THE HEALTH OF BOSTON 2005

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prepared by
THE BOSTON PUBLIC HEALTH COMMISSION
David Mulligan, Chair
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PREFACE

In 1995, the Legislature passed and the Governor signed legislation establishing the Boston Public Health Commission and requiring it to submit annual reports on various matters related to public health in the city of Boston:

Sect. 8. (b) ... *the commission shall prepare and file with the mayor, the president of the city council and the city clerk an annual assessment of the public health needs of the city. The annual public health assessment shall include an evaluation of existing local, state and federal programs and services to address the public health needs of the city and the adequacy of funding sources available for such programs and services, an assessment of programs, services and other activities provided by private public health providers to address the public health needs of the city, including identification of all vulnerable populations in the city, the performance of providers under contract with the commission in accordance with this act, and proposals by the commission to enlarge or enhance its response to the public health needs of the city including new, expanded or revised programs or services to be provided by the commission or by public health providers under contract with it for the ensuing fiscal year.*

The Health of Boston 2005 report is the ninth in a series of annual reports in response to this legislation.

ACKNOWLEDGMENTS

The following persons contributed to this report: Mary Ostrem, DrPH, Phyllis D. Sims, MS, Leslie Chen, BS, Veronica V. Banks, MPH, Dan Dooley, BA, Osasu Osayimwen, MD, MPH, and Karen Wallace, BS (intern), of the Boston Public Health Commission Research Office.

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THE HEALTH OF BOSTON 2005

INTRODUCTION

Welcome to *The Health of Boston 2005*. This annual report has been prepared for readers who want an extensive yet readily usable source of Boston health data. We hope that readers will find the report useful for grant proposal preparation, community program development, monitoring of health trends, academic projects, and similar purposes. Additional neighborhood-level data have been included in response to user feedback about previous reports. Calculated measures such as rates and percentages are shown to make the graphs and tables as useful as possible.

The report is organized into two sections. The first contains citywide data, many of which are presented by race/ethnicity, age, and sex. Data over time are shown wherever possible. The second contains graphs and charts for each Boston neighborhood. Because of the confidentiality and statistical limitations imposed by small numbers, most of the neighborhood-level measures cannot be further divided into race/ethnicity, age, or sex subgroups. Nevertheless, these tables offer a very full picture of the health status of Boston residents, and they readily allow comparisons across neighborhoods. Help with data interpretation is provided through the bullets provided for each health measure.

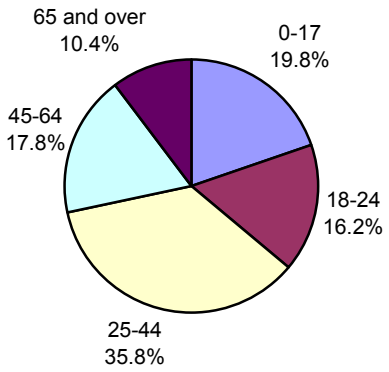
Additional information about the rate calculations, data quality, and related issues pertaining to this report can be found in the Technical Notes section.

We always welcome comments from readers, and all Boston Public Health Commission reports can be found online at www.bphc.org. Our phone number is (617) 534-4757.

CITYWIDE BOSTON DATA

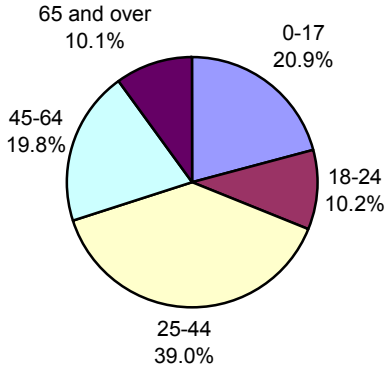
Demographics

Population by Age, Boston, 2000



DATA SOURCE: U.S. Department of Commerce, Bureau of the Census, American FactFinder, Census 2000
DATA ANALYSIS: Boston Public Health Commission Research Office

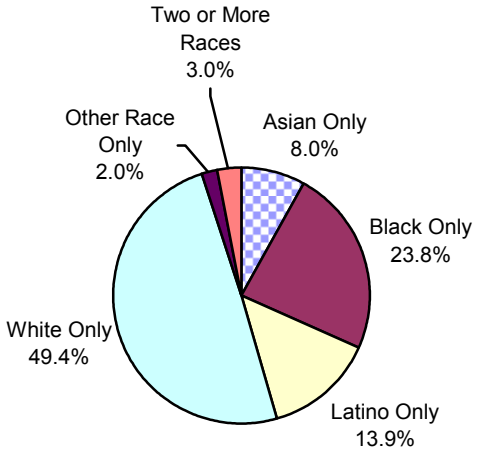
Estimated Population by Age, Boston, 2003



DATA SOURCE: U.S. Department of Commerce, Bureau of the Census, American FactFinder, 2003 American Community Survey
DATA ANALYSIS: Boston Public Health Commission Research Office

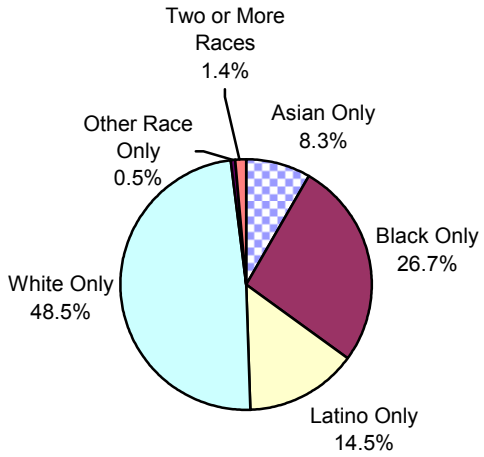
- In 2000, there were 589,141 Boston residents. The U.S. Census estimate of Boston's population in 2003 was 540,772 residents. This is a decline of 8.2%.
- Almost three-quarters of the estimated Boston population in 2003 was under age 45, the same as in 2000. In 2003, residents ages 25-44 accounted for the greatest proportion of the total Boston population, and those ages 65 and over the smallest, as in 2000. The biggest change occurred in the 18-24 age group, where the percentage declined from 16.2% of the total Boston population to 10.2%.

Population by Race/Ethnicity, Boston, 2000



DATA SOURCE: U.S. Department of Commerce, Bureau of the Census, American FactFinder, Census 2000
DATA ANALYSIS: Boston Public Health Commission Research Office

Estimated Population by Race/Ethnicity, Boston, 2003



DATA SOURCE: U.S. Department of Commerce, Bureau of the Census, American FactFinder, 2003 American Community Survey
DATA ANALYSIS: Boston Public Health Commission Research Office

- Of the 589,141 Boston residents in 2000, almost twenty-four percent were Black and fifty percent were White. In the U.S. Census estimate of 540,772 residents in 2003, almost twenty-seven percent were Black. Asians and Latinos also experienced slight increases during this period.

- As of 2003, Asians, Blacks, and Latinos collectively accounted for 49.5% of the Boston population, up from 45.7% in 2000.

Poverty Status by Age Group, Boston 2000 and 2003

	2000	2003*
Total population below poverty level	19.5%	19.1%
Children below poverty level	25.9%	23.2%
Adults ages 65 + below poverty level	18.2%	21.7%

* Estimated

DATA SOURCE: US Department of Commerce, Bureau of the Census, American FactFinder, Census 2000, Summary File-Sample Data; Census 2003 American Community Survey Summary Tables

DATA ANALYSIS: Boston Public Health Commission Research Office

- In 2000, almost twenty percent of the overall Boston population lived in households with incomes below the federal poverty line. In 2003, that percentage decreased slightly to just over 19%. Child poverty declined 10.4% between 2000 and 2003, from almost twenty-six percent of all Boston children to about twenty-three percent.

- Unfortunately, poverty among the elderly increased during this same time period. Between 2000 and 2003, poverty among adults ages 65 and older increased 19.2%, from just over eighteen percent to almost twenty-two percent of all elderly Boston residents.

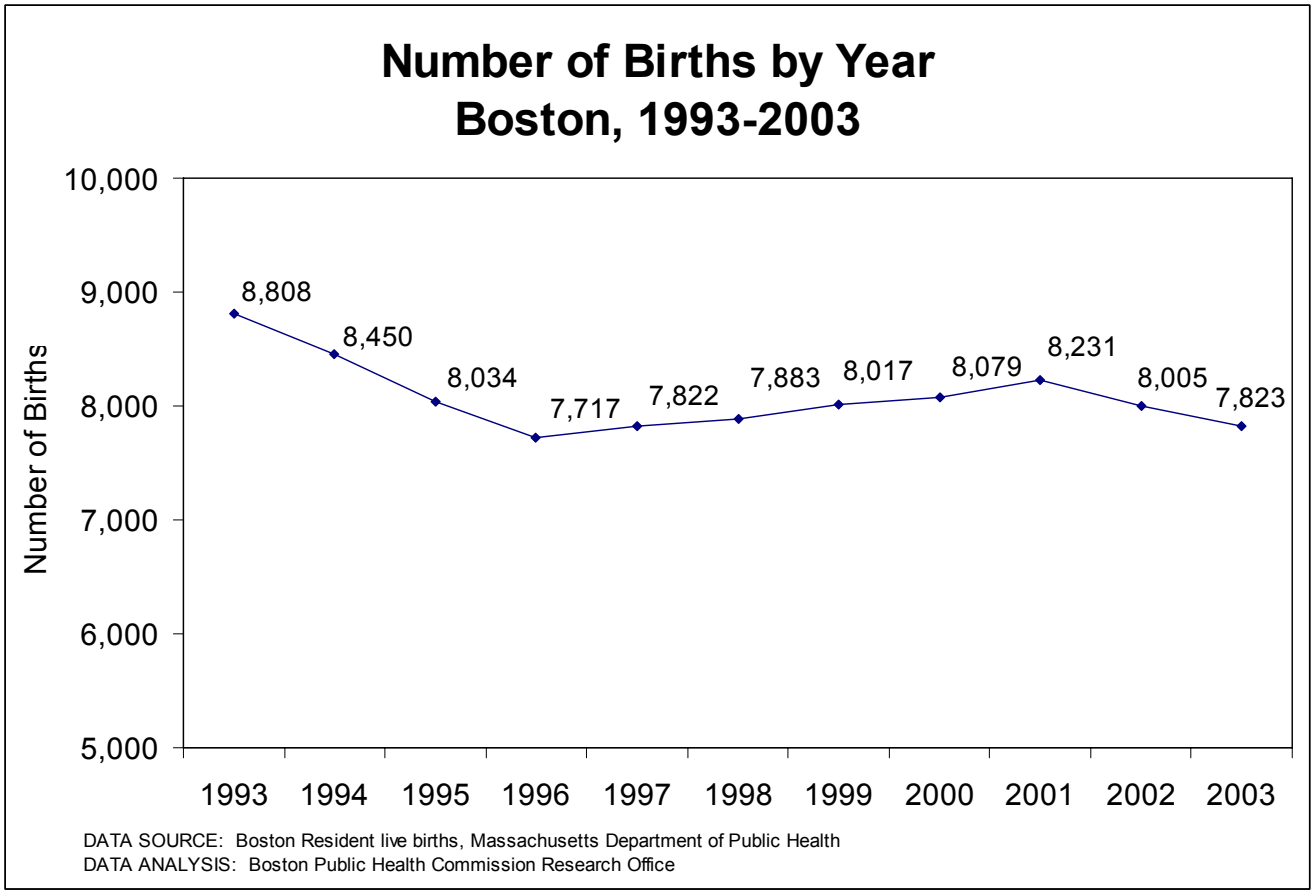
Homeless people are often vulnerable to malnutrition, poor sanitation, overcrowding in shelters, exposure to the extremes of weather, the effects of habitual use of alcohol and drugs, and lack of privacy. The struggle to survive on the streets often leads to the neglect of health needs.

- The results of Boston's annual census of homeless persons of all ages for the years 1992 through 2004 is shown in the above graph. Homelessness is defined as residency on the streets, in a shelter, or temporarily in a medical facility but without permanent housing.

- According to the 2004 homeless census, there were 1,341 women and 3,321 men who were homeless.

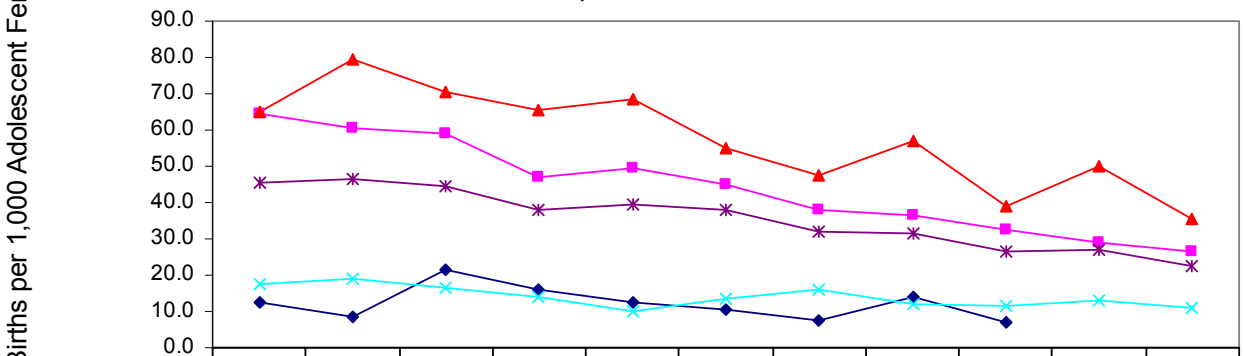
- In addition, there were 1,157 homeless Boston residents under the age of 18 (19.9% of the total).

Childbearing



- The number of births to Boston residents fell in 2003 to 7,823, down 5.0% from the most recent high of 8,231 in 2001.
- Between 1993 and 2003, the number of Boston births fell 11.2% despite an annual increase in births between 1996 and 2001.

Adolescent Birth Rates by Race/Ethnicity and Year
Boston, 1993-2003

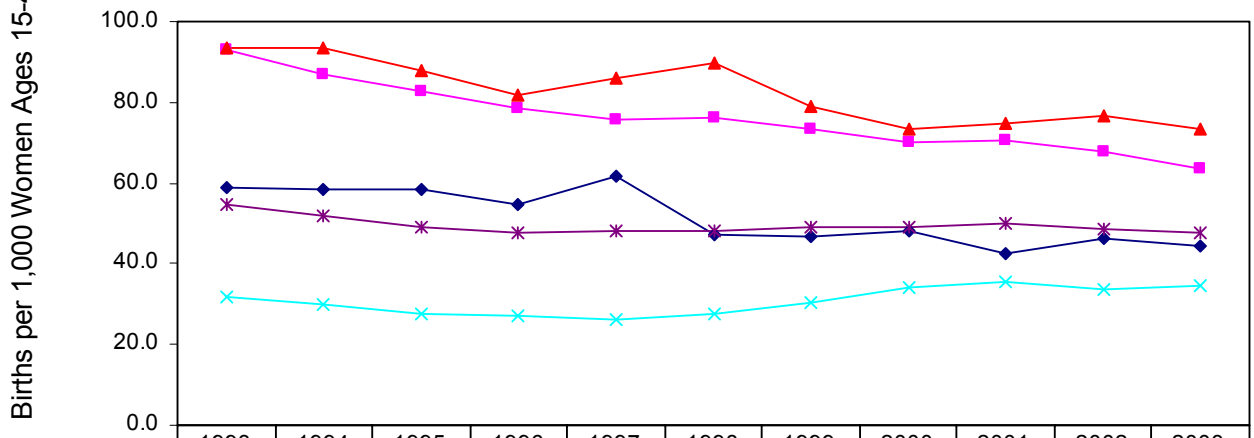


	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Asian	12.3	8.5	21.3	15.9	12.3	10.5	7.3	14.1	6.9	n<5	n<5
Black	64.4	60.7	58.8	46.9	49.5	45.2	37.9	36.4	32.7	29.1	26.7
Latino	65.0	79.5	70.6	65.7	68.3	55.0	47.7	56.8	38.8	50.1	35.5
White	17.6	19.2	16.4	13.8	9.8	13.5	16.2	11.8	11.3	12.8	10.8
BOSTON	45.6	46.6	44.5	38.1	39.4	37.9	31.9	31.5	26.7	27.1	22.4

NOTE: The adolescent birth rate defined as number of births per 1,000 females ages 15 to 17.
DATA SOURCE: Boston resident live births, Massachusetts Department of Public Health
DATA ANALYSIS: Boston Public Health Commission Research Office

- The adolescent birth rate is defined for this report as the number of births to 15-17 year-olds per thousand females ages 15-17.
- Boston's adolescent birth rate in 2003 was 22.4 births per 1,000 females ages 15-17, identical to the national rate for this age group.
- Boston's birth rate for 15-17 year-olds has followed a steeply downward trend for the past decade. The 2003 rate is 50.9% lower than the rate in 1993.
- Adolescent birth rates continue to be substantially higher for Latinas and Black adolescents than for White and Asian adolescents, but all groups have had declines in recent years. The adolescent birth rates in 2003 for Black and Latino adolescents were significantly higher than the rate for White adolescents.

Birth Rates Among Women Ages 15-44 by Race/Ethnicity and Year, Boston, 1993-2003



	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Asian	59.0	58.3	58.3	54.7	61.5	47.2	46.6	48.1	42.7	46.4	44.6
Black	93.0	87.0	82.6	78.7	75.9	76.3	73.5	69.9	70.5	67.8	63.4
Latino	93.4	93.3	88.0	81.8	86.2	89.7	79.0	73.5	74.9	76.7	73.3
White	31.6	29.7	27.6	27.3	26.4	27.6	30.2	33.9	35.5	33.5	34.8
BOSTON	54.6	51.8	48.9	47.6	48.0	48.1	48.9	49.0	49.9	48.6	47.5

DATA SOURCE: Boston resident live births, Massachusetts Department of Public Health
DATA ANALYSIS: Boston Public Health Commission Research Office

- Boston's overall birth rate among women of childbearing age (15-44 years) was 47.5 births per 1,000 women in 2003. This represents a 13.0% decrease since 1993.

- Birth rates continue to be substantially higher for Latinas and Black women than for White and Asian women, though rates have decreased among Latinas, Blacks, and Asians over the past decade. Between 1993 and 2003, the birth rate among Asians declined 24.4%, while those of Blacks and Latinas declined 31.8% and 21.5%, respectively. During this same time period, the birth rate among Whites increased 10.1%.

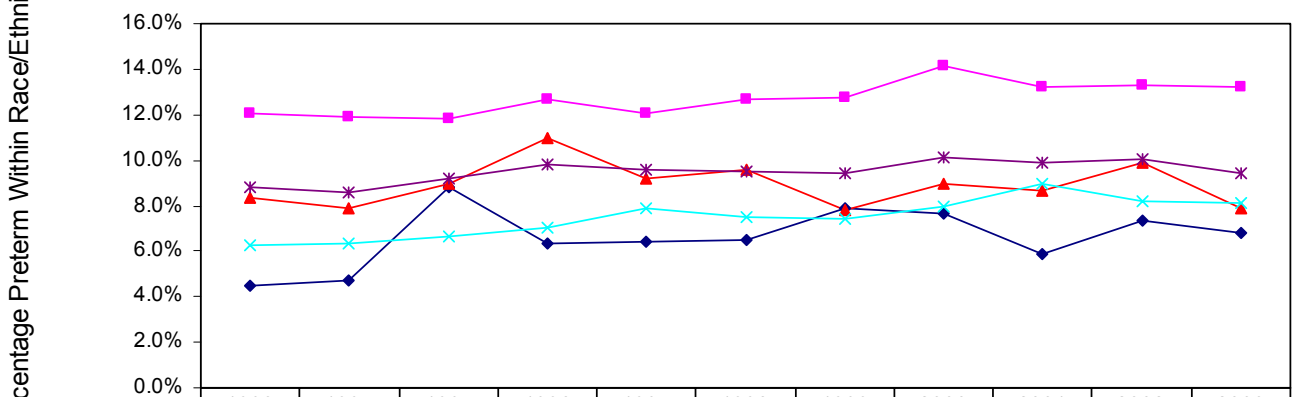
Births by Maternal Ancestry, Boston, 2003			
	Percentage		**Percentage**
Asian	616	**Black**	2,251
Vietnamese	36.7%	African-American	51.7%
Chinese	34.7%	Haitian	18.2%
Asian Indian	6.8%	"American"	8.5%
Other Asian continent	15.9%	Jamaican	5.5%
Other	5.9%	Other Caribbean	6.1%
	100.0%	Nigerian	2.3%
		Cape Verdean	1.4%
		Other African	5.3%
		Other	1.0%
			100.0%
	Percentage		**Percentage**
Hispanic or Latino of Any Race	1,743	**White**	2,890
Puerto Rican	30.2%	"American"	58.0%
Dominican	28.7%	European	32.1%
Salvadoran	13.0%	Brazilian	2.8%
Colombian	6.3%	Middle Eastern	2.1%
Mexican	3.4%	African	1.7%
Other Central American	12.0%	Other	3.3%
Other South American	3.1%		100.0%
Other	3.3%		
	100.0%		

NOTE: Percentages based on total number of births by race/ethnicity for which maternal ancestry is reported.
DATA SOURCE: Boston resident live births, Massachusetts Department of Public Health
DATA ANALYSIS: Boston Public Health Commission Research Office

- In 2003, there were 7,500 births for which information on race/ethnicity and ancestry was reported. Of these, 8.2% were Asian, 30.0% were Black, 23.2% were Latino, and 38.5% were White.

- Among Asian births, almost thirty-seven percent were of Vietnamese ancestry, and thirty-five percent were of Chinese ancestry. Among Black births, over half were reported by the mother to be of "African-American" ancestry, and another eighteen percent were of Haitian ancestry. Among Latino births, close to a third were of Puerto Rican ancestry, another twenty-nine percent were of Dominican ancestry, and thirteen percent were of Salvadoran ancestry. Finally, among White births, fifty-eight percent were of "American" ancestry, and thirty-two percent were of European ancestry.

Preterm Births by Race/Ethnicity and Year, Boston, 1993-2003

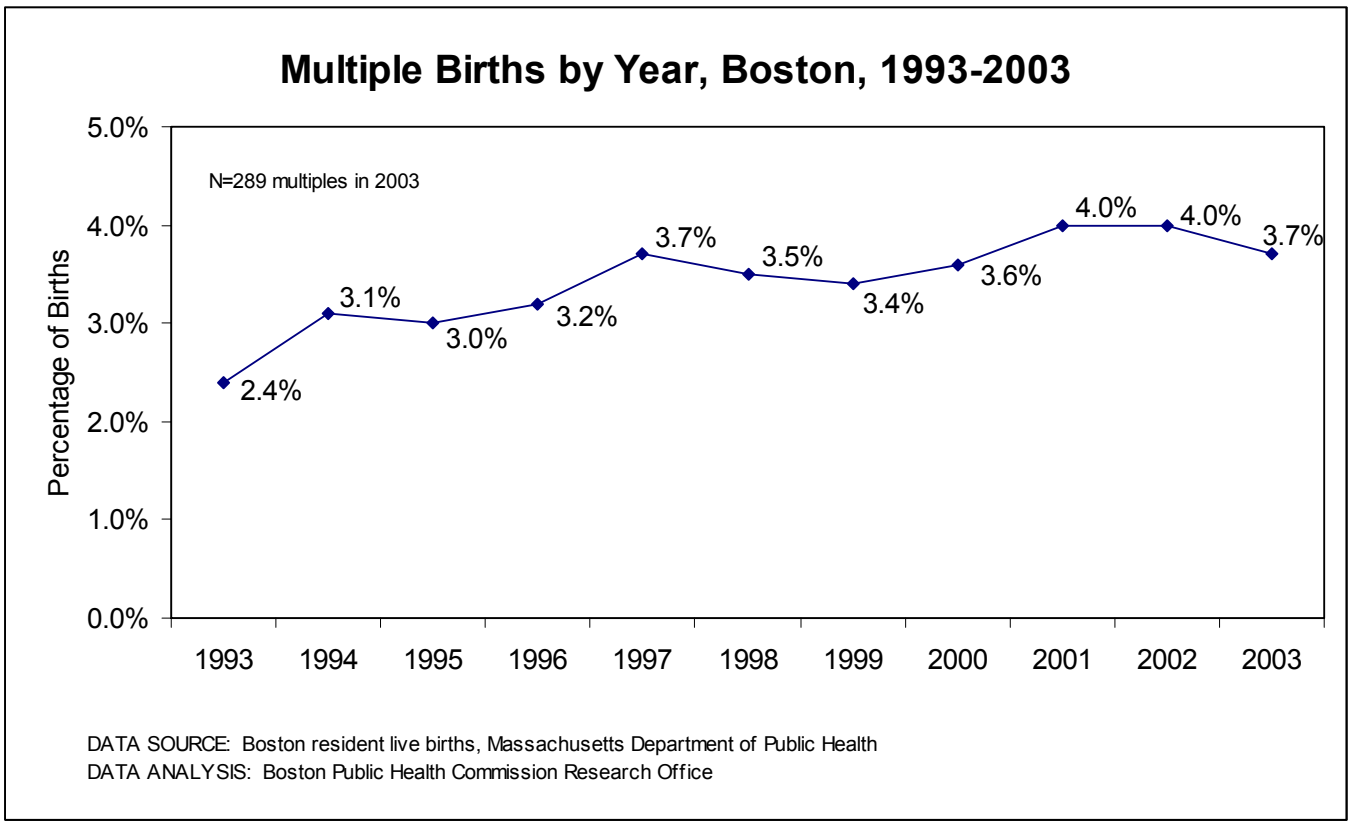


	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Asian	4.5%	4.7%	8.8%	6.3%	6.4%	6.5%	7.9%	7.6%	5.9%	7.3%	6.8%
Black	12.1%	11.9%	11.8%	12.7%	12.1%	12.6%	12.8%	14.2%	13.2%	13.3%	13.2%
Latino	8.4%	7.9%	8.9%	10.9%	9.2%	9.6%	7.8%	8.9%	8.6%	9.9%	7.9%
White	6.3%	6.4%	6.6%	7.0%	7.9%	7.5%	7.4%	8.0%	8.9%	8.2%	8.1%
BOSTON	8.8%	8.6%	9.2%	9.8%	9.6%	9.5%	9.4%	10.2%	9.9%	10.1%	9.4%

DATA SOURCE: Boston resident live births, Massachusetts Department of Public Health
DATA ANALYSIS: Boston Public Health Commission Research Office

- In 2003, there were 736 infants born preterm; that is, before 37 completed weeks' gestation. Preterm birth is a key risk factor for infant illness and death. Approximately nine percent of Boston infants born in 2003 were preterm.

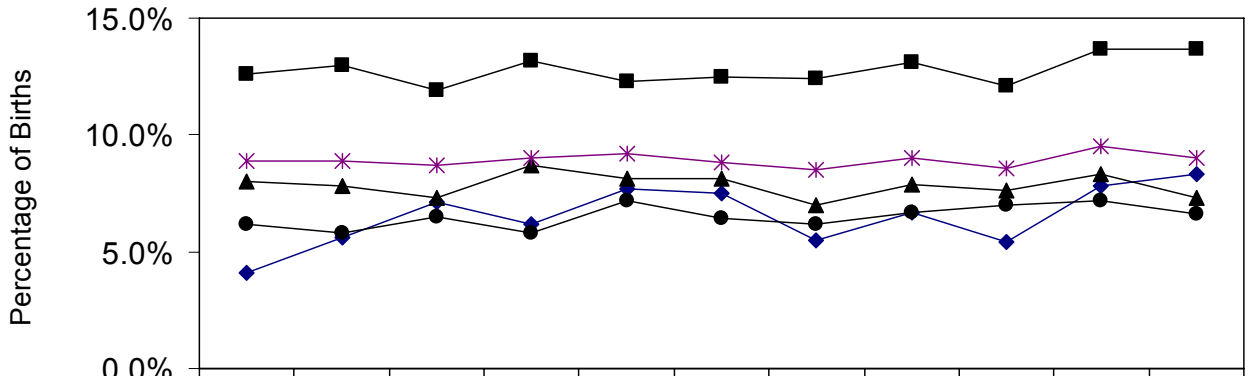
- Rates of preterm birth have been consistently higher among Black women over the past decade. In 2003, the rate of preterm birth among Black women was significantly higher than rates among women of other races/ethnicities.



- Births that are twin, triplet, or more have risen from 2.4% of all Boston resident births in 1993 to 3.7% in 2003, and this difference is statistically significant.

- The overall Boston increase in multiple births over time is attributable to an increase in these births among Boston women 30 years of age or older.

Low Birthweight Births by Race/Ethnicity and Year, Boston,1993-2003



	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Asian	4.1%	5.6%	7.1%	6.2%	7.7%	7.5%	5.5%	6.7%	5.4%	7.8%	8.3%
Black	12.6%	13.0%	11.9%	13.2%	12.3%	12.5%	12.4%	13.1%	12.1%	13.7%	13.7%
Latino	8.0%	7.8%	7.3%	8.7%	8.1%	8.1%	7.0%	7.9%	7.6%	8.3%	7.3%
White	6.2%	5.8%	6.5%	5.8%	7.2%	6.4%	6.2%	6.7%	7.0%	7.2%	6.6%
BOSTON	8.9%	8.9%	8.7%	9.0%	9.2%	8.8%	8.5%	9.0%	8.6%	9.5%	9.0%

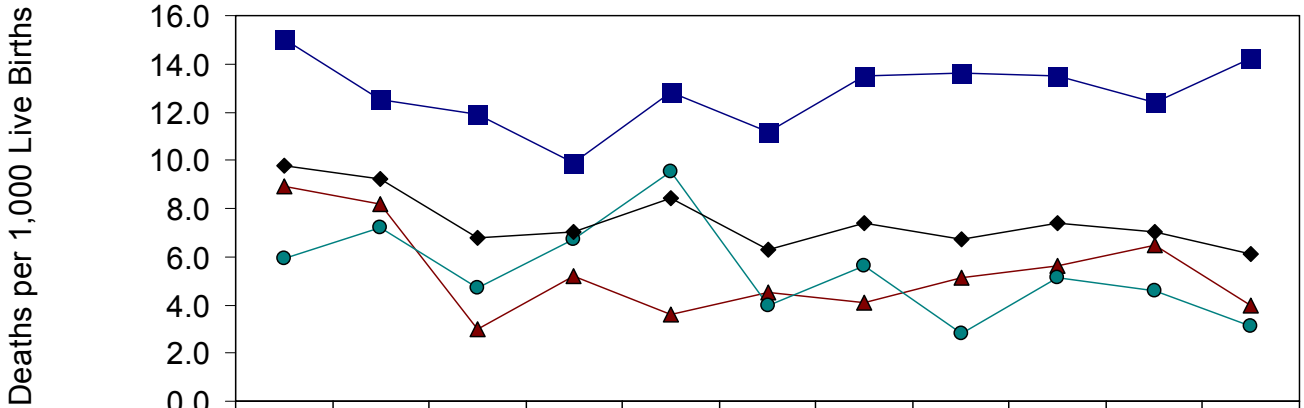
DATA SOURCE: Boston resident live births, Massachusetts Department of Public Health
DATA ANALYSIS: Boston Public Health Commission Research Office

- Boston's persistently elevated LBW rate for Black infants is one of the earliest of a broad range of health disparities affecting Black Bostonians across the lifespan. It reflects adverse circumstances, many of which are poorly understood, that affect women's capacity to maintain a healthy pregnancy long enough for a fetus to reach maturity.

