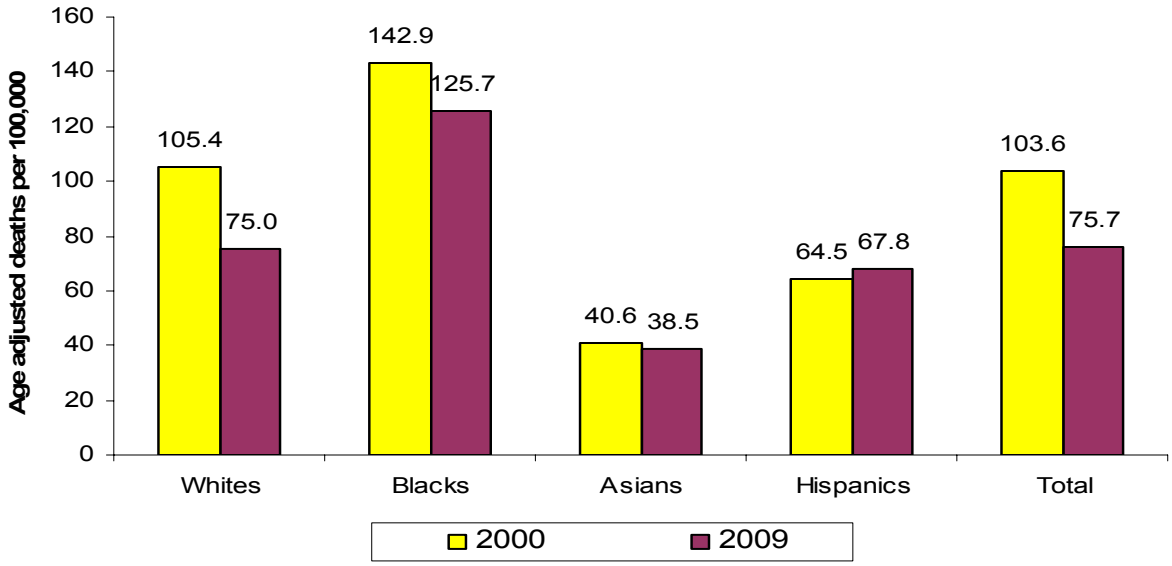
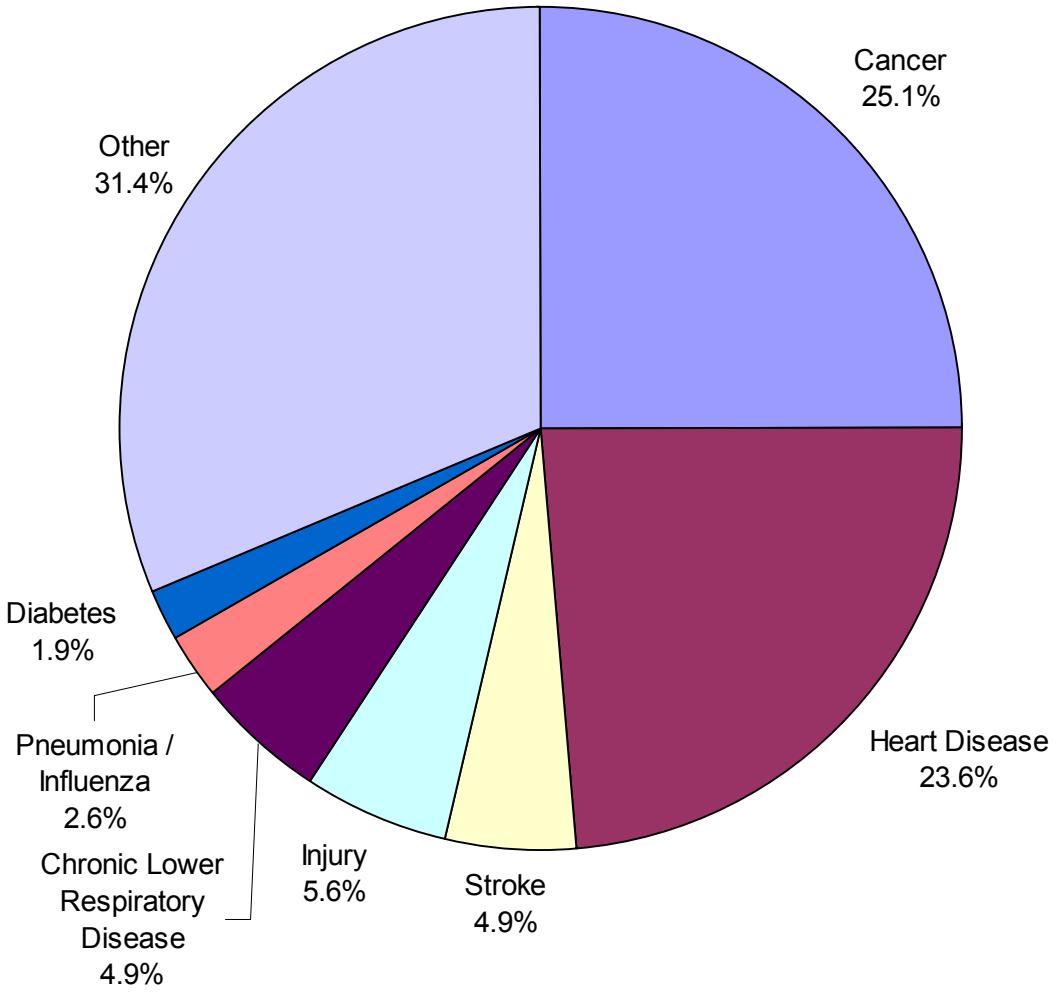


Table 37. Rank by Potential Years of Life Lost (PYLL), Massachusetts: 2009

Cause	Total PYLL	Rank on PYLL	Average PYLL	# of Deaths before 75 years	Rank on Number of Deaths
All Causes	*344,726*		*18.2*	*18,966*	
Cancer	92,910	1	13.9	6,667	1
Heart Disease	50,153	3	14.9	3,371	2
Unintentional injuries	46,068	4	32.0	1,438	6
Perinatal Conditions	16,305	5	74.4	219	21
Suicide	15,400	6	30.8	500	15
Stroke	6,969	8	14.1	493	3
Homicide	7,729	7	44.2	175	24
Diabetes	6,295	9	14.0	450	10
HIV/AIDS	3,021	10	24.8	122	26
Alzheimer's Disease	789	11	9.1	87	7

Note: Total potential years of life lost is calculated by multiplying the number of deaths for each group by the years of life lost (the difference between life expectancy and the midpoint of the age group, then adding the figures for all age groups).

Figure 22. Percent Distribution of Leading Underlying Causes of Death[1], Massachusetts: 2009



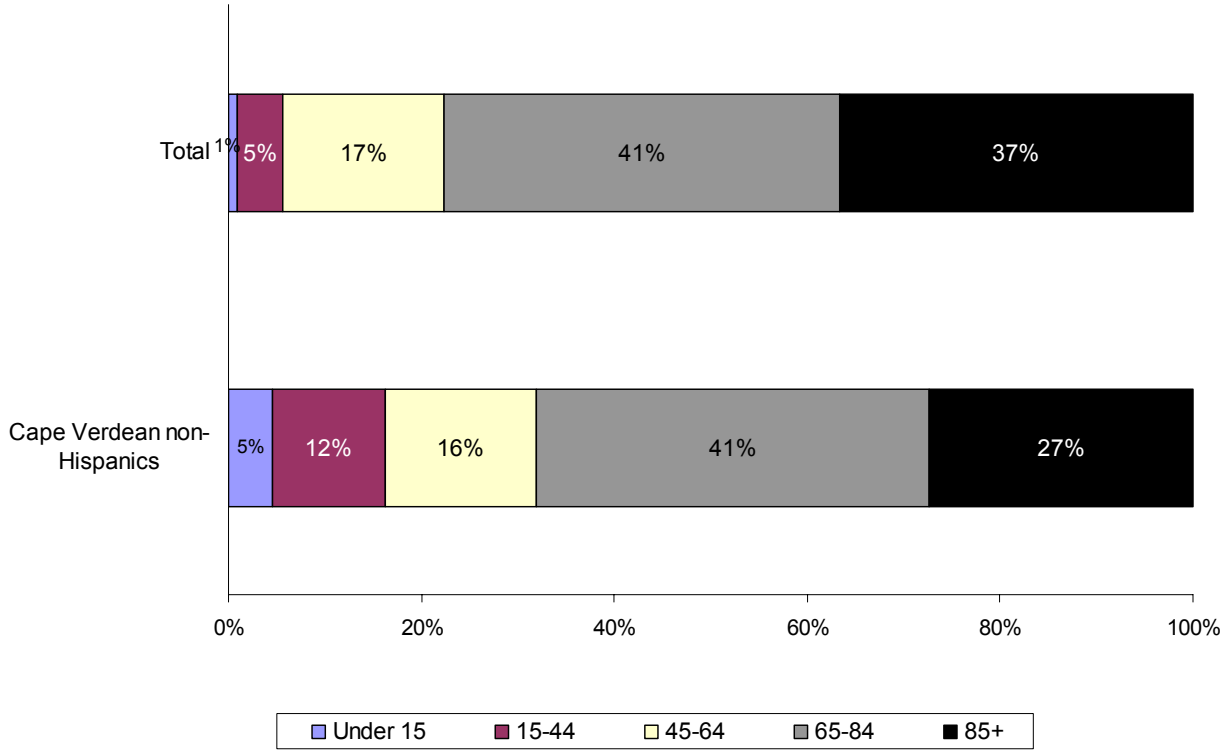
[1]Total Number of Deaths = 51,915
Causes of Death are classified according to ICD-10

Table 38. Leading Causes of Death[1] for Cape Verdean non-Hispanics[2], Massachusetts: 2009

	Number	Percent
Heart Disease	55	25.5
Cancer	49	22.7
Stroke	10	4.6
Unintentional Injuries	10	4.6
Homicide	9	4.2
Nephritis	9	4.2
Perinatal conditions	6	2.8
Influenza and Pneumonia	5	2.3
Septicemia	5	2.3
All Deaths	**216**	**100.0%**

1. Deaths are coded according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Historically, MA DPH has followed federal definitions of race and ethnicity and has reported death rates for White, Black, Asian races including persons of Hispanic origin; and Hispanic ethnicity. Furthermore, Cape Verdeans have been included with Blacks, to be consistent with the National Center for Health Statistics. Starting with Deaths 1999, in all tables where data were classified by race and ethnicity, we presented mutually exclusive categories of White; Black; Asian; and Hispanic. Here, we separate Cape Verdeans from the Black non-Hispanic group. 3 Calculations bases on 1-4 events are excluded.

Figure 23. Age Distribution of Deaths for Cape Verdean non-Hispanics* and State Total, Massachusetts: 2009



* Historically, MA DPH has followed federal definitions of race and ethnicity and has reported death rates for White, Black, Asian races including persons of Hispanic origin; and Hispanic ethnicity. Furthermore, Cape Verdeans have been included with Blacks, to be consistent with the National Center for Health Statistics. Starting with Deaths 1999, in all tables where data were classified by race and ethnicity, we presented mutually exclusive categories of White; Black; Asian; and Hispanic. Here, we separate Cape Verdeans from the Black non-Hispanic group.

Table 39. Number and Age-Specific Rates for Selected Causes of Death by Race and Hispanic Ethnicity, Massachusetts: 2009

	Total		White non-Hispanic[1]		Black non-Hispanic[1]		Asian non-Hispanic[1]		Hispanic	
Selected Causes[2]	**#**	**Rate[3]**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**
Age: 1-14, TOTAL	**118**	**10.7**	**65**	**8.3**	**15**	**16.2**	**6**	**8.8**	**29**	**19.2**
Cancer	21	1.9	12	1.5	2	--[5]	1	--[5]	6	4.0
Unintentional Injuries	17	1.5	11	1.4	2	--[5]	2	--[5]	2	--[5]
Congenital malformations	10	0.9	4	--[5]	1	--[5]	1	--[5]	4	--[5]
Heart Disease	6	0.5	3	--[5]	1	--[5]	0	0.0	1	--[5]
Age: 15-24, TOTAL	**440**	**47.6**	**294**	**42.5**	**63**	**86.3**	**17**	**32.9**	**64**	**60.2**
Unintentional Injuries	180	19.5	146	21.1	12	16.4	6	11.6	15	14.1
Homicide	67	7.2	9	1.3	34	46.6	1	--[5]	23	21.6
Suicide	50	5.4	34	4.9	4	--[5]	4	--[5]	7	6.6
Cancer	24	2.6	18	2.6	0	0.0.	4	--[5]	2	--[5]
Age: 25-44, TOTAL	**1,974**	**110.4**	**1,509**	**112.6**	**218**	**176.1**	**43**	**33.6**	**192**	**100.5**
Unintentional Injuries	526	29.4	440	32.8	33	26.7	6	4.7	47	24.6
Cancer	333	18.6	261	19.5	33	26.7	15	11.7	22	11.5
Heart Disease	234	13.1	179	13.4	36	29.1	2	--[5]	14	7.3
Suicide	178	10.0	156	11.6	8	6.5	4	--[5]	9	4.7
Age: 45-64, TOTAL	**8,688**	**479.8**	**7,446**	**480.5**	**659**	**721.3**	**158**	**227.5**	**408**	**426.1**
Cancer	3,257	179.9	2,862	184.7	184	201.4	82	118.1	123	128.5
Heart Disease	1,665	92.0	1,449	93.5	139	152.1	12	17.3	63	65.8
Unintentional Injuries	575	31.8	503	32.5	36	39.4	6	8.6	29	30.3
Chronic liver disease	296	16.3	253	16.3	16	17.5	3	--[5]	23	24.0
Age: 65+, TOTAL	**40,327**	**4,508.3**	**38,000**	**4,674.4**	**1,271**	**4,051.5**	**453**	**2,000.0**	**566**	**2,172.7**
Heart Disease	10,305	1,152.0	9,779	1,202.9	302	962.7	89	392.9	128	491.4
Cancer	9,406	1,051.5	8,808	1,083.5	328	1,045.6	106	468.0	154	591.2
Stroke	2,303	257.5	2,156	265.2	72	229.5	41	181.0	33	126.7
Chronic lower respiratory disease	2,264	253.1	2,189	269.3	27	86.1	20	88.3	26	99.8

1. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in a race category. Please see the Technical Notes in the Appendix for a more detailed explanation. 2. Deaths are coded according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 3. Number of deaths per 100,000 persons in each age group. 4. Unintentional injuries include injuries such as motor vehicle-related and other transportation related deaths, falls, fires, and drownings that were not intended to occur. 5. Calculations based on values 1-4 are excluded. 6. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title).

Table 39 (continued). Number and Age-Specific Rates for Selected Causes of Death by Race and Hispanic Ethnicity, Massachusetts: 2009

	Total		White non-Hispanic[1]		Black non-Hispanic[1]		Asian non-Hispanic[1]		Hispanic	
Selected Causes[2]	**#**	**Rate[3]**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**
Age: 65-74, TOTAL	**7,380**	**1,637.9**	**6,641**	**1,651.6**	**393**	**2,126.7**	**110**	**811.8**	**225**	**1,438.1**
Cancer	3,030	672.5	2,760	686.4	147	795.5	44	324.7	77	492.1
Heart Disease	1,444	320.5	1,301	323.6	73	395.0	18	132.8	49	313.2
Chronic Lower Respiratory Disease	497	110.3	471	117.1	15	81.2	1	--[5]	9	57.5
Stroke	245	54.4	209	52.0	14	75.8	7	51.7	14	89.5
Age: 75-84, TOTAL	**13,943**	**4,613.7**	**13,092**	4,714.0	**459**	4,628.4	**174**	**2,579.7**	**204**	**2,773.6**
Cancer	3,846	1,272.6	3,627	1,306.0	121	1,220.1	41	607.9	51	693.4
Heart Disease	3,296	1,090.6	3,101	1,116.6	115	1,159.6	33	489.3	46	625.4
Chronic Lower Respiratory Disease	923	305.4	896	322.6	6	60.5	12	177.9	9	122.4
Stroke	745	246.5	689	248.1	24	242.0	18	266.9	14	190.3
Age: 85+, TOTAL	**19,004**	**13,409.4**	**18,267**	**13,722.1**	**419**	**14,084.0**	**169**	**7,176.2**	**137**	**4,493.3**
Heart Disease	5,565	3,926.7	5,377	4,039.2	114	3,831.9	38	1,613.6	33	1,082.3
Cancer	2,530	1,785.2	2,421	1,818.6	60	2,016.8	21	891.7	26	852.7
Stroke	1,313	926.5	1,258	945.0	34	1,142.9	16	679.4	5	164.0
Alzheimer's Disease	1,132	798.7	1,093	821.1	22	739.5	8	339.7	5	164.0

1. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in a race category. Please see the Technical Notes in the Appendix for a more detailed explanation. 2. Deaths are coded according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 3. Number of deaths per 100,000 persons in each age group. 4. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title). 5. Calculations based on values 1-4 are excluded.