- In 2003, one in eleven births (9.0%) to Boston residents was a low birthweight (LBW) birth.

- LBW rates for Asians, Latinos, and Whites have been consistently lower than those for Blacks. In 2003, the rate of low birthweight among Black infants was significantly higher than those among infants of other races/ethnicities.

Infant Mortality Rates by Race/Ethnicity Boston, 1993-2003



	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Black	15.0	12.5	11.9	9.9	12.8	11.2	13.5	13.6	13.5	12.4	14.2
Latino	8.9	8.2	3.0	5.2	3.6	4.5	4.1	5.1	5.6	6.5	4.0
White	5.9	7.2	4.7	6.7	9.5	4.0	5.6	2.8	5.1	4.6	3.1
BOSTON	9.8	9.2	6.8	7.0	8.4	6.3	7.4	6.7	7.4	7.0	6.1

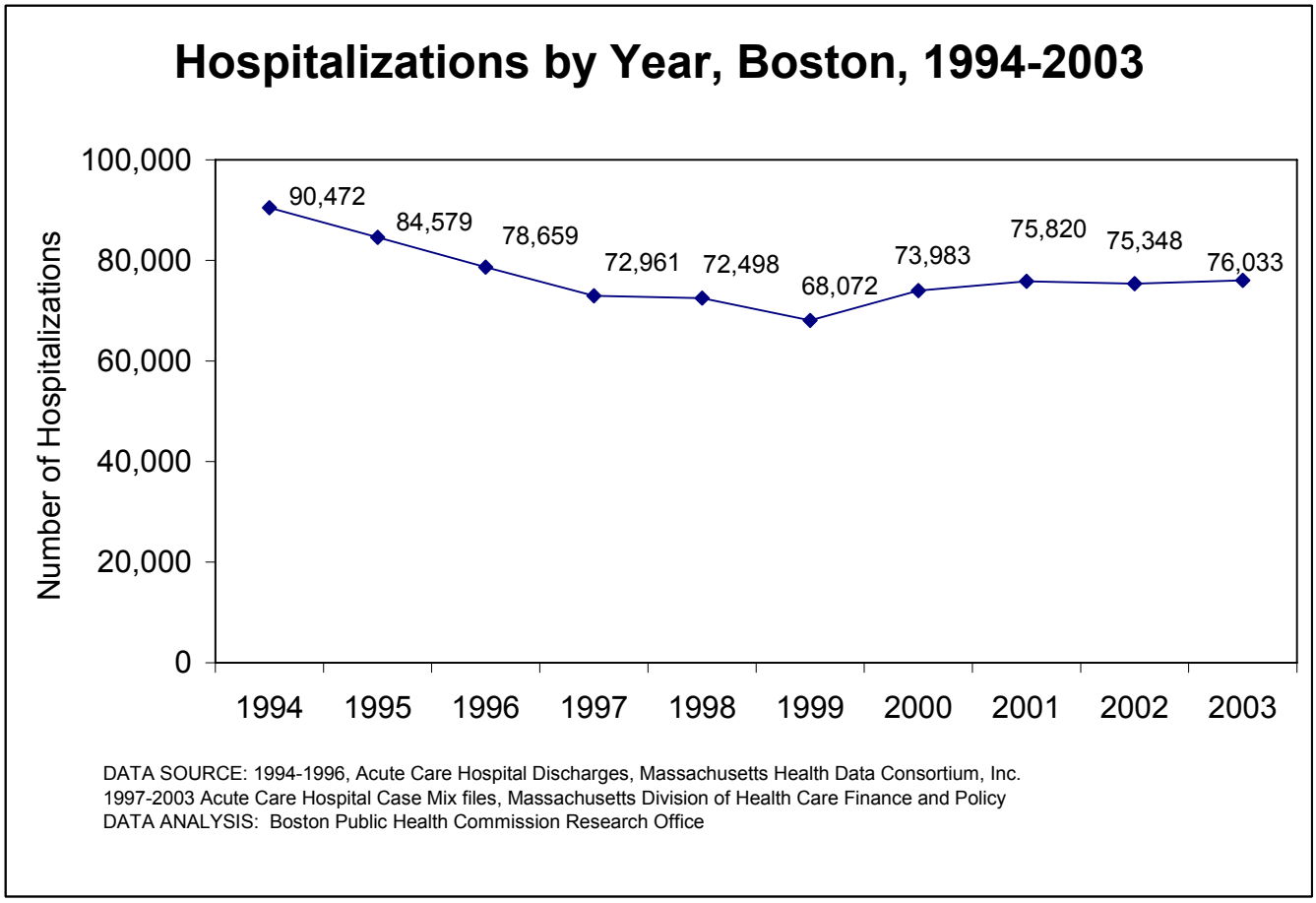
DATA SOURCE: Boston residents live births and infant deaths, Massachusetts Department of Public Health
DATA ANALYSIS: Boston Public Health Commission Research Office

- In 2003, there were 48 deaths of Boston infants, yielding an infant mortality rate (IMR) of 6.1 per 1,000 live births. The one-year decrease from 7.0 per 1,000 in 2002 was not statistically significant. There has been an overall decline of 37.8% in the IMR since 1993.

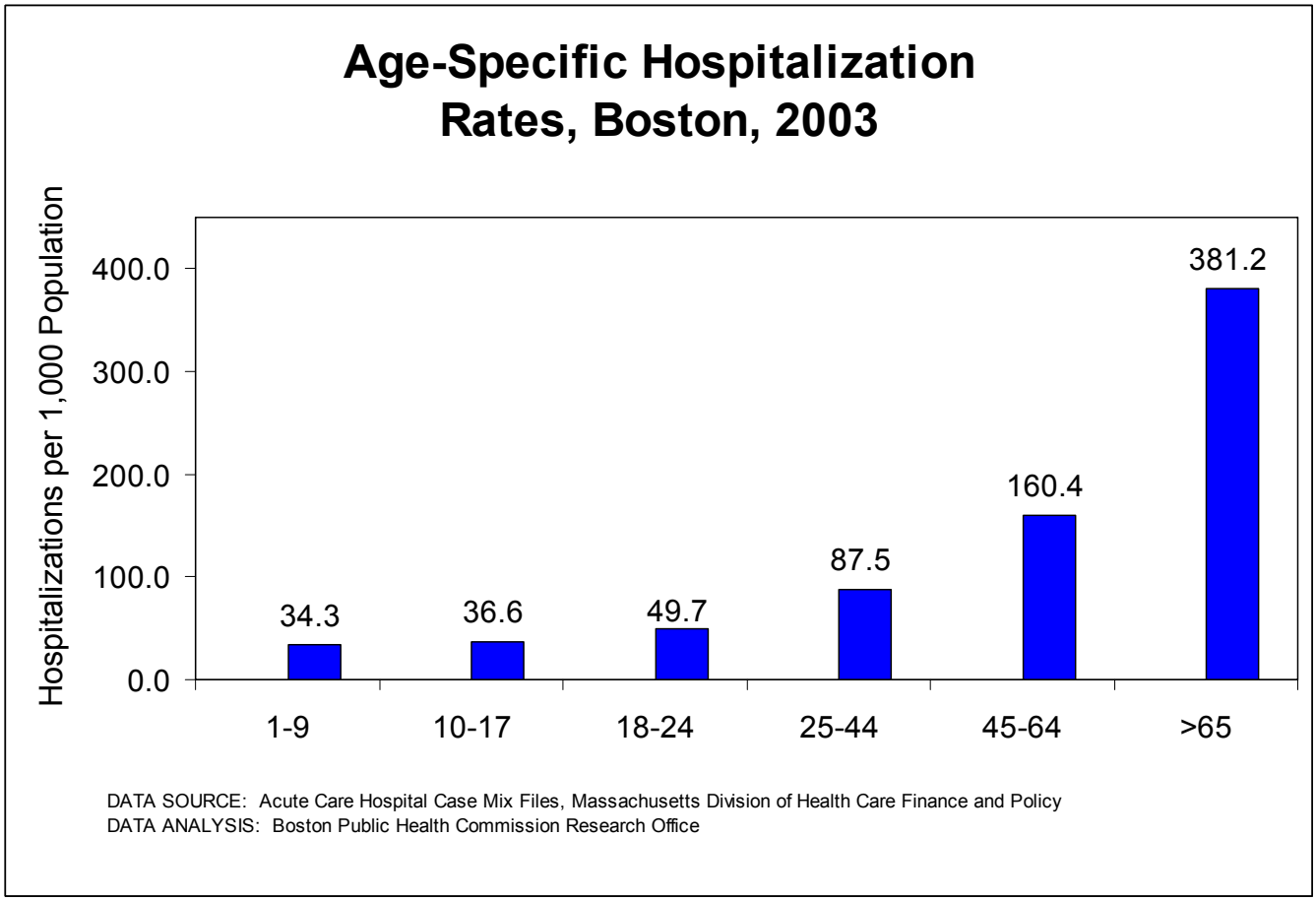
- IMRs in Boston have consistently been highest for Black infants. Black infants accounted for 28.8% of all Boston births in 2003 but 66.7% of all infant deaths (data not shown). At no point over time has the IMR of other race/ethnicity groups exceeded that of Black infants. In 2003, the Black infant mortality rate was significantly higher than the infant mortality rates for Whites and Latinos.

- From 2002 to 2003, the IMR fell for Boston overall and for all races/ethnicities except Blacks. The increase among Blacks between 2002 and 2003 was not, however, statistically significant.

Hospitalization

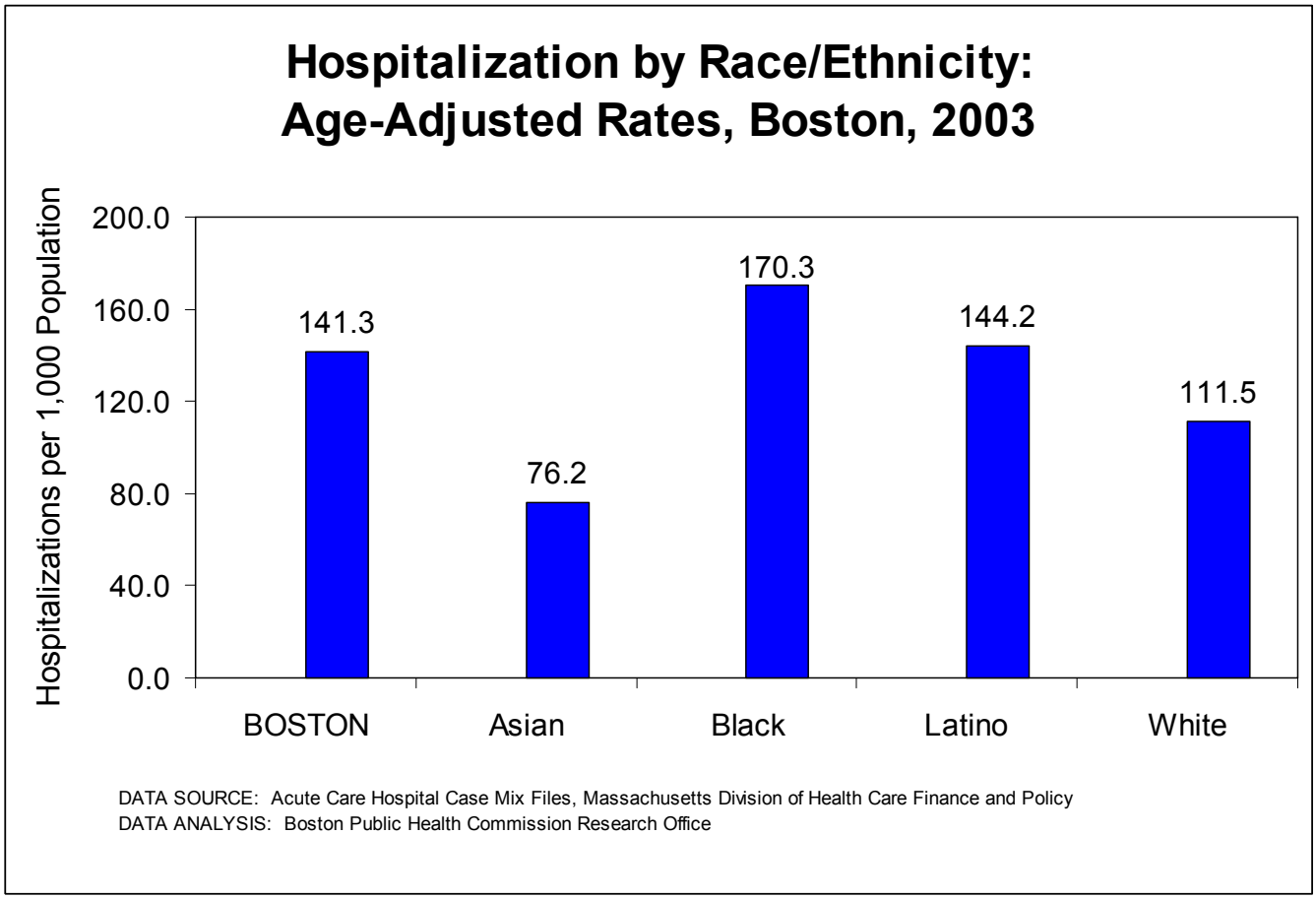


- In 2003, the number of hospitalizations of Boston residents increased slightly to 76,033.
- From 1994 through 2003, the number of hospitalizations among Boston residents declined 16.0%.

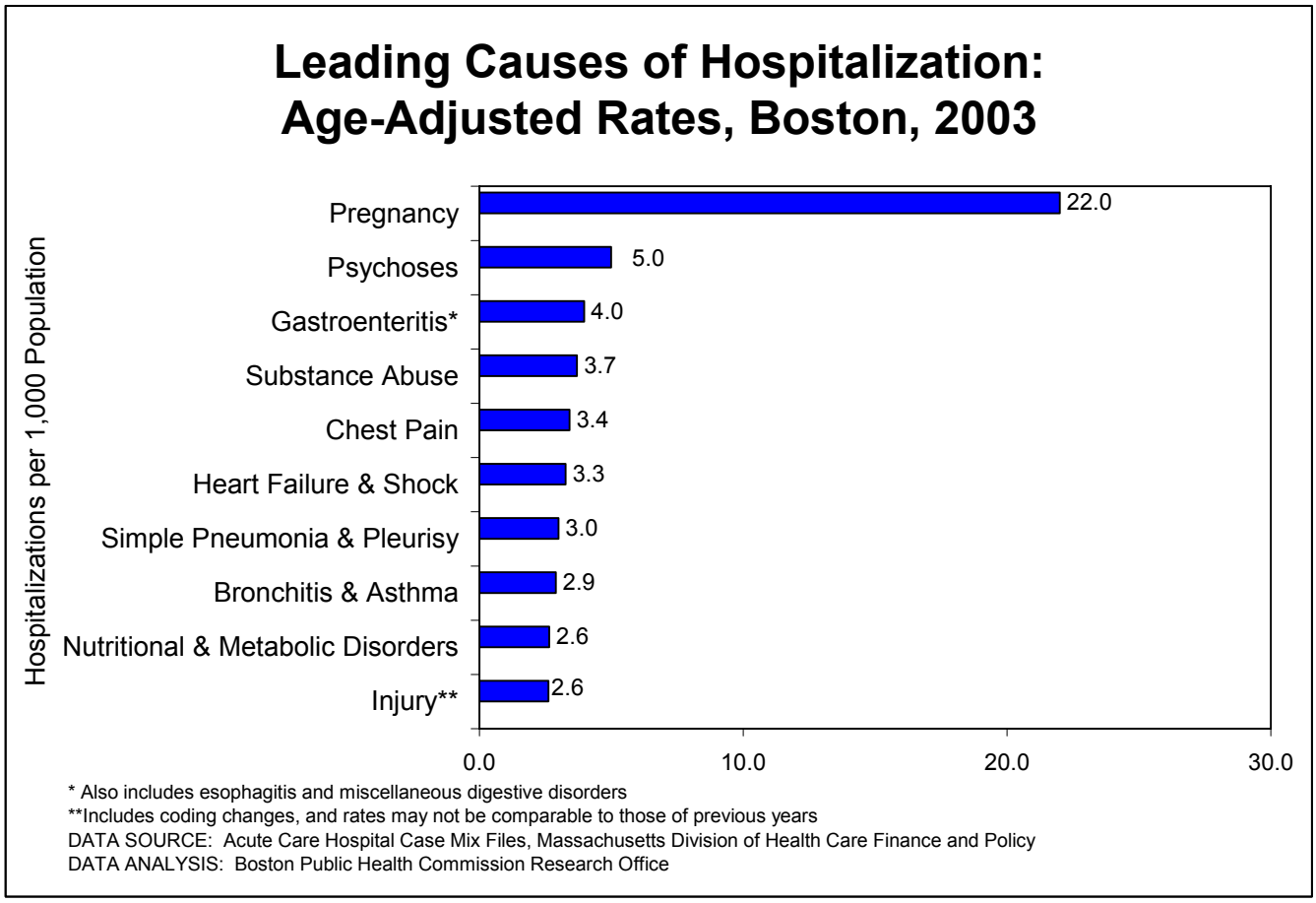


- In 2003, age-specific hospitalization rates for Boston were lowest for children ages 1-9 (34.3 hospitalizations per 1,000 population) and adolescents ages 10-17 (36.6 hospitalizations per 1,000).

- Hospitalization rates increase with age. The rate for Boston residents ages 45-64 (160.4 hospitalizations per 1,000) was more than three times the rate for residents ages 18-24, and nearly five times the rate for residents ages 10-17. As expected, the highest age-specific hospitalization rate was for those Boston residents ages 65 and over (381.2 hospitalizations per 1,000).



- NOTE: Race/ethnicity information in hospital discharge data should be interpreted with caution because the data are not collected consistently by Massachusetts hospitals. Latinos may be reported in any of the above race categories, or as a separate group, and data may be self-reported or estimated by hospital staff depending on the individual hospital's reporting practices.
- Disparities in hospitalization rates continue to exist among Boston's racial/ethnic groups.
- In 2003, Black residents had the city's highest hospitalization rate and Asians the lowest.
- The hospitalization rate for Blacks was 52.7% higher than the rate for Whites, 18.1% higher than the rate for Latinos, and 123.1% higher than the rate for Asians. It was also 20.5% higher than the hospitalization rate for Boston overall.



- Ten leading causes accounted for 29,444 hospitalizations, 32.8 % of all hospitalizations of Boston residents in 2003. Labor and delivery, post partum care, and pregnancy-related conditions were the leading reason for hospitalization, and psychoses and gastroenteritis the second and third most common reasons.

- Other leading causes among Boston residents were substance abuse, chest pain, injuries, heart failure and shock, bronchitis and asthma, simple pneumonia and pleurisy, and nutritional and metabolic disorders.

Leading Causes of Hospitalization by Race/Ethnicity, Boston, 2003

ASIAN		BLACK	
Pregnancy	17.3	Pregnancy	29.5
Simple Pneumonia and Pleurisy	2.2	Heart Failure & Shock	5.8
Bronchitis & Asthma	1.9	Gastroenteritis	5.6
Gastroenteritis	1.6	Psychoses	5.5
Psychoses	1.6	Chest Pain	4.9
TOTAL	**76.2**	**TOTAL**	**170.3**
LATINO		**WHITE**	
Pregnancy	31.0	Pregnancy	13.5
Gastroenteritis	5.4	Psychoses	4.7
Chest Pain	5.2	Substance Abuse	3.6
Bronchitis & Asthma	4.7	Gastroenteritis	3.0
Simple Pneumonia and Pleurisy	3.4	Simple Pneumonia and Pleurisy	2.7
TOTAL	**144.2**	**TOTAL**	**111.5**

NOTE: Hospitalization rates are per 1,000 population
DATA SOURCE: Acute Care Hospital Case Mix Files, Massachusetts Division of Health Care Finance and Policy
DATA ANALYSIS: Boston Public Health Commission Research Office

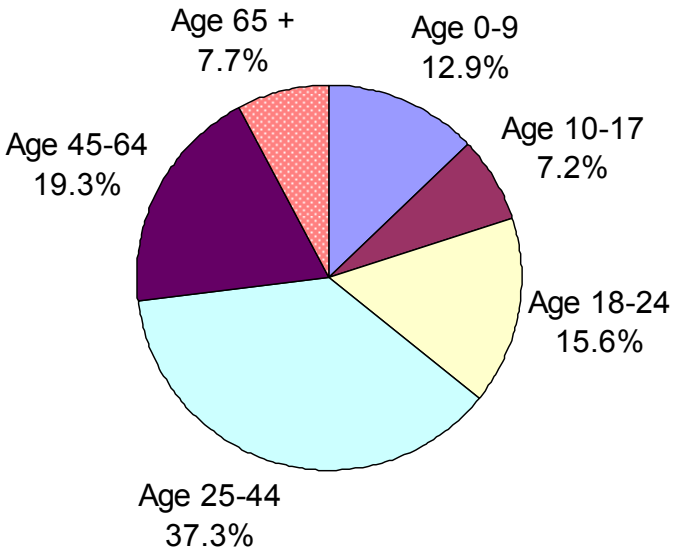
- Pregnancy was the leading reason for hospitalization for all Boston race/ethnicity groups during 2003.
- The age-adjusted hospitalization rates for pregnancy were highest for Latinos (31.0 hospitalizations per 1,000 population) and for Blacks (29.5 hospitalizations per 1,000).
- Gastroenteritis was among the five leading causes of hospitalization for all races/ethnicities, while psychoses collectively ranked among the leading five causes for all races/ethnicities except Latinos.
- Substance abuse was a leading cause only for White residents, and heart failure and shock a leading cause only for Black residents.

Emergency Department Visits

Hospital emergency department visits may be for urgent, life-threatening injuries and illnesses or for preventive and routine health care. According to the latest data from the Centers for Disease Control and Prevention, during 2002, an estimated 110.2 million visits were made to hospital emergency departments in the U.S. Leading patient complaints included abdominal pain, chest pain, fever, cough, and shortness of breath. Emergency department utilization rates were higher for Blacks and females than for Whites and males. Among all patients, private insurance accounted for 38.9% of all emergency department visits, Medicaid/State children's Health Insurance Program, 19.7%, Medicare, 15.4%, and self-pay (not including copays and deductibles), 14.5%.

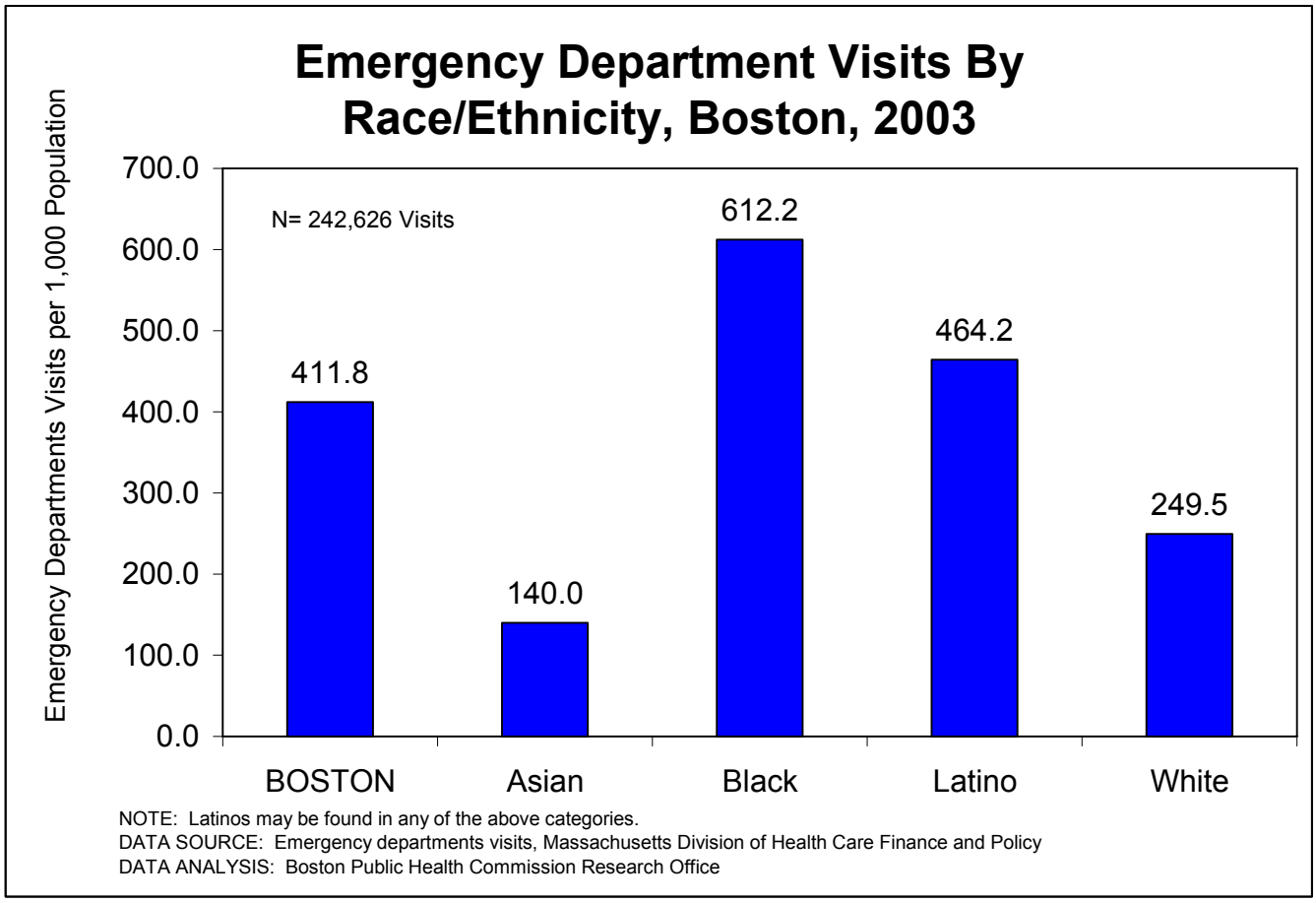
Emergency Department Visits by Age, Boston, 2003

N= 242,626



DATA SOURCE: Emergency department visits, Massachusetts Division of Health Care Finance and Policy
DATA ANALYSIS: Boston Public Health Commission Research Office

- In 2003, Boston residents made 242,626 emergency department (ED) visits, slightly more than the 213,133 total in 2002.
- Boston residents ages 25-44 comprised the largest number of ED visits (37.3%). Residents from age groups 10-17 and 65 and over had the lowest frequency of ED visits, approximately 7.2% and 7.7% of all visits, respectively.



- NOTE: Race/ethnicity information in emergency data should be interpreted with caution the data are not collected consistently by Massachusetts hospitals. Latinos may be reported in any of the above race categories, or as a separate group, and data may be self-reported or estimated by emergency department staff depending on the individual department's reporting practices.

- Black and Latino residents had the highest ED visit rates of all Boston race/ethnicity groups. The rate was 612.2 ED visits per 1,000 population for Blacks and 464.2 ED visits per 1,000 for Latinos. Asian residents had the lowest ED visit rate (140.0 per 1,000).

- The ED visit rate for Black residents was 145.4% higher than the rate for White residents and 48.7% higher than the overall Boston rate. The rate for Latino residents was 86.1% higher than the rate for White residents and 12.7% higher than the overall Boston rate.

Leading Reasons for Emergency Department Visits, Boston, 2003

	Number of Visits	Percent of All ED Visits
Injury	76,566	31.6%
Respiratory Diseases and Disorders	30,521	12.6%
Miscellaneous	21,385	8.8%
Digestive System Diseases and Disorders	17,992	7.4%
Musculoskeletal System and Connective Tissue Disorders	17,049	7.0%
Mental Diseases and Disorders	15,008	6.2%
Infectious Diseases	11,190	4.6%
Ear, Nose, Mouth, and Throat Diseases and Disorders	9,541	3.9%
Nervous System Diseases and Disorders	8,874	3.7%
Skin and Subcutaneous Tissue Diseases and Disorders	7,995	3.3%
Circulatory Diseases and Disorders	7,501	3.1%
Kidney and Urinary Tract Diseases and Disorders	7,076	2.9%
Eye Diseases and Disorders	4,177	1.7%
Diseases and Disorders of the Female Reproductive System	3,823	1.6%
Pregnancy-Related Visits	3,938	1.6%
TOTAL	**242,626**	**100.0%**

DATA SOURCE: Emergency department visits, Massachusetts Division of Health Care Finance and Policy
DATA ANALYSIS: Boston Public Health Commission Research Office

- Injury was the number one reason Boston residents went to emergency departments during 2003. Of the 242,626 ED visits by Boston residents, 76,566 or 31.6% were for injuries.

- Boston residents also made 30,521 visits (12.6% of all visits) for respiratory conditions and disorders, the second leading reason for ED visits. Mental disorders, infectious diseases, circulatory diseases, and digestive system diseases and disorders were some of the other leading reasons for ED visits.

ED Visit Rates by Reason for Visit and Race/Ethnicity, Boston, 2003

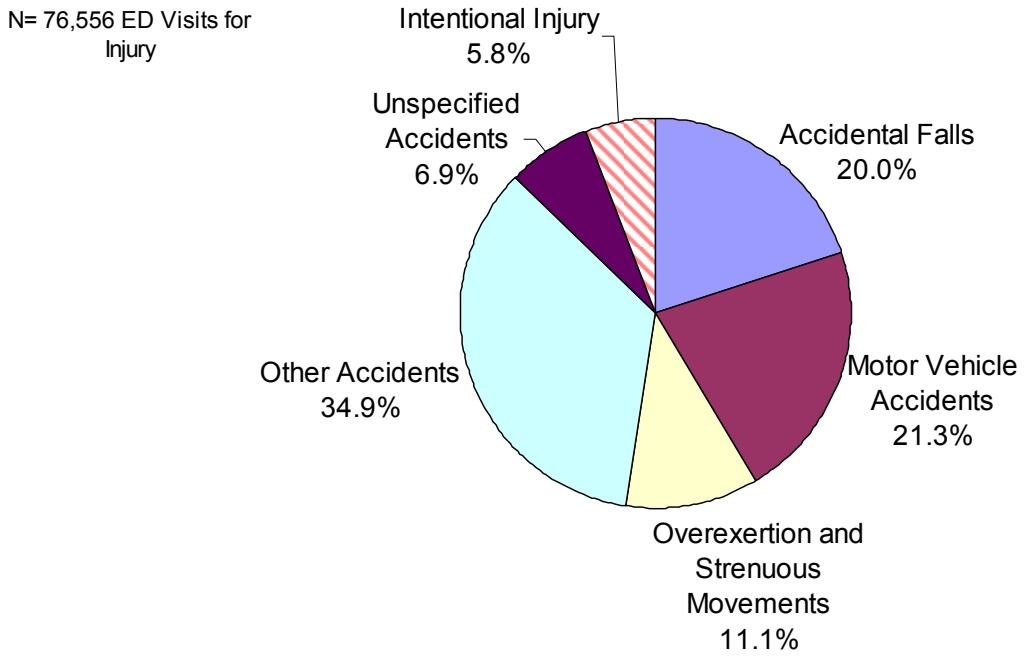
	Asian	Black	Latino	White
Injury	39.1	157.7	118.5	75.1
Respiratory Diseases and Disorders	18.0	86.8	65.7	25.4
Digestive System Diseases and Disorders	13.3	40.6	41.3	16.1
Musculoskeletal and Connective Tissues Disorders	6.3	48.9	30.0	19.3
Mental Diseases and Disorders	4.6	29.0	21.3	22.9

NOTE: Data shown represent emergency department visits per 1,000 population.
DATA SOURCE: Massachusetts Division of Health Care Finance and Policy
DATA ANALYSIS: Boston Public Health Commission Research Office

- Emergency department (ED) visit rates for the five leading reasons in 2003 were highest for Black residents.

- The highest rate for all races/ethnicities was for injury. However, the rate for Blacks (157.7 ED injury visits per 1,000 population) was 303.3% higher than the rate for Asians, 110.0% higher than the rate for Whites, and 33.1% higher than the rate for Latinos.

Leading Reasons for Emergency Department Injury Visits, Boston, 2003



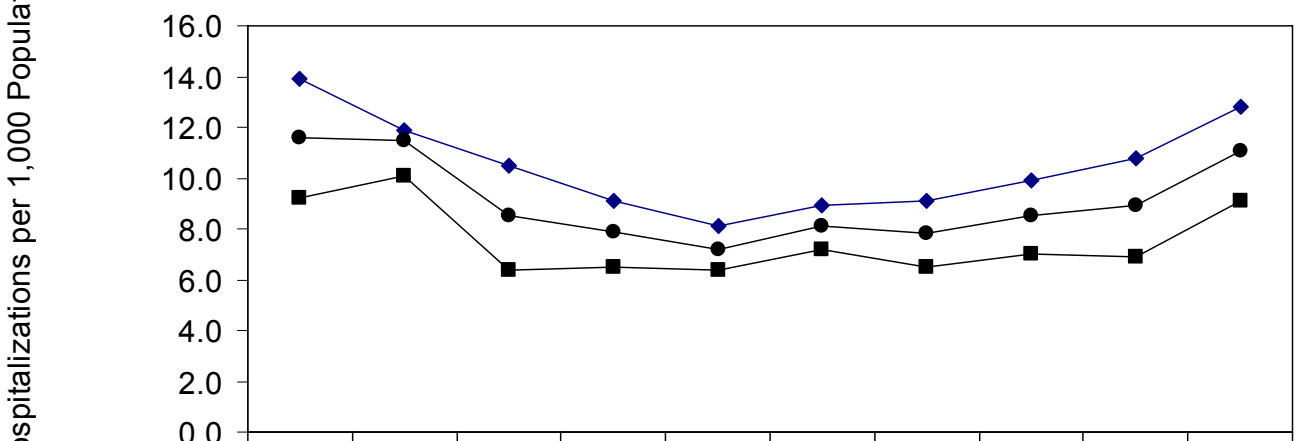
DATA SOURCE: Emergency department visits, Massachusetts Division of Health Care Finance and Policy
DATA ANALYSIS: Boston Public Health Commission Research Office

In 2003, Boston residents made 76,556 visits to the ED due to injuries. Accidental falls and motor vehicle accidents accounted for 41.3% of all injury visits. Intentional injury, such as assaults and homicides, accounted for 5.8%.

Asthma

Asthma is a condition in which the tiny vessels bringing air to the lungs constrict and become inflamed. During asthma attacks, which may be triggered by factors such as allergens, exercise, and cold temperatures, breathing becomes difficult for the asthma sufferer. Inhaled and oral medications are used to manage asthma. Hospitalizations and emergency department visits for this condition are an indicator of the amount of asthma in a community, the severity of the condition in that population, and the adequacy of outpatient management of asthma. The American Lung Association reports that most asthma cases in the U.S. are among children under the age of 18 and that Black children have the highest rates of asthma.

Asthma Hospitalization Rates Among Children Under Age 5 By Sex and Year, Boston, 1994-2003

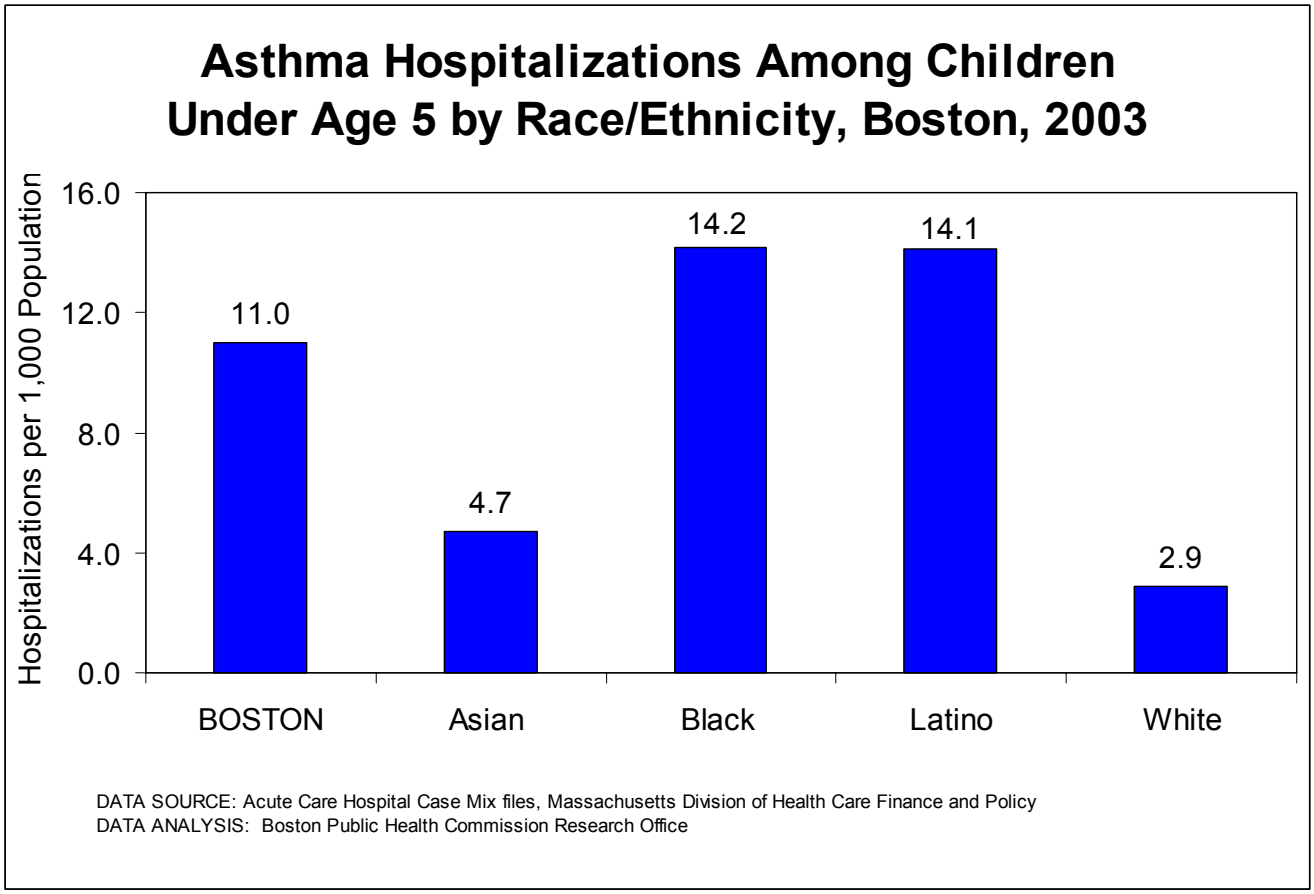


	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Male	13.9	11.9	10.5	9.1	8.1	8.9	9.1	9.9	10.8	12.8
Female	9.2	10.1	6.4	6.5	6.4	7.2	6.5	7.0	6.9	9.1
BOSTON	11.6	11.5	8.5	7.9	7.2	8.1	7.8	8.5	8.9	11.1

DATA SOURCE: 1994-1996, Acute Care Hospital Disharges, Massachusetts Health Data Consortium, Inc.; 1997-2003, Acute Care Hospital Case Mix files, Massachusetts Division of Health Care Finance and Policy
DATA ANALYSIS: Boston Public Health Commission Research Office

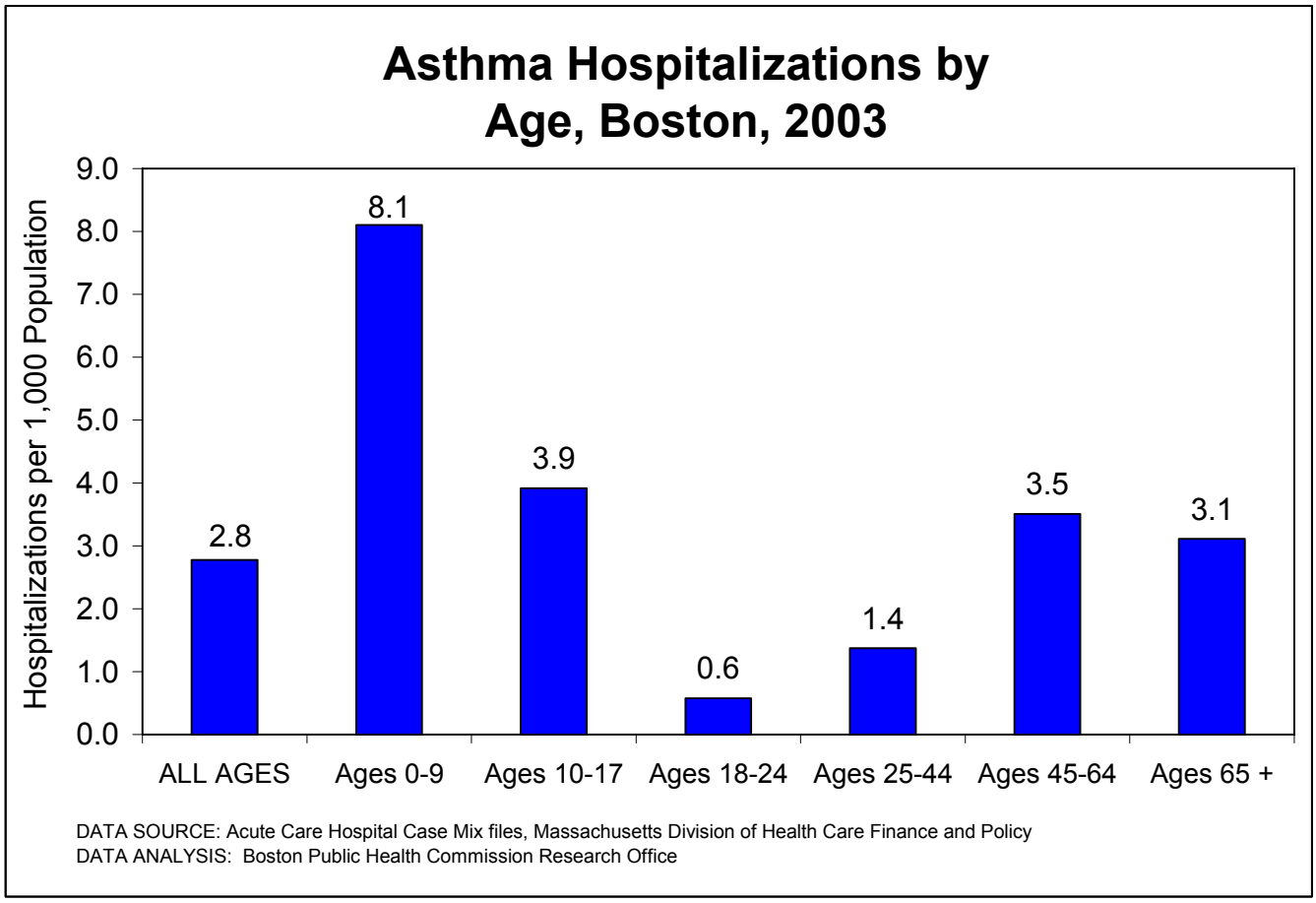
- Between 1994 and 2003, the asthma hospitalization rate for Boston children under age 5 declined 4.3%. However, in 2003, the rate rose 24.7% compared with the 2002 rate, from 8.9 asthma hospitalizations per 1,000 population to 11.1 per 1,000.

- For the years shown, hospitalization rates for male children under age 5 have been consistently higher than the rates for female children the same age. The rate for boys in 2003 (12.8 asthma hospitalizations per 1,000) was 40.7% higher than the rate for girls (9.1 asthma hospitalizations per 1,000).

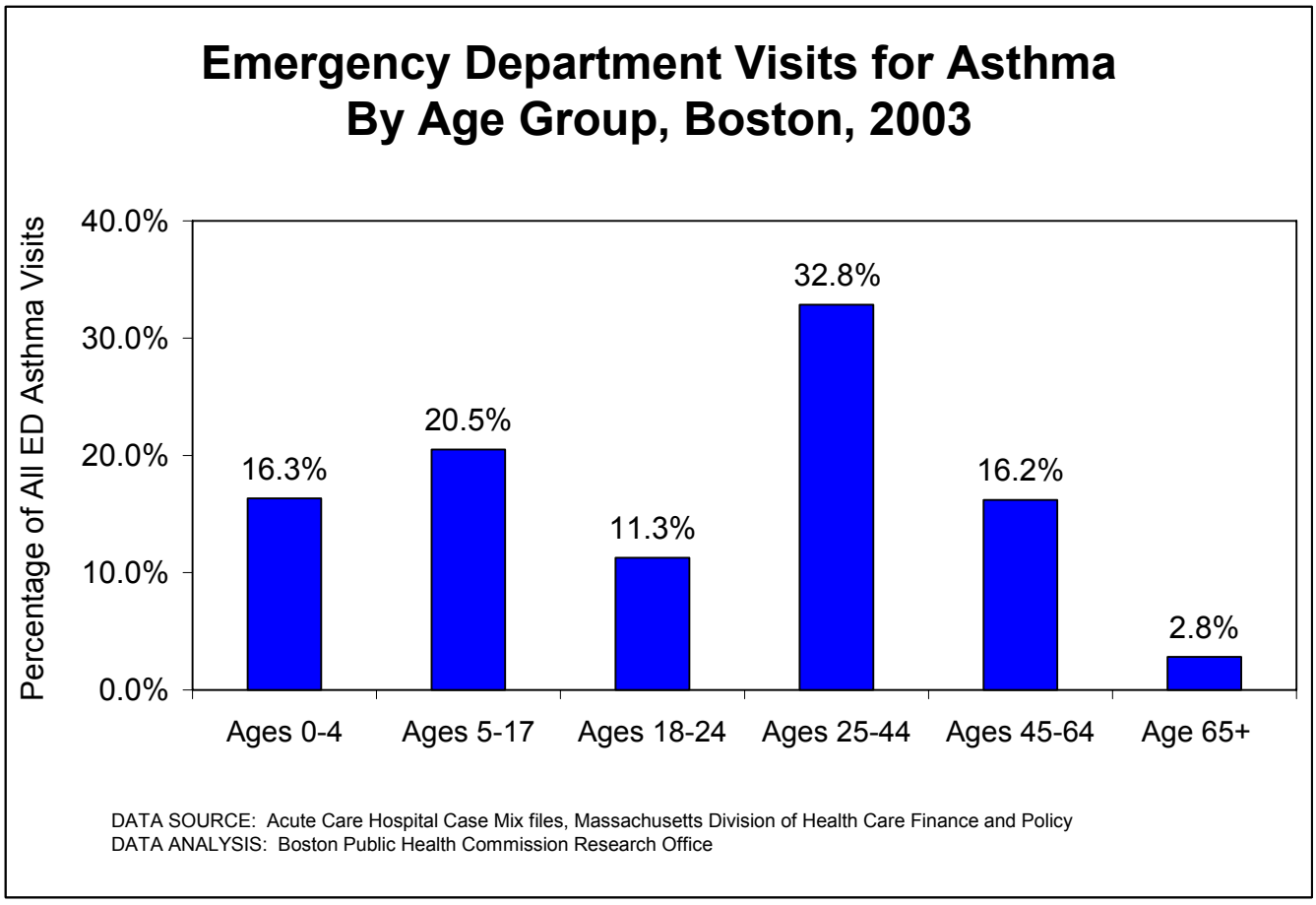


- During 2003, asthma hospitalization rates for Boston's Black and Latino children were substantially higher than for Asian and White children. This trend has persisted since 1997 (data not shown).

- The 2003 rates for Latinos (14.1 asthma hospitalizations per 1,000 population) and for Blacks (14.2 asthma hospitalizations per 1,000) were the highest of all race/ethnicity groups. The rates for Latino and Black children were five times the rate for Whites and three times the rate for Asians.



- The majority of the asthma hospitalization burden is borne by children. In 2003, Boston children under the age of 10 had 8.1 hospitalizations per 1,000 population. Young adults ages 18-24 had the city's lowest asthma hospitalization rate, 0.6 per 1,000.

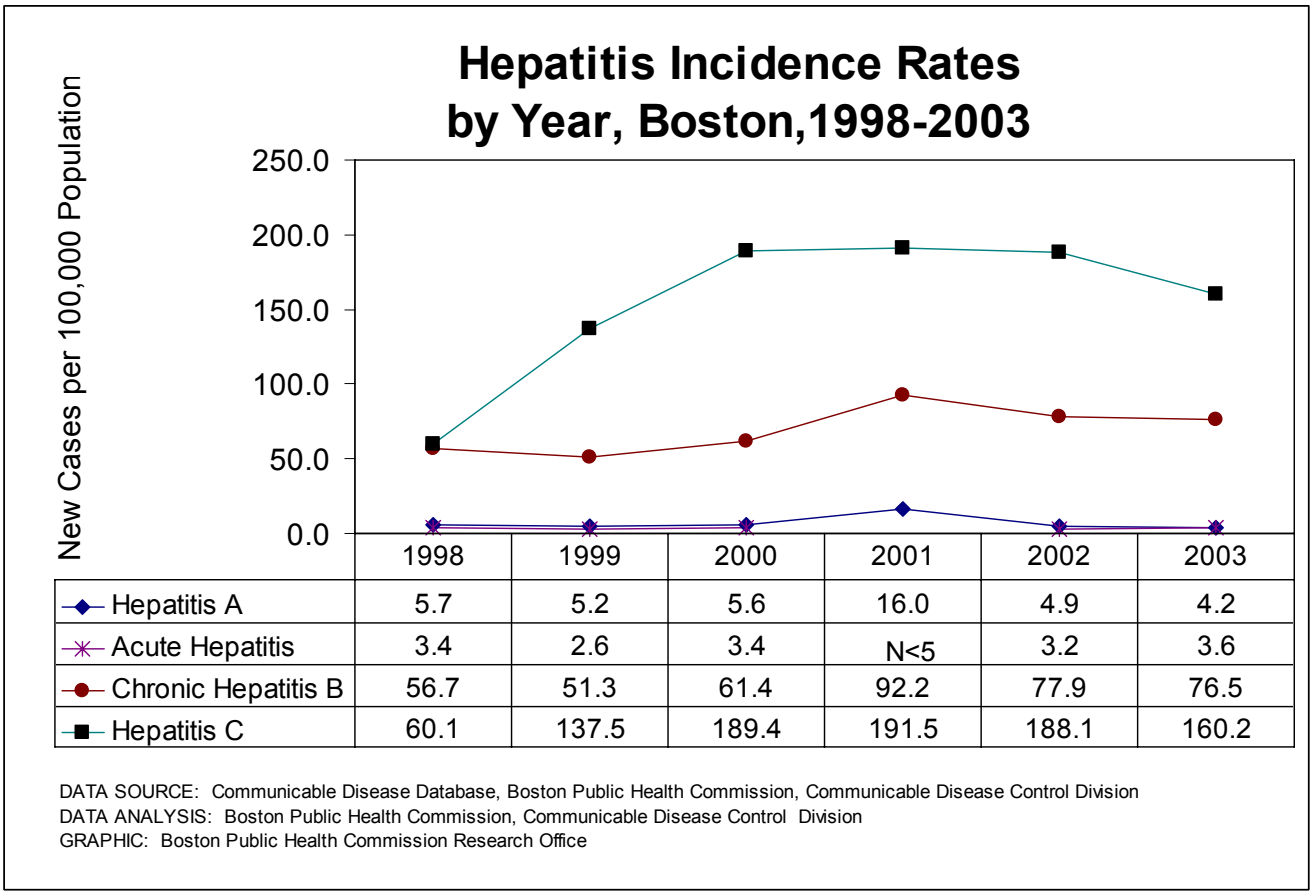


- In 2003, adults ages 25-44 accounted for about a third of the emergency department (ED) visits for asthma made by Boston residents, the highest of all age groups. Children ages 5-17 accounted for the second highest percentage of ED visits for asthma (20.5%).

- Boston residents ages 65 and over had only 2.8% of all ED visits for asthma.

Hepatitis

Hepatitis is a type of liver disease that can be mild or severe, acute (short-term) or chronic. Some cases of hepatitis can result in liver failure and death. People can get hepatitis in a number of ways such as eating food or drinking water infected by hepatitis, having unprotected sex with someone who has hepatitis, sharing needles for injection drug use with someone infected with hepatitis (or being accidentally stuck by an infected needle), getting a blood transfusion with blood infected by the virus, or from an infected mother to her baby during birth. Three major types of hepatitis are Hepatitis A, Hepatitis B, and Hepatitis C. Hepatitis A is caused by the hepatitis A virus (HAV) and results in acute (short-term) infection. Hepatitis B virus (HBV) causes both acute and chronic infection. Hepatitis C is caused by the hepatitis C virus (HCV) and is the most commonly reported blood-borne infection in Boston. Vaccines are available for hepatitis A and hepatitis B; however, there is no vaccine to prevent hepatitis C infection. According to the American Liver Foundation, Non-Hispanic African Americans have the highest incidence rate for hepatitis B.

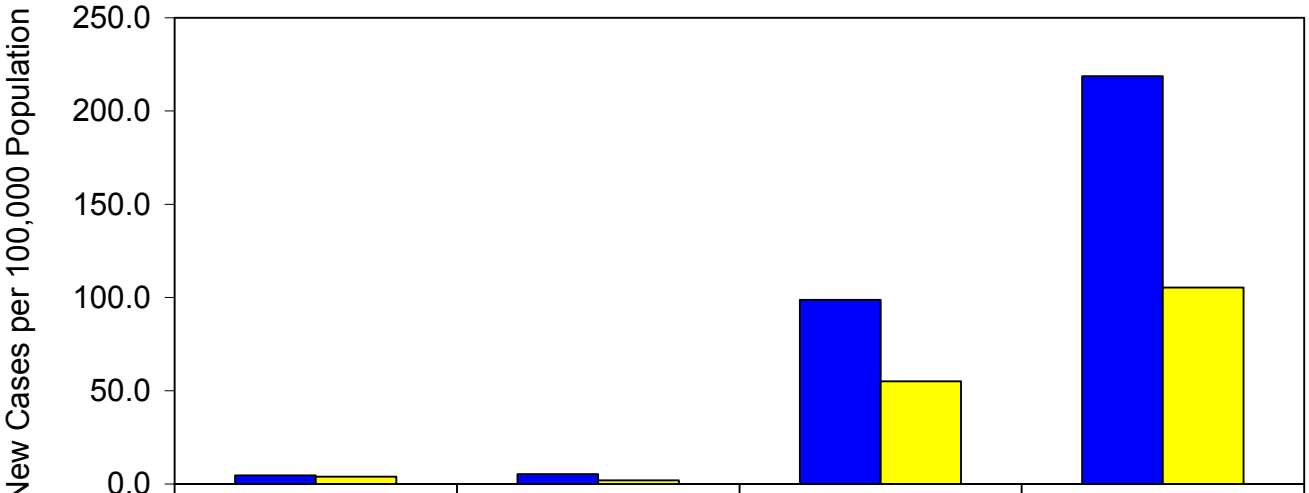


	1998	1999	2000	2001	2002	2003
Hepatitis A	5.7	5.2	5.6	16.0	4.9	4.2
Acute Hepatitis	3.4	2.6	3.4	N<5	3.2	3.6
Chronic Hepatitis B	56.7	51.3	61.4	92.2	77.9	76.5
Hepatitis C	60.1	137.5	189.4	191.5	188.1	160.2

DATA SOURCE: Communicable Disease Database, Boston Public Health Commission, Communicable Disease Control Division
DATA ANALYSIS: Boston Public Health Commission, Communicable Disease Control Division
GRAPHIC: Boston Public Health Commission Research Office

- In 2003, the incidence of hepatitis A infection dropped about 14.3%, from 4.9 new cases per 100,000 population in 2002 to 4.2 new cases per 100,000.
- The hepatitis C infection rate increased 166.6% between 1998 and 2003 (60.1 new cases to 160.2 new cases per 100,000 population). However, this rate dropped 14.8% since 2002.
- The incidence rate of chronic hepatitis B infection was virtually unchanged between 2002 and 2003, but increased 34.9% between 1998 and 2003.

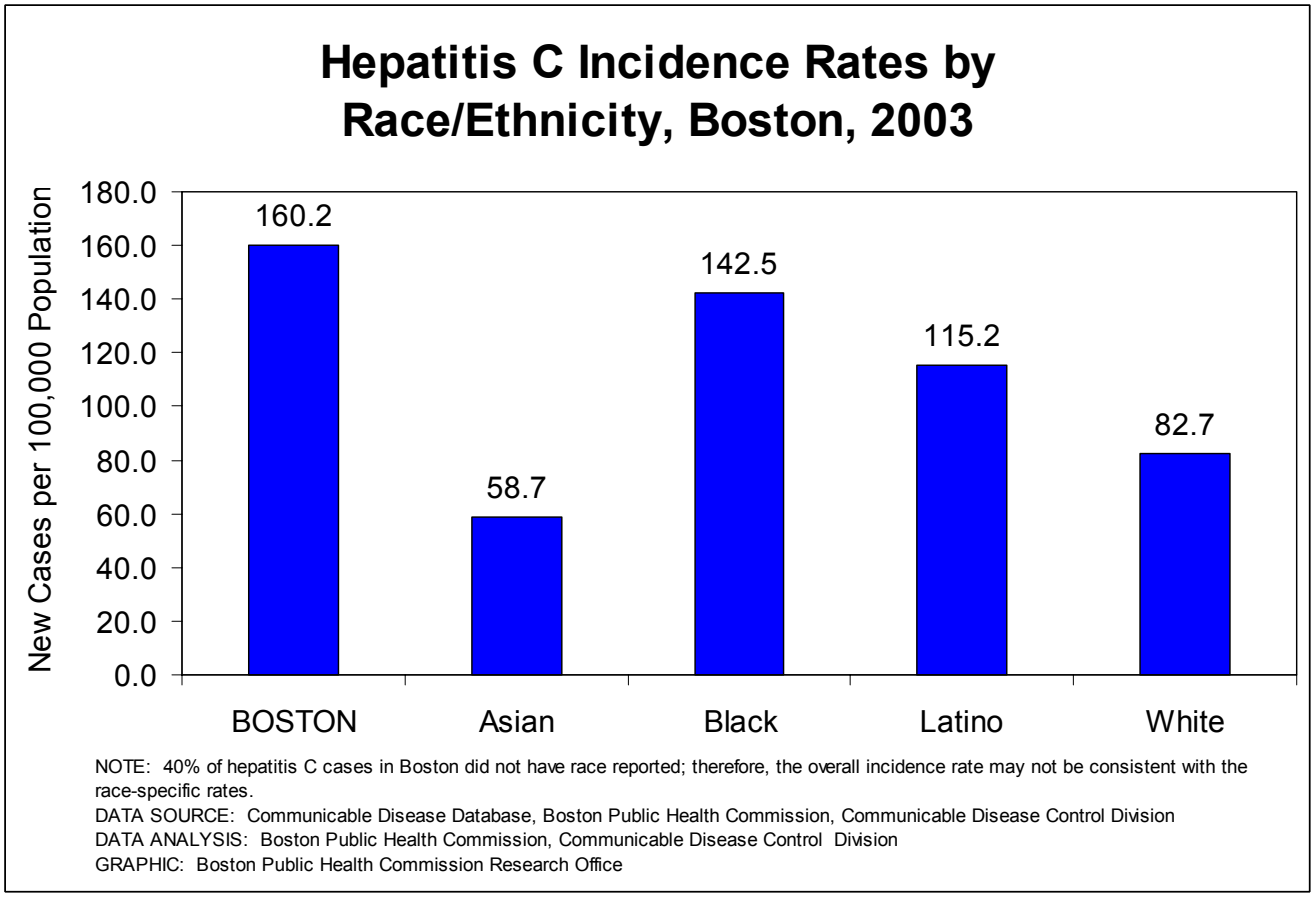
Hepatitis Incidence Rates by Sex, Boston, 2003



	Hepatitis A	Acute Hepatitis B	Chronic Hepatitis B	Hepatitis C
Male	4.6	5.3	98.7	218.6
Female	3.9	2.0	55.0	105.4

DATA SOURCE: Communicable Disease Database, Boston Public Health Commission, Communicable Disease Control Division
DATA ANALYSIS: Boston Public Health Commission, Communicable Disease Control Division
GRAPHIC: Boston Public Health Commission Research Office

- In 2003, the incidence rates of reported hepatitis B and C infections in Boston were approximately two times as high in males as in females.
- The incidence of hepatitis A was about 17.9% higher in males than females.