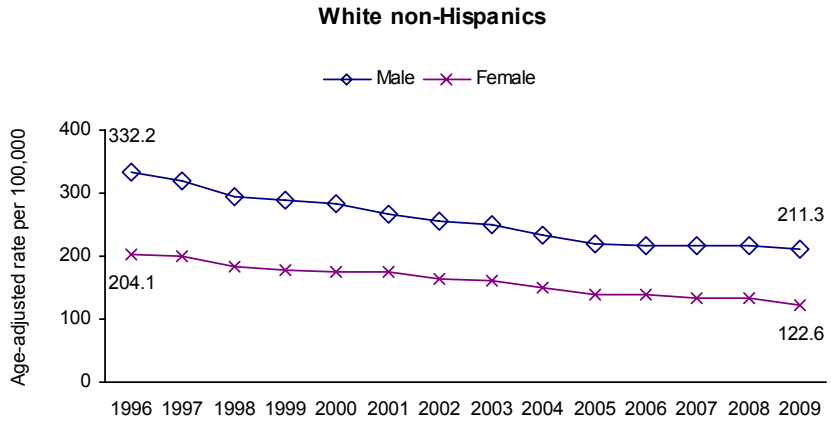
Table 40. Number of Deaths for Leading Causes of Death[1] by Hispanic Ethnicity, Massachusetts: 2009

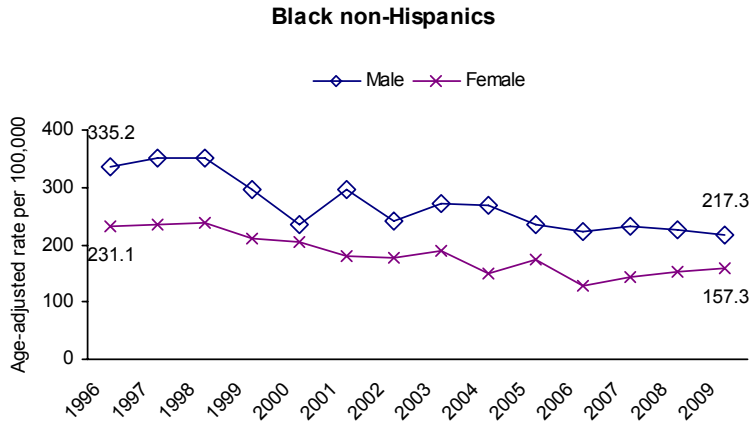
Ethnicity	Cancer	Heart Disease	Unintentional Injuries	Diabetes	Perinatal	Stroke	Homicide	Nephritis	Ill defined conditions	HIV/AIDS	**ALL DEATHS**
Puerto Rican	176	144	59	38	26	26	28	27	23	25	**864**
Dominican	40	24	17	11	10	10	7	2	3	2	**186**
Central American	30	14	13	3	4	7	1	3	4	1	**106**
South American	32	11	11	0	4	1	0	1	2	0	**83**
Cuban	15	8	1	2	2	0	3	3	3	3	**57**
Mexican	8	4	1	1	0	0	0	2	1	1	**21**
Other/Unknown	5	4	2	0	1	1	0	0	0	1	**16**
All Hispanics	**308**	**210**	**104**	**55**	**47**	**45**	**39**	**38**	**37**	**33**	**1,337**

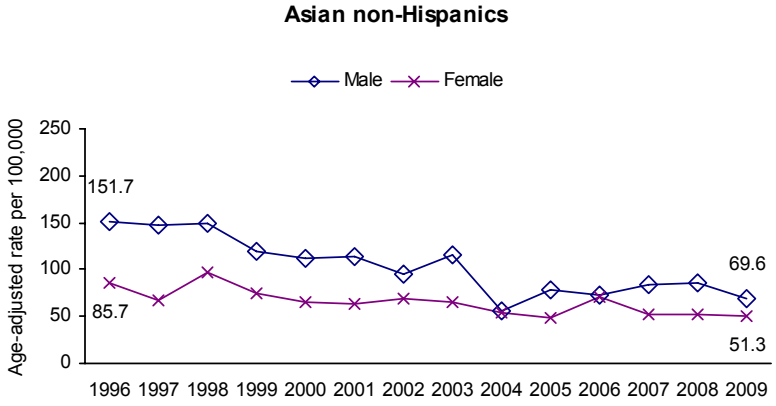
[1] Ranking based on number of deaths. Underlying Cause of Death based on ICD-10 (Please see Appendix for a list of ICD-10 codes used).

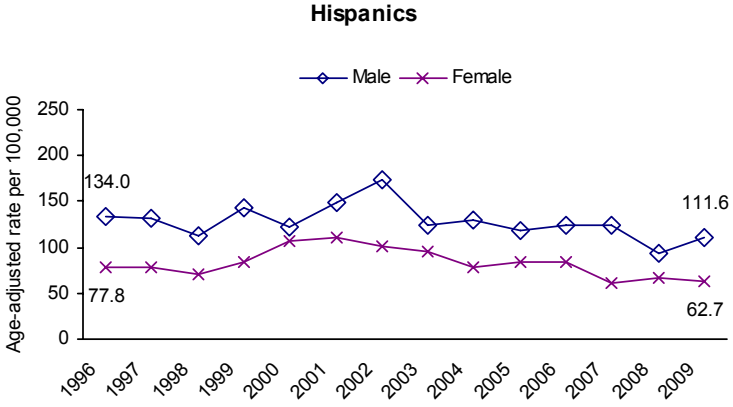
Figure 24. Heart Disease Death Rates[1] by Race/Ethnicity and Gender, Massachusetts: 1996-2009

(For 1996-1998 the comparability modified rates were used)





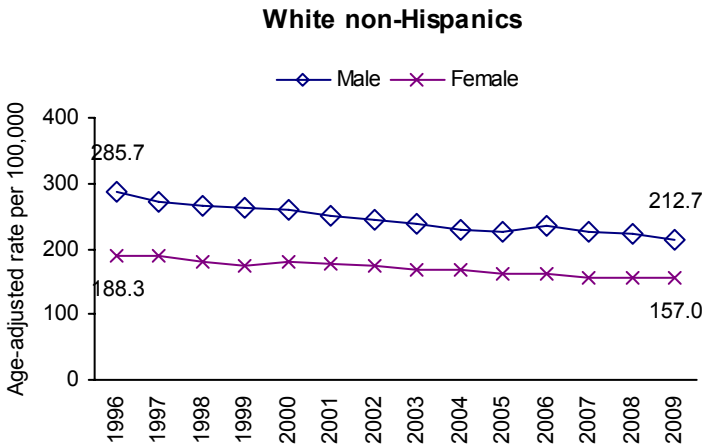


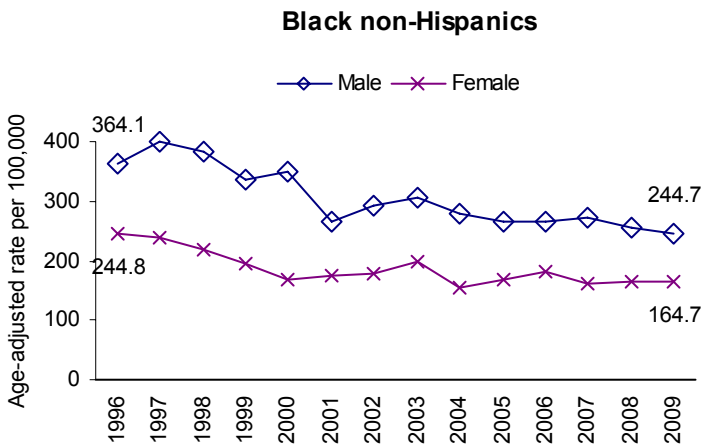


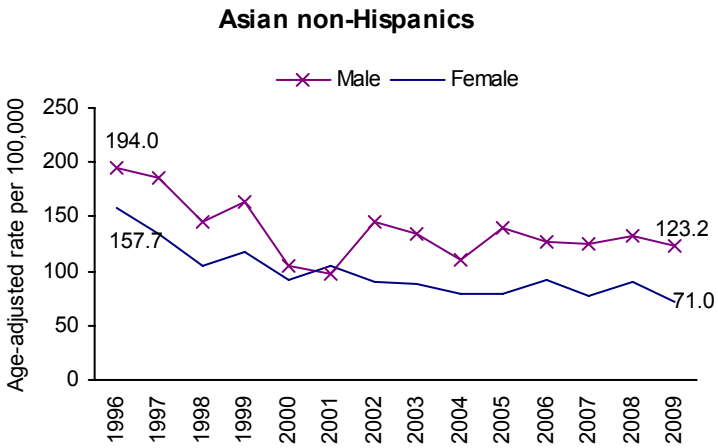
1 Rates are per 100,000 population, age-adjusted to the 2000 U.S. Standard Population.

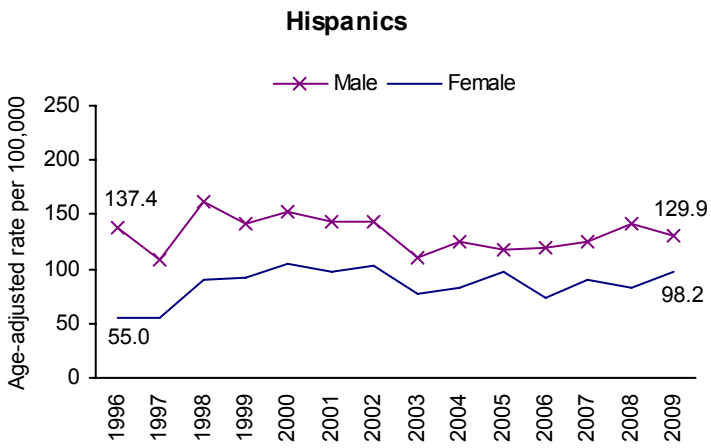
Figure 25. Cancer Death Rates[1] by Race/Ethnicity and Gender, Massachusetts: 1996-2009

(For 1996-1998 the comparability modified rates were used)









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

Table 41. Underlying Cause of Death where Diabetes[1] is a Contributing Cause, Massachusetts: 2009

Underlying Cause of Death	Number	Proportion (%)
Cardiovascular Diseases	1,121	44.3
Heart Disease	918	36.3
Stroke	150	5.9
Cancer	436	17.2
Diseases of the respiratory system	264	10.4
Chronic lower respiratory disease[2]	162	6.4
Influenza and pneumonia	54	2.1
Diseases of the digestive system	103	4.1
Diseases of the genito-urinary system	94	3.7
Nephritis	71	2.8
Diseases of the nervous system and sense organs	114	4.5
Alzheimer's Disease	62	2.4
Parkinson's Disease	21	0.8
Infectious and parasitic diseases	85	3.4
HIV/AIDS	5	0.2
Injury and poisoning	60	2.4
Endocrine, nutritional and metabolic diseases and immunity disorders	40	1.6
Diseases of the musculoskeletal systems and connective tissue	19	0.8
Other	195	7.7
Total deaths where diabetes is ONLY a contributing cause	**2,531**	**100%**

[1] ICD-10: E10-E14. [2] The title of this cause has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title). [3] Calculations based on values 1-4 are excluded.

Table 42. Associated Causes of Death where Diabetes[1] is the Underlying Cause of Death, Massachusetts: 2009

Associated Causes of Death	Number	Proportion (%)
Cardiovascular Disease alone	499	50.2%
Cardiovascular Disease and Diseases of the Genitourinary System	182	18.3%
No Associated Causes	85	8.5%
Other Associated Cause Combinations less than 10	58	5.8%
Diseases of the Genitourinary System alone	55	5.5%
Cardiovascular Disease and Diseases of the Respiratory System	49	4.9%
Cardiovascular Disease, Diseases of the Respiratory System and Diseases of the Genitourinary System	25	2.5%
Diseases of the Respiratory System	17	1.7%
Cardiovascular Disease and Diseases of the Nervous System	15	1.5%
Cancer & Cardiovascular Disease	10	1.0%
Total deaths where diabetes is the underlying cause of death	**995**	**100%**

[1] **ICD-10: E10-E14**

Figure 26. Distribution of Injury Deaths by Intent, Massachusetts: 2009

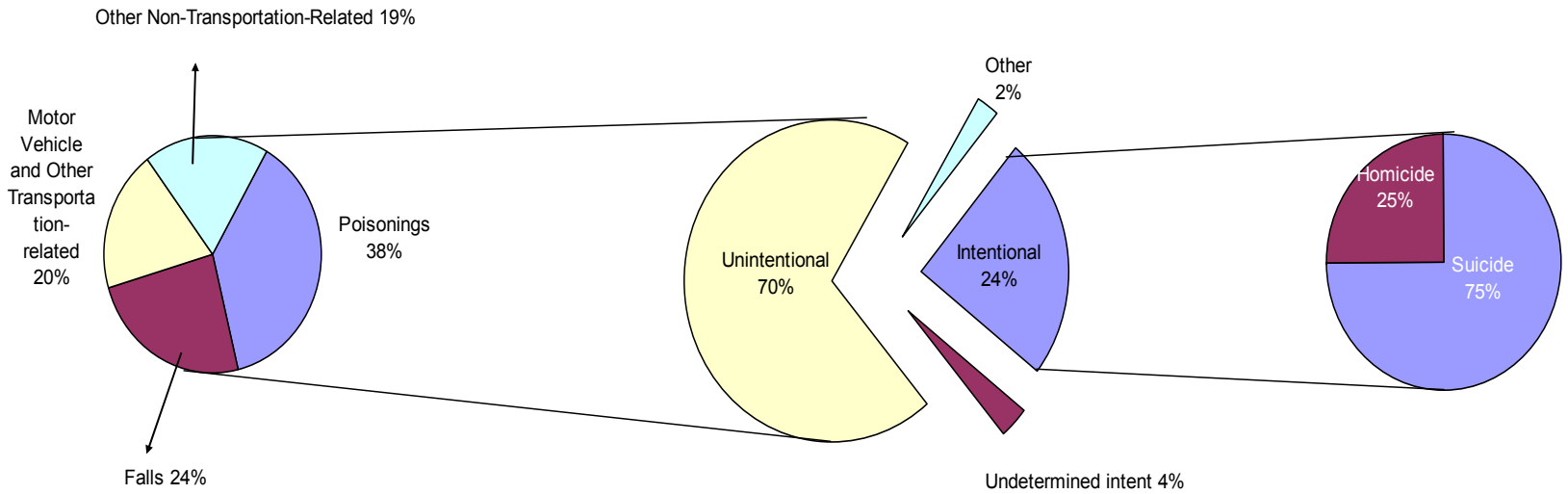


Table 43. HIV/AIDS[1] Deaths by Race, Hispanic Ethnicity, and Gender of Persons Ages 25-44, Massachusetts: 1999-2009

TOTAL	White non-Hispanic[2]		Black non-Hispanic[2]		Hispanic	
Year	#	Rate[3]	#	Rate[3]	#	Rate[3]
1999	74	4.4	32	31.2	40	30.5
2000	60	3.7	28	23.8	40	27.6
2001	70	4.4	35	29.3	31	20.3
2002	42	2.7	24	20.1	35	22.1
2003	63	4.1	19	15.8	25	15.1
2004	38	2.6	17	14.0	31	18.0
2005	29	2.0	22	18.2	19	10.7
2006	35	2.5	17	14.2	23	12.9
2007	16	1.2	11	9.1	12	6.6
2008	19	1.4	9	7.4	8	4.3
2009	11	0.8	7	5.7	12	6.3
MALE						
1999	54	6.5	20	39.9	30	46.2
2000	39	4.9	17	30.1	27	37.9
2001	46	5.8	19	33.3	23	30.6
2002	29	3.8	15	26.3	21	26.8
2003	42	5.6	10	17.3	19	23.1
2004	30	4.1	11	18.9	19	22.1
2005	21	2.9	12	20.4	11	12.3
2006	22	3.2	12	20.5	12	13.3
2007	16	2.4	5	8.5	9	9.7
2008	13	2.0	3	--[4]	6	6.2
2009	8	1.2	4	--[4]	5	5.5
FEMALE						
1999	20	2.3	12	22.9	10	15.1
2000	21	2.5	11	17.9	13	17.6
2001	24	2.9	16	25.7	8	10.3
2002	13	1.6	9	14.4	14	17.4
2003	21	2.7	9	14.4	6	7.2
2004	8	1.1	6	9.6	12	13.9
2005	8	1.1	10	16.0	8	9.0
2006	13	1.8	5	8.2	11	12.5
2007	0	0.0	6	9.8	3	--[4]
2008	6	0.9	6	9.8	2	--[4]
2009	3	--[4]	3	--[4]	7	7.0

1. AIDS and HIV disease deaths coded using ICD-10: B20-B24. 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Table A1 in the Appendix for death data by race according to Federal definitions, which include persons of Hispanic ethnicity in a race category. Please see the Technical Notes in the Appendix for a more detailed explanation. 3. Number of deaths per 100,000 residents in the specified population group. 4. Calculations based on values 1-4 are excluded.

Table 44. Premature Mortality Rates by Community Health Network Area (CHNA), Massachusetts: 2009

CHNA (Name and Number)	Number of Deaths	PMR* (per 100,000 population)
Massachusetts		
Community Health Network of Berkshire (1)	445	306.9
Upper Valley Health Web (Franklin County) (2)	289	333.4
Partnership for Health in Hampshire County (Northampton) (3)	401	297.6
The Community Health Connection (Springfield) (4)	1,006	355.9
Community Health Network of Southern Worcester County (5)	389	348.9
Community Partners for Health (Milford) (6)	400	288.8
Community Health Network of Greater Metro West (Framingham) (7)	867	238.6
Common Pathways (Worcester) (8)	976	355.0
Community Health Network of North Central Massachusetts (9)	797	334.7
Greater Lowell Community Health Network (10)	895	368.8
Greater Lawrence Community Health Network (11)	490	293.4
Greater Haverhill Community Health Network (12)	420	296.1
Community Health Network North (Beverly/Gloucester) (13)	308	237.4
North Shore Community Health Network (14)	889	300.7
Northwest Suburban Health Alliance (15)	476	213.9
North Suburban Health Alliance (Medford/Malden/Melrose) (16)	767	291.7
Greater Cambridge/Somerville Community Health Network (17)	544	227.4
West Suburban Health Network (Newton/Waltham) (18)	524	202.9
Alliance for Community Health (Boston/Chelsea/Revere/Winthrop) (19)	2,083	346.1
Blue Hills Community Health Alliance (Greater Quincy) (20)	1,112	285.2
Community Health Network of Chicopee, Holyoke, Ludlow, Westfield (21)	592	380.1
Greater Brockton Community Health Network (22)	773	343.7
South Shore Community Health Network (23)	597	329.3
Greater Attleboro-Taunton Health & Education Response (24)	743	333.2
Partners for Healthier Communities (Fall River) (25)	513	360.9
Greater New Bedford Community Health Network (26)	782	389.8
Cape Cod and Islands Health Network (27)	887	297.3

*Rates are age-adjusted to the 2000 US Standard Population for persons ages 0-74 years. Rates are per 100,000 population age-adjusted to the 2000 US Standard Population and calculated using MDPH population estimates for 2005, which are the most up-to-date information available on the number of persons by age, race, and sex at the sub-state level.