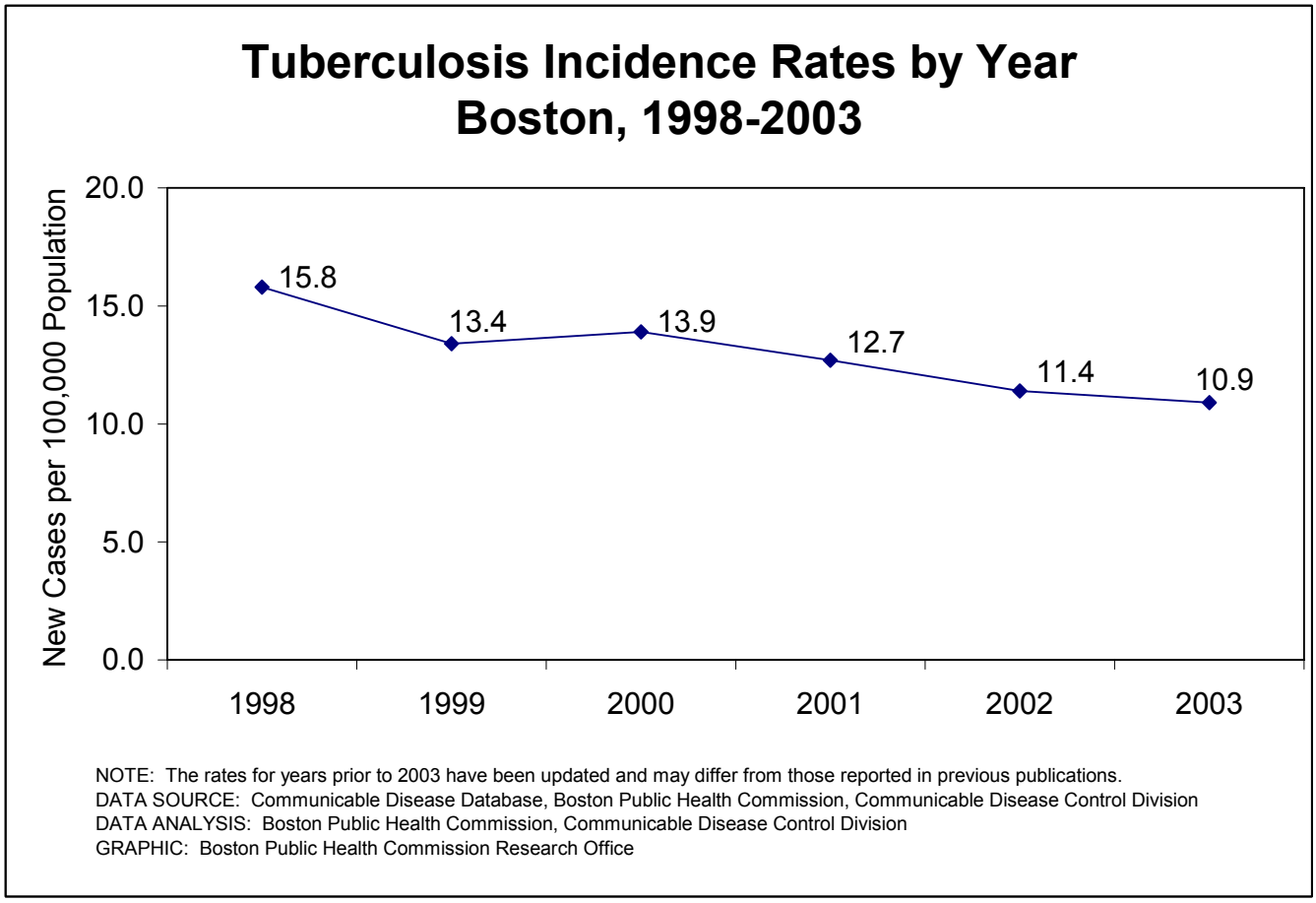


- In 2003, the incidence rate of reported hepatitis C infection in Boston was 160.2 new cases per 100,000 population.

- Latinos and Blacks had the highest rates of hepatitis C: for Blacks, the incidence rate in 2003 was 142.5 new cases per 100,000 population and for Latinos, it was 115.2 new cases per 100,000 population.

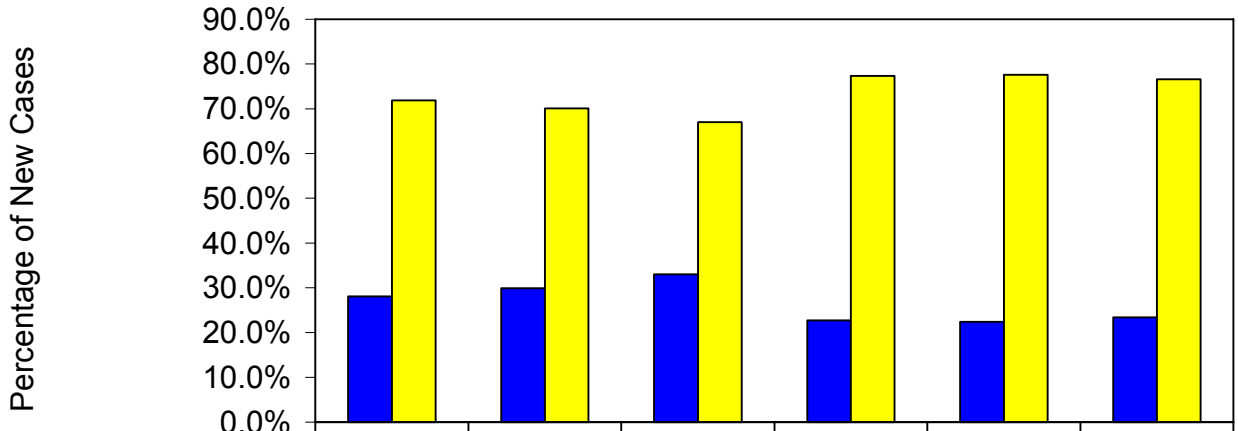
- The incidence rate of reported hepatitis C among Latinos was 39.3% higher than the rate among Whites and 96.3% higher than the rate among Asians. The rate among Blacks was 72.3% higher than the rate among Whites and 142.8% higher than the rate among Asians.

Tuberculosis



- A total of 454 new tuberculosis (TB) cases were reported among Boston residents during 1998-2003. Between 1998 and 2003, the TB incidence rate for Boston declined 31.0%, from 15.8 new cases per 100,000 population in 1998 to 10.9 new cases per 100,000 in 2003.

Tuberculosis Cases by Place of Birth, Boston, 1998-2003



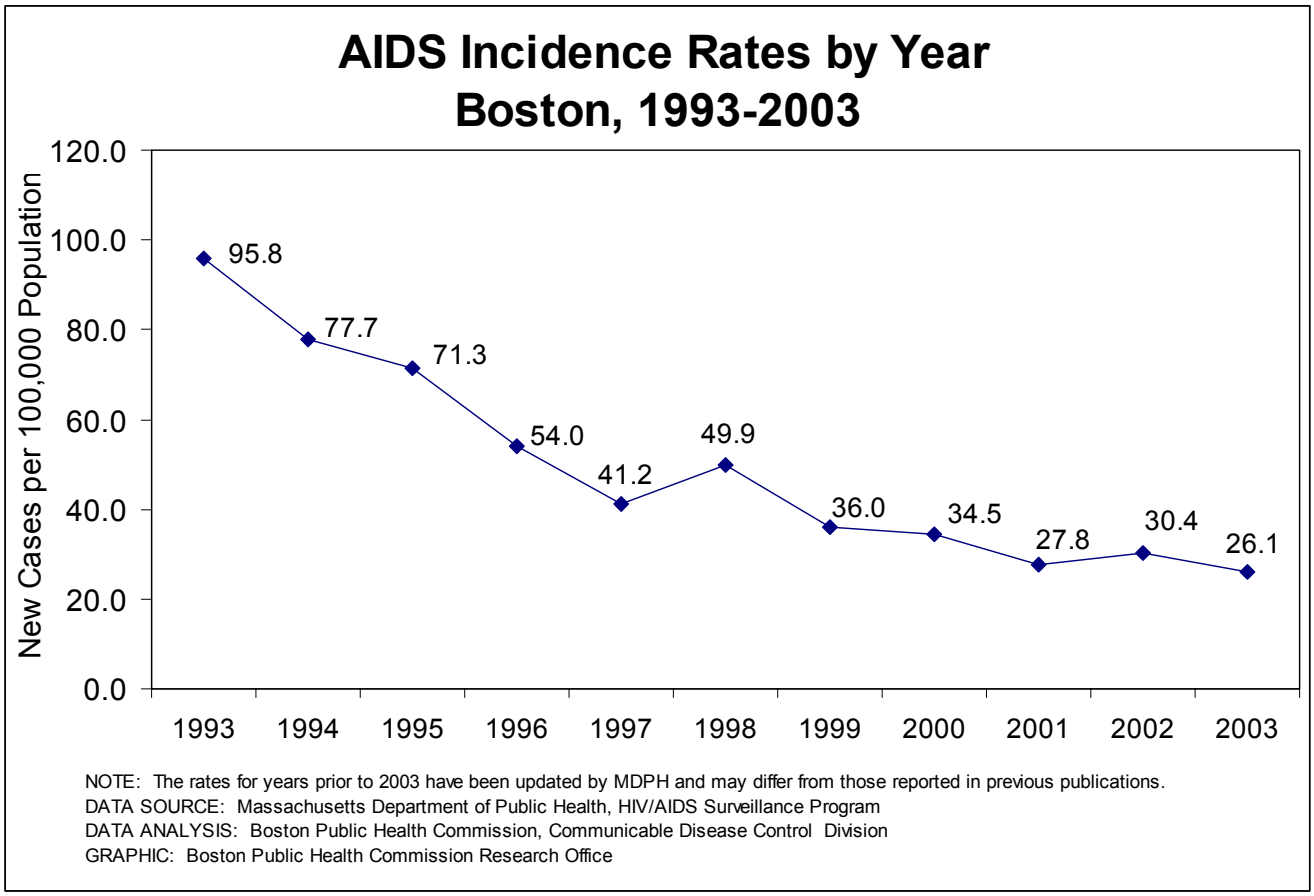
	1998	1999	2000	2001	2002	2003
Percent US-born	28.1%	29.9%	33.0%	22.7%	22.4%	23.4%
Percent Foreign-born	71.9%	70.1%	67.0%	77.3%	77.6%	76.6%

NOTE: Percentages reported here may not match those presented in earlier publications.
DATA SOURCE: Communicable Disease Database, Boston Public Health Commission, Communicable Disease Control Division
DATA ANALYSIS: Boston Public Health Commission, Communicable Disease Control Division
GRAPHIC: Boston Public Health Commission Research Office

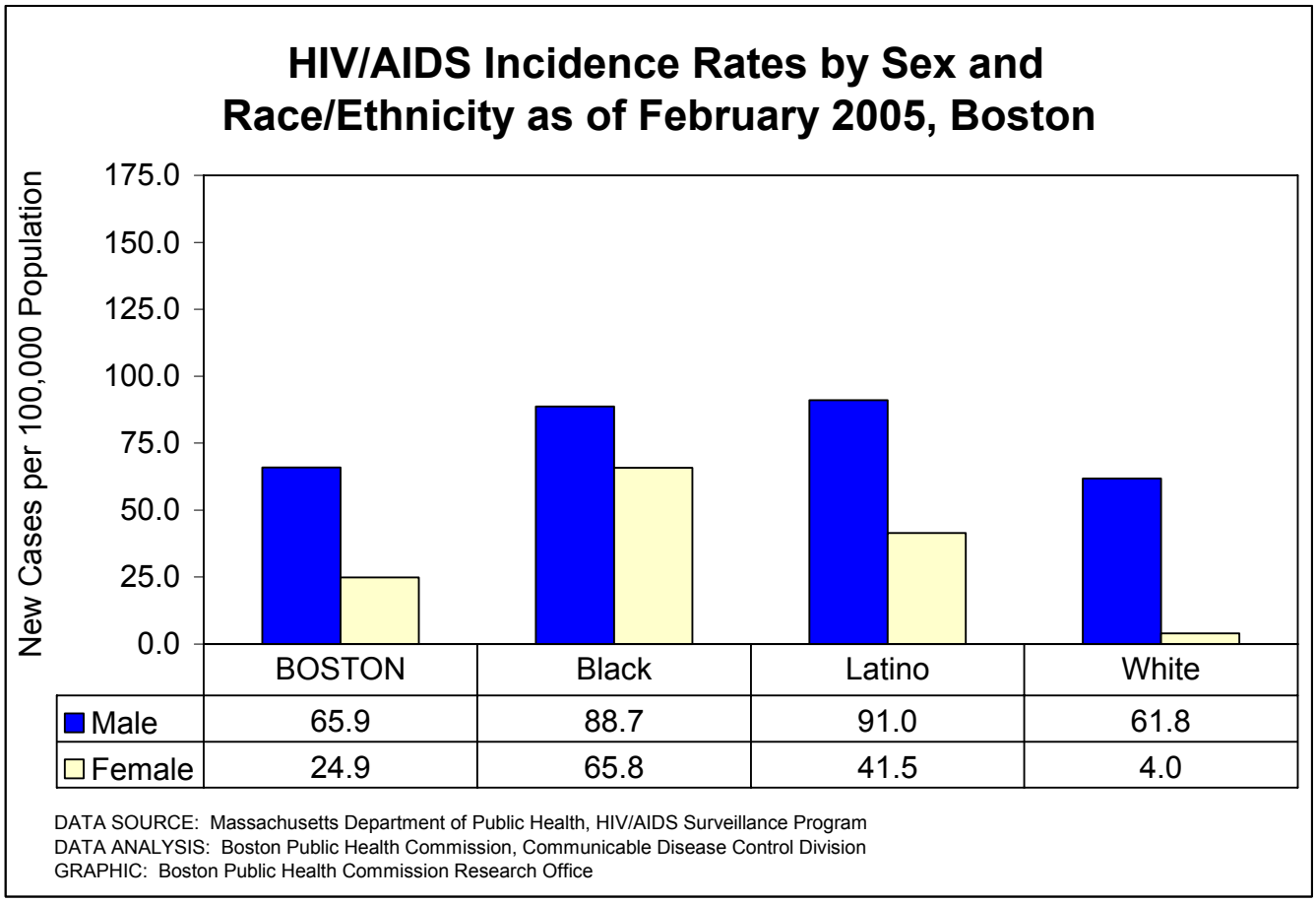
- In 2003, 76.6% of new TB cases reported for Boston residents were among people born outside the U.S.
- Between 1998 and 2003, the percentage of all new TB cases among Boston residents not born in the US increased 6.5%, while the percentage for those born in the U.S. declined 16.7%.

HIV/AIDS

Human Immunodeficiency Virus (HIV) is the organism that causes Acquired Immune Deficiency Syndrome (AIDS). People become infected with HIV through sexual contact, contact with infected blood, or at birth, when infection can be transmitted from mother to baby. The virus can also be transmitted to infants through breastfeeding. Over a period of years, most people who are infected with HIV develop AIDS as the virus damages the immune system. People are classified as having AIDS when their immune system shows significant damage by HIV, based upon blood tests (T-cell or CD4 counts) or when they develop certain infections or tumors related to the presence of HIV. The Centers of Disease Control reports that nationally, in 2002, 71% of all new diagnosed cases of HIV/AIDS were men. Of all racial/ethnic groups, Blacks accounted for 54% of all new cases. In addition, male-to-male sexual contact and heterosexual contact accounted for the majority of all new cases.



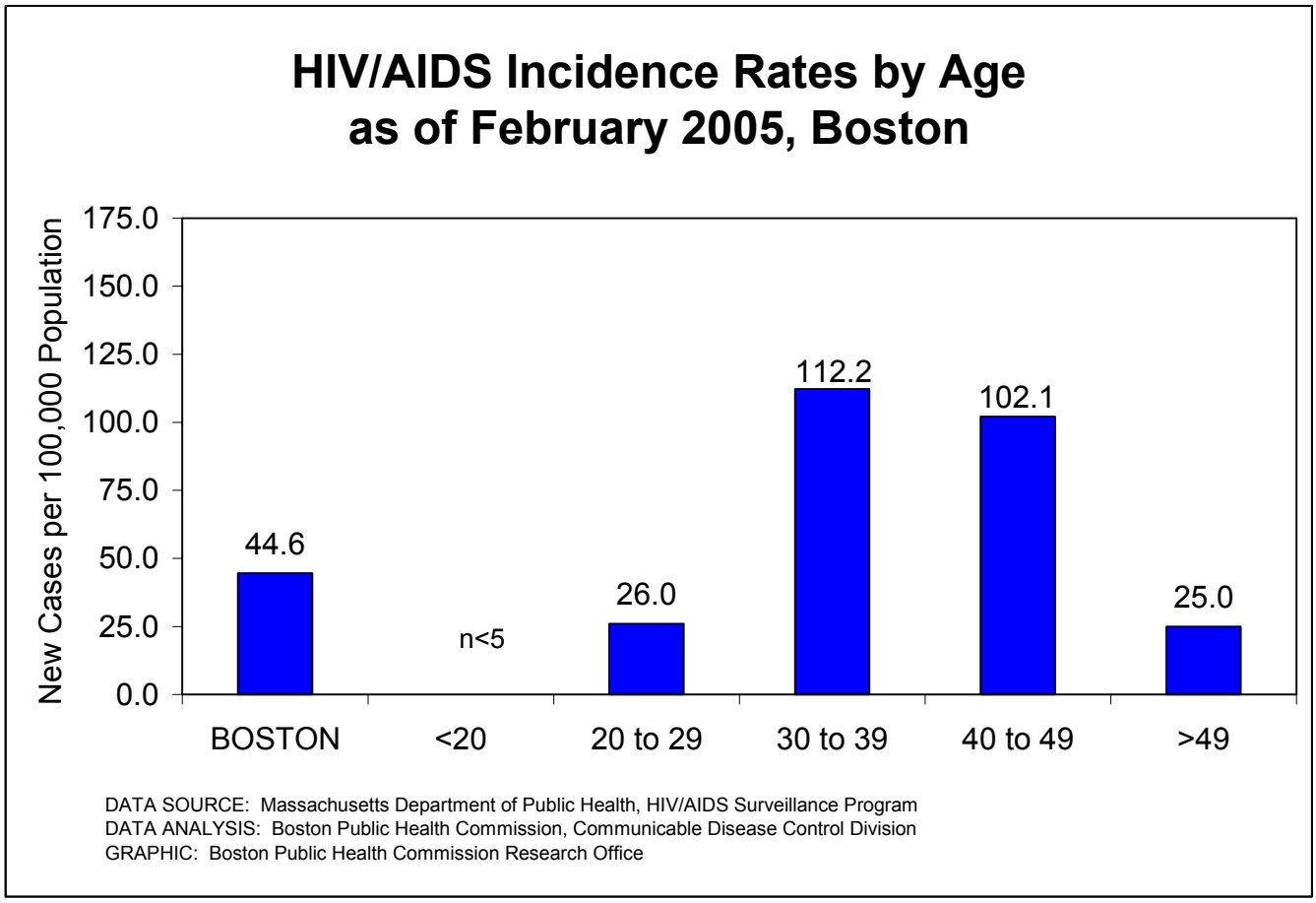
- The HIV/AIDS incidence rate in 2003 for Boston residents was 26.1 new cases per 100,000 population.
- The 2003 rate represents a 72.8% drop from the decade high rate of 95.8 new cases per 100,000 population in 1993. More recently, the 2003 rate represents a 14.1% decrease from the rate in 2002.



- As of February 2005, the overall HIV/AIDS incidence rate for Boston residents was 44.6 new cases per 100,000 population (rate not shown). The rate for males (65.9 new cases per 100,000 population) was almost three times the rate for females (24.9 new cases per 100,000).

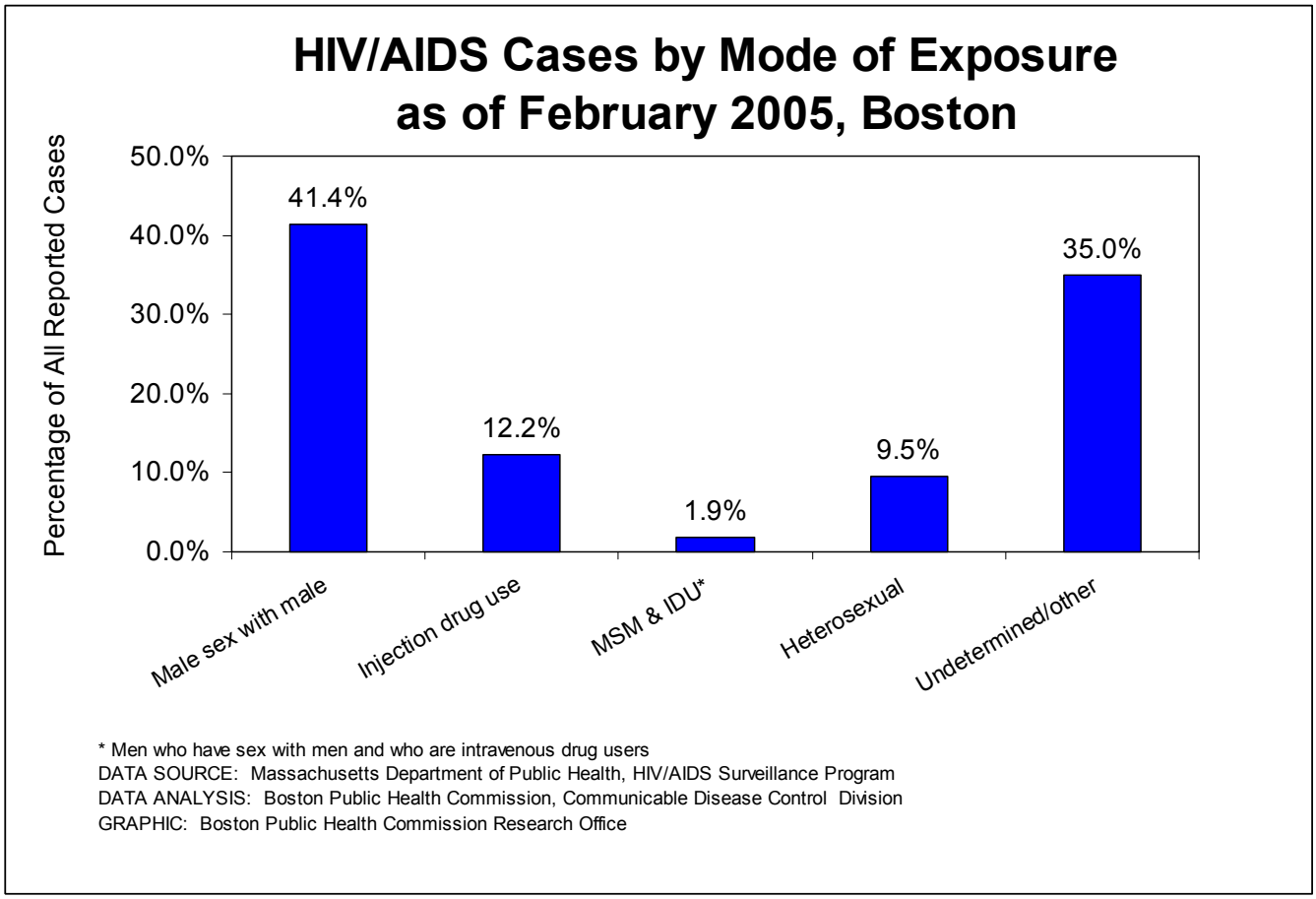
- Compared to 2004, when Black Boston residents had the highest HIV/AIDS incidence rates for both sexes among all race/ethnicity groups, as of February 2005, Latino males had the highest incidence rate (91.0 new cases per 100,000 population); for females, the Black rate was highest (65.8 new cases per 100,000). These rates were 38.1% higher than those for Boston males and 164.3% higher than those for females overall.

- Whites had the lowest rates for both sexes.



- The 30-39 year-old age group had the city's highest HIV/AIDS incidence rate as of February 2005 (112.2 new cases per 100,000 population). Residents in the 40-49 year-old age group were second, with 102.1 new cases per 100,000 population.

- The lowest HIV/AIDS incidence rate was for residents older than 49 (25.0 new cases per 100,000). The number of new cases for residents younger than 20 was too few for calculation of a rate.

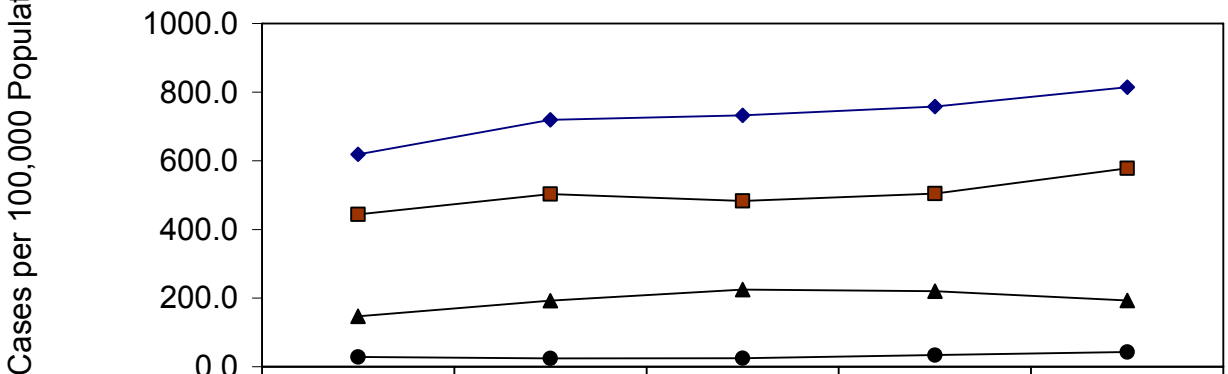


- As of February 2005, sex between men was the mode of exposure for 41.4% of all reported Boston HIV/AIDS cases, injection drug use, 12.2%, heterosexual sex, 9.5%, and the combination of sex between men and injection drug use, 1.9% of all cases. Mode of exposure was undetermined or by routes other than those shown for about 35% of Boston's HIV/AIDS cases.

Sexually Transmitted Diseases

In the United States chlamydia, gonorrhea, and syphilis are the most common sexually transmitted diseases (STDs), with 1.2 million cases reported nationally in 2002 by the Centers for Disease Control, Division of Sexually Transmitted Diseases. About a third of these cases were among adolescents. Reported STD rates are generally higher among Blacks and Latinos than Whites.

Sexually Transmitted Disease Incidence Rates by Year, Boston, 1999-2003



	1999	2000	2001	2002	2003
Syphilis	28.3	24.3	25.1	33.8	42.5
Gonorrhea	146.9	192.5	224.6	219.8	193.0
Chlamydia	443.7	502.9	483.2	504.6	578.1
Total	618.8	719.7	732.9	758.2	814.6

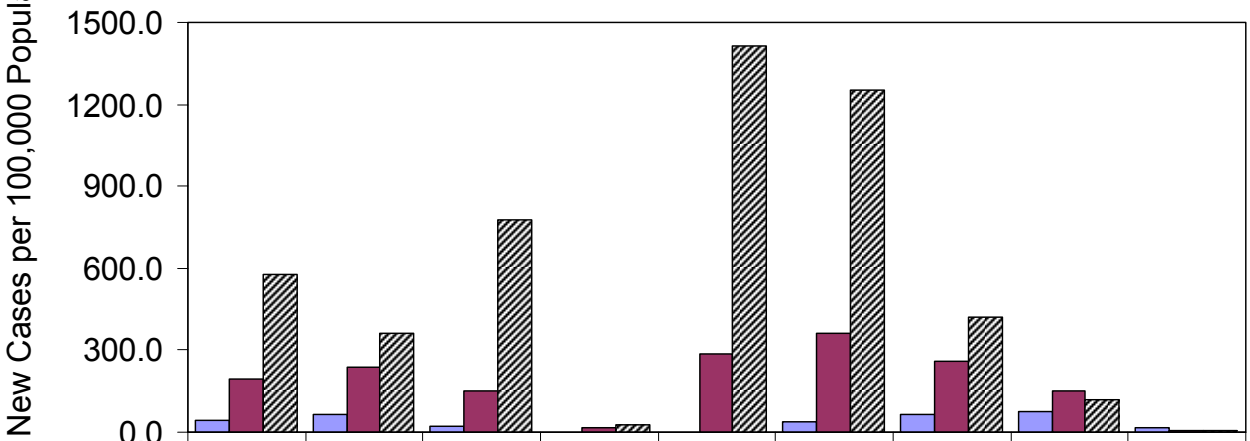
NOTE: The STD incidence rates shown here are for chlamydia, gonorrhea, and syphilis combined.
DATA SOURCE: Massachusetts Department of Public Health, STD Division and Boston Public Health Commission, Communicable Disease Control Division
DATA ANALYSIS: Boston Public Health Commission, Communicable Disease Control Division
GRAPHIC: Boston Public Health Commission Research Office

- The overall Boston incidence rate for sexually transmitted diseases, including syphilis, gonorrhea, and chlamydia was 814.6 new cases per 100,000 population in 2003, an increase of 33.3 % compared with 1999.

- From 1999 to 2003, the gonorrhea incidence rate increased 31.4%, from 146.9 new cases per 100,000 in 1999 to 193.0 new cases per 100,000 in 2003, while the chlamydia incidence rate increased 30.3%, from 443.7 new cases per 100,000 in 1999 to 578.1 new cases per 100,000 in 2003.

- Syphilis and chlamydia incidence rates rose between 2002 and 2003. The increase was 25.7% for syphilis and 14.6% for chlamydia. The incidence rate for gonorrhea fell 12.2%.