Table 45. Premature Mortality Rates by County, Massachusetts: 2009

County	Number of Deaths	PMR* (per 100,000 population)
Massachusetts		
Barnstable	825	303.4
Berkshire	445	306.9
Bristol	1,813	348.8
Dukes	37	226.9
Essex	2,107	287.2
Franklin	237	333.3
Hampden	1,620	365.0
Hampshire	407	297.4
Middlesex	3,678	260.4
Nantucket	25	268.0
Norfolk	1,746	264.7
Plymouth	1,580	330.4
Suffolk	2,014	365.8
Worcester	2,431	338.2

*Rates are age-adjusted to the 2000 US Standard Population for persons ages 0-74 years. Rates are per 100,000 population age-adjusted to the 2000 US Standard Population and calculated using MDPH population estimates for 2005, which are the most up-to-date information available on the number of persons by age, race, and sex at the sub-state level.

Table 46. Selected Causes of Death by Community, Massachusetts: 2009

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Breast Cancer[2]	Stroke	CLRD[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Narcotics[5]
Massachusetts	**51,915**	**675.1**	**12,232**	**13,043**	**3,564**	**943**	**2,552**	**2,547**	**995**	**1,335**	**374**	**180**	**530**	**526**
Abington	132	737.4	28	47	16	2	3	7	1	2	0	1	2	3
Acton	86	580.6	24	20	2	0	5	2	5	2	0	0	0	0
Acushnet	75	609.9	19	26	5	3	4	4	1	2	0	0	0	1
Adams	114	793.5	26	25	8	2	3	11	5	2	1	0	2	1
Agawam	300	684.0	62	69	19	4	17	17	2	5	0	0	4	2
Alford	4	-[4]	1	1	1	0	1	0	0	0	0	0	0	0
Amesbury	138	780.9	43	27	6	1	2	7	4	6	0	0	3	0
Amherst	143	650.3	34	32	4	4	8	6	2	8	1	0	4	1
Andover	219	577.2	64	56	10	7	14	7	1	5	0	0	1	0
Aquinnah	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Arlington	358	583.5	88	90	23	5	19	11	5	10	1	1	2	1
Ashburnham	34	732.9	6	8	3	0	3	2	2	1	3	0	1	0
Ashby	20	934.8	1	4	0	1	1	3	0	1	1	0	0	0
Ashfield	13	630.2	1	4	0	1	1	0	0	0	0	0	0	0
Ashland	82	731.9	17	25	7	1	7	3	1	1	1	0	0	0
Athol	130	753.4	26	31	6	2	7	5	4	6	0	0	1	1
Attleboro	336	712.8	74	86	27	7	11	19	7	12	3	1	5	5
Auburn	142	587.8	35	33	9	2	5	12	2	4	0	0	2	1
Avon	37	664.4	10	11	3	1	0	1	2	0	0	0	1	0
Ayer	63	782.3	9	15	7	1	3	4	0	0	0	0	0	0
Barnstable	503	670.1	115	128	33	9	28	29	7	9	2	2	12	4
Barre	47	823.0	11	10	2	1	1	1	1	1	0	0	2	1
Becket	9	535.0	2	2	0	0	1	0	0	0	0	0	0	0
Bedford	131	635.5	23	32	2	3	5	6	3	4	1	0	1	1
Belchertown	75	669.0	19	18	4	2	1	4	1	3	0	0	3	0
Bellingham	92	762.9	23	26	13	1	2	6	0	1	2	0	3	0
Belmont	173	464.9	34	49	10	4	7	10	3	6	1	0	2	0
Berkley	29	786.2	5	8	2	1	1	2	2	0	0	0	1	0
Berlin	18	712.8	6	5	2	0	1	1	1	0	0	0	0	0
Bernardston	18	548.2	8	2	1	0	0	1	0	1	0	0	0	0
Beverly	349	604.9	73	92	24	10	17	28	6	5	2	0	1	3
Billerica	278	979.2	68	86	28	4	7	13	2	7	3	1	1	6
Blackstone	53	668.6	10	18	7	0	3	4	0	1	1	0	1	0
Blandford	6	747.6	2	1	1	0	0	0	0	0	0	0	0	0
Bolton	23	966.4	6	10	2	2	0	1	0	0	0	0	1	0

Table 46. Selected Causes of Death by Community, Massachusetts: 2009

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Breast Cancer[2]	Stroke	CLRD[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Narcotics[5]
Boston	3,701	702.7	797	935	236	67	163	128	94	86	18	43	39	71
Bourne	224	810.0	70	58	13	3	17	4	3	6	2	1	0	2
Boxborough	13	537.5	3	4	0	0	0	0	0	0	0	0	0	0
Boxford	33	554.8	8	11	4	2	0	0	0	0	2	0	1	0
Boylston	26	708.7	12	6	0	0	2	0	0	0	0	0	0	0
Braintree	390	759.6	93	101	32	12	18	23	8	13	0	1	2	2
Brewster	131	547.3	36	24	4	1	10	8	5	0	0	0	1	0
Bridgewater	146	775.9	38	44	14	2	3	4	1	5	0	0	0	5
Brimfield	19	496.9	9	3	0	0	0	2	0	1	0	0	1	0
Brockton	737	772.7	176	165	52	15	31	38	18	28	5	12	8	14
Brookfield	24	823.7	4	4	0	1	1	2	0	2	1	0	0	0
Brookline	296	415.7	80	73	17	5	11	15	4	6	1	0	0	0
Buckland	14	548.2	5	2	0	0	0	1	0	2	0	0	0	1
Burlington	195	931.6	51	41	10	2	13	11	3	2	0	0	2	3
Cambridge	486	569.5	105	117	32	8	19	21	9	13	3	3	9	5
Canton	195	573.7	38	48	14	1	12	7	4	5	1	0	0	1
Carlisle	16	543.3	2	3	1	0	3	0	0	1	0	0	0	1
Carver	89	674.6	16	35	8	1	5	2	3	3	1	0	2	1
Charlemont	11	798.0	2	4	0	1	1	1	0	1	0	0	0	0
Charlton	79	830.3	14	22	7	2	4	2	2	1	2	0	2	1
Chatham	136	652.0	54	31	6	2	9	5	1	4	0	0	1	0
Chelmsford	248	663.6	67	66	15	4	9	11	5	10	0	0	5	1
Chelsea	269	841.0	56	61	14	5	6	11	9	10	2	0	1	3
Cheshire	24	593.3	9	7	4	0	0	3	0	1	0	0	0	0
Chester	14	1,053.7	3	5	1	0	0	1	0	0	0	0	1	0
Chesterfield	6	568.1	2	1	1	0	1	0	0	0	0	0	0	1
Chicopee	578	786.3	138	134	46	2	32	45	11	12	2	1	9	6
Chilmark	5	327.1	0	2	1	1	0	0	0	0	0	0	0	0
Clarksburg	17	865.9	5	1	0	0	3	1	0	0	1	0	0	0
Clinton	119	722.5	31	34	11	0	4	8	3	2	2	1	1	2
Cohasset	45	479.9	5	15	3	0	4	3	0	0	0	0	1	0
Colrain	5	233.9	1	2	1	0	0	0	0	0	0	0	0	0
Concord	140	531.8	31	36	6	1	11	4	0	3	0	0	2	1
Conway	8	501.7	1	2	0	0	2	0	0	0	0	0	0	0
Cummington	8	867.5	2	1	0	0	0	1	1	0	1	0	0	0
Dalton	67	684.7	13	11	2	1	4	6	1	1	2	0	1	1

Table 46. Selected Causes of Death by Community, Massachusetts: 2009

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Breast Cancer[2]	Stroke	CLRD[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Narcotics[5]
Danvers	285	724.7	69	63	19	7	8	15	3	8	3	0	1	3
Dartmouth	275	674.3	82	61	15	3	16	9	2	10	1	1	7	1
Dedham	247	766.0	61	59	21	1	16	16	2	9	3	0	1	4
Deerfield	42	723.3	13	7	2	0	4	0	0	0	0	0	0	0
Dennis	234	742.7	55	65	10	1	14	6	5	5	2	0	1	2
Dighton	47	626.0	12	16	3	1	5	1	1	1	1	0	2	0
Douglas	43	738.3	15	15	1	1	1	1	0	1	0	0	0	0
Dover	18	430.6	6	5	1	1	1	0	0	1	0	0	1	0
Dracut	238	964.7	48	63	21	6	13	14	5	9	5	0	4	1
Dudley	76	683.1	20	24	8	2	3	3	1	1	1	0	0	0
Dunstable	17	1,049.0	4	5	0	0	0	0	0	1	1	0	0	0
Duxbury	104	579.7	31	30	3	4	3	4	2	3	1	0	1	0
East Bridgewater	100	772.6	26	30	6	2	7	3	0	5	1	0	1	1
East Brookfield	11	456.9	3	1	0	0	0	1	0	0	1	0	1	0
East Longmeadow	191	766.8	48	42	11	3	8	7	2	1	1	0	0	0
Eastham	50	519.7	9	18	5	0	2	3	2	0	2	0	0	0
Easthampton	152	739.6	39	26	7	3	9	6	3	7	1	0	3	5
Easton	136	777.9	26	38	6	3	8	9	2	4	3	0	2	0
Edgartown	28	744.3	6	8	2	3	4	1	0	2	0	0	0	0
Egremont	9	448.2	6	1	0	0	0	1	0	0	0	0	0	0
Erving	20	1,125.8	4	6	4	0	0	1	0	1	0	0	0	0
Essex	23	640.1	5	5	1	0	0	0	0	2	0	0	0	0
Everett	297	682.5	68	78	32	5	11	16	5	10	0	3	1	5
Fairhaven	220	777.8	59	46	12	5	10	13	3	2	0	1	3	3
Fall River	997	798.2	272	205	71	9	54	46	29	43	7	3	9	15
Falmouth	422	707.5	106	95	30	5	23	19	7	4	3	0	3	5
Fitchburg	366	774.0	67	86	30	3	33	19	13	9	1	6	4	6
Florida	4	-[4]	0	2	0	1	0	0	0	0	0	0	0	0
Foxborough	94	597.7	30	23	9	1	3	5	0	2	1	0	0	1
Framingham	490	624.6	140	114	35	7	18	17	14	15	1	2	3	2
Franklin	182	802.2	48	54	18	5	7	7	3	3	3	0	4	3
Freetown	60	826.7	20	14	4	0	1	2	2	1	1	0	0	0
Gardner	194	694.5	42	40	12	3	7	18	5	6	0	0	2	2
Georgetown	61	938.7	16	16	1	4	2	5	2	2	0	0	0	0
Gill	12	579.6	1	3	0	0	1	0	1	1	0	0	0	0
Gloucester	303	740.1	72	70	18	12	17	18	3	5	0	0	6	2

Table 46. Selected Causes of Death by Community, Massachusetts: 2009

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Breast Cancer[2]	Stroke	CLRD[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Narcotics[5]
Goshen	4	-[4]	3	1	0	0	0	0	0	0	0	0	0	0
Gosnold	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Grafton	96	639.7	20	27	9	6	7	3	5	5	0	0	0	1
Granby	34	535.5	9	14	4	0	1	1	0	1	0	0	0	0
Granville	4	-4	1	2	1	1	0	1	0	0	0	0	0	0
Great Barrington	78	613.9	16	13	3	4	8	4	1	1	0	0	1	0
Greenfield	203	770.3	52	56	15	5	7	10	5	6	2	0	0	0
Groton	47	704.0	8	13	2	3	3	3	1	2	0	0	0	2
Groveland	48	910.2	10	15	3	0	2	2	0	1	0	0	2	2
Hadley	50	538.7	12	6	3	0	4	4	5	3	2	0	0	0
Halifax	69	856.3	15	21	8	3	4	7	0	3	1	0	1	0
Hamilton	42	615.2	14	7	1	1	2	2	0	2	0	0	2	0
Hampden	47	718.7	9	12	5	1	3	2	1	3	0	0	0	0
Hancock	5	487.1	2	0	0	0	0	0	0	0	0	0	0	0
Hanover	82	666.0	16	30	5	4	3	2	1	2	1	0	1	0
Hanson	67	998.3	20	21	7	1	2	1	0	3	0	0	1	1
Hardwick	24	812.6	5	9	1	2	1	2	0	0	1	0	0	0
Harvard	37	739.5	9	6	0	0	1	0	2	0	0	0	1	0
Harwich	185	597.8	39	58	18	3	8	12	5	2	2	0	0	0
Hatfield	24	501.1	7	5	2	0	3	2	0	0	0	0	1	0
Haverhill	506	728.8	124	141	42	7	10	28	13	8	6	1	4	4
Hawley	2	-[4]	0	0	0	0	0	0	1	0	0	0	0	0
Heath	4	-[4]	1	1	0	0	0	1	0	1	0	0	0	0
Hingham	202	749.9	62	47	11	2	16	9	2	4	0	0	0	0
Hinsdale	14	782.0	1	7	4	0	0	2	0	0	0	0	1	0
Holbrook	99	797.6	20	31	5	1	3	5	4	0	2	0	4	2
Holden	131	639.3	25	38	12	6	8	6	6	1	1	0	1	0
Holland	9	499.9	2	1	0	0	0	1	0	0	1	0	0	0
Holliston	76	841.1	24	15	2	1	2	5	0	0	0	0	1	0
Holyoke	432	811.5	108	86	24	5	24	23	7	13	3	2	4	3
Hopedale	47	511.5	12	8	4	0	4	2	0	3	0	0	0	0
Hopkinton	65	717.4	17	14	3	1	1	4	0	2	0	0	1	0
Hubbardston	25	912.5	4	7	3	0	2	3	0	1	2	0	0	0
Hudson	132	713.3	27	36	6	2	2	8	3	4	2	0	1	1
Hull	80	729.2	19	16	5	3	5	3	0	3	1	0	1	0
Huntington	14	730.8	4	6	3	2	1	1	1	0	0	0	0	0

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CITY/TOWN	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Breast Cancer[2]	Stroke	CLRD[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Narcotics[5]
Ipswich	114	639.7	20	30	7	3	7	6	4	2	2	0	3	0
Kingston	112	702.7	21	35	8	5	3	2	1	7	1	0	0	1
Lakeville	56	462.7	15	16	4	1	2	3	0	1	0	0	0	0
Lancaster	52	781.7	8	17	5	0	4	2	1	2	0	0	1	0
Lanesborough	19	560.4	6	5	2	0	0	0	1	1	0	0	0	0
Lawrence	447	674.1	119	77	16	4	25	23	8	14	6	9	5	3
Lee	63	794.8	20	13	4	0	3	1	0	2	1	0	0	0
Leicester	91	797.4	24	25	11	2	3	8	1	2	0	0	0	1
Lenox	100	771.0	24	25	7	1	3	7	1	0	0	0	0	0
Leominster	380	813.7	69	94	23	13	36	17	7	10	2	3	1	1
Leverett	10	510.7	2	4	1	0	1	0	0	1	0	0	0	0
Lexington	248	486.2	55	75	17	7	13	5	2	7	3	0	0	0
Leyden	13	2,115.7	1	3	1	0	1	1	0	1	1	0	0	0
Lincoln	26	410.5	4	9	1	0	2	0	0	2	0	0	0	0
Littleton	45	482.6	14	8	1	0	2	3	0	0	0	0	0	1
Longmeadow	144	527.7	30	36	6	4	9	4	0	3	0	0	2	0
Lowell	854	898.1	180	199	60	7	49	40	21	20	7	5	3	17
Ludlow	191	766.8	50	41	10	3	13	8	1	7	2	1	3	1
Lunenburg	67	696.0	15	25	6	0	4	4	0	0	2	0	0	0
Lynn	643	703.5	154	173	46	13	34	27	11	22	7	4	7	13
Lynnfield	91	573.6	23	27	9	3	1	3	1	2	1	0	0	0
Malden	407	628.0	94	95	29	10	21	21	5	9	5	2	2	8
Manchester	43	590.3	12	9	2	1	2	2	3	2	0	0	1	0
Mansfield	115	848.3	29	26	8	4	5	3	5	4	0	1	1	1
Marblehead	158	592.8	28	41	9	3	13	5	0	4	2	0	0	0
Marion	57	662.1	17	10	3	1	2	3	2	1	0	0	0	0
Marlborough	316	795.5	84	74	22	5	16	15	8	9	3	0	0	4
Marshfield	185	926.6	36	60	20	3	5	8	5	6	1	0	4	3
Mashpee	142	726.2	36	41	8	1	8	6	2	3	0	0	1	0
Mattapoisett	56	631.9	19	8	1	0	4	3	0	1	0	1	2	0
Maynard	73	642.5	20	21	6	1	3	3	1	2	1	0	0	0
Medfield	58	572.3	18	16	2	3	2	3	2	1	3	0	2	1
Medford	497	630.2	110	118	32	8	21	21	14	19	4	0	2	4
Medway	94	884.6	20	28	6	4	7	5	6	2	1	0	1	2
Melrose	231	593.4	52	69	7	5	13	8	2	3	1	0	2	3
Mendon	20	468.9	6	4	0	0	1	0	0	1	1	0	0	0