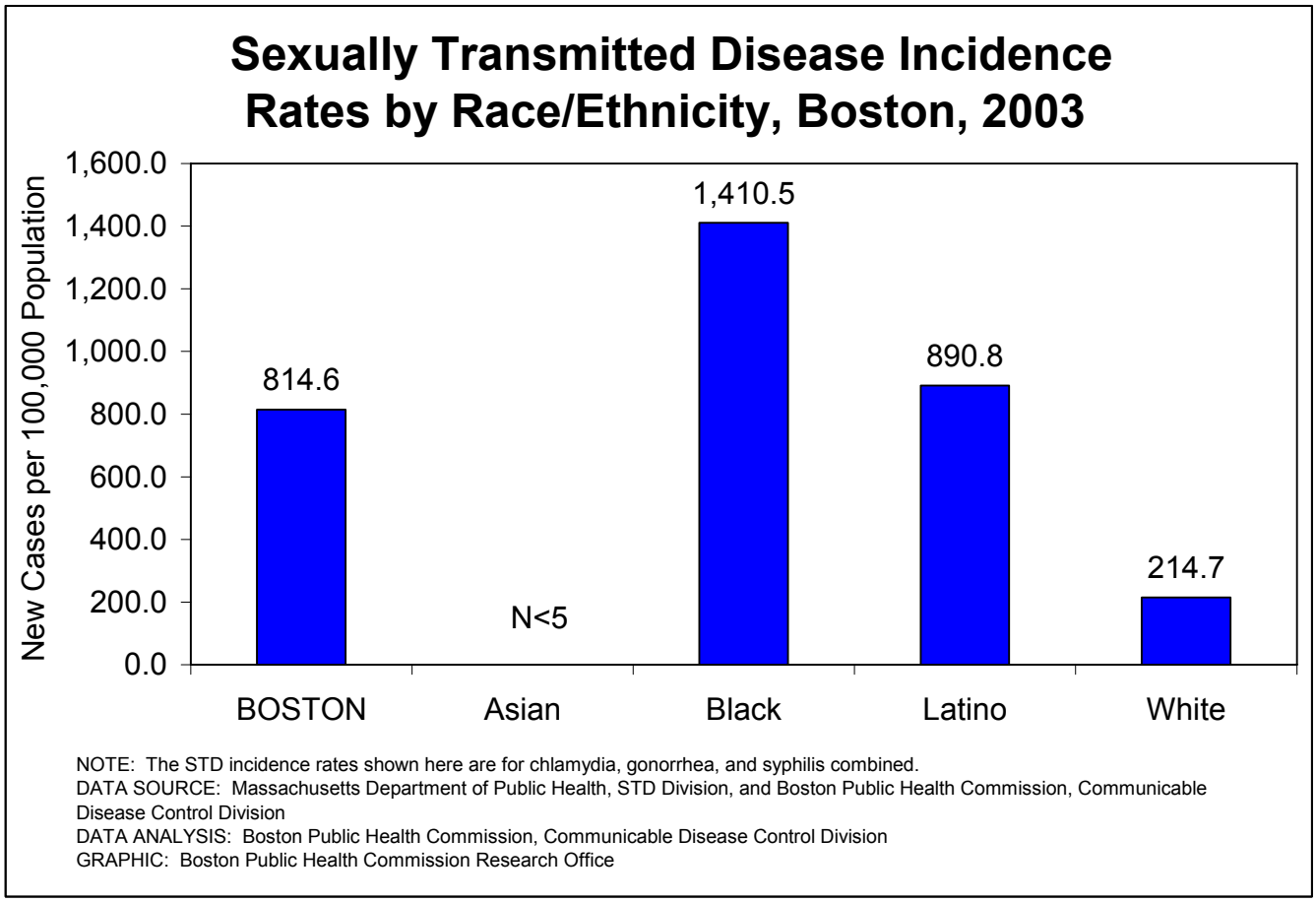
Reported Sexually Transmitted Disease Incidence Rates By Type, Sex and Age, Boston, 2003



	Boston	Male	Female	< 10	10-19	20-29	30-39	40-49	>49
Syphilis	42.4	63.5	22.9	N<5	N<5	36.9	64.8	73.5	18.1
Gonorrhea	193.0	235.6	153.2	16.7	284.8	361.1	257.2	149.7	6.1
Chlamydia	578.1	361.1	777.6	28.9	1412.4	1252.7	418.7	121.1	6.1

DATA SOURCE: Massachusetts Department of Public Health, STD Division, and Boston Public Health Commission, Communicable Disease Control Division
DATA ANALYSIS: Boston Public Health Commission, Communicable Disease Control Division
GRAPHIC: Boston Public Health Commission Research Office

- Rates for sexually transmitted diseases vary considerably by sex and age. Reported syphilis incidence is 177.3% higher among males than females (63.5 new cases per 100,000 among males versus 22.9 new cases per 100,000 among females). Reported gonorrhea incidence is 53.8% higher among males than females (235.6 new cases per 100,000 among males versus 153.2 new cases per 100,000 among females). Reported chlamydia incidence, however, is 115.3% higher among females than males (777.6 new cases per 100,000 among females versus 361.1 new cases per 100,000 among males).
- Gonorrhea and chlamydia are most common among young people. The incidence rate for reported gonorrhea is highest among people ages 20 to 29, while the incidence rate for reported chlamydia is highest among people ages 10 to 19. In contrast, the incidence rate for reported syphilis is highest among people ages 40 to 49.

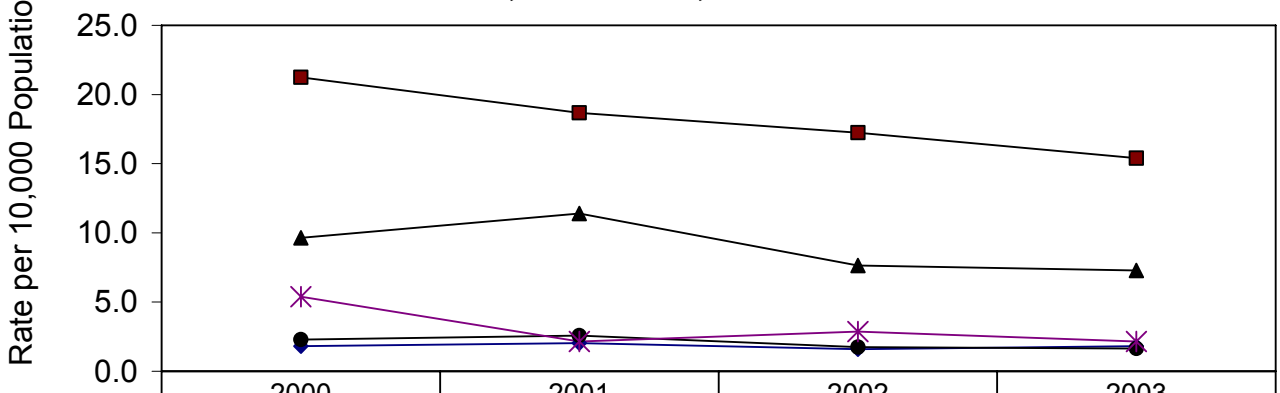


- In 2003, Blacks and Latinos had the highest sexually transmitted disease (STD) incidence rates of all Boston residents.
- The rate for Blacks (1,410.5 new cases per 100,000 population), was 73.2% greater than for Boston overall while the rate for Latinos (890.8 new cases per 100,000) was 9.4% greater.
- The rates for Blacks and Latinos were about seven times and four times, respectively, higher than the rate for Whites. The number of new cases of STDs for Asians was too small for rate presentation.

Violence

Violence takes many forms – armed or unarmed assault, physical abuse within intimate relationships, workplace violence, and sexual assault and rape. Violence-related injuries in this report focus on non-fatal armed assaults. They do not include accidental injuries.

Victims of Non-Fatal Assault-Related Gunshots and Stabbings by Race/Ethnicity and Year, Boston, 2000-2003

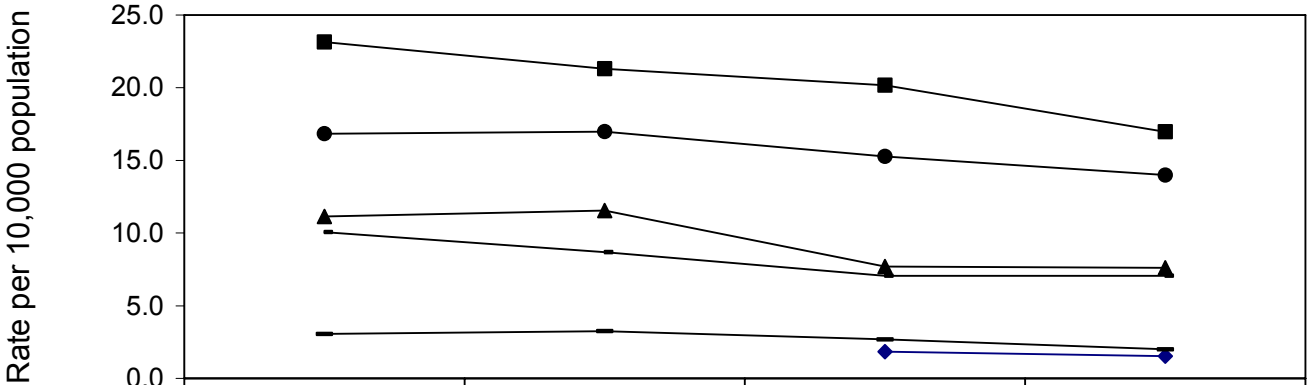


	2000	2001	2002	2003
Asian	1.8	2.0	1.6	1.8
Black	21.2	18.7	17.2	15.4
Latino	9.6	11.4	7.6	7.3
White	2.3	2.6	1.7	1.6
Other	5.4	2.2	2.9	2.2

DATA SOURCE: Weapon-related injuries, Massachusetts Department of Public Health, Weapon-Related Surveillance System
DATA ANALYSIS: Boston Public Health Commission Research Office

- In 2003, 359 Boston residents were victims of non-fatal assault-related gunshots and stabbings.
- During the period 2000-2003, the race/ethnicity distribution of victims of non-fatal assault-related gunshots and stabbings remained fairly stable.
- Despite what appears to be a declining trend, Blacks accounted for the highest rate of victimization during each year of the 2000-2003 period. The rate for Blacks in 2003 (15.4 victims per 10,000 population) was two to eight times higher than the rates for Whites, Asians, and Latinos.

Victims of Non-Fatal Gunshot and Stabbing Injuries by Age Group and Year, Boston, 2000-2003

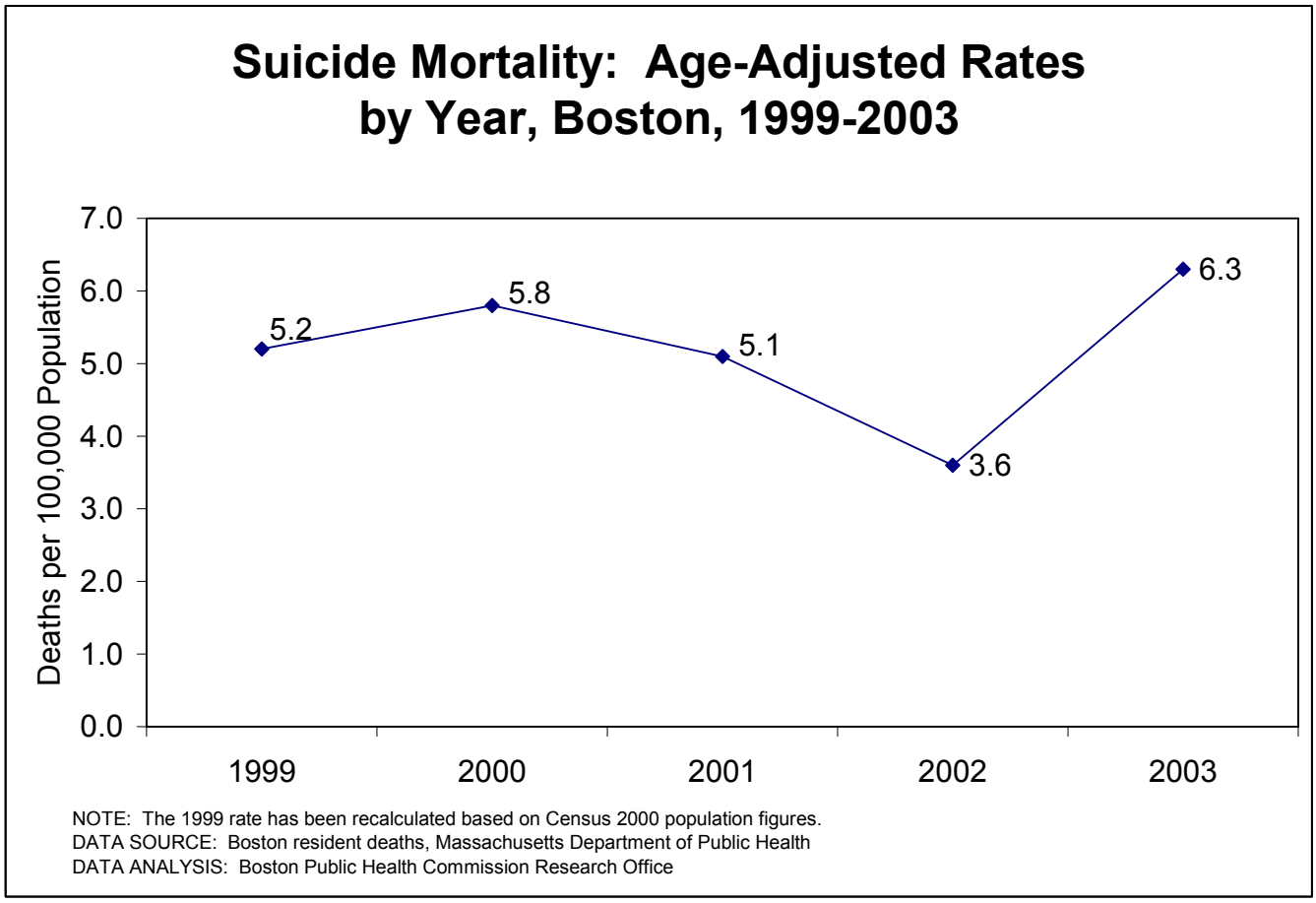


	2000	2001	2002	2003
10-14	n<5	n<5	1.8	1.5
15-19	23.1	21.3	20.2	17.0
20-24	16.8	17.0	15.3	14.0
25-34	11.1	11.5	7.7	7.6
35-44	10.1	8.7	7.1	7.1
45-64	3.1	3.3	2.7	2.0

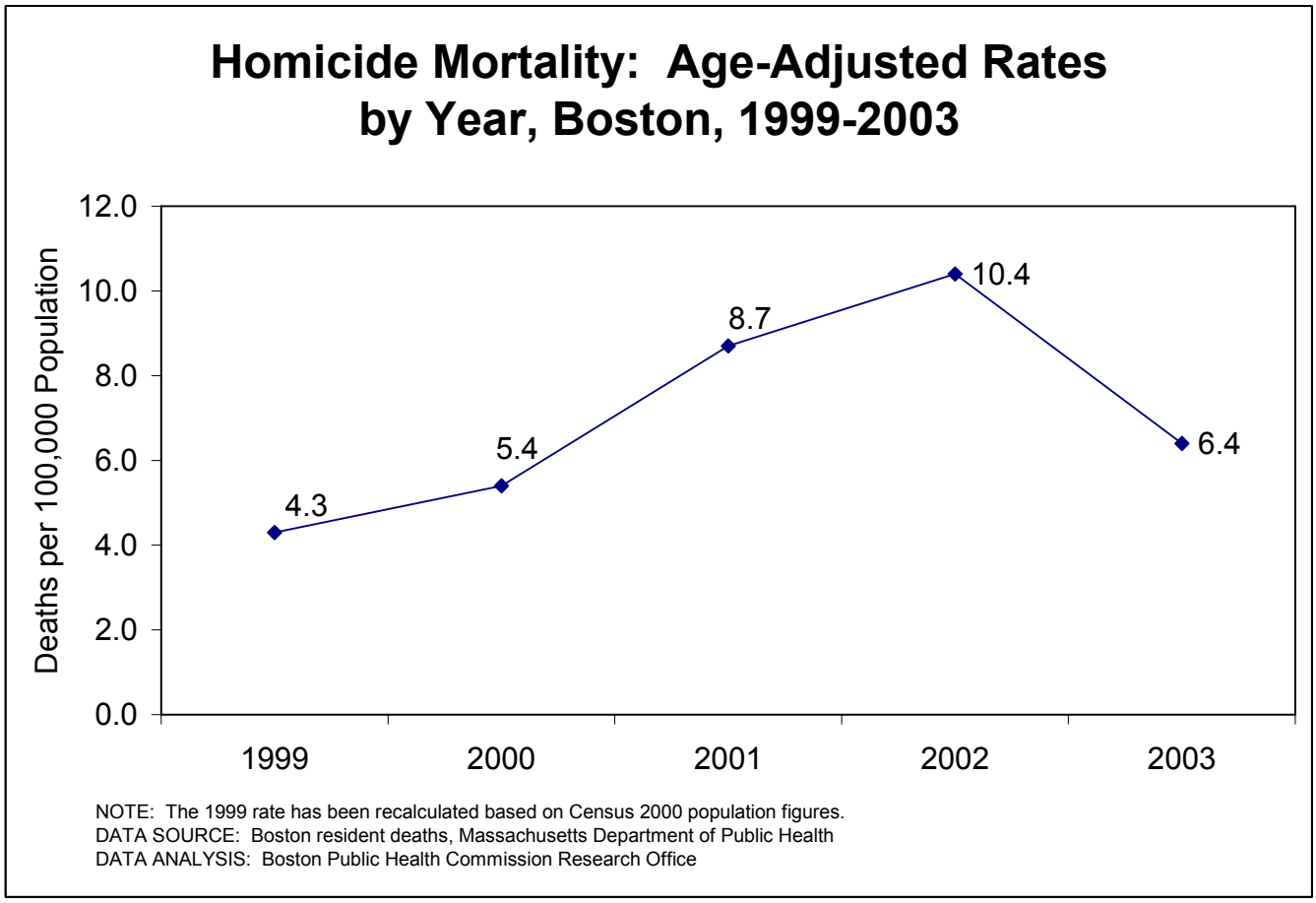
NOTE: The number of victims age 65 and over were too few to present.
DATA SOURCE: Weapon-related injuries, Massachusetts Department of Public Health, Weapon-Related Surveillance System
DATA ANALYSIS: Boston Public Health Commission Research Office

- In each year of the 2000-2003 period, the highest rate of victimization in non-fatal assault-related gunshots and stabbings was to those in the 15-19 age group (17 victims per 10,000 population in 2003).

- Between 2000 and 2003, rates for all groups of Boston residents ages 15 years of age and above declined.



- During the five-year period 1999-2003, there were 157 suicides by Boston residents.
- In 2003, the age-adjusted suicide rate for Boston residents was 6.3 deaths per 100,000 population, an increase of 75.0% from the rate in 2002. Between 1999 and 2003, the suicide rate increased 21.2%. Although these increases appear to be large, neither increase was statistically significant.



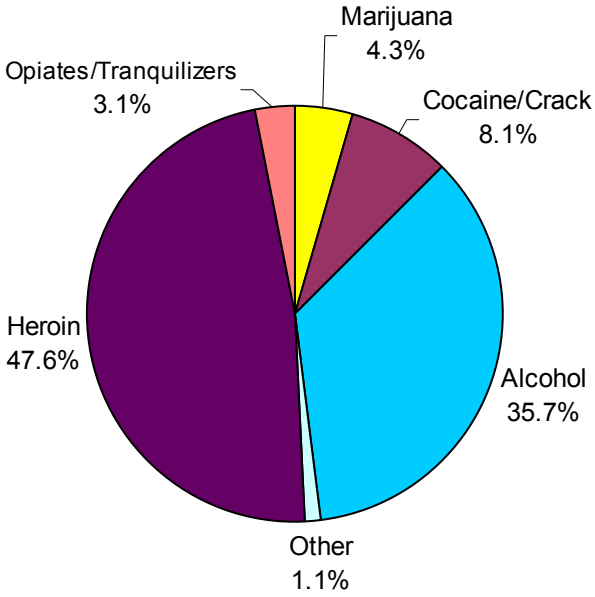
- During the five-year period of 1999-2003, there were 245 homicides among Boston residents.

- In 2003, the age-adjusted homicide rate for Boston residents was 6.4 deaths per 100,000 population, a decrease of 38.5% from the rate in 2002. Between 1999 and 2003, the homicide rate increased 48.8%, but neither change was statistically significant.

Substance Abuse

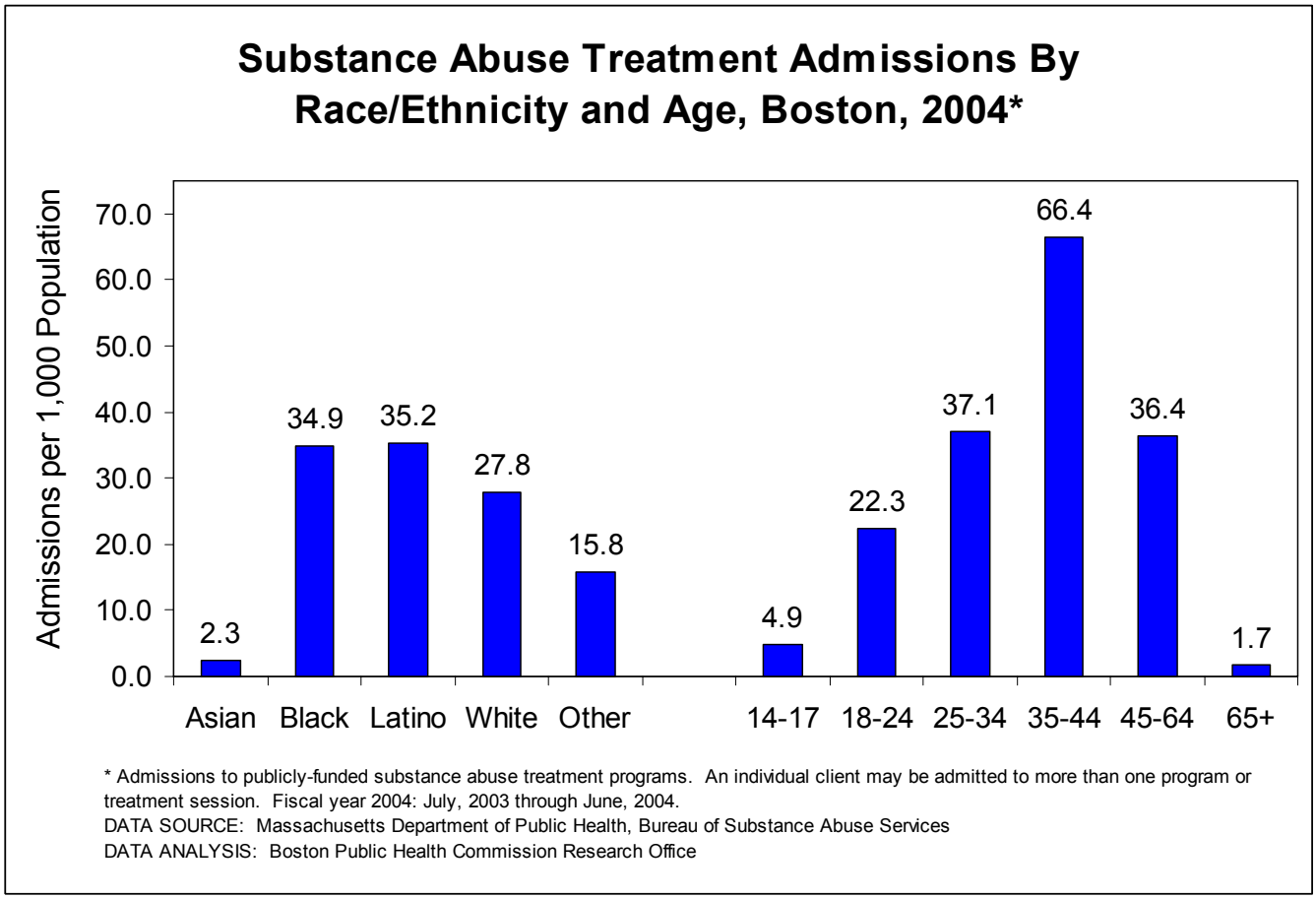
According to the CDC, in 2002, 3.2 million hospital emergency department visits (2.9% of all hospitalizations) in the U.S. were related to alcohol use. During 2003, there were 19,699 alcohol-induced deaths in the U.S. (6.6 deaths per 100,000 population) and 25,162 drug-induced deaths (8.7 deaths per 100,000 population) according to the National Center for Health Statistics.

Substance Abuse Treatment Admissions By Primary Drug, Boston, 2004*

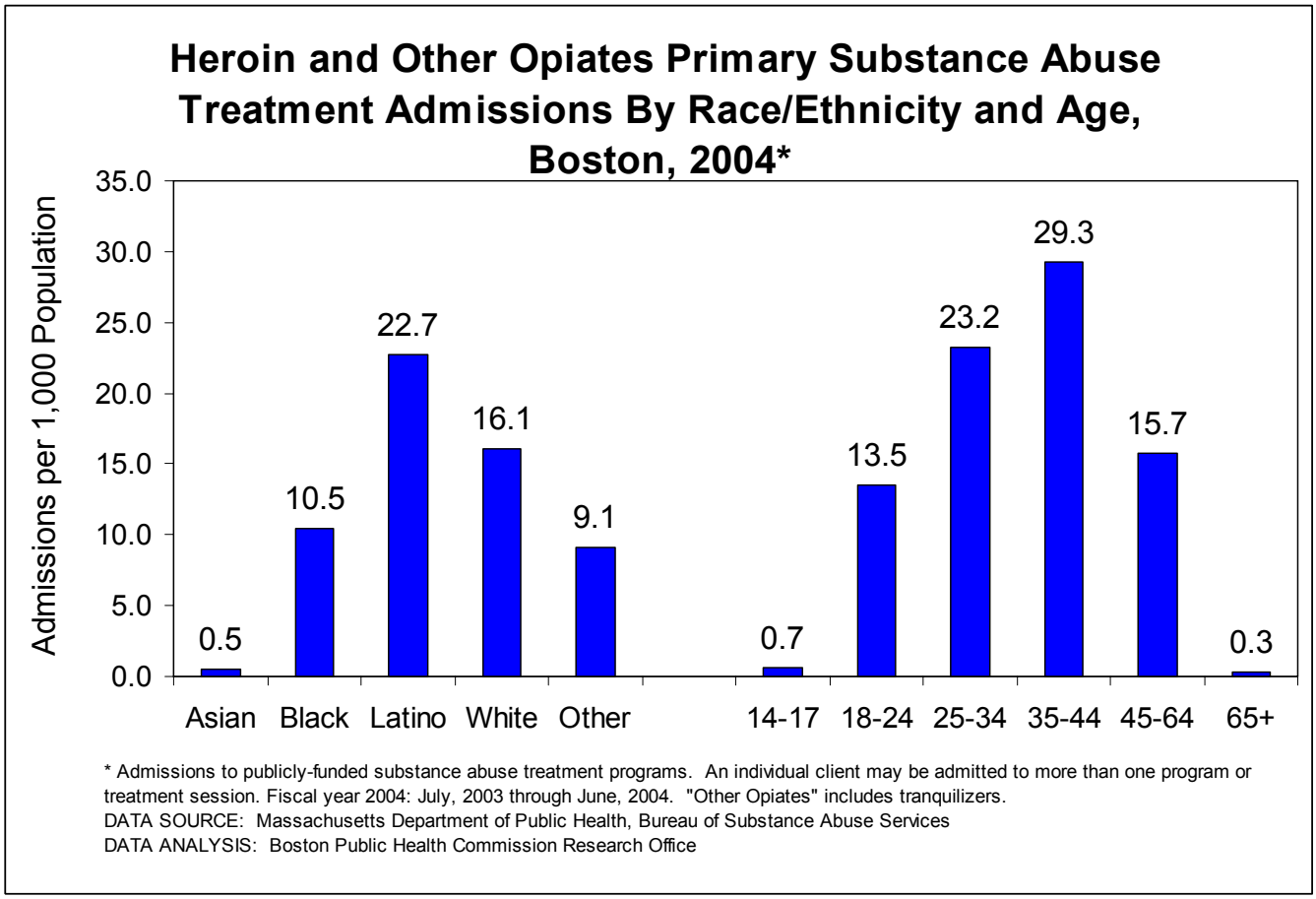


* Admissions to publicly-funded substance abuse treatment programs. An individual client may be admitted to more than one program or treatment session. Fiscal year 2004: July, 2003 through June, 2004.
DATA SOURCE: Massachusetts Department of Public Health, Bureau of Substance Abuse Services
DATA ANALYSIS: Boston Public Health Commission Research Office

- Heroin was identified as the primary drug used by Boston residents admitted for treatment in close to half of all substance abuse treatment admissions in FY 2004.
- Alcohol was identified as the primary drug used by Boston residents admitted for treatment in more than one third of all substance abuse treatment admissions in FY 2004.

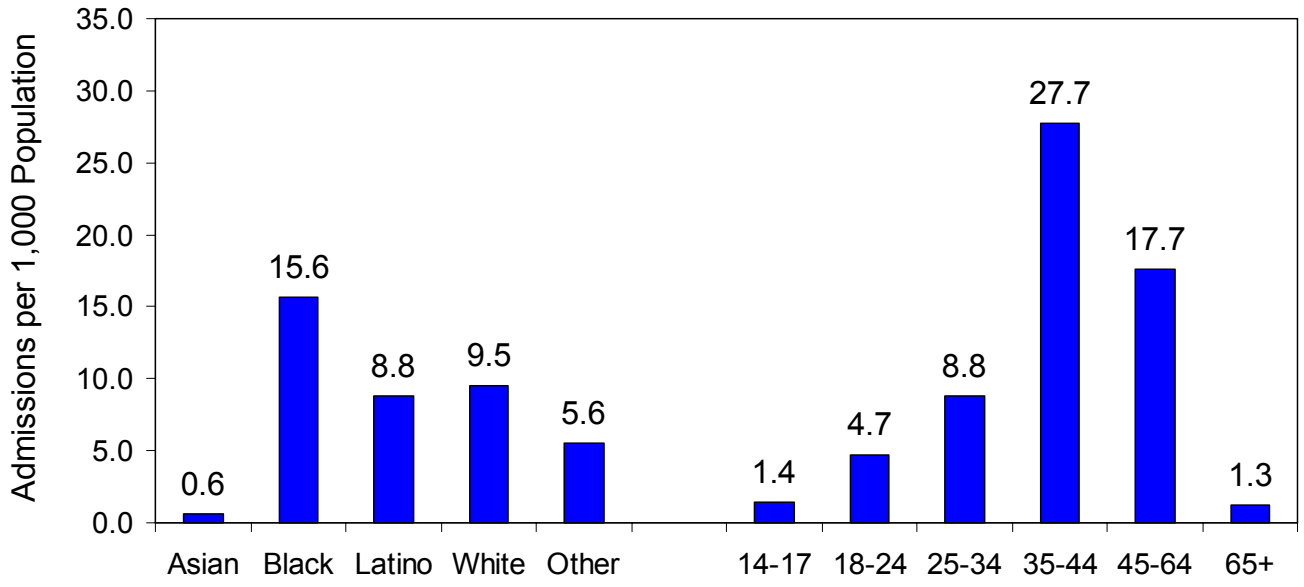


- Latino and Black substance abuse treatment rates of 35.2 and 34.9 admissions per 1,000 population, respectively, were the highest of all racial/ethnic groups.
- The substance abuse treatment rate for Asians of 2.3 admissions per 1,000 was the lowest of all racial/ethnic groups.
- The substance abuse treatment rate of 66.4 admissions per 1,000 for individuals ages 35-44 was highest of all age groups.



- The heroin and other opiate substance abuse treatment rate of 22.7 admissions per 1,000 population for Latinos was the highest of all racial/ethnic groups.
- The rate of 0.5 admissions per 1,000 for Asians was the lowest of all racial/ethnic groups.
- The heroin substance abuse treatment rate of 29.3 admissions per 1,000 for individuals ages 35-44 was the highest of all age groups, followed by the rate of 23.2 admissions per 1,000 for individuals ages 25-34.

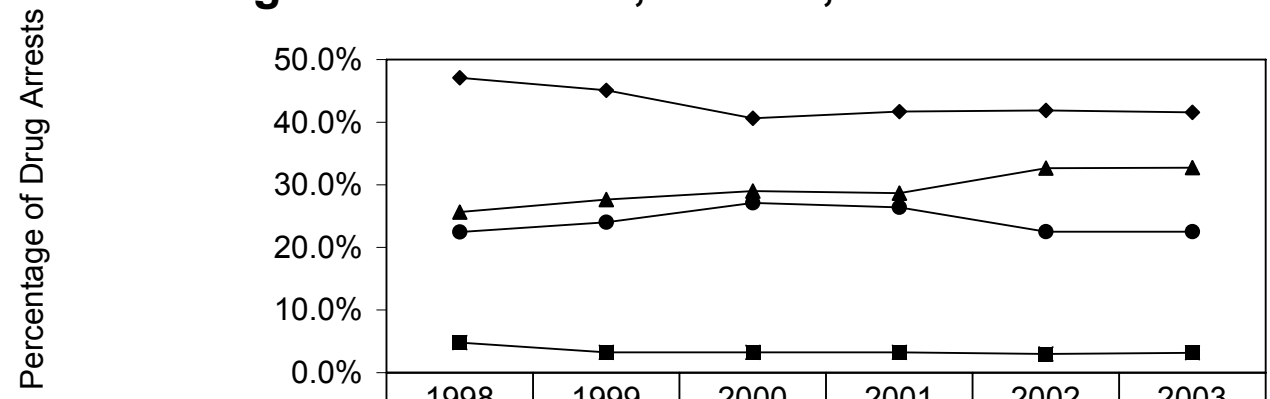
Alcohol Primary Substance Abuse Treatment Admissions By Race/Ethnicity and Age, Boston, 2004*



* Admissions to publicly-funded substance abuse treatment programs. An individual client may be admitted to more than one program or treatment session. Fiscal year 2004: July, 2003 through June, 2004.
DATA SOURCE: Massachusetts Department of Public Health, Bureau of Substance Abuse Services
DATA ANALYSIS: Boston Public Health Commission Research Office

- The alcohol substance abuse treatment rate of 15.6 admissions per 1,000 population for Blacks was the highest of all racial/ethnic groups.
- The rate of 0.6 admissions per 1,000 for Asians was the lowest of all racial/ethnic groups.
- The alcohol substance abuse treatment rate of 27.7 admissions per 1,000 for individuals ages 35-44 was the highest of all the age groups, followed by the rate of 17.7 admissions per 1,000 for individuals ages 45-64.

Boston Police Department Drug Arrests by Drug Class and Year, Boston, 1998-2003

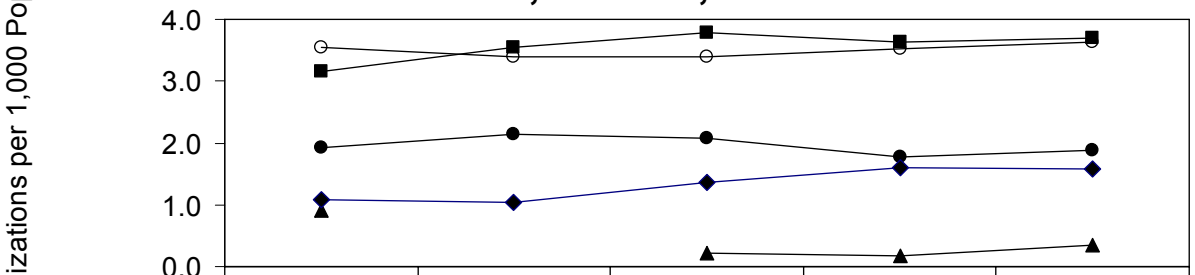


	1998	1999	2000	2001	2002	2003
Class A: mainly heroin	22.5%	24.0%	27.1%	26.4%	22.5%	22.5%
Class B: mainly cocaine/crack	47.1%	45.1%	40.6%	41.7%	41.9%	41.6%
Class D: mainly marijuana	25.6%	27.7%	29.0%	28.7%	32.7%	32.7%
Other	4.8%	3.2%	3.3%	3.2%	3.0%	3.2%

DATA SOURCE: Boston Police Department, Office of Research and Evaluation
DATA ANALYSIS: Boston Public Health Commission Research Office

- There were 4,174 drug arrests in Boston during 2003.
- The drug class distribution did not change from 2002 to 2003.
- The percentage of Class A drug arrests in 2003 (22.5%) was the same as in 1998.
- Class D drug arrests increased from 25.6% in 1998 to 32.7% in 2003.

Substance Abuse Hospitalization: Age-Adjusted Rates by Race/Ethnicity and Year, Boston, 1999-2003



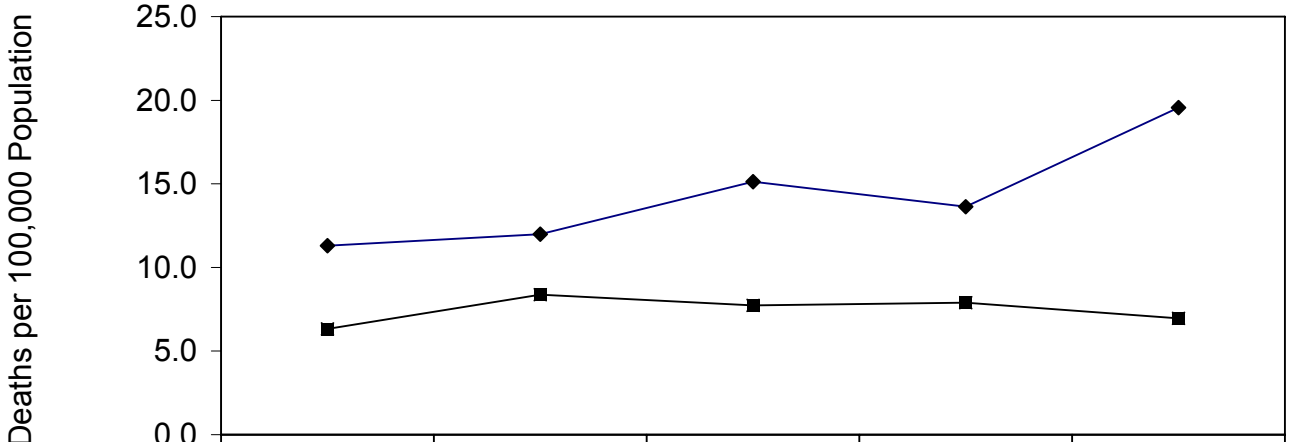
	1999	2000	2001	2002	2003
BOSTON	3.2	3.6	3.8	3.6	3.7
Asian	0.9	n<5	0.2	0.2	0.3
Black	1.9	2.1	2.1	1.8	1.9
Latino	1.1	1.0	1.4	1.6	1.6
White	3.5	3.4	3.4	3.5	3.6

NOTES: The rates for years prior to 2003 have been updated and may differ from those reported in previous publications. Also, the Boston rates include substance abuse cases of unknown race/ethnicity and therefore may not be consistent with the race-specific rates.
DATA SOURCE: Acute Care Hospital Case Mix files, Massachusetts Division of Health Care Finance and Policy
DATA ANALYSIS: Boston Public Health Commission Research Office

- Whites had Boston's highest substance abuse hospitalization age-adjusted rate in 2003, as they had for every other year in the five-year period 1999-2003.

- Rates for Whites, Blacks, and Asians in 2003 increased slightly from what they were in 2002. The rate for Latinos remained the same.

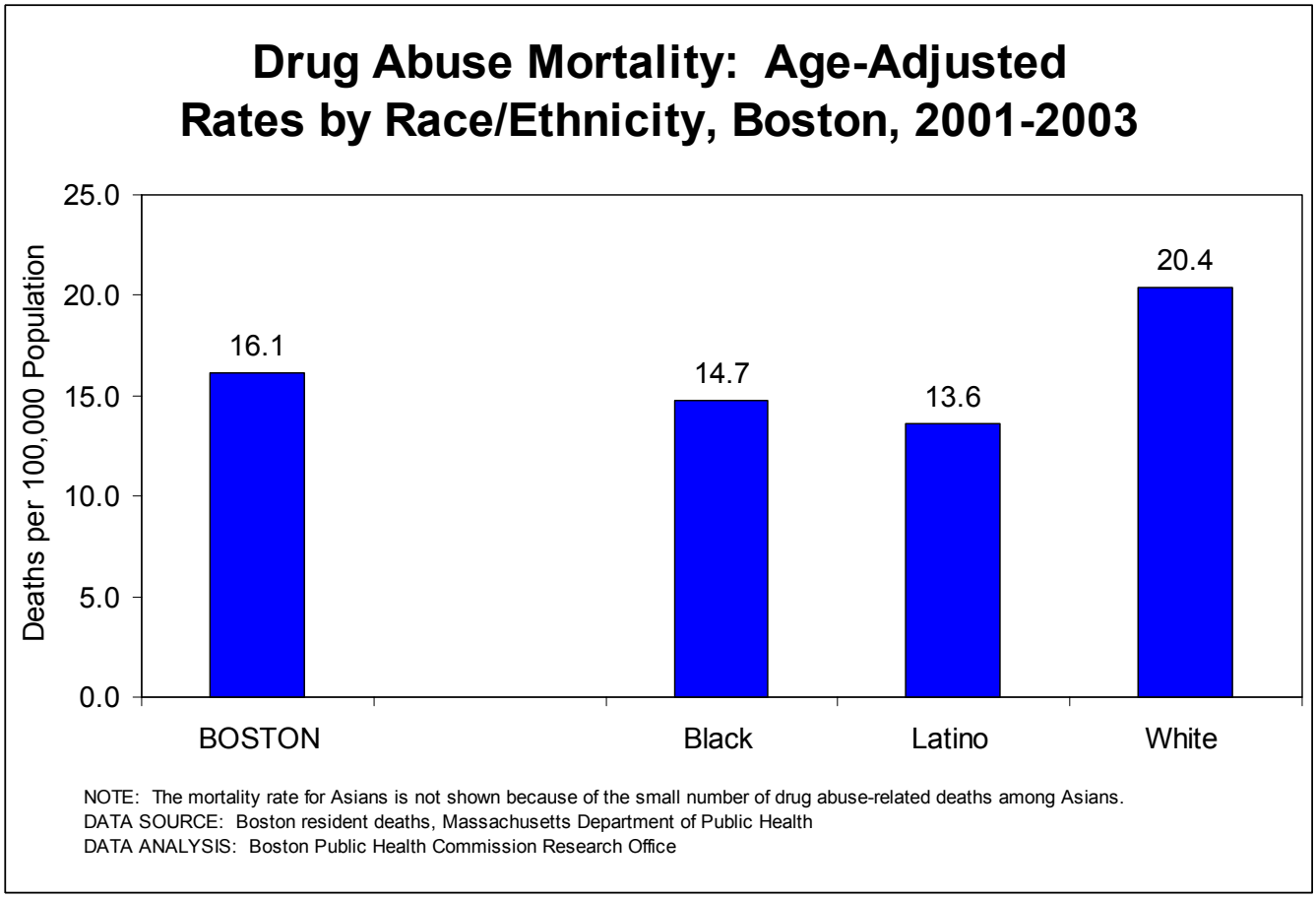
Alcohol and Drug Abuse Mortality: Age-Adjusted Rates by Year, Boston 1999-2003



	1999	2000	2001	2002	2003
Alcohol	6.3	8.4	7.7	7.9	7.0
Drug	11.3	12.0	15.1	13.6	19.6

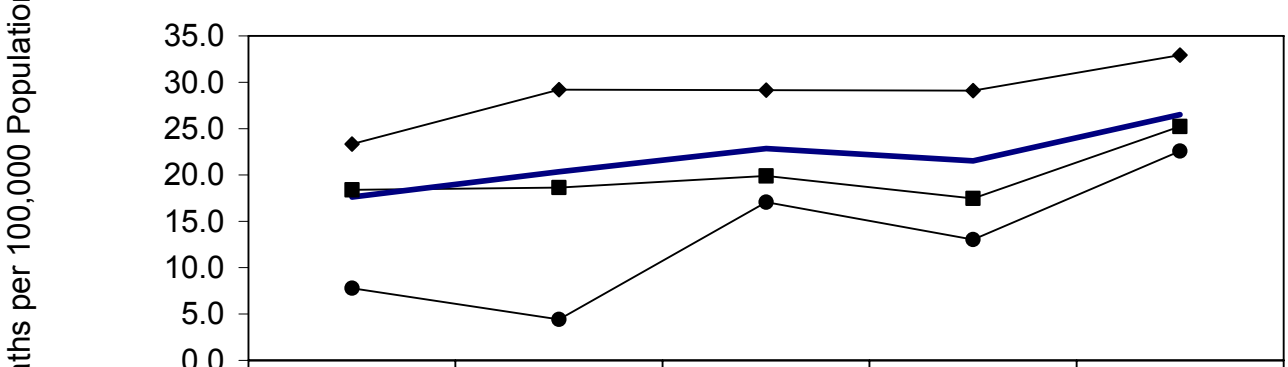
NOTE: The 1999 rates have been recalculated using U.S. Census 2000 population figures.
DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health
DATA ANALYSIS: Boston Public Health Commission Research Office

- Although alcohol-related deaths fell 11.4% between 2002 and 2003, drug abuse-related deaths rose 44.1%.
- Over the 5-year period, alcohol-related deaths rose 11.1%, from 6.3 deaths per 100,000 population in 1999 to 7.0 deaths per 100,000 population in 2003. Drug abuse-related deaths rose 73.5%, from 11.3 deaths per 100,000 population in 1999 to 19.6 deaths per 100,000 population in 2003. Only the latter change was statistically significant.



- Between 2001 and 2003, there were 275 drug abuse deaths among Boston residents. The rate for White residents (20.4 deaths per 100,000 population) was 26.7% higher than the overall Boston rate.

Substance Abuse Mortality: Age-Adjusted Rates by Race/ Ethnicity and Year, Boston 1999-2003



	1999	2000	2001	2002	2003
Black	18.4	18.7	19.9	17.5	25.2
Latino	7.8	4.4	17.1	13.0	22.6
White	23.3	29.2	29.2	29.1	32.9
BOSTON	17.6	20.4	22.9	21.5	26.5

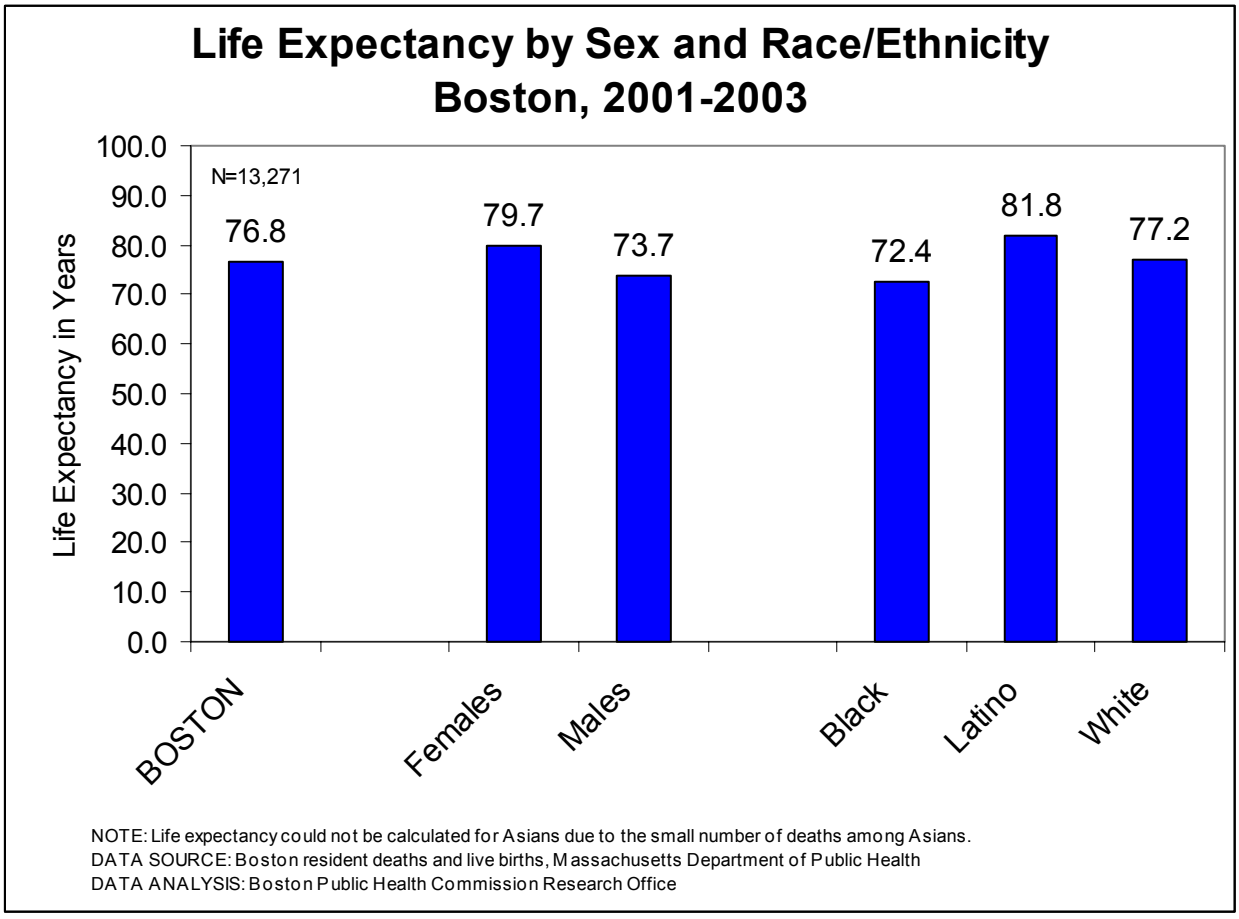
NOTE: The 1999 rates have been recalculated based on U.S. Census 2000 population figures.
DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health
DATA ANALYSIS: Boston Public Health Commission Research Office

- Whites had the highest substance abuse mortality age-adjusted rate for each year of the 5-year period 1999-2003. In 2003, the rate for Whites (32.9 deaths per 100,000 population) was 24.2% higher than the overall Boston rate of 26.5 per 100,000.

- Substance abuse mortality rates for Whites have been rising over the last 5 years, as has the overall Boston rate. The rate for Whites in 2003 represents a 41.2% increase compared with the rate for Whites in 1999.

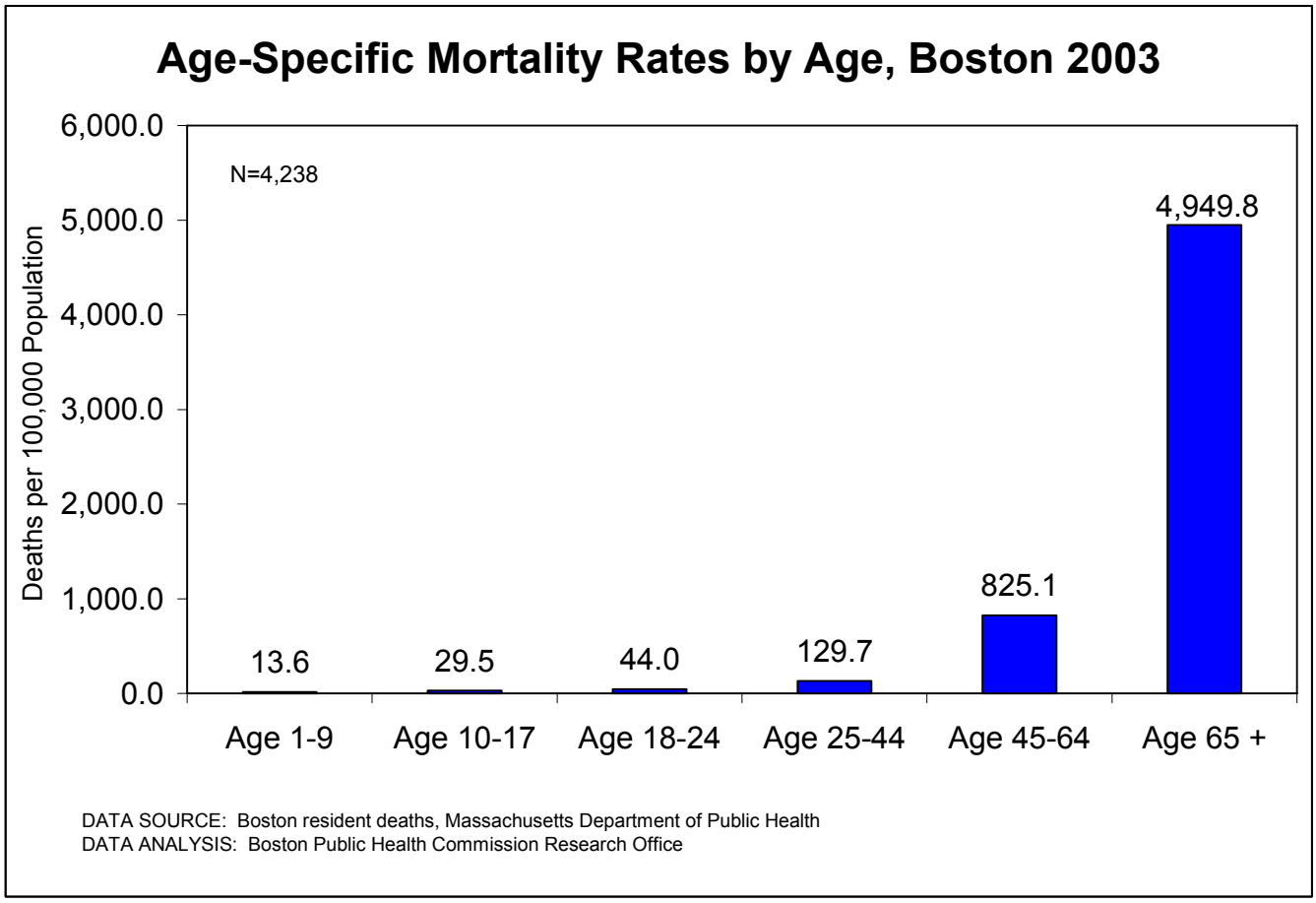
- Rates also increased for Blacks and Latinos from 1999 to 2003. The increase was 37.0% for Blacks and 190.0% for Latinos.

Overall Mortality



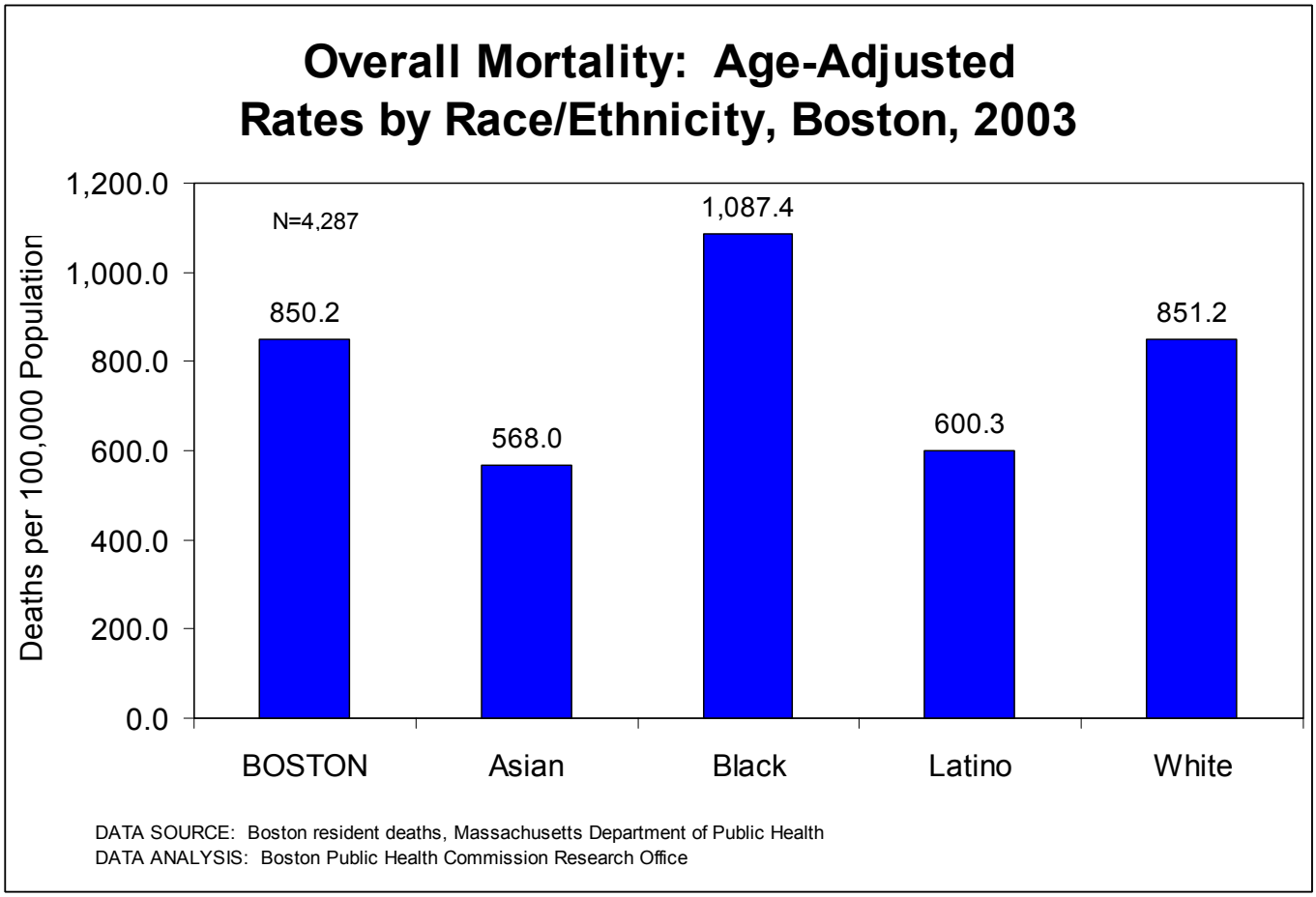
- Based on the deaths of 13,271 Boston residents during 2001-2003, life expectancy is close to 77 years for the Boston population overall. Life expectancy is higher for females than for males.

- Life expectancy is highest among Latinos (81.8 years) and lowest among Blacks (72.4 years).



- In 2003, age-specific mortality rates for Boston were lowest for residents ages 1-9 (13.6 deaths per 100,000 population) and ages 10-17 (29.5 deaths per 100,000).

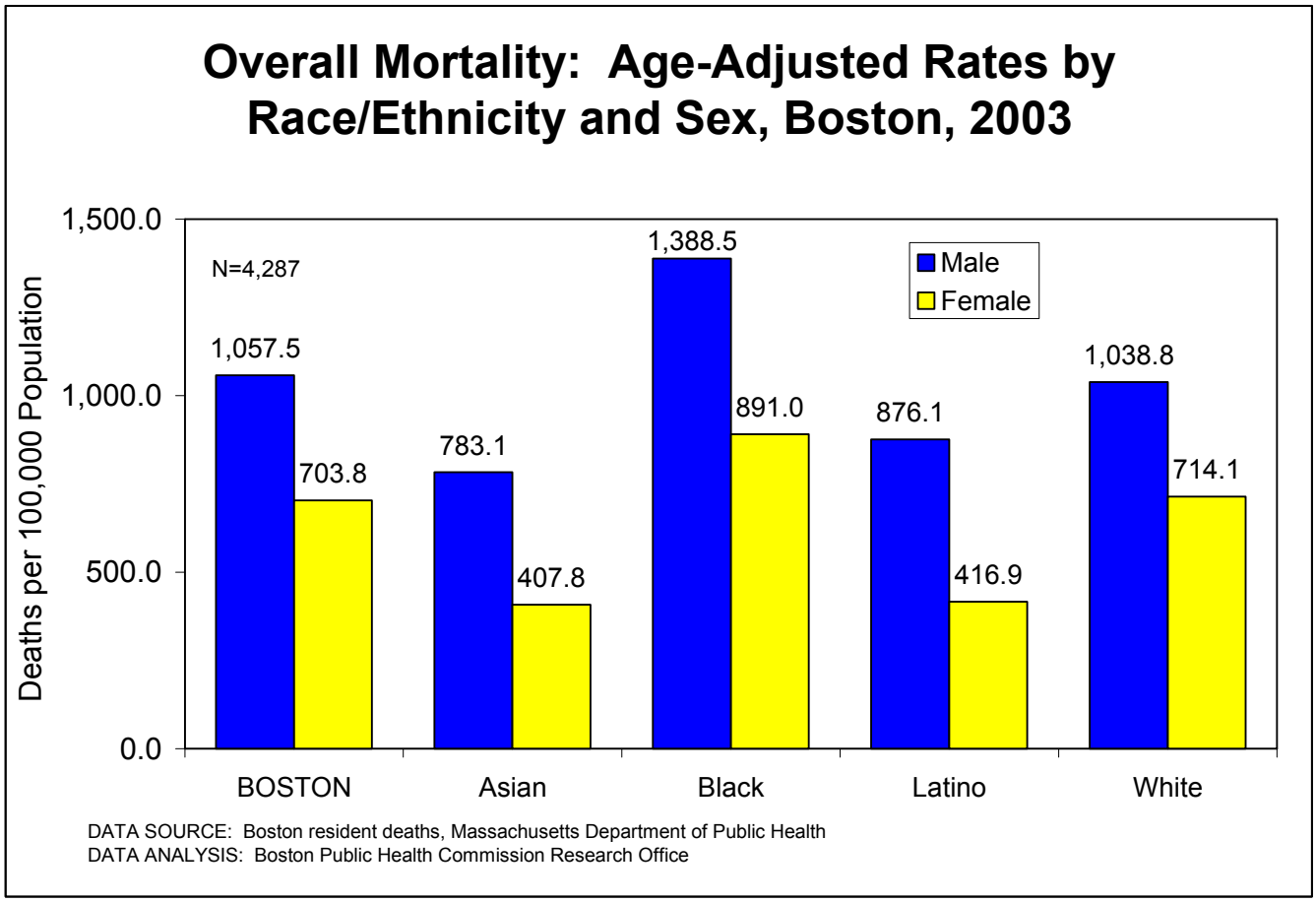
- Age-specific mortality rates increase with age. The rate for Boston residents ages 45-64 (825.1 deaths per 100,000) was over six times the rate for residents ages 25-44, and twenty-eight times the rate for residents ages 10-17. As expected, the highest age-specific mortality rate was for those Boston residents ages 65 and over (4,949.8 deaths per 100,000).



- In 2003, there were 4,287 deaths among Boston residents. The overall mortality age-adjusted rate of 850.2 deaths per 100,000 population was slightly lower than the rate of 871.1 deaths per 100,000 in 2002 (data not shown).