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CITY/TOWN	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Breast Cancer[2]	Stroke	CLRD[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Narcotics[5]
Merrimac	38	609.7	9	12	1	1	1	3	2	2	0	0	1	1
Methuen	432	741.1	140	104	24	15	17	20	4	10	2	1	5	4
Middleborough	200	991.0	45	55	20	3	7	4	2	8	3	0	2	0
Middlefield	3	-[4]	2	0	0	0	0	0	0	0	0	0	0	0
Middleton	47	659.8	9	21	1	3	1	3	1	0	0	0	0	0
Milford	216	668.2	68	57	23	3	13	12	7	4	1	0	2	0
Millbury	141	807.0	31	38	11	1	7	8	2	7	2	1	2	2
Millis	44	729.3	12	14	2	1	1	4	2	1	0	0	0	0
Millville	7	425.6	2	0	0	0	2	0	0	0	0	0	0	0
Milton	227	625.5	58	52	9	4	12	11	4	4	2	2	2	0
Monroe	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Monson	71	872.3	11	22	2	3	2	4	1	2	1	0	1	0
Montague	74	677.1	23	13	4	1	2	3	4	2	0	0	3	0
Monterey	5	678.6	1	0	0	0	0	1	0	0	1	0	0	0
Montgomery	8	1,227.9	3	4	2	1	0	0	0	0	0	0	0	0
Mount Washington	2	-[4]	0	1	1	0	1	0	0	0	0	0	0	0
Nahant	48	740.6	12	12	2	0	4	4	0	2	0	0	0	1
Nantucket	57	654.4	15	17	5	0	1	0	1	1	0	1	3	1
Natick	243	606.0	66	54	12	2	11	13	9	3	2	0	3	0
Needham	270	509.4	70	63	12	5	10	12	5	10	1	0	5	0
New Ashford	3	-[4]	1	1	0	0	0	0	0	0	0	0	0	0
New Bedford	1,022	840.1	272	213	59	15	42	46	17	29	10	7	11	17
New Braintree	3	-[4]	0	1	0	0	0	0	0	0	0	0	0	0
New Marlborough	17	1,021.1	3	2	1	0	2	3	1	1	0	0	0	0
New Salem	9	951.2	4	3	1	0	1	0	0	0	0	0	0	0
Newbury	45	693.2	10	9	5	0	6	1	0	0	2	0	1	0
Newburyport	164	695.9	31	44	7	4	7	12	3	3	0	0	0	0
Newton	580	491.4	165	137	33	14	24	19	6	15	2	1	7	5
Norfolk	41	854.0	5	16	3	1	1	3	0	0	1	0	2	1
North Adams	141	676.0	29	35	18	1	7	10	5	5	0	0	0	3
North Andover	207	559.2	40	60	16	4	12	13	2	8	0	0	0	0
North Attleboro	158	636.0	27	45	10	6	7	7	2	7	1	0	1	1
North Brookfield	43	820.7	16	9	3	1	2	2	2	1	0	0	2	1
North Reading	111	939.5	22	22	6	2	1	6	2	4	3	0	1	1
Northampton	286	766.7	69	69	19	6	11	14	4	5	1	2	3	2
Northborough	107	955.0	28	32	10	3	5	4	3	2	1	0	4	1

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CITY/TOWN	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Breast Cancer[2]	Stroke	CLRD[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Narcotics[5]
Northbridge	153	829.2	35	38	11	2	8	8	3	3	0	0	1	2
Northfield	20	538.7	0	9	0	0	3	2	0	0	0	1	0	0
Norton	118	834.1	34	35	7	1	3	4	3	4	0	0	3	1
Norwell	79	629.1	9	22	8	1	3	3	1	4	1	0	0	1
Norwood	278	636.5	74	69	27	6	14	12	5	1	0	0	1	2
Oak Bluffs	37	810.5	9	8	3	0	3	2	1	1	1	0	0	0
Oakham	11	911.8	2	4	0	0	0	0	0	0	0	0	0	0
Orange	73	809.5	17	17	3	3	4	9	4	3	1	0	0	1
Orleans	92	494.9	28	19	6	2	7	5	0	3	1	0	0	0
Otis	9	624.3	0	3	2	0	1	1	0	1	0	0	0	0
Oxford	114	928.4	26	36	16	2	5	7	0	3	5	0	1	1
Palmer	126	751.2	22	30	14	6	6	4	2	3	0	0	6	1
Paxton	36	703.2	10	6	1	1	3	2	0	2	0	0	0	0
Peabody	614	843.4	142	153	37	11	39	28	11	14	1	1	3	2
Pelham	6	414.4	0	1	0	0	1	1	0	0	0	0	0	0
Pembroke	106	763.2	21	32	13	2	6	3	4	4	2	0	3	1
Pepperell	67	846.1	16	22	6	3	1	3	2	2	0	0	1	0
Peru	6	783.9	0	1	0	0	0	0	0	1	1	0	0	0
Petersham	11	513.8	4	1	0	0	0	0	0	0	0	0	1	0
Phillipston	13	893.9	1	3	0	0	0	1	2	1	0	0	1	0
Pittsfield	470	713.7	112	115	34	8	24	36	10	6	7	2	3	4
Plainfield	7	1,035.8	1	3	2	0	0	0	1	0	0	0	0	0
Plainville	48	615.1	9	17	7	0	3	1	3	0	1	1	1	0
Plymouth	491	818.4	126	123	32	5	27	35	4	9	5	0	8	6
Plympton	20	1,167.9	5	5	1	0	2	1	1	0	0	0	0	0
Princeton	15	662.8	3	4	1	2	1	0	1	0	0	0	0	0
Provincetown	58	1,123.3	13	14	4	0	5	4	1	0	0	0	0	0
Quincy	802	660.8	186	190	58	14	40	32	21	34	4	4	2	15
Randolph	256	733.7	65	74	18	10	10	9	5	4	1	2	1	2
Raynham	109	730.9	33	31	9	4	7	7	3	3	1	0	1	0
Reading	203	717.9	39	54	17	7	12	14	3	3	3	1	1	1
Rehoboth	66	676.7	19	20	8	1	4	3	1	0	0	0	1	0
Revere	468	804.3	102	118	40	9	20	27	11	14	2	0	2	11
Richmond	8	418.4	2	3	0	0	1	0	0	0	0	0	0	0
Rochester	23	579.0	8	7	2	0	1	3	1	1	0	0	1	0

Table 46. Selected Causes of Death by Community, Massachusetts: 2009

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Breast Cancer[2]	Stroke	CLRD[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Narcotics[5]
Rockland	166	870.6	34	52	20	4	5	6	3	5	2	0	4	1
Rockport	78	579.3	19	16	6	2	4	2	1	2	0	0	2	2
Rowe	3	-[4]	2	0	0	0	0	0	0	0	0	0	0	0
Rowley	35	697.1	7	11	1	2	0	2	0	0	0	0	0	0
Royalston	7	513.7	1	2	1	0	1	1	0	0	0	0	0	0
Russell	10	698.3	2	1	0	0	0	1	0	0	0	0	0	1
Rutland	28	477.8	5	9	3	0	2	1	0	2	0	0	0	0
Salem	325	652.7	79	87	21	5	16	10	4	9	3	1	5	8
Salisbury	63	773.7	16	11	3	0	3	5	3	2	0	0	2	1
Sandisfield	10	967.6	2	1	0	0	0	0	1	0	0	0	0	0
Sandwich	146	577.9	37	32	6	3	6	9	1	3	1	0	3	0
Saugus	254	662.9	56	59	20	3	16	9	7	6	5	0	0	3
Savoy	4	-[4]	0	2	2	0	1	0	0	0	0	0	1	0
Scituate	161	738.8	31	54	12	10	11	4	1	4	0	0	3	0
Seekonk	58	398.1	18	17	5	0	3	2	1	1	0	0	1	0
Sharon	86	498.6	21	26	5	2	3	3	2	2	0	0	0	0
Sheffield	23	572.2	4	6	6	0	1	1	1	2	1	0	0	0
Shelburne	32	1,007.1	6	11	3	1	5	1	0	0	0	0	1	0
Sherborn	22	550.9	7	4	0	0	1	1	0	1	0	0	0	0
Shirley	36	607.6	6	10	4	0	6	2	0	0	0	0	1	0
Shrewsbury	269	718.5	52	77	18	6	16	14	4	8	2	0	3	1
Shutesbury	7	845.8	0	2	0	0	0	0	0	0	0	0	0	0
Somerset	208	665.9	67	51	18	2	4	8	4	9	1	1	1	1
Somerville	396	571.4	79	125	38	3	16	12	13	3	2	2	7	5
South Hadley	165	637.3	31	42	8	2	5	18	1	3	0	0	0	2
Southampton	50	866.4	14	14	5	0	2	2	1	0	0	0	0	0
Southborough	45	692.4	12	15	1	2	2	2	0	1	0	0	1	1
Southbridge	158	719.7	39	27	6	2	8	7	5	6	1	0	1	3
Southwick	70	718.0	14	16	8	1	4	2	1	2	3	0	0	0
Spencer	92	800.9	18	18	4	1	7	10	4	1	2	0	1	3
Springfield	1,126	722.5	233	285	83	20	50	43	28	28	7	17	14	15
Sterling	44	785.9	8	11	3	2	5	0	0	0	0	0	1	2
Stockbridge	25	592.1	4	7	2	1	1	3	1	1	1	0	0	0
Stoneham	195	576.9	37	48	12	3	16	14	2	5	1	0	1	4
Stoughton	239	720.8	60	73	15	11	6	16	5	6	0	0	0	3
Stow	43	956.9	12	7	4	0	4	5	0	0	0	0	1	1

Table 46. Selected Causes of Death by Community, Massachusetts: 2009

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Breast Cancer[2]	Stroke	CLRD[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Narcotics[5]
Sturbridge	54	580.3	15	8	3	0	1	4	3	1	1	0	1	0
Sudbury	92	617.5	26	31	3	7	3	7	0	2	0	0	0	0
Sunderland	22	841.2	5	6	0	0	1	2	0	0	0	0	0	0
Sutton	53	843.0	11	14	2	3	3	1	1	2	0	0	0	0
Swampscott	119	472.9	26	34	8	1	5	6	3	3	0	0	1	2
Swansea	147	708.1	30	42	10	2	5	6	0	5	1	1	2	2
Taunton	487	787.0	135	109	31	6	19	36	12	12	4	3	9	7
Templeton	83	1,004.3	24	16	7	0	5	1	0	3	2	1	2	1
Tewksbury	252	924.6	51	73	22	1	9	15	3	6	3	1	3	4
Tisbury	34	559.7	7	6	3	0	3	3	0	1	0	0	1	1
Tolland	3	-[4]	0	2	1	0	0	0	0	0	0	0	0	0
Topsfield	57	727.1	6	18	3	3	4	2	2	1	1	0	0	1
Townsend	42	772.4	9	12	3	0	1	5	1	0	2	0	1	0
Truro	23	711.3	8	7	1	0	0	0	0	0	0	0	0	0
Tyngsborough	51	759.2	11	9	3	1	1	5	1	1	2	0	3	0
Tyringham	1	-[4]	0	1	0	0	0	0	0	0	0	0	0	0
Upton	47	881.0	11	16	3	0	1	5	0	1	0	0	0	0
Uxbridge	97	898.0	22	25	10	1	7	5	0	4	2	0	2	0
Wakefield	232	677.8	59	50	15	3	10	18	4	6	2	0	1	0
Wales	17	1,299.9	1	8	3	0	0	2	1	0	1	0	1	0
Walpole	180	602.0	38	43	11	4	14	6	3	4	2	0	2	1
Waltham	416	623.7	83	111	27	10	28	23	5	5	5	1	6	0
Ware	108	791.2	37	23	6	3	7	3	0	3	2	0	1	0
Wareham	247	902.7	59	69	21	6	16	13	1	10	3	1	2	2
Warren	39	756.2	7	13	4	2	1	3	2	1	1	0	0	0
Warwick	4	-[4]	2	0	0	0	1	0	1	0	0	0	0	0
Washington	3	-[4]	0	1	0	0	0	0	0	0	0	0	0	0
Watertown	250	525.3	52	70	22	2	15	12	1	4	3	0	4	1
Wayland	90	590.6	29	18	4	1	6	4	0	1	0	0	0	2
Webster	193	813.1	45	33	9	3	11	13	5	8	1	0	2	4
Wellesley	149	432.3	32	44	8	3	6	6	1	4	2	0	0	0
Wellfleet	20	403.8	5	7	2	0	2	0	0	1	0	0	0	0
Wendell	1	-[4]	0	1	1	0	0	0	0	0	0	0	0	0
Wenham	28	532.1	5	7	1	0	4	2	1	0	0	0	0	0
West Boylston	74	762.9	14	17	3	1	1	3	1	1	0	0	0	0
West Bridgewater	80	768.8	20	21	9	0	4	3	0	3	0	0	1	1

Table 46. Selected Causes of Death by Community, Massachusetts: 2009

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Breast Cancer[2]	Stroke	CLRD[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Narcotics[5]
West Brookfield	51	798.8	15	10	6	1	5	2	1	1	0	0	0	1
West Newbury	23	751.3	8	5	0	2	3	1	0	0	0	0	0	0
West Springfield	269	752.5	68	69	18	4	10	14	2	5	3	0	3	3
West Stockbridge	7	318.1	2	2	2	0	1	0	0	0	0	0	1	0
West Tisbury	17	756.9	2	8	4	2	0	3	0	2	0	0	0	0
Westborough	151	719.9	27	32	8	3	11	5	4	8	0	0	1	0
Westfield	373	791.5	92	94	27	5	11	13	5	9	6	0	4	7
Westford	110	767.8	15	31	8	3	8	4	3	0	0	0	4	0
Westhampton	8	655.1	3	5	0	1	0	0	0	0	0	0	0	0
Westminster	58	853.4	10	20	5	3	3	6	0	1	1	0	0	1
Weston	89	455.3	17	23	8	1	3	2	4	1	0	1	1	0
Westport	112	641.8	25	26	6	3	9	10	5	1	1	0	3	1
Westwood	147	558.4	43	35	8	1	8	7	0	4	2	0	3	0
Weymouth	554	823.9	144	155	38	12	25	29	9	11	5	1	1	14
Whately	10	553.8	4	1	0	0	0	2	0	0	0	0	0	0
Whitman	101	822.8	19	33	11	3	6	8	1	2	1	0	1	2
Wilbraham	132	650.5	28	43	10	1	9	4	2	2	0	1	0	1
Williamsburg	24	873.0	6	4	1	1	2	0	1	0	0	0	2	0
Williamstown	92	568.9	19	15	6	1	14	6	3	3	0	0	0	0
Wilmington	169	845.3	40	47	14	5	10	9	5	4	2	0	0	0
Winchendon	75	845.6	18	25	12	0	6	6	2	0	0	0	1	1
Winchester	152	433.2	31	53	11	4	12	6	2	3	1	1	1	2
Windsor	3	-[4]	1	0	0	0	0	0	0	0	0	0	0	0
Winthrop	171	730.3	35	44	7	3	6	10	1	2	0	0	4	4
Woburn	370	830.7	89	109	34	1	22	22	3	10	1	0	6	2
Worcester	1,606	786.9	338	354	101	27	72	100	43	46	7	7	9	12
Worthington	12	857.5	5	1	0	0	0	1	0	0	0	0	1	0
Wrentham	103	800.8	24	17	8	1	6	4	1	4	0	0	2	0
Yarmouth	371	664.3	83	95	29	4	12	22	7	7	2	0	4	3

1. Rates are per 100,000 population age-adjusted to the 2000 US Standard Population and calculated using MDPH population estimates for 2005, which are the most up-to-date information available on the number of persons by age, race, and sex at the sub-state level. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Includes only female breast cancer. 3. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title). 4. Rates based on 1 to 4 deaths are not calculated. 5. Deaths due to narcotics and hallucinogens including cannabis, cocaine, codeine, heroin, lysergic acid diethylamide (LSD), mescaline, methadone, morphine, and opium (alkaloids).

Table 47. Selected Causes of Death by Community Health Network Area (CHNA), Massachusetts: 2009

CHNA Name	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Female Breast Cancer[2]	Stroke	CLRD[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Narcotics[4]
Massachusetts	**51,915**	**675.1**	**12,232**	**13,043**	**3,564**	**943**	**2,552**	**2,547**	**995**	**1,335**	**374**	**180**	**530**	**526**
Community Health Network of Berkshire	1,356	674.8	311	309	109	20	80	97	31	28	16	2	10	9
Upper Valley Health Web (Franklin County)	791	699.7	187	196	44	14	43	42	22	27	4	1	7	3
Partnership for Health in Hampshire County (Northampton)	1,165	687.4	295	266	66	22	55	63	20	33	8	2	18	11
The Community Health Connection (Springfield)	2,507	711.5	533	634	181	49	118	103	41	54	15	18	30	23
Community Health Network of Southern Worcester County	979	731.7	234	217	69	17	48	61	26	27	18	0	13	14
Community Partners for Health (Milford)	1,104	742.0	283	303	98	20	59	56	20	26	11	0	14	7
Community Health Network of Greater Metro West (Framingham)	2,595	664.5	672	638	165	47	122	122	54	63	19	3	25	16
Common Pathways (Worcester)	2,612	739.8	561	621	175	52	124	156	64	76	12	8	17	18
Community Health Network of North Central Massachusetts	1,978	757.0	398	517	153	39	134	112	42	43	19	11	21	19
Greater Lowell Community Health Network	2,048	848.3	444	532	157	26	96	102	40	54	21	7	23	29
Greater Lawrence Community Health Network	1,352	654.0	372	318	67	33	69	66	16	37	8	10	11	7
Greater Haverhill Community Health Network	1,154	715.7	282	302	73	23	36	66	27	24	10	1	14	8
Community Health Network North (Beverly/Gloucester)	1,037	635.8	226	254	63	32	57	62	20	21	5	0	15	8
North Shore Community Health Network	2,537	694.5	589	649	171	46	136	107	40	70	22	6	17	32
Northwest Suburban Health Alliance	1,591	617.6	367	437	99	23	98	68	23	38	8	1	12	11
North Suburban Health Alliance (Medford/Malden/Melrose)	2,173	646.3	481	534	150	43	105	118	37	59	19	6	11	26
Greater Cambridge/Somerville Community Health Network	1,663	554.7	358	451	125	22	76	66	31	36	10	6	24	12
West Suburban Health Network (Newton/Waltham)	1,916	544.3	477	477	118	36	96	85	23	49	15	3	24	9
Alliance for Community Health (Boston/Chelsea/Revere/Winthrop)	4,905	692.3	1,070	1,231	314	89	206	191	119	118	23	43	46	89
Blue Hills Community Health Alliance (Greater Quincy)	3,355	685.6	805	869	240	77	173	148	62	89	15	10	14	37
Community Health Network of Chicopee, Holyoke, Ludlow, Westfield	1,602	784.0	395	366	111	17	81	91	25	41	13	4	21	17
Greater Brockton Community Health Network	1,807	756.4	423	493	137	40	71	94	34	55	12	13	20	31
South Shore Community Health Network	1,491	781.2	341	444	125	32	65	71	24	45	15	0	25	14
Greater Attleboro-Taunton Health & Education Response	1,779	722.0	446	464	134	35	74	91	39	53	13	5	27	15
Partners for Healthier Communities	1,464	745.3	394	324	105	16	72	70	38	58	10	5	15	19
Greater New Bedford Community Health Network	2,035	781.2	555	454	122	33	96	96	29	57	15	11	26	24
Cape Cod and Islands Health Network	2,915	653.9	733	741	193	40	162	141	48	54	18	4	30	18

1. Rates are per 100,000 population age-adjusted to the 2000 US Standard Population and calculated using MDPH population estimates for 2005, which are the most up-to-date information available on the number of persons by age, race, and sex at the sub-state level. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Includes only female breast cancer. 3. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title). 4. Deaths due to narcotics and hallucinogens including cannabis, cocaine, codeine, heroin, lysergic acid diethylamide (LSD), mescaline, methadone, morphine, and opium (alkaloids).