- The rate for Black residents (1,087.4 deaths per 100,000 population) was significantly higher than the rates for all other race/ethnicity groups.

- White residents had the second highest overall mortality age-adjusted rate (851.2 deaths per 100,000), and it was significantly higher than the rates for Latinos (600.3 deaths per 100,000) and Asians (568.0 deaths per 100,000).



- For all race/ethnicity groups, overall mortality age-adjusted rates were significantly higher for males than for females. In addition, the rate for Black males (1,388.5 deaths per 100,000 population) was significantly higher than the rates for other males.

- The overall mortality rate for Black females (891.0 deaths per 100,000) was also significantly higher than the rates for other females.

Leading Causes of Death: Age-Adjusted Rates* by Sex Boston, 2003							
BOSTON OVERALL			**BOSTON MALES**			**BOSTON FEMALES**	
Cancer (all)	212.3		Heart disease	261.1		Cancer (all)	182.7
Heart disease	198.2		Cancer (all)	258.2		Heart disease	154.6
All injuries combined	48.2		All injuries combined	72.4		Stroke	42.2
Stroke	43.3		COPD**	54.1		COPD**	34.7
COPD**	41.2		Stroke	42.2		Pneumonia/Influenza	26.9
Substance Abuse	26.5		Substance Abuse	42.0		All injuries combined	25.6
Pneumonia/Influenza	29.4		Pneumonia/Influenza	36.1		Diabetes	21.7
Diabetes	24.2		Nephritis/Nephrosis	31.9		Nephritis/Nephrosis	19.5
Nephritis/Nephrosis	23.3		Septicemia	29.9		Septicemia	17.1
Septicemia	21.5		Diabetes	27.1		Alzheimer's	15.2
Alzheimer's	15.0		HIV/AIDS	16.3		Substance Abuse	12.5
HIV/AIDS	10.6		Alzheimer's	13.1		HIV/AIDS	5.4
TOTAL (all deaths)	850.2		**TOTAL (all deaths)**	1,057.47		**TOTAL (all deaths)**	703.8

* Deaths per 100,000 population **Chronic obstructive pulmonary disease

DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health

DATA ANALYSIS: Boston Public Health Commission

- The twelve leading causes of death among Boston residents in 2003 accounted for 81.7% of deaths. Cancer, with an age-adjusted mortality rate of 212.3 deaths per 100,000 population, was the leading cause of death, and heart disease (198.2 deaths per 100,000), the second leading cause.

- The leading causes of death for Boston males and females were the same but varied in ranking. For females, cancer was the leading cause of death but for males, heart disease emerged as the leading cause.

- For each of the leading causes, age-adjusted mortality rates were higher for males than for females. For example, the age-adjusted mortality rate for cancer for males (258.2 deaths per 100,000 population was 41% higher than the rate for females (182.7 deaths per 100,000).

- For HIV/AIDS, the rate for males (16.3 deaths per 100,000) was triple the rate for females (5.4 deaths per 100,000).

Leading Causes of Death: Age-Specific Rates, Boston 2001-2003			
Ages 1 - 17		**Ages 18 - 24**	
Cause of Death	Deaths per 100,000 Population	Cause of Death	Deaths per 100,000 Population
Homicide	5.2	Homicide	19.2
Accidents	2.4	Substance Abuse	7.0
Other Accidents	2.1	Undetermined Injuries	7.0
		Motor Vehicular	4.5
		All Cancer	2.4
		Suicide	2.4
		Heart Disease	1.7
TOTAL (all deaths)	**23.4**	**TOTAL (all deaths)**	**44.0**
Ages 25 - 44		**Ages 45 - 64**	
Cause of Death	Deaths per 100,000 Population	Cause of Death	Deaths per 100,000 Population
Substance Abuse	30.1	Cancer (All)	256.6
Undetermined Injuries	24.8	Heart Disease	152.7
Cancer (All)	21.2	All Injuries Combined	57.0
Heart Disease	15.0	Substance Abuse	47.2
HIV/AIDS	12.8	HIV/AIDS	30.3
Homicide	10.9	Diabetes	26.8
Suicide	7.4	Stroke	25.5
Motor Vehicular	6.2	COPD*	21.0
Other Accidents	4.6	Septicemia	21.0
Chronic Liver	3.3	Chronic Liver	18.8
TOTAL (all deaths)	**152.8**	**TOTAL (all deaths)**	**775.1**
Ages 65 and over			
Cause of Death	Deaths per 100,000 Population		
Heart Disease	1,341.8		
Cancer (All)	1,189.1		
Stroke	323.9		
Pneumonia/Influenza	238.0		
Nephritis/Nephrosis	149.5		
Diabetes	144.6		
Septicemia	140.8		
Alzheimer's Disease	136.4		
All Injuries Combined	102.2		
COPD*	22.3		
TOTAL (all deaths)	**5,163.4**		

* Chronic Obstructive Pulmonary Disease
DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health
DATA ANAYLSIS: Boston Public Health Commission Research Office

- The nature of the leading causes of death changes over the lifespan. During 2001-2003, death among younger Boston residents was commonly due to homicides, injuries, accidents, or substance abuse, while among residents ages 45 and older, chronic diseases (such as cancer and heart disease) were predominant.
- Cancer was the leading cause of death for residents ages 45-64 (256.6 deaths per 100,000 population) and heart disease (152.7 deaths per 100,000) the second leading cause. For residents ages 65 and over, heart disease was the leading cause of death (1,341.8 deaths per 100,000) and cancer the second leading cause (1,189.1 deaths per 100,000).

Leading Causes of Death: Age-Adjusted Rates* by Race/Ethnicity, Boston, 2001-2003

ASIAN			BLACK	
Cancer (all)	145.5		Cancer (all)	260.8
Heart disease	89.4		Heart disease	230.9
All injuries combined	34.6		Stroke	64.8
COPD**	26.5		All injuries combined	64.1
Nephritis/Nephrosis	25.6		Diabetes	48.3
TOTAL (all deaths)	**508.5**		**TOTAL (all deaths)**	**1,084.1**
LATINO			**WHITE**	
Cancer (all)	132.6		Cancer (all)	221.7
Heart disease	131.2		Heart disease	215.2
All injuries combined	41.5		All injuries combined	47.6
Stroke	37.1		Stroke	43.0
Diabetes	27.8		COPD**	42.3
TOTAL (all deaths)	**602.1**		**TOTAL (all deaths)**	**887.8**

* Deaths Per 100,000 Population ** Chronic obstructive pulmonary disease

DATA SOURCE: Massachusetts Department of Public Health

DATA ANALYSIS: Boston Public Health Commission Research Office

- Cancer and heart disease were the leading causes of death for all Boston race/ethnicity groups during 2001-2003. Injury related deaths were third, except for Blacks, for whom stroke was the third leading cause.

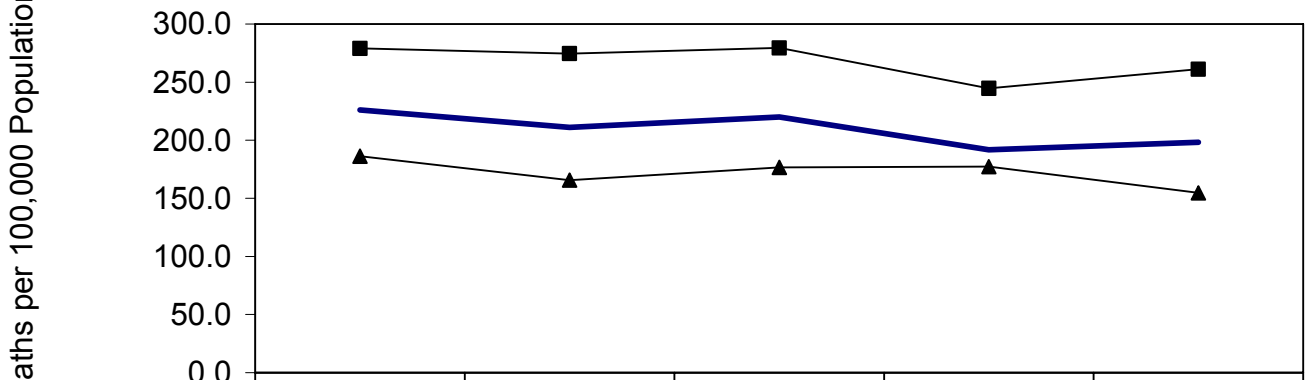
- Age-adjusted mortality rates for the leading causes of death were generally highest for Blacks. Blacks had the highest rates for cancer (260.8 deaths per 100,000 population), heart disease (230.9 deaths per 100,000), stroke (64.8 deaths per 100,000), and injury-related deaths (64.1 deaths per 100,000).

- For all race/ethnicity groups, cancer and heart disease mortality rates were significantly higher than those of other causes of death.

Heart Disease

Heart disease – also known as cardiovascular disease – is a group of disorders that affect the heart and blood vessels, and is a leading cause of death. Two major independent risk factors for coronary heart disease are hypertension (high blood pressure) and high cholesterol. There are a variety of other risk factors as well, among them tobacco use, excess body weight, and physical inactivity.

Heart Disease Mortality: Age-Adjusted Rates by Sex and Year, Boston, 1999-2003

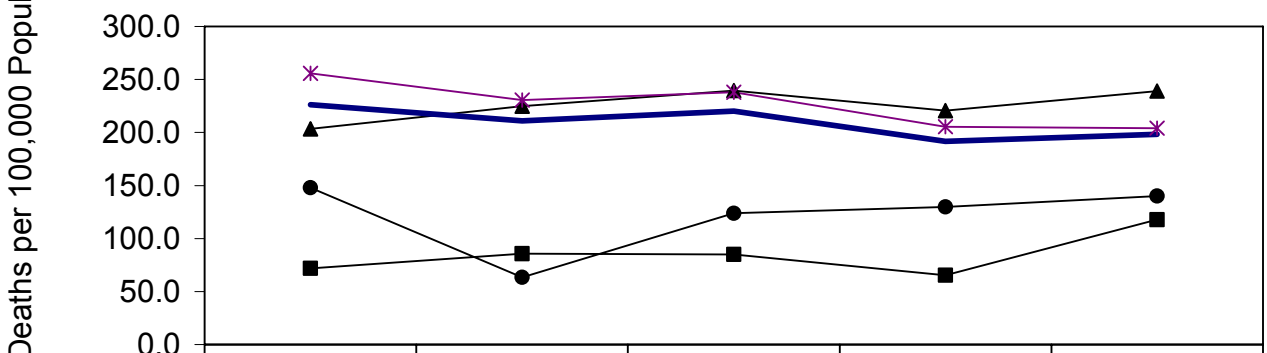


	1999	2000	2001	2002	2003
Male	279.0	274.5	279.4	244.6	261.1
Female	186.3	165.6	176.7	177.2	154.6
BOSTON	226.1	211.1	220.1	191.7	198.2

NOTE: The 1999 rates have been recalculated using U.S. Census 2000 population figures.
DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health
DATA ANALYSIS: Boston Public Health Commission Research Office

- In 2003, 992 Boston residents died from heart disease. This number included 486 males and 506 females.
- Between 1999 and 2003, Boston's age-adjusted heart disease mortality rate fell 12.3%, a statistically significant change. During the same time period, the age-adjusted heart disease mortality rate declined 6.4% among males and 17.0% among females. The change for males was not statistically significant.
- Across all years shown, females' age-adjusted heart disease mortality rates were significantly lower than those of males.

Heart Disease Mortality: Age-Adjusted Rates by Race/Ethnicity and by Year, Boston, 1999-2003



	1999	2000	2001	2002	2003
Asian	71.8	85.6	85.0	65.3	117.8
Black	203.4	224.8	239.6	220.7	239.1
Latino	147.9	63.3	123.9	129.8	140.0
White	255.9	230.6	238.1	205.4	204.2
BOSTON	226.1	211.1	220.1	191.7	198.2

NOTE: The 1999 rates have been recalculated using U.S. Census 2000 population figures.
DATA SOURCE: Boston residents deaths, Massachusetts Department of Public Health
DATA ANALYSIS: Boston Public Health Commission Research Office

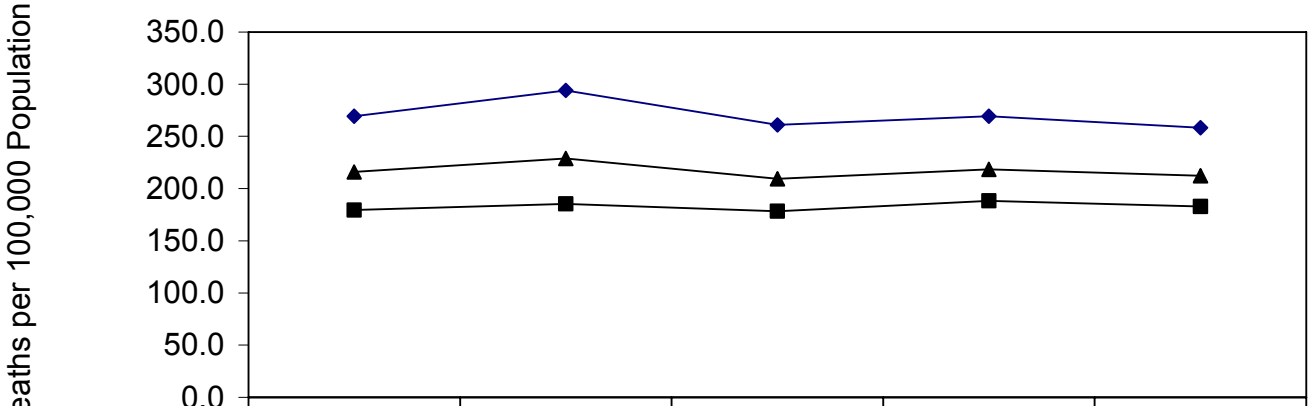
- In 2003, Blacks had the highest age-adjusted heart disease mortality rate of all race/ethnicity groups (239.1 deaths per 100,000 population). Their rate was significantly higher than the rates for Asians and Latinos. The rate for Asians (117.8 deaths per 100,000) was significantly lower than the rates for Blacks and Whites.

- Between 1999 and 2003, the age-adjusted heart disease mortality rate for Boston overall declined significantly. This was also the case for Whites for whom the rate dropped significantly by 20.2%. The heart disease mortality rate also dropped 5.3% among Latinos but increased 17.6% among Blacks and 64.1% among Asians. However, only the change in the rate for Whites was statistically significant.

Cancer

The American Cancer Society estimates that over 1.3 million people in the U.S. will be diagnosed with cancer in 2005. African Americans and other people of color are disproportionately affected. In 2003, cancer was the second leading cause of death in the U.S.

Cancer Mortality: Age-Adjusted Rates by Sex and Year, Boston,1999-2003



	1999	2000	2001	2002	2003
Male	269.3	294.0	260.9	269.3	258.2
Female	179.5	185.2	178.3	188.3	182.7
BOSTON	215.8	228.9	209.4	218.4	212.3

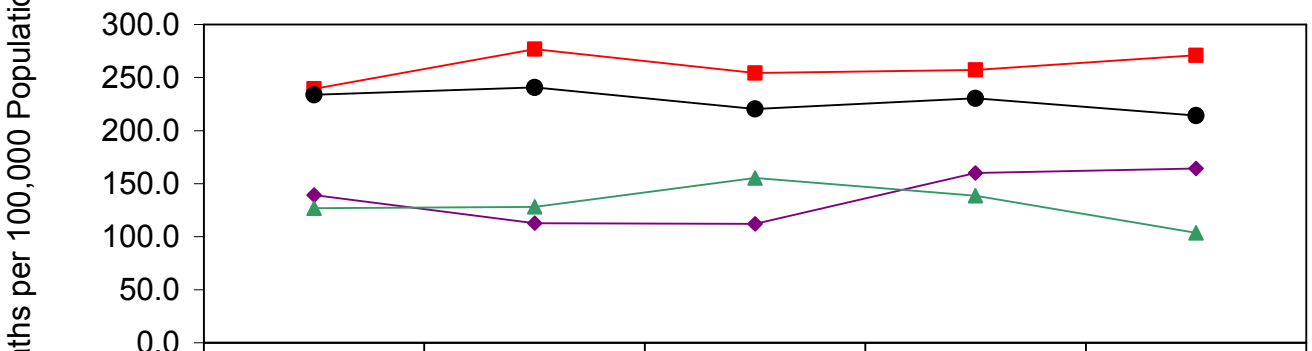
NOTE: The rates for 1999 have been recalculated based on U.S. Census 2000 population figures.
DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health
DATA ANALYSIS: Boston Public Health Commission Research Office

- During the five-year period 1999-2003, the number of cancer deaths among Boston residents averaged 1,061 per year.

- Boston's age-adjusted cancer mortality rate between 1999 (215.8 deaths per 100,000 population) and 2003 (212.3 deaths per 100,000) declined slightly, but the decline was not statistically significant.

- For each year between 1999 and 2001, the age-adjusted cancer mortality rate for males was about fifty percent higher than the rate for females. Starting in 2002, the gap in rates between males and females narrowed. In 2003, the rate for males was significantly higher than for females. Between 1999 and 2003, the rate for males declined 4.1%, while the rate for females increased 1.8%; these were not statistically significant changes.

Cancer Mortality: Age-Adjusted Rates by Race/Ethnicity and Year, Boston, 1999-2003

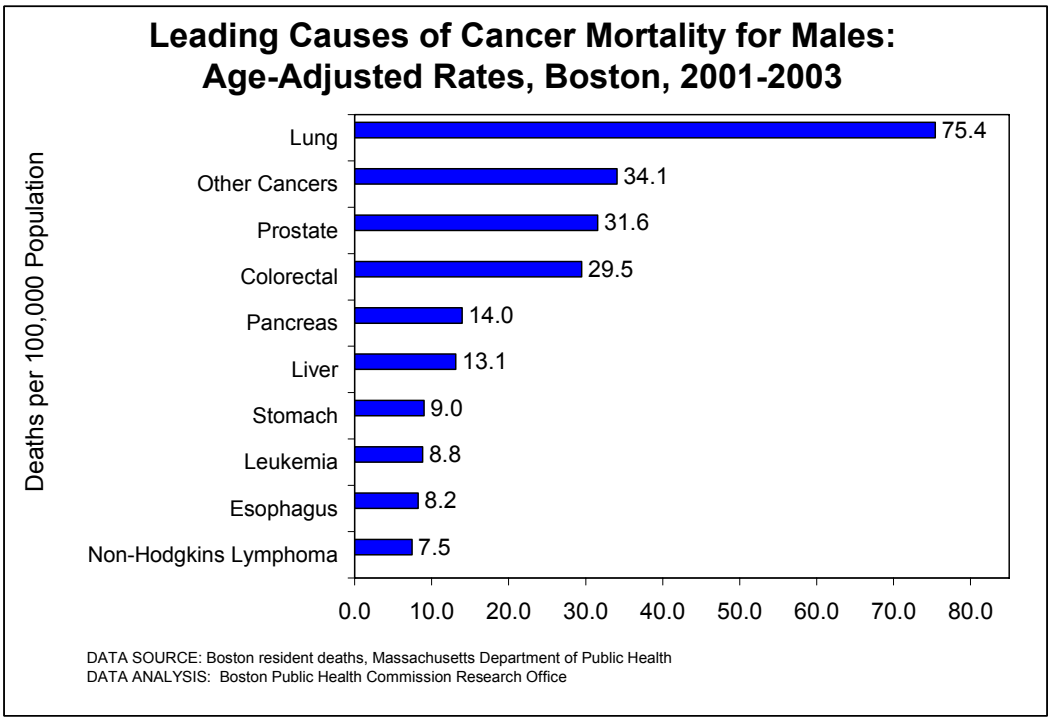


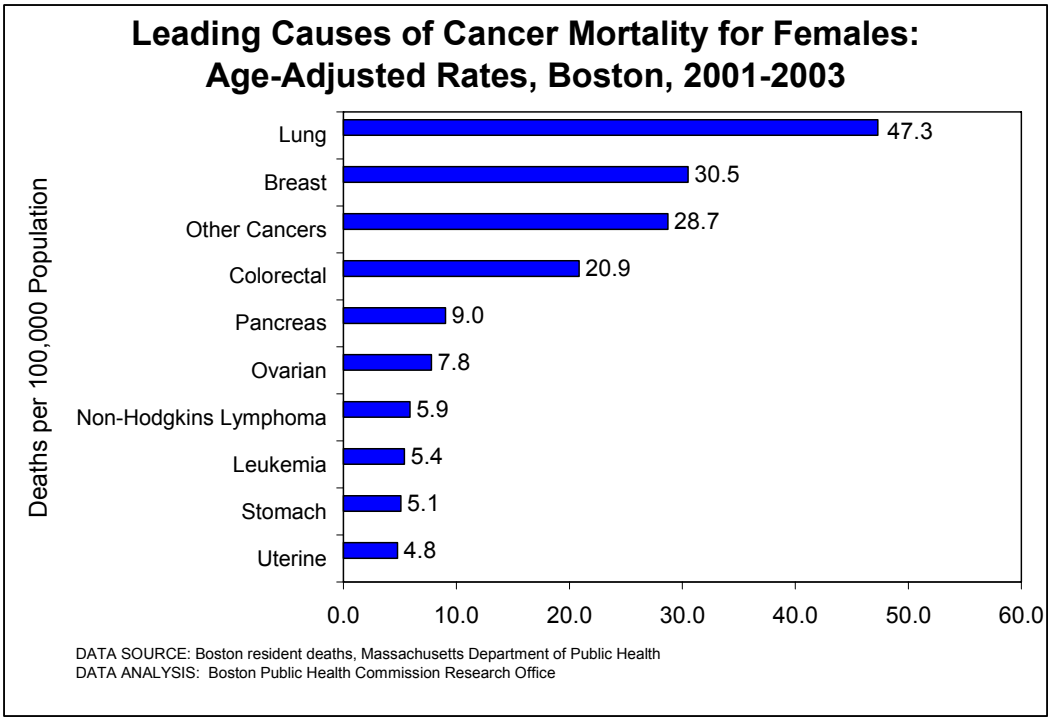
	1999	2000	2001	2002	2003
Asian	139.2	112.8	112.1	160.1	164.3
Black	239.4	276.9	254.2	257.3	271.0
Latino	126.9	128.1	155.4	138.7	103.7
White	233.8	240.8	220.4	230.5	214.2

NOTE: The rates for 1999 have been recalculated based on U.S. Census 2000 population figures.
DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health
DATA ANALYSIS: Boston Public Health Commission Research Office

- For each year shown, cancer mortality rates were highest for Blacks and Whites. In 2003, the age-adjusted cancer mortality rates for Asians and Latinos were significantly lower than the rates for Blacks and Whites.

- From 1999 to 2003, age-adjusted cancer mortality rates rose 13.2% for Blacks and 18.0% for Asians but declined 18.3% for Latinos and 8.4% for Whites. However, none of these changes were statistically significant.





- For 2001-2003, cancers responsible for the most deaths among Boston residents were similar for both males and females. Lung, colorectal, and pancreatic cancers were among the leading types for males and females. Age-adjusted mortality rates for these cancers were higher for males than for females; however, only the lung and colorectal cancer rates for males were significantly higher than the corresponding rates for females.

Leading Causes of Cancer Death: Age-Adjusted Rates by Race/Ethnicity, Boston, 2001-2003			
Asian		**Black**	
	Deaths per 100,000 Population		Deaths per 100,000 Population
Lung	43.2	Prostate	69.2
Colorectal	19.1	Lung	61.4
Liver	17.0	Breast	38.8
Breast	15.9	Colorectal	30.3
Lip, Oral Cavity, Pharynx	9.0	Pancreas	15.1
Latino		**White**	
	Deaths per 100,000 Population		Deaths per 100,000 Population
Prostate	34.1	Lung	65.6
Lung	18.8	Breast	31.4
Colorectal	17.1	Prostate	26.6
Breast	12.2	Colorectal	24.5
Pancreas	12.2	Pancreas	11.2
DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health DATA ANALYSIS: Boston Public Health Commission Research Office			

- Lung, breast, and colorectal cancer were among the leading causes of cancer deaths for all Boston race/ethnicity groups during 2001-2003. Prostate cancer was the foremost cause of cancer death among Blacks and Latinos, but was not among the top-five causes of cancer death among Asians.

- Lung cancer was the leading cause of cancer death for Whites and Asians and the second leading cause for Blacks and Latinos. However, age-adjusted mortality rates for lung cancer were significantly lower for Latinos than for Blacks and Whites. Asians' lung cancer rate was also significantly lower than that of Whites.

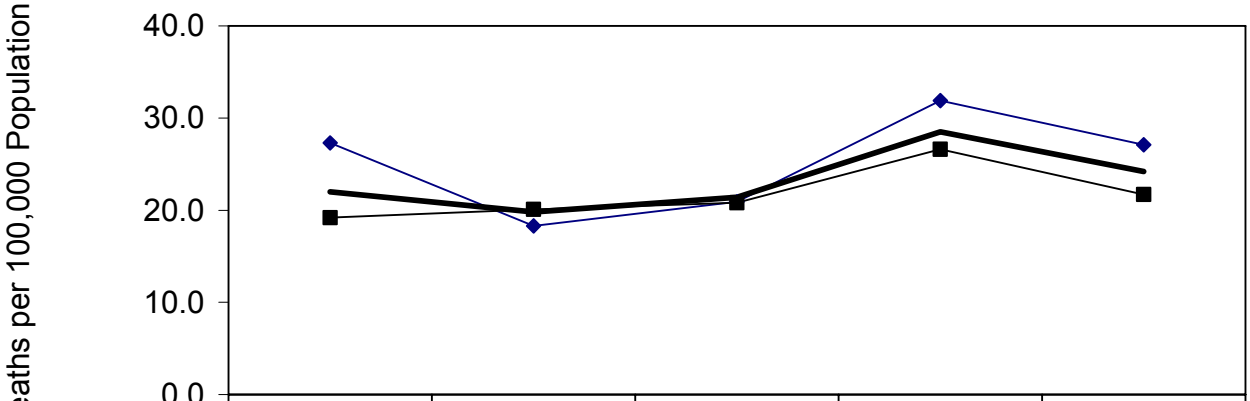
- Age-adjusted mortality rates for the leading cancers were generally highest for Blacks and Whites. However, Blacks had the highest rates for prostate cancer (69.2 deaths per 100,000 population), breast cancer (38.8 deaths per 100,000), colorectal cancer (30.3 deaths per 100,000), and pancreatic cancer (15.1 deaths per 100,000).

- Asians and Latinos had significantly lower rates of breast cancer compared to Blacks and Whites. Blacks had a significantly higher rate of prostate cancer compared to Whites.

Diabetes

Diabetes is a chronic disease in which the body does not produce adequate insulin or does not properly use insulin, a hormone necessary for converting food into energy. Complications of diabetes include heart disease, stroke, high blood pressure, kidney disease, limb loss, blindness, and complications of pregnancy. According to the American Diabetes Association, as of 2005, 6.3% of the U.S. population is estimated to have diabetes. The number of diabetes cases is about evenly distributed between men and women. The occurrence of diabetes increases with age and is higher among non-Latino Blacks, American Indians, and Alaska Natives. In 2003, diabetes was the sixth leading cause of death in the U.S.

Diabetes Mortality: Age-Adjusted Rates by Sex and Year, Boston 1999-2003

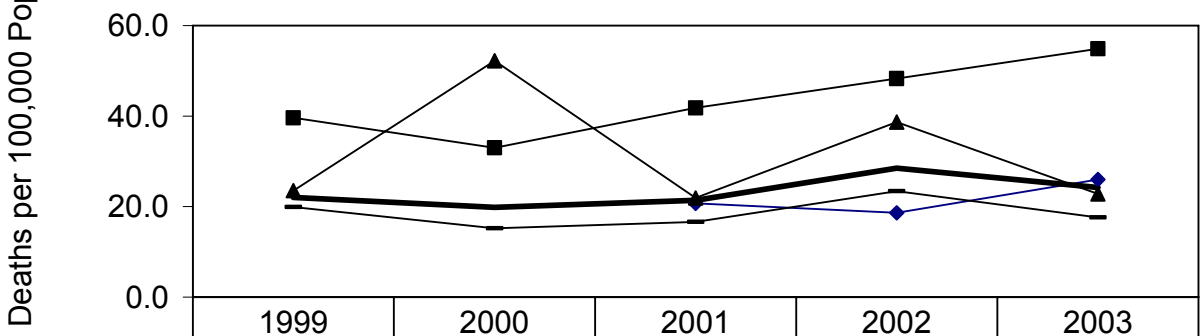


	1999	2000	2001	2002	2003
Male	27.3	18.3	20.9	31.9	27.1
Female	19.2	20.1	20.8	26.6	21.7
BOSTON	22.0	19.8	21.4	28.5	24.2

NOTE: The 1999 rates have been recalculated using the U.S. Census 2000 population figures.
DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health
DATA ANALYSIS: Boston Public Health Commission Research Office

- In 2003, 120 Boston resident deaths were due to diabetes. This number included 53 males and 67 females.
- Between 1999 and 2003, the diabetes mortality rate increased 10.0% for Boston overall, but this change was not statistically significant.
- For all years except 2000, although females experienced more deaths due to diabetes than did males, the age-adjusted diabetes mortality rates for females were lower than those for males. These differences by sex, however, were not statistically significant.

Diabetes Mortality: Age-Adjusted Rates by Race/Ethnicity and Year, Boston, 1999-2003



	1999	2000	2001	2002	2003
Asian	n<5	n<5	20.7	18.6	26.0
Black	39.6	33.0	41.8	48.3	54.9
Latino	23.5	52.2	21.9	38.7	22.8
White	19.9	15.2	16.6	23.4	17.6
BOSTON	22.0	19.8	21.4	28.5	24.2

NOTE: The 1999 rates have been recalculated using the U.S. Census 2000 population figures.
DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health
DATA ANALYSIS: Boston Public Health Commission Research Office

- For all years except 2000, Blacks had Boston's highest age-adjusted diabetes mortality rates. Between 2001 and 2003, the rates among Blacks (41.8 per 100,000 population in 2001, 48.3 per 100,000 population in 2002 and 54.9 per 100,000 population in 2003) were significantly higher than those among Whites (16.6 in 2001, 23.4 in 2002 and 17.6 in 2003). No other differences by race/ethnicity were statistically significant.

- Compared with 1999, the 2003 age-adjusted diabetes mortality rates were 38.6% higher among Blacks, but dropped 3.0% for Latinos and 11.6% among Whites. However, these changes were not statistically significant.