Table 48. Selected Causes of Death by County, Massachusetts: 2009

County	Total Deaths	Age-Adjusted Death Rate[1]	Heart Disease	Total Cancer	Lung Cancer	Female Breast Cancer[2]	Stroke	CLRD[3]	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Narcotics[4]
Massachusetts	**51,915**	**675.1**	**12,232**	**13,043**	**3,564**	**943**	**2,552**	**2,547**	**995**	**1,335**	**374**	**180**	**530**	**526**
Barnstable	2,737	657	694	692	175	34	151	132	46	47	17	3	26	16
Berkshire	1,356	675	311	309	109	20	80	97	31	28	16	2	10	9
Bristol	4,775	738	1,258	1,115	316	76	218	237	102	150	35	19	63	56
Dukes	121	645	24	32	13	6	10	9	1	6	1	0	1	1
Essex	6,080	679	1,469	1,523	374	134	298	301	103	152	45	17	57	55
Franklin	630	692	155	159	37	12	35	35	16	20	4	1	4	2
Hampden	4,140	738	936	1,006	292	64	198	198	66	96	30	22	53	40
Hampshire	1,179	688	299	272	69	24	56	64	21	33	8	2	18	11
Middlesex	10,559	644	2,433	2,714	725	175	519	503	186	253	78	25	97	95
Nantucket	57	654	15	17	5	0	1	0	1	1	0	1	3	1
Norfolk	5,271	644	1,293	1,378	373	111	245	251	101	132	38	11	42	54
Plymouth	3,948	770	932	1,088	320	83	186	182	55	127	30	15	49	43
Suffolk	4,609	719	990	1,158	297	84	195	176	115	112	22	43	46	89
Worcester	6,449	739	1,423	1,578	459	120	360	360	151	178	50	19	61	54

1. Rates are per 100,000 population age-adjusted to the 2000 US Standard Population and calculated using MDPH population estimates for 2005, which are the most up-to-date information available on the number of persons by age, race, and sex at the sub-state level. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Includes only female breast cancer. 3. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title). 4. Deaths due to narcotics and hallucinogens including cannabis, cocaine, codeine, heroin, lysergic acid diethylamide (LSD), mescaline, methadone, morphine, and opium (alkaloids).

Table A1. Age-Adjusted Death Rates[1] for Selected Causes of Death by Race and Gender, Massachusetts: 2009

		White[2]			Black[2]		
Cause	**ICD-10 Code**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
All Deaths		**830.3**	**577.8**	**681.2**	**885.5**	**619.0**	**727.9**
Heart Disease	I00-I09, I11, I13, I20-I51	209.3	121.7	157.1	191.5	143.1	163.3
Cancer	C00-C97	211.3	155.8	176.4	217.9	148.9	173.9
Stroke	I60-I69	31.7	31.6	32.0	45.5	32.9	38.5
Chronic Lower Respiratory Disease[3]	J40-J47	38.6	33.0	34.8	14.8	14.2	14.7
Influenza and Pneumonia	J10-J18	22.2	14.3	16.9	21.6	12.0	15.3
Diabetes	E10-E14	17.0	9.6	12.6	33.7	23.5	27.7
Alzheimer's Disease	G30	18.8	22.1	21.1	11.5	14.9	14.3
Nephritis	N00-N07, N17-N19, N25-N27	21.7	12.3	15.7	40.5	22.6	29.1
Septicemia	A40-A41	12.3	8.0	9.7	17.9	16.5	16.9
HIV/AIDS	B20-B24	1.8	0.8	1.3	13.7	3.7	8.3
Perinatal Conditions	P00-P96	4.0	3.3	3.7	6.1	5.7	5.9
All Injuries	V01-Y98	61.2	24.8	42.2	70.4	20.0	43.9
Motor Vehicle-Related Injuries	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2	8.1	3.3	5.6	8.9	1.1	4.7
Suicide	X60-X84, Y87.0	13.2	3.3	8.1	9.8	0.8	5.0
Homicide	X85-Y09, Y87.1	2.5	1.2	1.9	21.8	3.9	12.8

1. Age-adjusted death rates are calculated using the NCHS population estimates for 2006 by age, sex, race, and Hispanic origin. Age-adjusted to the 2000 US standard population, per 100,000. 2. Race categories presented in this table are consistent with Federal definitions of race and ethnicity. Persons of Hispanic ethnicity are included in any race category. Please use data in this table to compare to national data by race. 3. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title).

TECHNICAL NOTES

Since our 1999 publication, the *Advance Data: Deaths* series has been renamed *Massachusetts Deaths*.

NOTE
Please note that death statistics are presented as both *numbers* (or percentages, proportions) and *rates. Numbers* are, of course, the basic, raw counts of deaths, while *rates* are population-based statistics, for example, *the number of deaths per 100,000*.

DATA SOURCES
Data for this document are derived from Massachusetts death certificates, Massachusetts birth certificates, the US Census, the Massachusetts Institute for Social and Economic Research (MISER) (population data pre-2000), and the National Center for Health Statistics (NCHS).

CHANGES TO MORTALITY DATA, EFFECTIVE 1999
Beginning with data year 1999, two major changes in Federal classification and tabulation procedures occurred that affects the tabulation and analyses of mortality data over time. First, a new revision for classifying causes of death was implemented: The International Classification of Diseases, Tenth Revision (ICD-10) replaced the International Classification of Diseases, Ninth Revision (ICD-9) for coding all mortality data. Second, a new standard population for the tabulation of age-adjusted mortality rates was also implemented.

CHANGES TO THE PRESENTATION OF RACE AND ETHNICITY DATA
In response to readers' feedback, the presentation of race and ethnicity data has been changed. Previously, race and ethnicity data were presented according to Federal definitions of race and ethnicity; that is, persons of Hispanic ethnicity can be of any race group. Beginning with the 1999 report, race and ethnicity data are presented as mutually exclusive categories, that is, persons of Hispanic ethnicity are not included in a race group. All race and ethnicity data presented in trend tables have been updated to reflect this change. Thus, race and ethnicity data tables include the categories White non-Hispanic; Black non-Hispanic; Asian; and Hispanic. In addition, Table A1 in the Appendix contains data according to the Federal definitions so data can be compared with the nation and other states. Race data presented in Table A1 are for Whites (including persons of Hispanic ethnicity) and Blacks (including persons of Hispanic ethnicity). Furthermore, starting with the 2001 publication, there has been a nomenclature change in the way data for Asians are presented: the Asian/Pacific Islander non-Hispanics category was renamed Asians, which includes Pacific Islanders.

CAPE VERDEANS
The US Federal Census and the National Center for Health Statistics (NCHS) places persons who are Cape Verdean in the race category "Black". Historically, we have followed this federal definition in order to be consistent with NCHS. Beginning with 1999 data, we have separated the concept of "Race" from "Ethnic Group" for reporting death statistics. This enables us to place Cape Verdeans where they self-identify: Cape Verdeans are classified as "Cape Verdeans" in ethnicity tables. With respect to race, 70% of Cape Verdeans classified their race as "Other" while only 24% classified themselves as Black and 6% as White in 1999. We have no Cape Verdean population counts or estimates with which to calculate rates at the state or lower geographic levels. Although we can identify Cape Verdeans in the count of deaths (numerator), because we have no count or estimate of the number of Cape Verdeans in the Massachusetts population (denominator), we are unable to calculate death rates. Beginning

with the 2000 report, we have included a detailed table and figure summarizing age and cause of deaths among Cape Verdeans.

POPULATION ESTIMATES

Source for 2007 Population Estimates (used for state-wide rates)

National Center for Health Statistics. Postcensal estimates of the resident population of the United States for July 1, 2000-July 1, 2007, by year, county, age, bridged race, Hispanic origin, and sex (Vintage 2007). Prepared under a collaborative arrangement with the US Census Bureau; released August 7, 2008. Available from: http://www.cdc.gov/nchs/about/major/dvs/popbridge/popbridge.htm as of September 5, 2008.

Source for 2005 Population Estimates (used for city/town rates)

Massachusetts Department of Public Health, Bureau of Health Information, Statistics, Research, and Evaluation, Division of Research and Epidemiology. Massachusetts Department of Public Health Modified Age, Race/Ethnicity, and Sex (MMARS00-05) which is based upon 2005 estimates produced by the National Center for Health Statistics in collaboration with the Census Bureau's Population Estimation Program. October 2006. Available on the Internet from: http://masschip.state.ma.us.

For additional information about population and MDPH estimation methods, refer to the Technical Notes in the report, *Massachusetts Births 2005,* which can be downloaded from the following website: http://www.mass.gov/dph/pubstats.htm

LIMITATIONS OF SMALL NUMBERS

Cells in some tables contain small numbers. Rates and proportions based on fewer than five observations are suppressed, and trends based upon small numbers should be interpreted cautiously.

APPLYING COMPARABILITY RATIOS TO EXAMINE TRENDS IN MORTALITY

Beginning with 1999, mortality data are coded according to the International Classification of Diseases-10th revision (ICD-10). Due to the changes in coding rules, comparison of mortality trends over time using different revisions of ICD is challenging. A method was devised to assess if changes in causes of death are "real" changes, or due to the new classification system. Using this method, death data for 1996 were coded twice; once according to ICD-9 and again according to ICD-10. A comparability ratio (CR) was then calculated by dividing the number of deaths coded according to ICD-10 by the number of deaths coded according to the most similar codes in ICD-9 (please refer to Table A7. Preliminary Comparability Ratios for a list of codes and CR used in this publication).

A CR of 1.00 indicates that the same number of deaths was assigned to a cause of death whether ICD-9 or ICD-10 was used. A CR of less then 1.00 results from 1) a decrease in the number of deaths assigned to a cause in ICD-10 compared with ICD-9 or 2) the cause described in ICD-10 is only a part of the ICD-9 title to which it is being compared. A CR of more than 1.00 results from 1) an increase in the assignments of deaths to a cause in ICD-10 compared with ICD-9 or 2) the ICD-10 title is broader than the ICD-9 title to which it is being compared.

EXAMPLE: **Influenza and Pneumonia[1] Deaths: Massachusetts, 1996-2000**

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

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

If you look only at the age-adjusted rate over time, not taking the ICD coding changes into account, it appears that deaths from influenza and pneumonia have decreased between 1996-1999. However, because the coding rules changed between ICD-9 and ICD-10 revisions, we need to apply the comparability ratio to the rates for 1996-1998. (This is done by multiplying the age-adjusted rate by the comparability ratio). Now we can make a fairer comparison and examine the changes between the comparability modified rate and the 1999 or 2000 rate, we see that deaths to influenza and pneumonia have remained constant between 1996-2000, and have actually increased between 1998 and 1999 (28.1 to 30.3 per 100,000, respectively) after taking the changes in the classification system into account.

PLEASE NOTE: the comparability ratios used in this report are based on the Preliminary Comparability Study conducted by the National Center for Health Statistics (NCHS), February 2001, and are subject to change once the Final Comparability Study is completed.

TESTS OF STATISTICAL SIGNIFICANCE

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

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

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

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

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

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

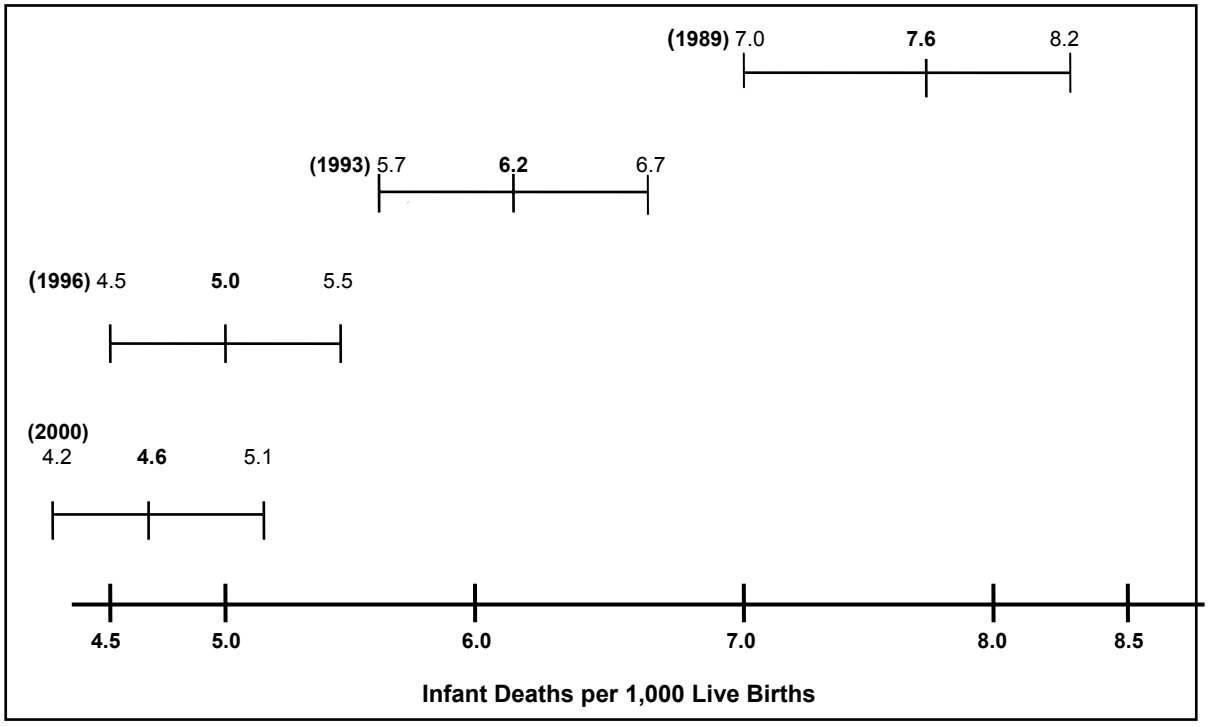
When two statistics are determined to differ significantly, they are referred to in the text with language expressing differences, such as, “higher” and “lower”, or “increased” and “decreased”. Otherwise, differences that are not significant are reported as having “no change” or “no statistical difference.”

CONFIDENCE INTERVALS AND INFANT MORTALITY RATES

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

Comparison of Infant Mortality Rates and Confidence Intervals for Selected Years

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



The difference between the 1993 IMR and 1996 IMR is statistically significant – the confidence intervals do not overlap. The same is true for the differences between the 1989 IMR and each annual IMR for 1993, 1996, and 2000. However, the difference between the 1996 and 2000 IMRs is not statistically significant, since their confidence intervals overlap.

GLOSSARY

Age-Adjusted Rate
A summary rate designed to minimize the distortions created by differences in age distribution when comparing rates for populations with different age compositions. Age-adjusted rates are useful when comparing death rates from different populations or in the same population over time. For example, if one wished to compare the 1998 death rates between Barnstable County (Cape Cod) and Hampshire County, the age-adjusted formula would account for the fact that 24% of the Barnstable County residents were 65 years of age or older, whereas only 11% of the Hampshire County residents were in this age group.

Age-adjusted rates are calculated by weighting the age-specific rates for a given year by the age distribution of a standard population. The weighted age-specific rates are then added to produce the adjusted rate for all ages combined. (Please see example below).

The 2000 US projected population is used as the standard population in this document for consistency with data published by the National Center for Health Statistics (NCHS). **ONLY RATES USING THE SAME STANDARD POPULATION CAN BE COMPARED**. All age-adjusted rates published in this report have been re-calculated using the 2000 US standard population. These rates should NOT be compared with age-adjusted rates previously published that used the 1940 US standard population.

Example: Calculation of 1999 Age-Adjusted Mortality Rate
Massachusetts: All Causes of Death

A	B	C	D	E	F	G
Age group (in years)	# of deaths (1999)	Population (1998)	1940 US standard	2000 US standard	Age-adjusted rate (using1940 standard) =[((B/C)*D)*100,000]	Age-adjusted rate (using 2000 standard) =[((B/C)*E)*100,000]
< 1	418	79,860	0.015343	0.013818	8.0	7.2
1–4	65	320,000	0.064718	0.055317	1.3	1.1
5-14	100	806,670	0.170355	0.145565	2.1	1.8
15-24	407	883,830	0.181677	0.138646	8.4	6.4
25-34	701	1,005,337	0.162066	0.135573	11.3	9.5
35–44	1,696	1,019,365	0.139237	0.162613	23.2	27.1
45-54	2,870	818,660	0.117811	0.134834	41.3	47.3
55-64	4,561	495,555	0.080294	0.087247	73.9	80.3
65-74	9,782	442,003	0.048426	0.066037	107.2	146.1
75-84	17,397	299,482	0.017303	0.044842	100.5	260.5
85+	17,765	120,501	0.002770	0.015508	40.8	228.6
Total					**418.0**	**815.9**

Age-Specific Rate
A rate for a specified age group. Age-specific death rates are calculated by dividing the number of deaths for a specific age group by its population for that year. The numerator and denominator refer to the same age group.

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

Community Health Network Areas (CHNA)
The Department of Public Health, in collaboration with health service providers, coalition members, and interested citizens, has designated 27 areas for community health planning. It is the Department's intention to foster in each of these areas the development of Community Health Networks – consortia of health care providers, human service agencies, schools, churches, youth, parents, elders, advocacy groups, and individual consumers -- to address the health needs of the community. The Community Health Network Area (CHNA) mobilize around key health issues impacting the community, promote prevention efforts, enhance access to care, provide opportunities for more collaboration among agencies, and create a client-centered, outcome-oriented health service delivery system. CHNAs also promote efficiency in service delivery by working to reduce duplication and overlap, and by identifying gaps in service. These community coalitions participate in monitoring outcomes and progress of strategies and responses to those health needs. To determine which cities and towns make up a particular CHNA, please see Table A10, which provides the CHNA code for each city and town based on the geographic definitions established in 1997.

Comparability Modified Rate
A rate designed to assist in the analysis of mortality trends between revisions of the International Classification of Diseases (ICD). A comparability modified rate is calculated by multiplying the cause-specific comparability ratio by the cause-specific rate for years 1994-1998. Comparability modified rates should be used to compare trends between causes of death in 1994-1998 with causes of death in 1999 forward.

Comparability Ratio (CR)
A factor used to adjust mortality statistics for causes of death classified in ICD-9 to be comparable with mortality statistics classified in ICD-10. It is calculated by dividing the number of deaths for a selected cause of death classified by the new revision (i.e. ICD-10) by the number of deaths for a selected cause of death classified by the old revision (i.e. ICD-9).

More specifically, the CRs used in this report were calculated by the National Center for Health Statistics (NCHS) based on a national sample of death records. Death records for 1996 were double coded, once according to ICD-9 and again according to ICD-10. Secondly, the leading causes of death were grouped according to ICD-10 titles, using the ICD-10 codes for data coded in ICD-10, and the most similar ICD-9 titles for data coded in ICD-9. Finally, the number of deaths coded in ICD-10 were divided by the number of deaths in ICD-9 to produce a CR for the cause of death.

A CR of 1.00 indicates that the same number of deaths was assigned to a cause of death whether ICD-9 or ICD-10 was used.
A CR of less then 1.00 results from 1) a decrease in the number of deaths assigned to a cause in ICD-10 compared with ICD-9 or 2) the cause described in ICD-10 is only a part of the ICD-9 title to which it is being compared.

A CR of more than 1.00 results from 1) an increase in the assignments of deaths to a cause in ICD-10 compared with ICD-9 or 2) the ICD-10 title is broader than the ICD-9 title to which it is

being compared.

Preliminary comparability ratios supplied by the National Center for Health Statistics (NCHS) in February 2001 are used in this report (see Table A7 and A8).

See also, comparability modified rate.

Crude Death Rate
An estimate of the proportion of a population that died during the year. The numerator is the number of persons who died during the year and the denominator is the size of the population. The death rate in a population is calculated by the formula:

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

Death Certificate
A vital record signed by a licensed physician that includes cause of death, decedent's name, gender, birth date, place of residence, and place of occurrence. (A copy of the Massachusetts death certificate used in 2008 is in the Appendix). In a properly completed death certificate, the immediate cause of death is recorded on line 29a. The other mentioned causes are written on lines 29 b-d. The underlying cause of death is the disease or injury that initiated the events leading to the death. All causes of death are data entered and processed by a software program supplied by NCHS. This software assigns the appropriate ICD-10 codes. Trained nosologists review the ICD-10 codes assigned.

International Classification of Diseases, Ninth Revision (ICD-9)
The International Classification of Diseases (ICD) classifies mortality information for statistical purposes. The ICD was first used in 1900 and has since been revised about every 10 years, with the exception of the ICD-9, which was in use between 1979-1998. ICD-9 codes used in this publication are listed on Tables A2-Table A6.

Because of coding changes between the Ninth and Tenth revision, caution should be used when comparing data coded under ICD-9 and ICD-10.

International Classification of Diseases, Tenth Revision (ICD-10)
The tenth revision of the International Classification of Diseases was used to code mortality data beginning in 1999. For a list of ICD-10 codes used in the publication, please see Tables A2-A6.

Because of coding changes between the Ninth and Tenth revision, caution should be used when comparing data coded under ICD-9 and ICD-10.

Life expectancy at birth
Life expectancy at birth is based on the expected age at death for a newborn infant, based upon the actual experience of mortality of the population in Massachusetts.

NCHS
National Center for Health Statistics (US Department of Health and Human Services, Centers for Disease Control and Prevention).

Occurrence Death
Occurrence deaths include all deaths that occur within the state, including deaths of nonresidents. An interstate exchange agreement among the 50 states and Canada provides for exchanges of copies of birth and death records. These out-of-state records are used for statistical purposes only and allow each state or province to track the births and deaths of residents.

Potential Years of Life Lost (PYLL)
Total potential years of life lost (PYLL) is calculated by multiplying the number of deaths for each group by the years of life lost (the difference between life expectancy and the midpoint of the age group, then adding the figures for all age groups).

A measure of the impact of death from various diseases on society, highlighting the total loss to society, especially the loss contributed by early deaths. For the purpose of calculating PYLL, since *Massachusetts Deaths 2002*, we have adjusted the maximum age to be 75 years so that we do not include deaths beyond average life expectancy. Data after 2002 are not comparable with previous publications because we used a different maximum age cutoff.

Premature Mortality Rate
Premature mortality rate (PMR) measures the rate of premature death, that is, death before the age of 75 years, and it is given as a rate per 100,000 and it is adjusted to the 2000 US population. PMR is considered the best single measure to reflect the health status of a population.

Race and Hispanic Ethnicity
For death records, race and Hispanic ethnicity are specified by the death record informant (for example, spouse or next of kin). Prior to 1989, death certificates included a question on race, but a separate question on Hispanic origin was added to the death record beginning on January 1, 1989.

Beginning with the 1999 report, race and ethnicity categories are presented as mutually exclusive categories, except for Table A1 which provides race and ethnicity data consistent with federal guidelines so that national comparisons can be made. All trend data from 1989-2003 presented in this report have been re-tabulated to reflect this modification. Data presented by race in this report are not directly comparable to previously published data by race.

Resident Death
The death of a person whose usual place of residence or permanent address (as reported by the informant) is in one of the 351 cities or towns of Massachusetts, regardless of where the death took place. Unless otherwise noted, all data in this publication are resident data. An interstate exchange agreement among the 50 states ,Washington, DC, Canada, the US Virgin Islands, and Guam provides for exchange of copies of birth and death records. These records are used for statistical purposes only and allow each state or province to track the births and deaths of residents.

Total Rate of Change
The total rate of change is calculated as follows:

$$\frac{P_n - P_o}{P_o}$$

where P_n is the rate during the later time period and P_o is the rate during the earlier time period.

Underlying Cause of Death
The disease or injury that initiated the series of events leading to death, or the circumstances of the unintentional or intentional injury that resulted in the death. The underlying cause of death is used for all analyses published in this report except for diabetes mortality.

Table A2. ICD-10 and ICD-9 Codes Used in this Publication

(Sorted by ICD-10 Codes)

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

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

Table A3. ICD-10 and ICD-9 Codes Used in this Publication

(Sorted by Cause of Death)

Cause of Death	ICD-10 Code	ICD-9 Code
Alzheimer's Disease	G30	331.0
Cancer (Malignant Neoplasms)	C00-C97	140-208
of bladder	C67	188
of cervix uteri	C53	180
of colon, rectum, rectum and anus	C18-C21	153-154, 159.9
of corpus uteri and uterus, part unspecified	C54-C55	179,182
of esophagus	C15	150
of female breast	C50	174
Hodgkin Disease	C81	201
of kidney and renal pelvis	C64-C65	189.0-189.1
Leukemia	C91-C95	202.4, 204-208
of meninges, brain & other parts of central nervous system	C70-C72	191-192
Multiple myeloma and immunoproliferative neoplasms	C88, C90	203
Non-Hodgkin lymphoma	C82-C85	200, 202 (except 202.4)
of ovary	C56	183.0
of prostate	C61	185
of stomach	C16	151
of pancreas	C25	157
of trachea, bronchus and lung	C33-C34	162
Certain conditions originating in the perinatal period (Perinatal Conditions)	P00-P96	760-779
Chronic liver disease and cirrhosis	K70, K73-K74	571
Chronic lower respiratory diseases[1]	J40-J47	490–496
Congenital malformations, deformations, and chromosomal abnormalities	Q00-Q99	740-759
Diabetes Mellitus	E10-E14	250
External causes of injuries and poisonings (intentional, unintentional and of undetermined intent)	V01-Y98	E800-E999
Homicide	X85-Y09, Y87.1	E960-E969
Injuries of undetermined intent	Y10-Y34,Y87.2,Y89.9	E980-E989
Suicide	X60-X84, Y87.0	E950-E959
Accidents (Unintentional Injuries)	V01-X59	E800-E949
Motor Vehicle-related injuries	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2	E810-E825 E850-E869, E880-
Unintentional non-transport injuries	W00-X59, Y86	E928, E929.2-E929.9
Heart Disease	I00-I09, I11, I13, I20-I51	390-398, 402, 404–429
Infectious and parasitic diseases	A00-B99	001-139
Human Immunodeficiency Virus (HIV) disease (AIDS)	B20-B24	042-044
Septicemia	A40-A41	038
Influenza and pneumonia	J10-J18	480–487
Nephritis	N00-N07, N17-N19, N25-N27	580-589
Stroke (Cerebrovascular disease)	I60-I69	430–438
Ill defined conditions	R00-R99	780-797, 798.1-798.9, 799
Sudden infant death syndrome (SIDS)	R95	798.0

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

Table A4. ICD-10 Injury Codes Used in this Publication

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

Table A5. ICD-10 Poisoning Agent Codes Used in Table 26

Opioids

T40.0 Opium
T40.1 Heroin
T40.2 Other opioids
T40.3 Methadone
T40.4 Other synthetic narcotics
T40.6 Other and unspecified narcotics

Cocaine

T40.5 Cocaine

Benzodiazepines

T42.4 Benzodiazepines

Poisoning by antiepileptic, sedative-hypnotic and antiparkinsonism drugs

T42.0 Hydantoin derivatives
T42.1 Iminostilbenes
T42.2 Succinimides and oxazolidinedione
T42.3 Barbiturates
T42.5 Mixed antiepileptics, not elsewhere classified
T42.6 Other antiepileptic and sedative-hypnotic drugs
T42.7 Antiepileptic and sedative-hypnotic drugs, unspecified

Tricyclic and tetracyclic antidepressants, & Monoamine-oxidase-inhibitor antidepressants, & Other and unspecified antidepressants

T43.0 Tricyclic and tetracyclic antidepressants
T43.1 Monoamine-oxidase-inhibitor antidepressants
T43.2 Other and unspecified antidepressants

Phenothiazine antipsychotics & neuroleptics, Butyrophenone & thioxanthene neuroleptics, Other & unspecified antipsychotics & neuroleptics

T43.3 Phenothiazine antipsychotics and neuroleptics
T43.4 Butyrophenone and thioxanthene neuroleptics
T43.5 Other and unspecified antipsychotics and neuroleptics
T43.8 Other psychotropic drugs, not elsewhere classified

Toxic effect of alcohol

T51.0 Ethanol
T51.1 Methanol
T51.2 2-Propanol
T51.3 Fusel oil
T51.8 Other alcohols
T51.9 Alcohol, unspecified

Other and unspecified drugs, medicaments and biological substances

T50.9 Other and unspecified drugs, medicaments and biological substances

All other agents combined

T36-T50 Poisoning by drugs, medicaments and biological substances - excluding the specific agent classes and agents listed above

Table A6. ICD-10 Codes for Selected Healthy People 2010 Mortality Objectives Used in this Publication
(Sorted by Objective Number)

Objective Number	Cause of Death*	ICD-10 Identifying Codes
3-1	Cancer (all sites)	C00-C97
3-2	Lung cancer	C33-C34
3-3	Female breast cancer	C50
3-4	Uterine Cervix cancer	C53
3-5	Colorectal cancer	C18-C21
3-6	Oropharyngeal cancer	C00-C14
3-7	Prostate cancer	C61
3-8	Malignant melanoma	C43
12-1	Coronary heart disease	I11, I20-I25
12-7	Stroke	I60-I69
13-14	HIV infection	B20-B24
15-3	Firearm-related deaths	W32-W34, X72-X74, Y22-Y24, Y35.0, X93-X95
15-8	Poisoning	X40-X49, X60-X69, X85-X90, Y10-Y19, Y35.2
15-9	Hanging, strangulation or suffocation	W75-W84, X70, X91, Y20
15-13	Unintentional injuries (Accidents)	V01-X59, Y85-Y86
15-15	Motor vehicle-related	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2
15-25	Residential fire deaths	X00, X02
15-27	Falls	W00-W19, X80, Y01, Y30
15-29	Drownings	W65-W74, X71, X92, Y21
15-32	Homicides	X85-Y09, Y87.1
16-1f	Birth defects	Q00-Q99
16-1g	Congenital heart and vascular defects	Q20-Q24
16-1h	Sudden infant death syndrome (SIDS)	R95
18-1	Suicide	X60-X84, Y87.0
24-1	Asthma	J45-J46
26-1	Motor-vehicle crash deaths	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2
26-2	Cirrhosis	K74
26-3	Drug induced deaths	F11.0-F11.5, F11.7-F11.9, F12.0-F12.5, F12.7-F12.9, F13.0-F13.5, F13.7-F13.9, F14.0-F14.5, F14.7-F14.9, F15.0-F15.5, F15.7-F15.9, F16.0-F16.5, F16.7-F16.9, F17.0, F17.3-F17.5, F17.7-F17.9, F18.0-F18.5, F18.7-F18.9, F19.0-F19.5, F19.7-F19.9,X40-X44,X60-64, X85,Y10-Y14

These Healthy People 2010 objectives use underlying cause of death data.

Table A7. Preliminary Comparability Ratios

Cause of Death	ICD-10 Code	ICD-9 Code (most similar title)	Comparability Ratio
Infectious and parasitic diseases	**A00-B99**		**NA**
Septicemia	A40-A41	038	1.1949
Human Immunodeficiency Virus (HIV) disease	B20-B24	042-044	1.0637[1] and 1.1448[2]
Cancer (Malignant Neoplasms)	C00-C97	140-208	1.0068
of esophagus	C15	150	0.9965
of stomach	C16	151	1.0063
of colon, rectum, rectum and anus	C18-C21	153-154	0.9993
of pancreas	C25	157	0.9980
of trachea, bronchus and lung	C33-C34	162	0.9837
of breast	C50	174-175	1.0056
of cervix uteri	C53	180	0.9871
of corpus uteri and uterus, part unspecified	C54-C55	179,182	1.0260
of ovary	C56	183.0	0.9954
of prostate	C61	185	1.0134
of kidney and renal pelvis	C64-C65	189.0-189.1	1.0000
of bladder	C67	188	0.9968
of meninges, brain & other parts of central nervous system	C70-C72	191-192	0.9691
Hodgkin Disease	C81	201	0.9855
Non-Hodgkin lymphoma	C82-C85	200, 202	0.9781
Leukemia	C91-C95	204-208	1.0119
Multiple myeloma and immunoproliferative neoplasms	C88, C90	203	1.0383
Diabetes Mellitus	E10-E14	250	1.0082
Alzheimer's Disease	G30	331.0	1.5536
Heart Disease	I00-I09, I11, I13, I20-I51	390-398, 402, 404, 410^{-4}29	0.9858
Stroke (Cerebrovascular disease)	I60-I69	430^{-4}34, 436^{-4}38	1.0588
Influenza and pneumonia	J10-J18	480^{-4}87	0.6982
Chronic lower respiratory diseases	J40-J47	490^{-4}94,496	1.0478
Chronic liver disease and cirrhosis	K70, K73-K74	571	1.0367
Nephritis	N00-N07, N17-N19, N25-N27	580-589	1.2320
Congenital malformations, deformations, and chromosomal abnormalities	Q00-Q99	740-759	0.8470
Certain conditions originating in the perinatal period (Perinatal Conditions)	P00-P96	760-771.2, 771.4-779	1.0658
External causes of injuries and poisonings (intentional, unintentional and of undetermined intent)	V01-Y89	E800-E999	NA
Accidents (Unintentional Injuries)	V01-X59, Y85-Y86	E800-E869, E880-E929	1.0305
Motor Vehicle-related injuries	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2	E810-E825	0.9754[3]
Non-transport injuries	W00-X59, Y86	E850-E869, E880-E928, E929.2-E929.9	1.0763
Suicide	X60-X84, Y87.0	E950-E959	0.9962
Homicide	X85-Y09, Y87.1	E960-E969	0.9983
Injuries of undetermined intent	Y10-Y34,Y87.2,Y89.9	E980-E989	*

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

Please refer to the Appendix for an example of how to apply comparability ratios. 1. Comparability Modified number and rate based on preliminary comparability ratios (CR) from NCHS based on 1996 data (February 2001). 2. Comparability Modified number and rate based on preliminary comparability ratios (CR) from NCHS based on 1998 data (revised June 2001). 3. This is the revised comparability ratio for motor vehicle-related injuries, effective May 2001.

Table A8. Preliminary Comparability Ratios: Causes of Infant Death

Cause of Death	ICD-10 Code	ICD-9 Code (most similar title)	Comparability Ratio
Certain infectious and parasitic diseases	A00-B99	001-033, 034.1-134, 136-139, 771.3	0.7339
Septicemia	A40-A41	038	1.3802
Human Immunodeficiency Virus (HIV) disease	B20-B24	042-044	1.0455
Cancer (Malignant Neoplasms)	C00-C97	140-208	1.0435
Influenza and pneumonia	J10-J18	480[-4]87	0.7624
Certain conditions originating in the perinatal period (Perinatal Conditions)	P00-P96	760-771.2, 771.4-779	1.0581
Newborn affected by maternal complications of pregnancy	P01	761	1.0295
Newborn affected by complications of placenta, cord and membranes	P02	762	1.0470
Disorders relating to short gestation and low birthweight	P07	765	1.1060
Intrauterine hypoxia and birth asphyxia	P20-P21	768	1.4477
Respiratory distress of newborn	P22	769	1.0257
Other respiratory conditions originating in perinatal period	P23-P28	770	0.8455
Infections specific to the perinatal period	P35-P39	771.0-771.2, 771.4-771.8	1.0199
Neonatal hemorrhage	P50-P52, P54	772	1.4369
Congenital malformations, deformations, and chromosomal abnormalities	Q00-Q99	740-759	0.9064
Anencephaly and similar malformations	Q00	740	1.0000
Congenital malformations of heart	Q20-Q24	745-746	0.9951
Congenital malformations of respiratory system	Q30-Q34	748	0.6322
Congenital malformations of digestive system	Q35-Q45	749-751	*
Congenital malformations of genitourinary system	Q50-Q64	752-753	0.9432
Congenital malformations of musculoskeletal system	Q65-Q85	754-757	0.8650
Sudden Infant Death Syndrome (SIDS)	R95	798.0	1.0362
External causes of injuries and poisonings (intentional, unintentional and of undetermined intent)	V01-Y89	E800-E999	NA
Accidents (Unintentional Injuries)	V01-X59	E800-E869, E880-E929	1.0246
Motor Vehicle-related injuries	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2	E810-E825	0.9167
Homicide	X85-Y09	E960-E969	0.9481
Injuries of undetermined intent	Y10-Y34,Y87.2,Y89.9	E980-E989	*

Source: National Center for Health Statistics, Preliminary Comparability Study. February 2001. NA: not available *: not reliable
Please refer to the Appendix for an example of how to apply comparability ratios.

Table A9. Population Estimates for Massachusetts Community Health Network Areas (CHNA) and Counties, 2005[1]

CHNA	POPULATION	COUNTY	POPULATION
1. Community Health Network of Berkshire County	131,965	Barnstable	226,505
2. Upper Valley Health Web (Franklin County)	88,506	Berkshire	131,965
3. Partnership for Health in Hampshire County (Northampton)	151,801	Bristol	547,711
4. The Community Health Connection (Springfield)	299,490	Dukes	15,605
5. Community Health Network of Southern Worcester County	119,141	Essex	750,463
6. Community Partners for Health (Milford)	160,521	Franklin	72,415
7. Community Health Network of Greater Metro West (Framingham)	379,658	Hampden	466,739
8 .Community Wellness Coalition (Worcester)	303,669	Hampshire	153,981
9. Fitchburg/Gardner Community Health Network	261,369	Middlesex	1,464,179
10. Greater Lowell Community Health Network	272,893	Nantucket	10,095
11. Greater Lawrence Community Health Network	195,176	Norfolk	656,472
12. Greater Haverhill Community Health Network	148,557	Plymouth	497,687
13. Community Health Network North (Beverly/Gloucester)	119,378	Suffolk	655,181
14. North Shore Community Health Network	287,352	Worcester	787,943
15. Greater Woburn/Concord/Littleton Community Health Network	209,597		
16. North Suburban Health Alliance (Medford/Malden/Melrose)	257,235	**STATE**	**6,436,940**
17. Greater Cambridge/Somerville Community Health Network	273,883		
18. West Suburban Health Network (Newton/Waltham)	253,138		
19. Alliance for Community Health (Boston/Chelsea/Revere/Winthrop)	711,603		
20. Blue Hills Community Health Alliance (Greater Quincy)	372,309		
21. Four (For) Communities (Holyoke, Chicopee, Ludlow, Westfield)	161,454		
22. Greater Brockton Community Health Network	242,404		
23. South Shore Community Partners in Prevention (Plymouth)	188,787		
24. Greater Attleboro-Taunton Health & Education Response	252,919		
25. Partners for a Healthier Community (Fall River)	141,977		
26. Greater New Bedford Health & Human Services Coalition	199,955		
27. Cape and Islands Community Health Network	252,204		

1. Massachusetts (Department of Public Health) Modified Age, Race/Ethnicity, & Sex Estimates 2005 (MMARS05), released October 2006.

Table A10. Population Estimates for Massachusetts Communities, 2005

TOWN NAME	COUNTY	CHNA	POPULATION	TOWN NAME	COUNTY	CHNA	POPULATION
Abington	Plymouth	22	16,305	Concord	Middlesex	15	16,858
Acton	Middlesex	15	20,539	Conway	Franklin	2	1,902
Acushnet	Bristol	26	10,535	Cummington	Hampshire	3	986
Adams	Berkshire	1	8,456	Dalton	Berkshire	1	6,697
Agawam	Hampden	4	28,547	Danvers	Essex	14	25,999
Alford	Berkshire	1	400	Dartmouth	Bristol	26	31,371
Amesbury	Essex	12	16,617	Dedham	Norfolk	18	23,681
Amherst	Hampshire	3	34,721	Deerfield	Franklin	2	4,786
Andover	Essex	11	32,838	Dennis	Barnstable	27	15,914
Aquinnah (Gay Head)	Dukes	27	362	Dighton	Bristol	24	6,648
Arlington	Middlesex	17	41,273	Douglas	Worcester	6	7,861
Ashburnham	Worcester	9	5,970	Dover	Norfolk	18	5,634
Ashby	Middlesex	9	2,926	Dracut	Middlesex	10	28,805
Ashfield	Franklin	2	1,824	Dudley	Worcester	5	10,787
Ashland	Middlesex	7	15,431	Dunstable	Middlesex	10	3,142
Athol	Worcester	2	11,690	Duxbury	Plymouth	23	14,655
Attleboro	Bristol	24	43,364	East Bridgewater	Plymouth	22	13,832
Auburn	Worcester	8	16,393	East Brookfield	Worcester	5	2,111
Avon	Norfolk	22	4,345	East Longmeadow	Hampden	4	14,845
Ayer	Middlesex	9	7,212	Eastham	Barnstable	27	5,550
Barnstable	Barnstable	27	47,902	Easthampton	Hampshire	3	15,994
Barre	Worcester	9	5,375	Easton	Bristol	22	22,995
Becket	Berkshire	1	1,783	Edgartown	Dukes	27	3,934
Bedford	Middlesex	15	12,486	Egremont	Berkshire	1	1,355
Belchertown	Hampshire	3	13,897	Erving	Franklin	2	1,542
Bellingham	Norfolk	6	15,735	Essex	Essex	13	3,342
Belmont	Middlesex	17	23,453	Everett	Middlesex	16	37,100
Berkley	Bristol	24	6,352	Fairhaven	Bristol	26	16,223
Berlin	Worcester	9	2,683	Fall River	Bristol	25	92,117
Bernardston	Franklin	2	2,237	Falmouth	Barnstable	27	33,620
Beverly	Essex	13	39,833	Fitchburg	Worcester	9	40,514
Billerica	Middlesex	10	39,812	Florida	Berkshire	1	666
Blackstone	Worcester	6	9,051	Foxborough	Norfolk	7	16,288
Blandford	Hampden	4	1,266	Framingham	Middlesex	7	65,651
Bolton	Worcester	9	4,428	Franklin	Norfolk	6	30,748
Boston	Suffolk	19	558,435	Freetown	Bristol	26	8,963
Bourne	Barnstable	27	19,355	Gardner	Worcester	9	20,955
Boxborough	Middlesex	15	5,032	Georgetown	Essex	12	8,023
Boxford	Essex	12	8,162	Gill	Franklin	2	1,392
Boylston	Worcester	8	4,253	Gloucester	Essex	13	30,671
Braintree	Norfolk	20	33,658	Goshen	Hampshire	3	956
Brewster	Barnstable	27	10,242	Gosnold	Dukes	27	86
Bridgewater	Plymouth	22	25,769	Grafton	Worcester	8	16,783
Brimfield	Hampden	5	3,627	Granby	Hampshire	3	6,332
Brockton	Plymouth	22	100,366	Granville	Hampden	4	1,644
Brookfield	Worcester	5	3,096	Great Barrington	Berkshire	1	7,440
Brookline	Norfolk	19	56,422	Greenfield	Franklin	2	17,888
Buckland	Franklin	2	1,995	Groton	Middlesex	9	10,396
Burlington	Middlesex	15	23,265	Groveland	Essex	12	6,591
Cambridge	Middlesex	17	101,529	Hadley	Hampshire	3	4,820
Canton	Norfolk	20	21,481	Halifax	Plymouth	23	7,805
Carlisle	Middlesex	15	4,823	Hamilton	Essex	13	8,334
Carver	Plymouth	23	11,552	Hampden	Hampden	4	5,312
Charlemont	Franklin	2	1,387	Hancock	Berkshire	1	1,018
Charlton	Worcester	5	12,447	Hanover	Plymouth	23	14,077
Chatham	Barnstable	27	6,833	Hanson	Plymouth	23	9,915
Chelmsford	Middlesex	10	33,728	Hardwick	Worcester	9	2,655
Chelsea	Suffolk	19	34,128	Harvard	Worcester	9	6,116
Cheshire	Berkshire	1	3,356	Harwich	Barnstable	27	12,673
Chester	Hampden	21	1,320	Hatfield	Hampshire	3	3,280
Chesterfield	Hampshire	3	1,271	Haverhill	Essex	12	60,032
Chicopee	Hampden	21	54,599	Hawley	Franklin	2	345
Chilmark	Dukes	27	944	Heath	Franklin	2	805
Clarksburg	Berkshire	1	1,663	Hingham	Plymouth	20	21,470
Clinton	Worcester	9	13,997	Hinsdale	Berkshire	1	1,811
Cohasset	Norfolk	20	7,219	Holbrook	Norfolk	22	10,765
Colrain	Franklin	2	1,858	Holden	Worcester	8	16,571

Table A10. Population Estimates for Massachusetts Communities, 2005, continued

TOWN NAME	COUNTY	CHNA	POPULATION	TOWN NAME	COUNTY	CHNA	POPULATION
Holland	Hampden	5	2,529	New Marlborough	Berkshire	1	1,522
Holliston	Middlesex	7	13,830	New Salem	Franklin	2	986
Holyoke	Hampden	21	41,089	Newbury	Essex	12	6,990
Hopedale	Worcester	6	6,234	Newburyport	Essex	12	17,395
Hopkinton	Middlesex	7	14,048	Newton	Middlesex	18	83,346
Hubbardston	Worcester	9	4,340	Norfolk	Norfolk	7	10,506
Hudson	Middlesex	7	18,847	North Adams	Berkshire	1	14,031
Hull	Plymouth	20	11,279	North Andover	Essex	11	27,137
Huntington	Hampshire	21	2,180	North Attleboro	Bristol	24	28,078
Ipswich	Essex	13	13,285	North Brookfield	Worcester	5	4,812
Kingston	Plymouth	23	12,435	North Reading	Middlesex	16	13,930
Lakeville	Plymouth	24	10,618	Northampton	Hampshire	3	28,803
Lancaster	Worcester	9	7,069	Northborough	Worcester	7	14,652
Lanesborough	Berkshire	1	2,951	Northbridge	Worcester	6	14,184
Lawrence	Essex	11	81,591	Northfield	Franklin	2	3,226
Lee	Berkshire	1	5,882	Norton	Bristol	24	19,106
Leicester	Worcester	8	10,953	Norwell	Plymouth	20	10,382
Lenox	Berkshire	1	5,149	Norwood	Norfolk	20	28,472
Leominster	Worcester	9	42,120	Oak Bluffs	Dukes	27	3,794
Leverett	Franklin	2	1,769	Oakham	Worcester	9	1,892
Lexington	Middlesex	15	30,452	Orange	Franklin	2	7,659
Leyden	Franklin	2	815	Orleans	Barnstable	27	6,459
Lincoln	Middlesex	15	7,935	Otis	Berkshire	1	1,391
Littleton	Middlesex	15	8,561	Oxford	Worcester	5	13,710
Longmeadow	Hampden	4	15,556	Palmer	Hampden	4	12,895
Lowell	Middlesex	10	105,749	Paxton	Worcester	8	4,556
Ludlow	Hampden	21	21,835	Peabody	Essex	14	50,954
Lunenburg	Worcester	9	10,008	Pelham	Hampshire	3	1,415
Lynn	Essex	14	92,186	Pembroke	Plymouth	23	18,069
Lynnfield	Essex	14	11,540	Pepperell	Middlesex	9	11,386
Malden	Middlesex	16	56,730	Peru	Berkshire	1	836
Manchester	Essex	13	5,332	Petersham	Worcester	2	1,282
Mansfield	Bristol	24	22,933	Phillipston	Worcester	2	1,753
Marblehead	Essex	14	20,285	Pittsfield	Berkshire	1	43,949
Marion	Plymouth	26	5,316	Plainfield	Hampshire	3	600
Marlborough	Middlesex	7	37,163	Plainville	Norfolk	7	7,994
Marshfield	Plymouth	23	24,879	Plymouth	Plymouth	23	54,781
Mashpee	Barnstable	27	14,159	Plympton	Plymouth	23	2,777
Mattapoisett	Plymouth	26	6,477	Princeton	Worcester	9	3,520
Maynard	Middlesex	7	10,221	Provincetown	Barnstable	27	3,444
Medfield	Norfolk	7	12,328	Quincy	Norfolk	20	90,458
Medford	Middlesex	16	53,801	Randolph	Norfolk	20	32,552
Medway	Norfolk	6	12,780	Raynham	Bristol	24	13,428
Melrose	Middlesex	16	26,366	Reading	Middlesex	16	23,161
Mendon	Worcester	6	5,743	Rehoboth	Bristol	24	11,229
Merrimac	Essex	12	6,350	Revere	Suffolk	19	45,551
Methuen	Essex	11	44,532	Richmond	Berkshire	1	1,618
Middleborough	Plymouth	24	21,153	Rochester	Plymouth	26	5,295
Middlefield	Hampshire	3	549	Rockland	Plymouth	23	17,842
Middleton	Essex	11	9,077	Rockport	Essex	13	7,761
Milford	Worcester	6	27,523	Rowe	Franklin	2	350
Millbury	Worcester	8	13,443	Rowley	Essex	12	5,832
Millis	Norfolk	7	7,949	Royalston	Worcester	2	1,366
Millville	Worcester	6	2,938	Russell	Hampden	4	1,723
Milton	Norfolk	20	26,243	Rutland	Worcester	9	7,406
Monroe	Franklin	2	100	Salem	Essex	14	41,647
Monson	Hampden	4	8,744	Salisbury	Essex	12	8,264
Montague	Franklin	2	8,416	Sandisfield	Berkshire	1	830
Monterey	Berkshire	1	959	Sandwich	Barnstable	27	20,707
Montgomery	Hampden	4	743	Saugus	Essex	14	26,867
Mt. Washington	Berkshire	1	135	Savoy	Berkshire	1	724
Nahant	Essex	14	3,591	Scituate	Plymouth	20	18,119
Nantucket	Nantucket	27	10,095	Seekonk	Bristol	24	13,660
Natick	Middlesex	7	31,895	Sharon	Norfolk	20	17,269
Needham	Norfolk	18	28,445	Sheffield	Berkshire	1	3,360
New Ashford	Berkshire	1	247	Shelburne	Franklin	2	2,054
New Bedford	Bristol	26	94,502	Sherborn	Middlesex	7	4,220
New Braintree	Worcester	9	1,090	Shirley	Middlesex	9	7,361

Table A10. Population Estimates for Massachusetts Communities, 2005, continued

TOWN NAME	COUNTY	CHNA	POPULATION
Shrewsbury	Worcester	8	33,171
Shutesbury	Franklin	2	1,843
Somerset	Bristol	25	18,564
Somerville	Middlesex	17	75,372
South Hadley	Hampshire	3	17,071
Southampton	Hampshire	3	5,828
Southborough	Worcester	7	9,511
Southbridge	Worcester	5	17,503
Southwick	Hampden	4	9,512
Spencer	Worcester	5	12,087
Springfield	Hampden	4	156,358
Sterling	Worcester	9	7,761
Stockbridge	Berkshire	1	2,256
Stoneham	Middlesex	16	21,594
Stoughton	Norfolk	22	26,782
Stow	Middlesex	7	6,159
Sturbridge	Worcester	5	8,825
Sudbury	Middlesex	7	17,035
Sunderland	Franklin	2	3,853
Sutton	Worcester	6	8,974
Swampscott	Essex	14	14,283
Swansea	Bristol	25	16,243
Taunton	Bristol	24	56,348
Templeton	Worcester	9	7,474
Tewksbury	Middlesex	10	28,990
Tisbury	Dukes	27	3,819
Tolland	Hampden	4	446
Topsfield	Essex	13	6,178
Townsend	Middlesex	9	9,273
Truro	Barnstable	27	2,162
Tyngsborough	Middlesex	10	11,297
Tyringham	Berkshire	1	352
Upton	Worcester	6	6,374
Uxbridge	Worcester	6	12,377
Wakefield	Middlesex	16	24,553
Wales	Hampden	5	1,818
Walpole	Norfolk	7	23,067
Waltham	Middlesex	18	59,564
Ware	Hampshire	3	9,988
Wareham	Plymouth	26	21,274
Warren	Worcester	5	5,040
Warwick	Franklin	2	763
Washington	Berkshire	1	546
Watertown	Middlesex	17	32,255
Wayland	Middlesex	7	13,015
Webster	Worcester	5	16,853
Wellesley	Norfolk	18	26,975
Wellfleet	Barnstable	27	2,821
Wendell	Franklin	2	1,035
Wenham	Essex	13	4,643
West Boylston	Worcester	8	7,708
West Bridgewater	Plymouth	22	6,819
West Brookfield	Worcester	5	3,896
West Newbury	Essex	12	4,301
West Springfield	Hampden	4	27,938
West Stockbridge	Berkshire	1	1,450
West Tisbury	Dukes	27	2,666
Westborough	Worcester	7	18,781
Westfield	Hampden	21	40,432
Westford	Middlesex	10	21,369
Westhampton	Hampshire	3	1,566
Westminster	Worcester	9	7,358
Weston	Middlesex	18	11,591
Westport	Bristol	25	15,053
Westwood	Norfolk	18	13,902
Weymouth	Norfolk	20	53,708
Whately	Franklin	2	1,584
Whitman	Plymouth	22	14,424
Wilbraham	Hampden	4	13,960
Williamsburg	Hampshire	3	2,433
Williamstown	Berkshire	1	8,276
Wilmington	Middlesex	15	21,431
Winchendon	Worcester	9	10,085
Winchester	Middlesex	15	21,139
Windsor	Berkshire	1	858
Winthrop	Suffolk	19	17,067
Woburn	Middlesex	15	37,074
Worcester	Worcester	8	179,839
Worthington	Hampshire	3	1,291
Wrentham	Norfolk	7	11,066
Yarmouth	Barnstable	27	24,663

1. Massachusetts (Department of Public Health) Modified Age, Race/Ethnicity, & Sex Estimates 2005 (MMARS05), released October 2006.

Table A11. 2009 Massachusetts Population Estimates[1] By Age Group, Gender, Race and Hispanic Ethnicity[2] (mutually exclusive)

AGE	GENDER	TOTAL	WHITE Non-Hispanic	BLACK Non-Hispanic	ASIAN Non-Hispanic	HISPANIC
UNDER 1	MALE	39,457	26,934	3,132	2,809	6,465
	FEMALE	37,720	25,692	3,006	2,734	6,182
	TOTAL	77,177	52,626	6,138	5,543	12,647
1 TO 4	MALE	157,383	107,518	14,201	10,965	24,283
	FEMALE	151,291	102,428	13,980	10,909	23,554
	TOTAL	308,674	209,946	28,181	21,874	47,837
5 TO 14	MALE	403,786	293,993	32,908	22,924	52,919
	FEMALE	386,869	280,719	31,287	23,509	50,335
	TOTAL	790,655	574,712	64,195	46,433	103,254
15 TO 24	MALE	465,011	347,173	36,691	24,526	55,330
	FEMALE	459,597	343,812	36,281	27,188	50,982
	TOTAL	924,608	690,985	72,972	51,714	106,312
25 TO 34	MALE	430,912	308,996	33,000	31,690	56,046
	FEMALE	424,680	310,193	31,065	33,972	48,255
	TOTAL	855,592	619,189	64,065	65,662	104,301
35 TO 44	MALE	460,059	355,594	28,869	30,789	43,695
	FEMALE	471,699	365,361	30,863	31,369	43,038
	TOTAL	931,758	720,955	59,732	62,158	86,733
45 TO 54	MALE	504,912	424,808	27,816	21,258	29,809
	FEMALE	523,093	438,873	28,694	22,066	32,179
	TOTAL	1,028,005	863,681	56,510	43,324	61,988
55 TO 64	MALE	375,461	330,827	15,917	12,439	15,419
	FEMALE	407,143	355,282	18,942	13,692	18,340
	TOTAL	782,604	686,109	34,859	26,131	33,759
65 TO 74	MALE	205,352	184,053	7,612	6,633	6,656
	FEMALE	245,231	218,038	10,867	6,917	8,990
	TOTAL	450,583	402,091	18,479	13,550	15,646
75 TO 84	MALE	121,718	111,946	3,677	2,931	2,958
	FEMALE	180,491	165,778	6,240	3,814	4,397
	TOTAL	302,209	277,724	9,917	6,745	7,355
85 +	MALE	40,932	38,103	822	868	1,063
	FEMALE	100,790	95,018	2153	1,487	1,986
	TOTAL	141,722	133,121	2,975	2,355	3,049
ALL AGES	MALE	3,204,983	2,529,945	204,645	167,832	294,643
	FEMALE	3,388,604	2,701,194	213,378	177,657	288,238
	TOTAL	6,593,587	5,231,139	418,023	345,489	582,881

1. National Center for Health Statistics. Estimates of the July 1, 2000-July 1, 2009, United States resident population from the Vintage 2009 postcensal series by year, county, age, sex, race, and Hispanic origin, prepared under a collaborative arrangement with the US Census Bureau on July 23, 2010.
2. Persons of Hispanic ethnicity are NOT included in the race categories. These estimates are used to calculate population based rates published in this report, except for Table A1.

Table A12. 2009 Massachusetts Population Estimates[1] By Age Group, Gender, Race and Hispanic Ethnicity[2]

AGE	GENDER	TOTAL	WHITE	BLACK	ASIAN	HISPANIC ETHNICITY
UNDER 1	MALE	39,457	31,997	4,314	2,907	6,465
	FEMALE	37,720	30,532	4,138	2,832	6,182
	TOTAL	77,177	62,529	8,452	5,739	12,647
1 TO 4	MALE	157,383	126,192	19,132	11,320	24,283
	FEMALE	151,291	120,463	18,865	11,233	23,554
	TOTAL	308,674	246,655	37,997	22,553	47,837
5 TO 14	MALE	403,786	336,822	41,624	23,593	52,919
	FEMALE	386,869	321,499	39,462	24,211	50,335
	TOTAL	790,655	658,321	81,086	47,804	103,254
15 TO 24	MALE	465,011	393,899	43,722	25,183	55,330
	FEMALE	459,597	386,846	42,786	27,854	50,982
	TOTAL	924,608	780,745	86,508	53,037	106,312
25 TO 34	MALE	430,912	357,853	38,724	32,305	56,046
	FEMALE	424,680	351,418	36,855	34,561	48,255
	TOTAL	855,592	709,271	75,579	66,866	104,301
35 TO 44	MALE	460,059	393,484	33,639	31,236	43,695
	FEMALE	471,699	401,814	36,331	31,943	43,038
	TOTAL	931,758	795,298	69,970	63,179	86,733
45 TO 54	MALE	504,912	449,946	31,704	21,598	29,809
	FEMALE	523,093	465,725	33,074	22,533	32,179
	TOTAL	1,028,005	915,671	64,778	44,131	61,988
55 TO 64	MALE	375,461	343,715	18,058	12,624	15,419
	FEMALE	407,143	370,670	21,439	13,887	18,340
	TOTAL	782,604	714,385	39,497	26,511	33,759
65 TO 74	MALE	205,352	189,637	8,505	6,712	6,656
	FEMALE	245,231	225,590	12,061	7,051	8,990
	TOTAL	450,583	415,227	20,566	13,763	15,646
75 TO 84	MALE	121,718	114,465	4,045	2,973	2,958
	FEMALE	180,491	169,471	6,820	3,876	4,397
	TOTAL	302,209	283,936	10,865	6,849	7,355
85 +	MALE	40,932	38,989	964	888	1,063
	FEMALE	100,790	96,718	2396	1,517	1,986
	TOTAL	141,722	135,707	3,360	2,405	3,049
ALL AGES	MALE	3,204,983	2,776,999	244,431	171,339	294,643
	FEMALE	3,388,604	2,940,746	254,227	181,498	288,238
	TOTAL	6,593,587	5,717,745	498,658	352,837	582,881

1. National Center for Health Statistics. Estimates of the July 1, 2000-July 1, 2009, United States resident population from the Vintage 2009 postcensal series by year, county, age, sex, race, and Hispanic origin, prepared under a collaborative arrangement with the US Census Bureau on July 23, 2010.

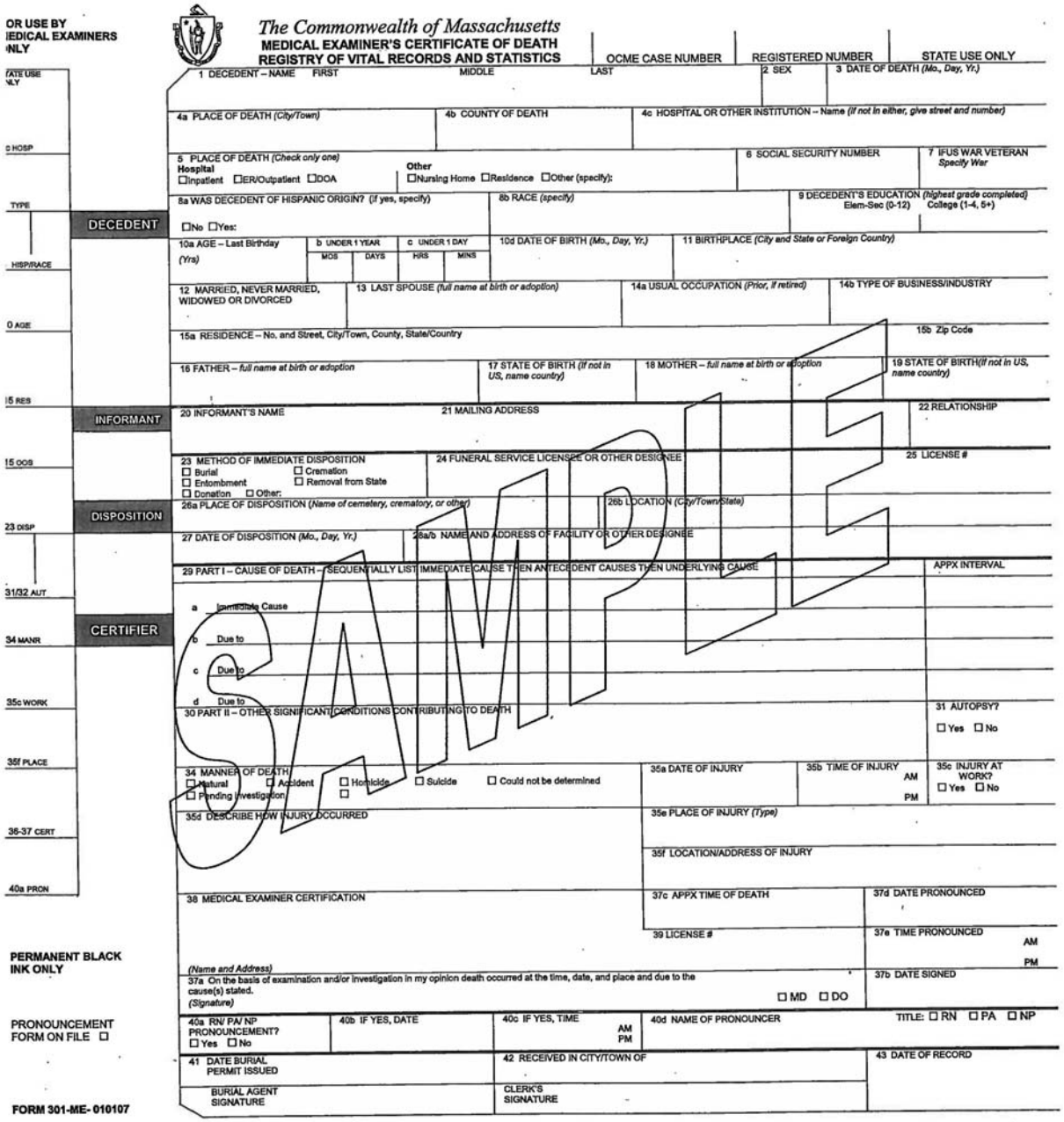
2. Persons of Hispanic ethnicity are included in the race categories. These estimates are used to calculate population based rates published in Table A1.

Table A13. Causes of Death Considered Amenable to Health Care

Cause of Death Considered Amenable to Health Care	Age	ICD-10 Codes
Intestinal infections	0-14	A00-A09
Tuberculosis	0-74	A15-A19, B90
Other infectious (Diphtheria, Tetanus, Poliomyelitis)	0-74	A36, A35,A80, A40-A41
Whooping cough	0-14	A37
Measles	1 to 14	B05
Malignant neoplasm of colon and rectum	0-74	C18-C21
Malignant neoplasm of skin,	0-74	C44
Malignant neoplasm of breast,	0-74	C50
Malignant neoplasm of cervix uteri	0-74	C53
Malignant neoplasm of cervix uteri and body of the uterus	0-44	C54, C55
Malignant neoplasm of testis	0-74	C62
Hodgkin's disease	0-74	C81
Leukemia	0-44	C91-C95
Diseases of the thyroid	0-74	E00-E07
Diabetes mellitus	0-49	E10-E14
Epilepsy	0-74	G40-G41
Chronic rheumatic heart disease	0-74	I05-I09
Hypertensive disease	0-74	I10-I13, I15
Ischemic heart disease	0-74	I20-I25
Cerebrovascular disease	0-74	I60-I69
All respiratory diseases (excl. pneumonia/influenza)	1 to 14	J00-J09, J20-J99
Influenza	0-74	J10-J11
Pneumonia	0-74	J12-J18
Peptic ulcer	0-74	K25-K27
Appendicitis	0-74	K35-K38
Abdominal hernia	0-74	K40-K46
Cholelithiasis & cholecystitis	0-74	K80-K81
Nephritis and nephrosis	0-74	N00-N07, N17-N19, N25-N27
Benign prostatic hyperplasia	0-74	N40
Misadventures to patients during surgical and medical care	All	Y60-Y69, Y83-Y84
Maternal deaths	All	O00-O99
Congenital cardiovascular anomalies	0-74	Q20-Q28
Perinatal deaths, all causes excluding stillbirths	All	P00-P96

Note: Amenable Causes are from E. Nolte and M. McKee, *Does Healthcare Save Lives*? *Avoidable Mortality Revisited* (London: Nuffield Trust, 2004). Available at http://content.healthaffairs.org/cgi/data/27/1/58/DC1/1. Accessed 7/15/2010

Massachusetts Death Certificate: 2009



OR USE BY
IEDICAL EXAMINERS
NLY

The Commonwealth of Massachusetts
MEDICAL EXAMINER'S CERTIFICATE OF DEATH
REGISTRY OF VITAL RECORDS AND STATISTICS

OCME CASE NUMBER | REGISTERED NUMBER | STATE USE ONLY

1 DECEDENT – NAME FIRST MIDDLE LAST | 2 SEX | 3 DATE OF DEATH (Mo., Day, Yr.)

4a PLACE OF DEATH (City/Town) | 4b COUNTY OF DEATH | 4c HOSPITAL OR OTHER INSTITUTION – Name (If not in either, give street and number)

5 PLACE OF DEATH (Check only one)
Hospital ☐Inpatient ☐ER/Outpatient ☐DOA
Other ☐Nursing Home ☐Residence ☐Other (specify):

6 SOCIAL SECURITY NUMBER | 7 IFUS WAR VETERAN Specify War

DECEDENT

8a WAS DECEDENT OF HISPANIC ORIGIN? (If yes, specify) ☐No ☐Yes:
8b RACE (specify)
9 DECEDENT'S EDUCATION (highest grade completed) Elem-Sec (0-12) College (1-4, 5+)

10a AGE – Last Birthday (Yrs)
b UNDER 1 YEAR MOS DAYS
c UNDER 1 DAY HRS MINS
10d DATE OF BIRTH (Mo., Day, Yr.)
11 BIRTHPLACE (City and State or Foreign Country)

12 MARRIED, NEVER MARRIED, WIDOWED OR DIVORCED
13 LAST SPOUSE (full name at birth or adoption)
14a USUAL OCCUPATION (Prior, if retired)
14b TYPE OF BUSINESS/INDUSTRY

15a RESIDENCE – No. and Street, City/Town, County, State/Country
15b Zip Code

16 FATHER – full name at birth or adoption
17 STATE OF BIRTH (If not in US, name country)
18 MOTHER – full name at birth or adoption
19 STATE OF BIRTH (If not in US, name country)

INFORMANT

20 INFORMANT'S NAME
21 MAILING ADDRESS
22 RELATIONSHIP

DISPOSITION

23 METHOD OF IMMEDIATE DISPOSITION
☐ Burial ☐ Cremation
☐ Entombment ☐ Removal from State
☐ Donation ☐ Other:
24 FUNERAL SERVICE LICENSEE OR OTHER DESIGNEE
25 LICENSE #

26a PLACE OF DISPOSITION (Name of cemetery, crematory, or other)
26b LOCATION (City/Town/State)

27 DATE OF DISPOSITION (Mo., Day, Yr.)
28a/b NAME AND ADDRESS OF FACILITY OR OTHER DESIGNEE

CERTIFIER

29 PART I – CAUSE OF DEATH – SEQUENTIALLY LIST IMMEDIATE CAUSE THEN ANTECEDENT CAUSES THEN UNDERLYING CAUSE
APPX INTERVAL
a Immediate Cause
b Due to
c Due to
d Due to

30 PART II – OTHER SIGNIFICANT CONDITIONS CONTRIBUTING TO DEATH
31 AUTOPSY? ☐ Yes ☐ No

34 MANNER OF DEATH
☐ Natural ☐ Accident ☐ Homicide ☐ Suicide ☐ Could not be determined
☐ Pending Investigation

35a DATE OF INJURY
35b TIME OF INJURY AM PM
35c INJURY AT WORK? ☐ Yes ☐ No

35d DESCRIBE HOW INJURY OCCURRED
35e PLACE OF INJURY (Type)
35f LOCATION/ADDRESS OF INJURY

38 MEDICAL EXAMINER CERTIFICATION
37c APPX TIME OF DEATH
37d DATE PRONOUNCED
39 LICENSE #
37e TIME PRONOUNCED AM PM
(Name and Address)
37a On the basis of examination and/or investigation in my opinion death occurred at the time, date, and place and due to the cause(s) stated.
(Signature) ☐ MD ☐ DO
37b DATE SIGNED

40a RN/ PA/ NP PRONOUNCEMENT? ☐ Yes ☐ No
40b IF YES, DATE
40c IF YES, TIME AM PM
40d NAME OF PRONOUNCER
TITLE: ☐ RN ☐ PA ☐ NP

41 DATE BURIAL PERMIT ISSUED
42 RECEIVED IN CITY/TOWN OF
43 DATE OF RECORD

BURIAL AGENT SIGNATURE
CLERK'S SIGNATURE

SAMPLE

PERMANENT BLACK INK ONLY

PRONOUNCEMENT FORM ON FILE ☐

FORM 301-ME- 010107

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

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

CHAPTER 38. MEDICAL EXAMINERS AND INQUESTS

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

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

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

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

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

(4) death under suspicious or unusual circumstances;

(5) death following an unlawful abortion;

(6) death related to occupational illness or injury;

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

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

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

(10) skeletal remains;

(11) death associated with diagnostic or therapeutic procedures;

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

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

(14) death in any public or private conveyance;

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

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

(17) any person found dead;

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

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

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

Massachusetts Deaths: 2009 Evaluation Form

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