NEIGHBORHOOD DATA

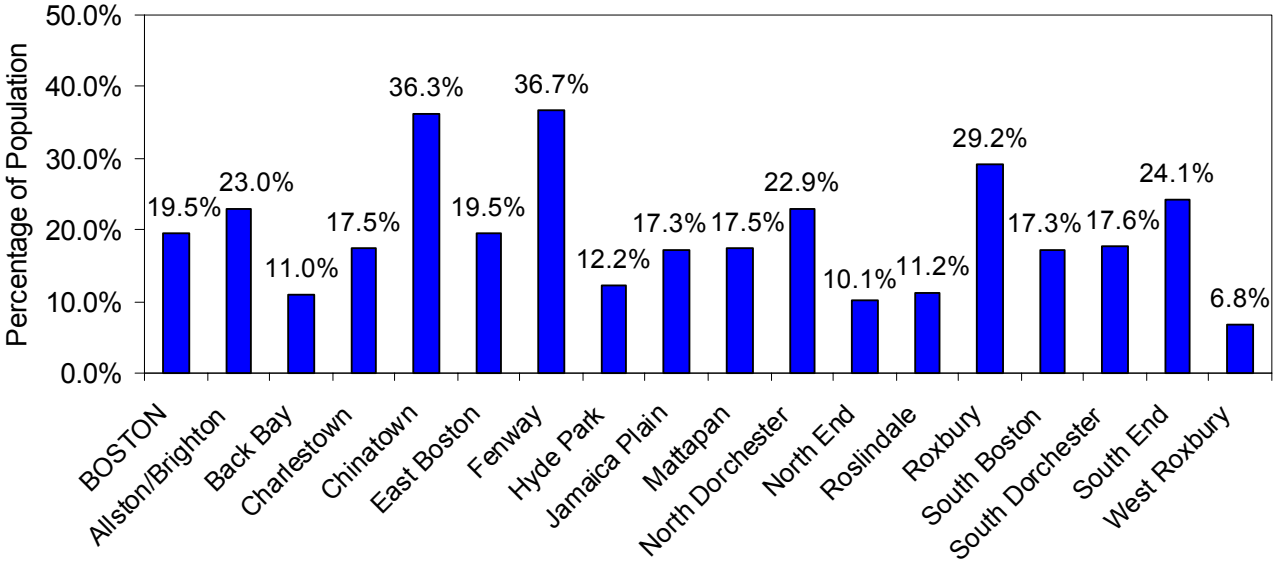
Demographics

Population by Neighborhood by Race/Ethnicity, Boston, 2000

	Allston/ Brighton	Back Bay	Charlestown	East Boston	Fenway	Hyde Park	Jamaica Plain	Mattapan
Total Population	69,648	36,235	15,195	38,413	29,823	34,420	29,482	19,724
Asian	9,567	3,119	753	1,542	3,567	538	890	134
Black	3,110	1,253	539	1,177	2,511	13,487	4,142	16,480
Latino	6,336	1,691	1,764	14,990	2,631	4,634	8,466	1,456
Other Race*	977	161	54	522	252	259	190	141
White	47,835	29,351	11,946	19,078	20,091	14,442	15,082	513
Two or More Races	1,823	660	139	1,104	771	1,060	712	1,000
	Allston/ Brighton	Back Bay	Charlestown	East Boston	Fenway	Hyde Park	Jamaica Plain	Mattapan
Asian	14%	9%	5%	4%	12%	2%	3%	1%
Black	4%	4%	4%	3%	8%	39%	14%	84%
Latino	9%	5%	12%	39%	9%	13%	29%	7%
Other Race*	1%	< 1%	0.4%	1%	< 1%	1%	1%	1%
White	69%	81%	79%	50%	67%	42%	51%	3%
Two or More Races	3%	2%	1%	3%	3%	3%	2%	5%
	North Dorchester	North End	Roslindale	Roxbury	South Boston	South Dorchester	South End	West Roxbury
Total Population	83,212	12,114	35,057	50,349	29,938	45,291	33,502	26,108
Asian	7,385	324	1,368	2,332	1,154	2,702	7,650	980
Black	36,914	203	4,851	26,421	741	21,523	5,033	1,676
Latino	13,942	351	6,456	10,988	2,235	3,827	3,947	1,255
Other Race*	5,119	25	229	959	125	640	238	126
White	15,329	11,082	21,015	7,760	25,316	14,876	15,947	21,638
Two or More Races	4,523	129	1,138	1,889	367	1,723	687	433
	North Dorchester	North End	Roslindale	Roxbury	South Boston	South Dorchester	South End	West Roxbury
Asian	9%	3%	4%	5%	4%	6%	23%	4%
Black	44%	2%	14%	52%	2%	48%	15%	6%
Latino	17%	3%	18%	22%	7%	8%	12%	5%
Other Race*	6%	< 1%	1%	2%	1%	1%	< 1%	1%
White	18%	92%	60%	15%	85%	33%	48%	83%
Two or More Races	5%	1%	3%	4%	1%	4%	2%	2%

*Includes Native Hawaiians/Other Pacific Islanders, Alaska Native/American Indians, and Other Races
DATA SOURCE: U.S. Department of Commerce, Bureau of Census, American FactFinder
DATA ANALYSIS: Boston Public Health Commission Research Office

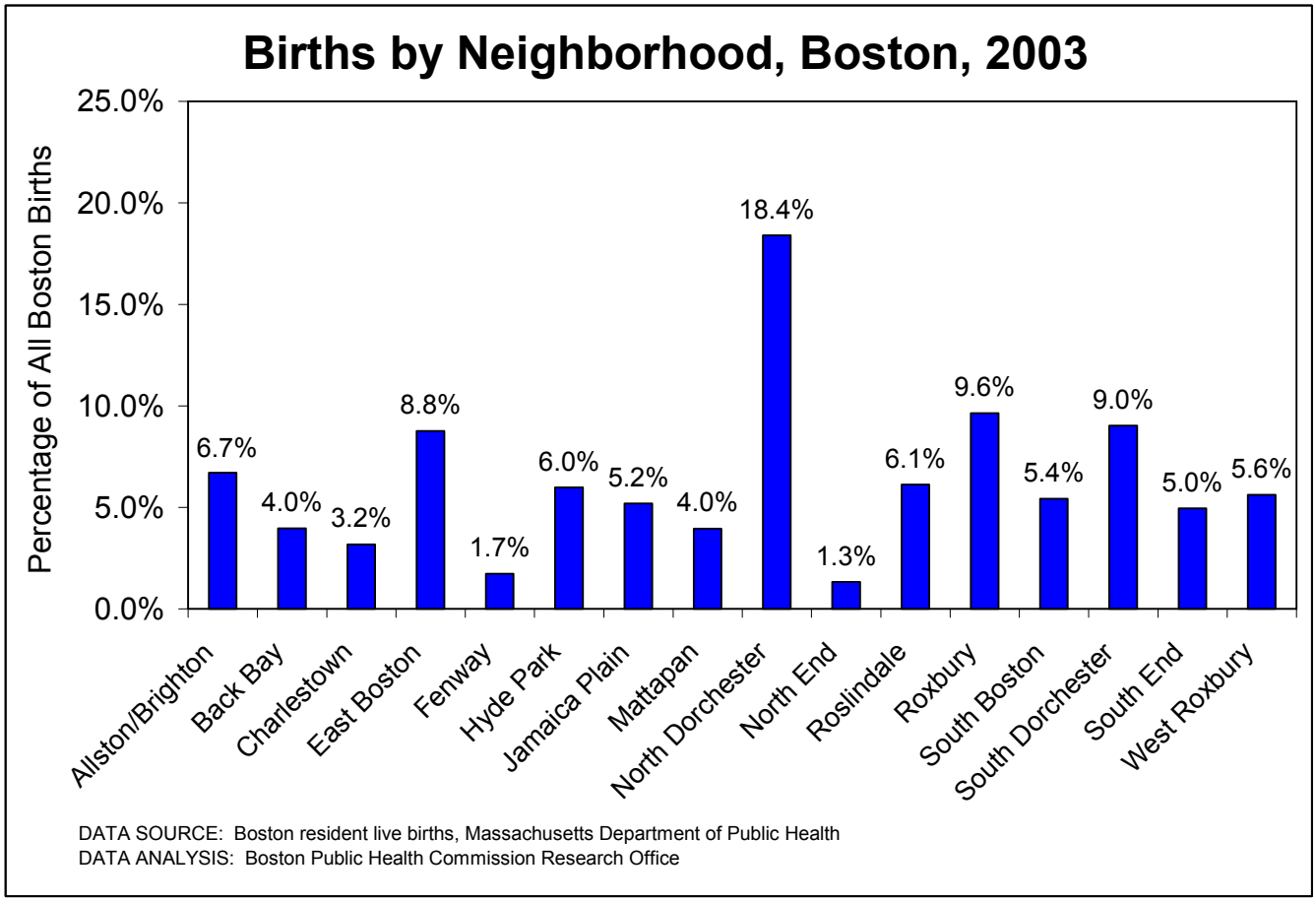
- As of the most recent national census, residents who are White accounted for fifty percent or more of the population of 11 Boston neighborhoods, ranging from a high of ninety-two percent in the North End to a low of three percent in Mattapan.
- The distribution of Black residents by neighborhood ranged from a high of eighty-four percent in Mattapan to a low of two percent in the North End and South Boston, while the highest percentages of Latino residents were found in East Boston (thirty-nine percent), Jamaica Plain (twenty-nine percent), and Roxbury (twenty-two percent). The highest percentages of Asian residents were in the South End and Allston/Brighton.



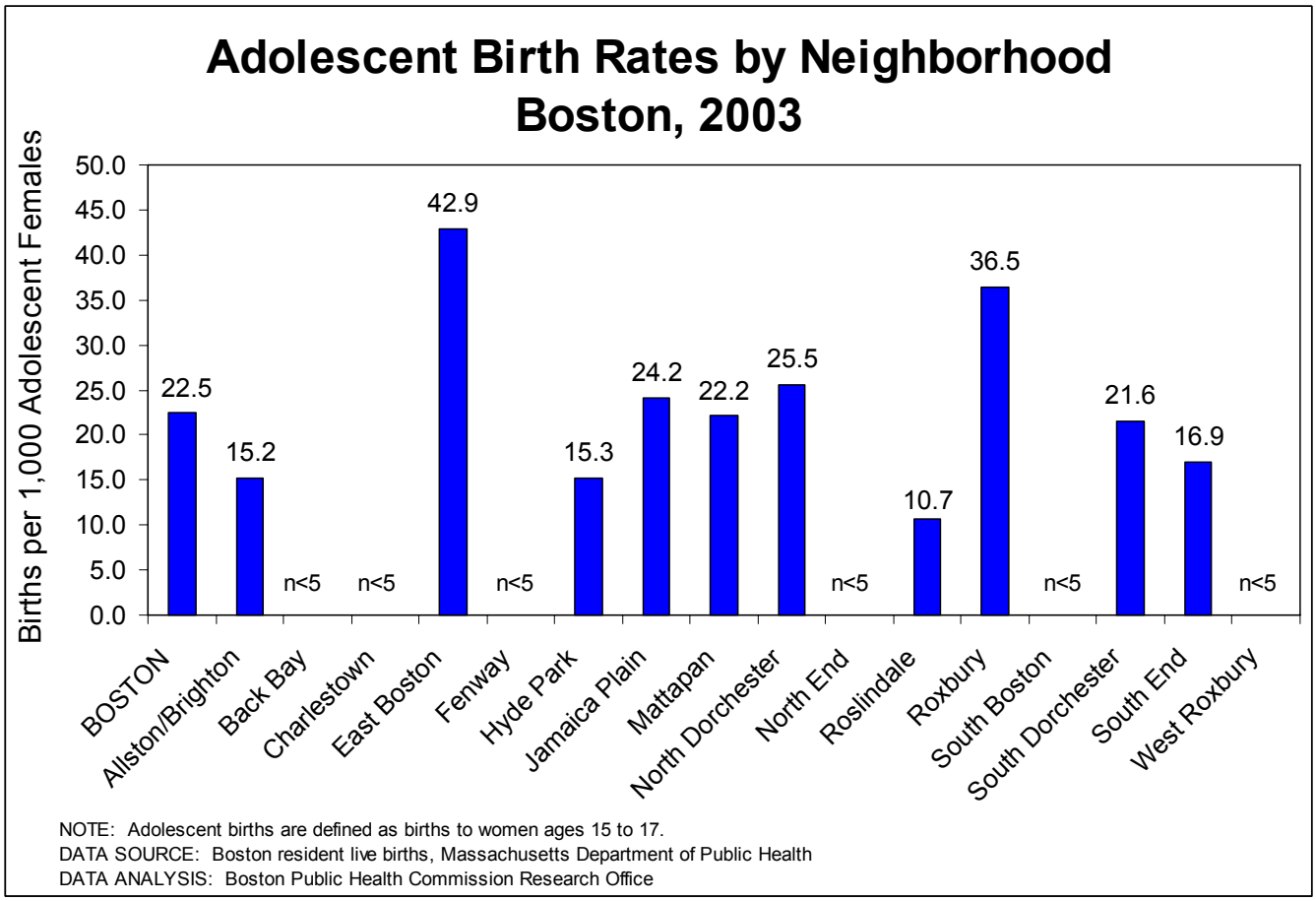
NOTES: Data are based on income in 1999. South End includes Chinatow n.
DATA SOURCE: US Department of Commerce, Bureau of the Census, American FactFinder, Census 2000, Summary File Sample Data
DATA ANALYSIS: Boston Public Health Commission Research Office

- As of the most recent national census, approximately twenty percent of Boston residents had a household income below the federal poverty line.
- The neighborhoods of Fenway and Chinatown had the highest percentages of residents living below the federal poverty line. In Fenway, about thirty-seven percent of residents were in poverty, and in Chinatown, about thirty-six percent of residents lived in poverty.
- West Roxbury had the lowest percentage of residents living below the federal poverty line.

Childbearing



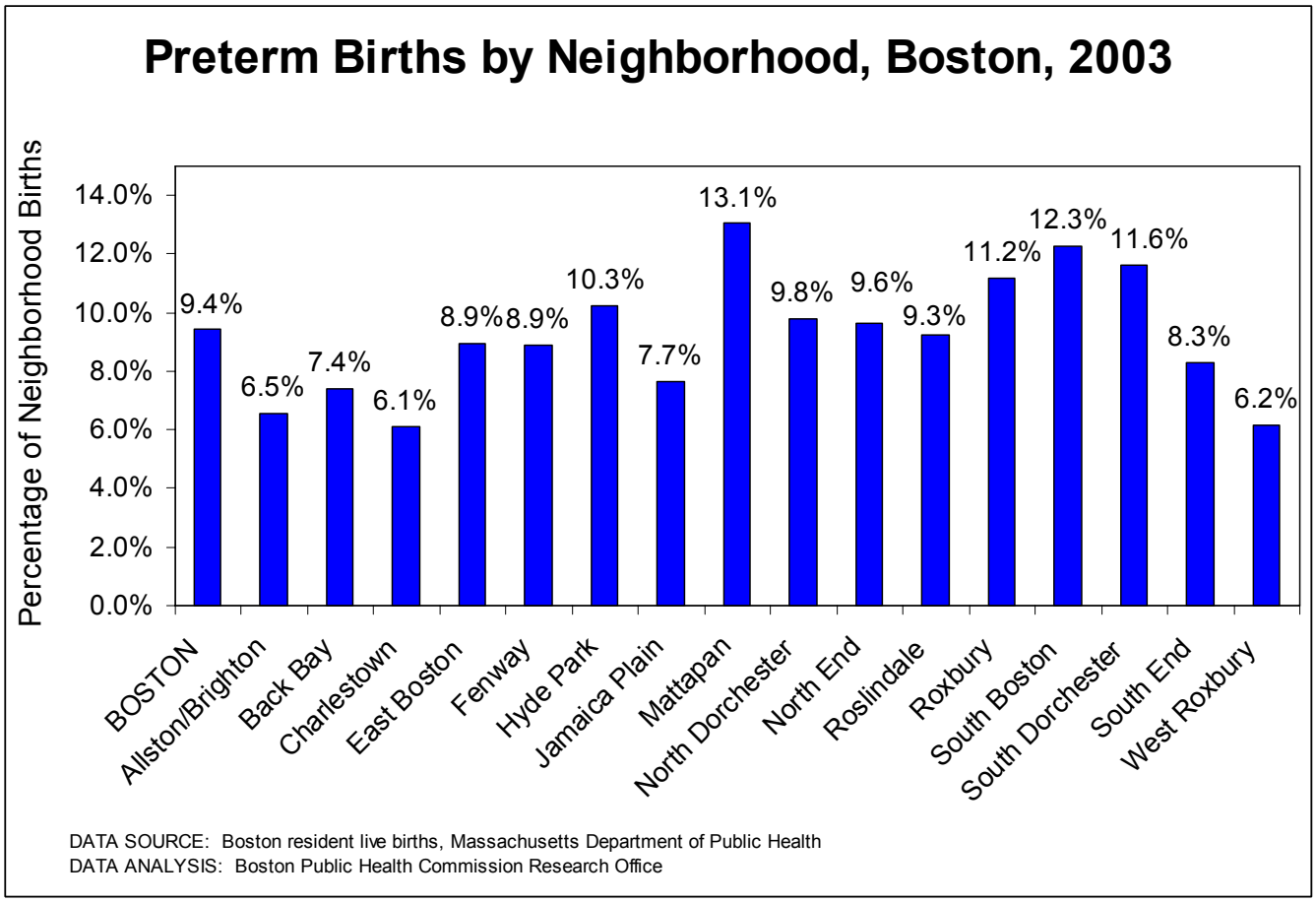
- Collectively, North Dorchester, Roxbury, South Dorchester, and East Boston constituted 45.8% of the city's 7,817 births in 2003.
- The highest percentage of births occurred to North Dorchester women, who had 18.4% of the city's births.
- The North End, Fenway, and Charlestown accounted for the smallest proportions of all Boston births.



- In 2003, Boston had 199 births to women between the ages of 15 and 17. This resulted in a birth rate of 22.5 live births per 1,000 females ages 15-17.

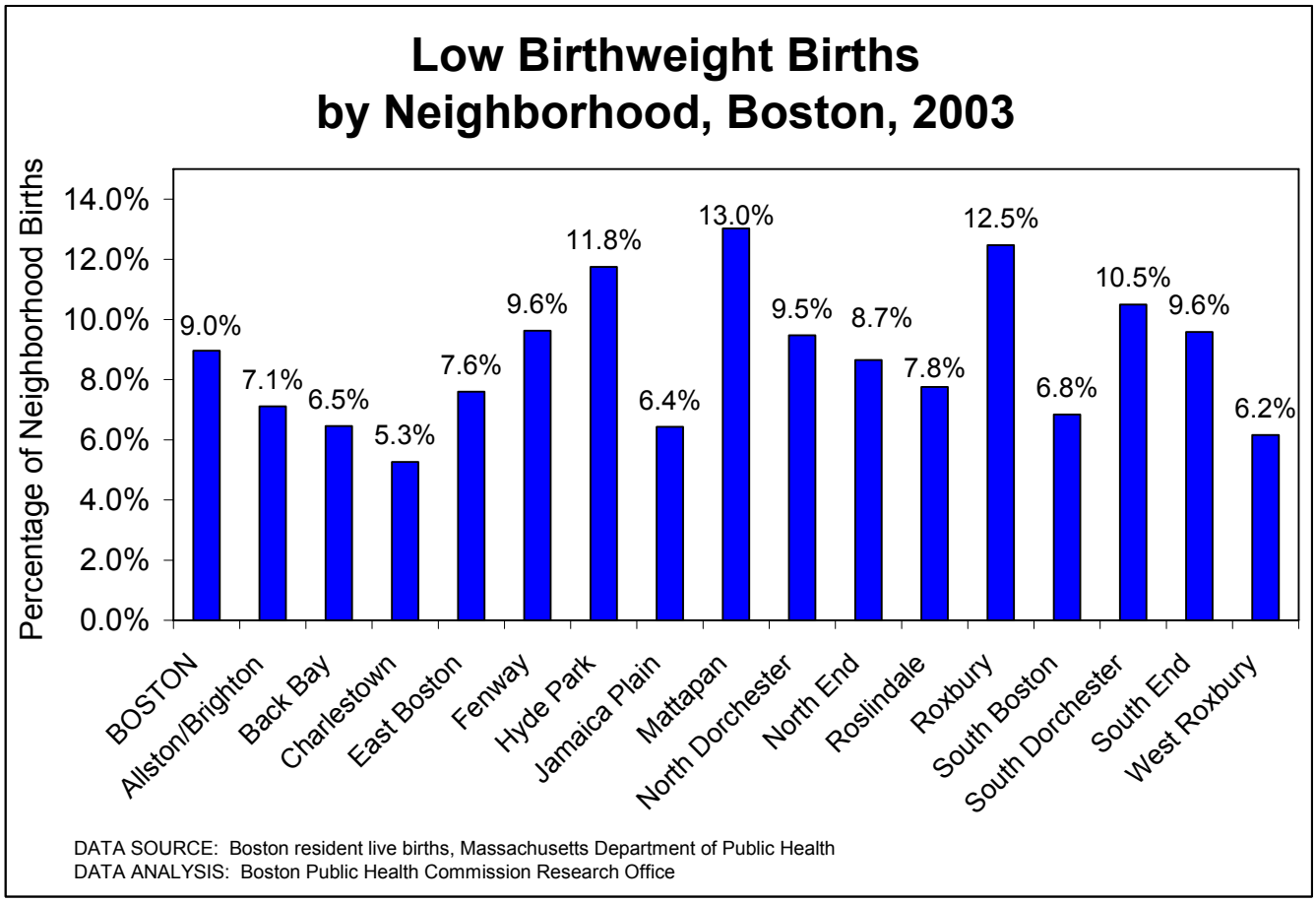
- East Boston had the highest adolescent birth rate of all Boston neighborhoods, 42.9 live births per 1,000 females ages 15-17. Roxbury had the second highest adolescent birth rate, that of 36.5 live births per 1,000 females ages 15-17.

- Six Boston neighborhoods had too few adolescent births for adolescent birth rates to be calculated.



- In 2003, 9.4% of Boston births were preterm; that is, born before 37 completed weeks' gestation. Mattapan had the highest PTB birth rate (13.1%), and this was 39.4% higher than the overall Boston rate.

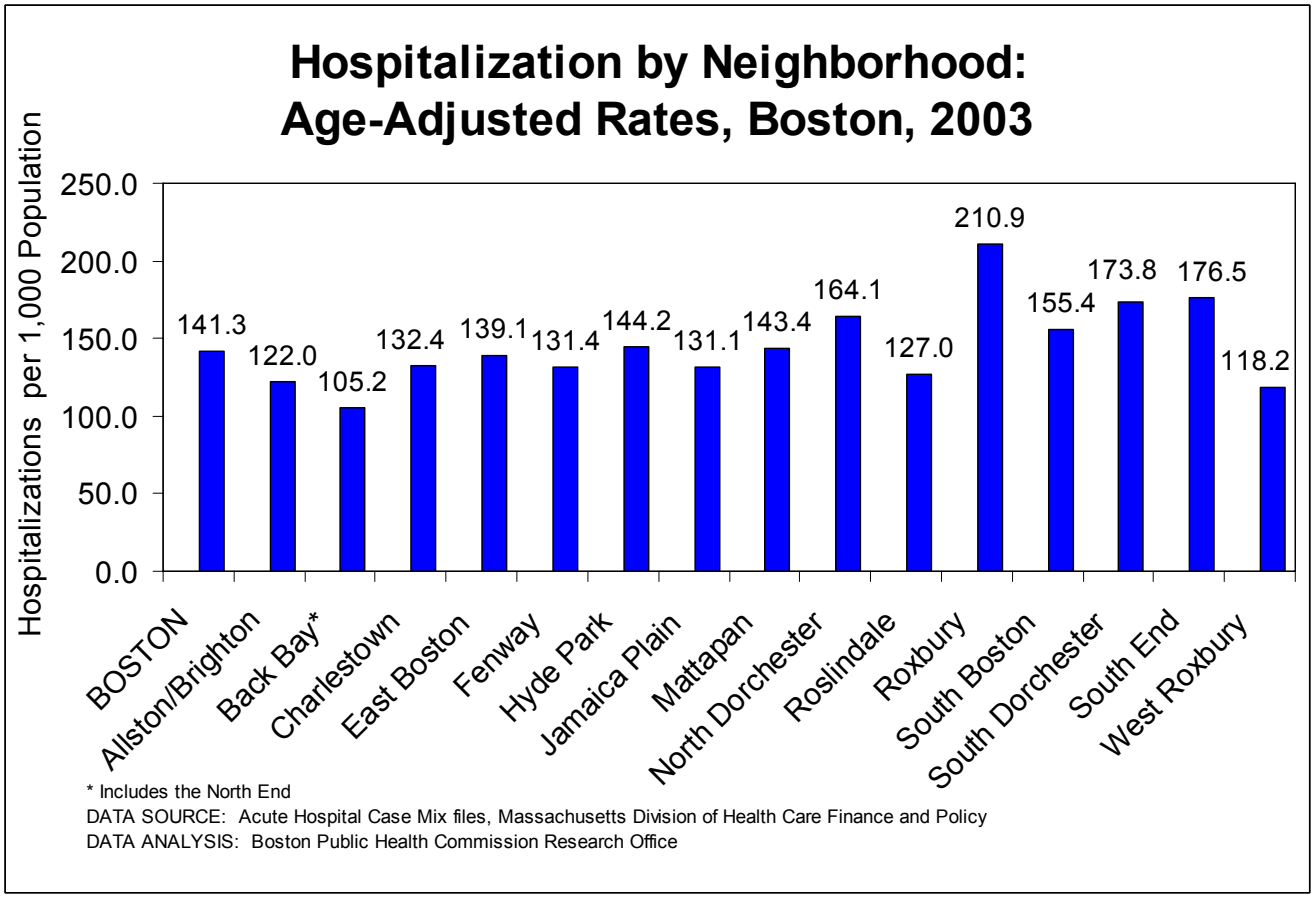
- Charlestown, West Roxbury, and Allston/Brighton had the lowest preterm birth rates of all Boston neighborhoods.



- In 2003, 9.0% of Boston births were low birthweight (LBW); that is, weighed less than 2,500 grams (5.5 pounds) at delivery. Mattapan had the highest LBW birth rate (13.0%), and this was 44.4% higher than the overall Boston rate.

- Charlestown, West Roxbury, Jamaica Plain, and Back Bay had the lowest LBW rates of all Boston neighborhoods.

Hospitalization

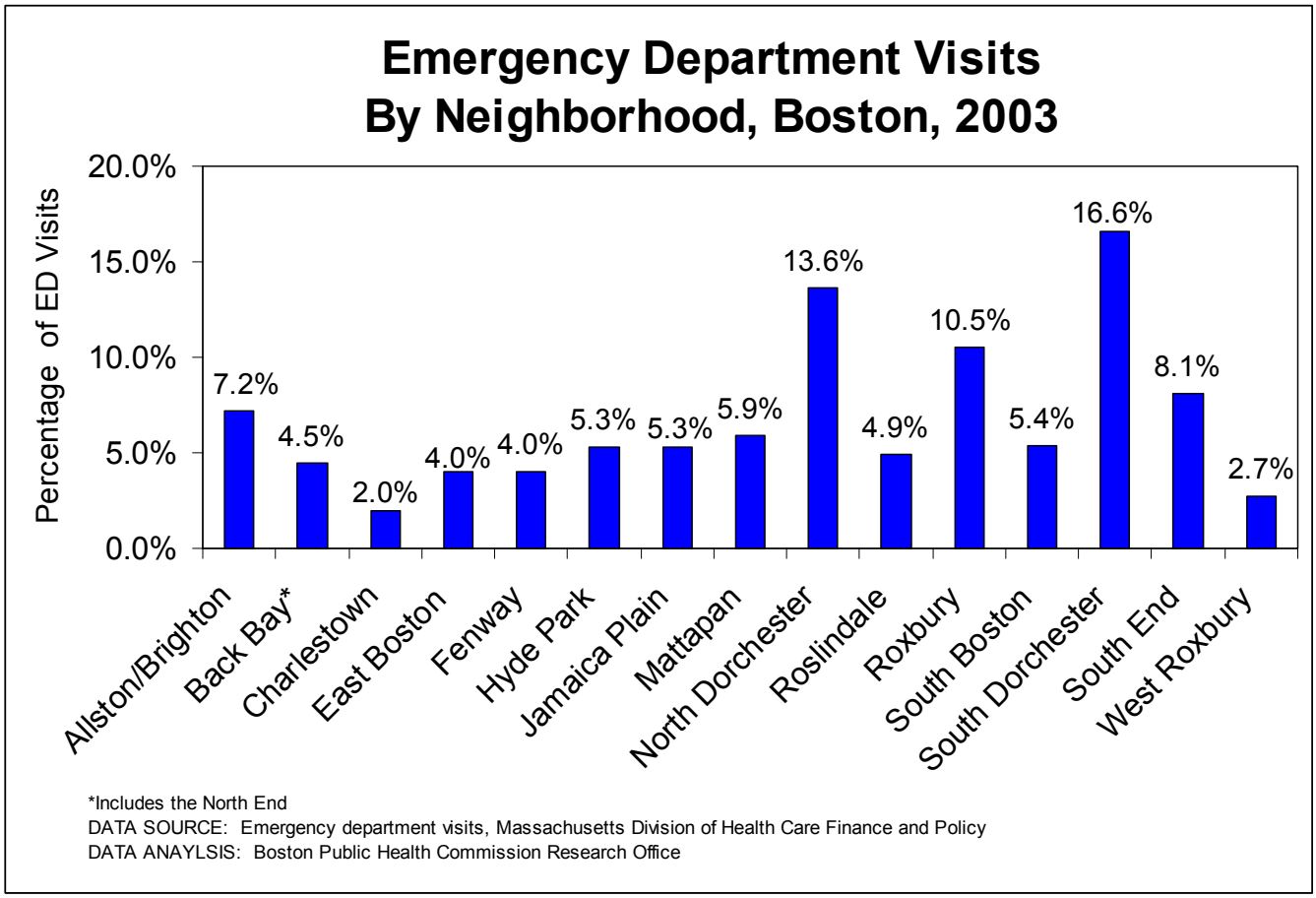


- In 2003, Boston's highest age-adjusted hospitalization rate by neighborhood was for residents of Roxbury (210.9 hospitalizations per 1,000 population). That rate was 49.3 % higher than the overall Boston rate (141.3 hospitalizations per 1,000). Residents of the South End and South Dorchester had the second and third highest rates (176.5 per 1,000 and 173.8 per 1,000, respectively).

- Residents of the Back Bay and West Roxbury had the lowest hospitalization rates of all Boston neighborhoods (105.2 per 1,000 and 118.2 per 1,000). Their rates were 25.5% and 16.3 %, respectively, lower than the overall Boston rate.

Emergency Department Visits

Hospital emergency departments (EDs) are intended to treat life-threatening acute illnesses and injuries. However, over time, hospital emergency departments have also become an important source of routine health care for people who lack access to other services.

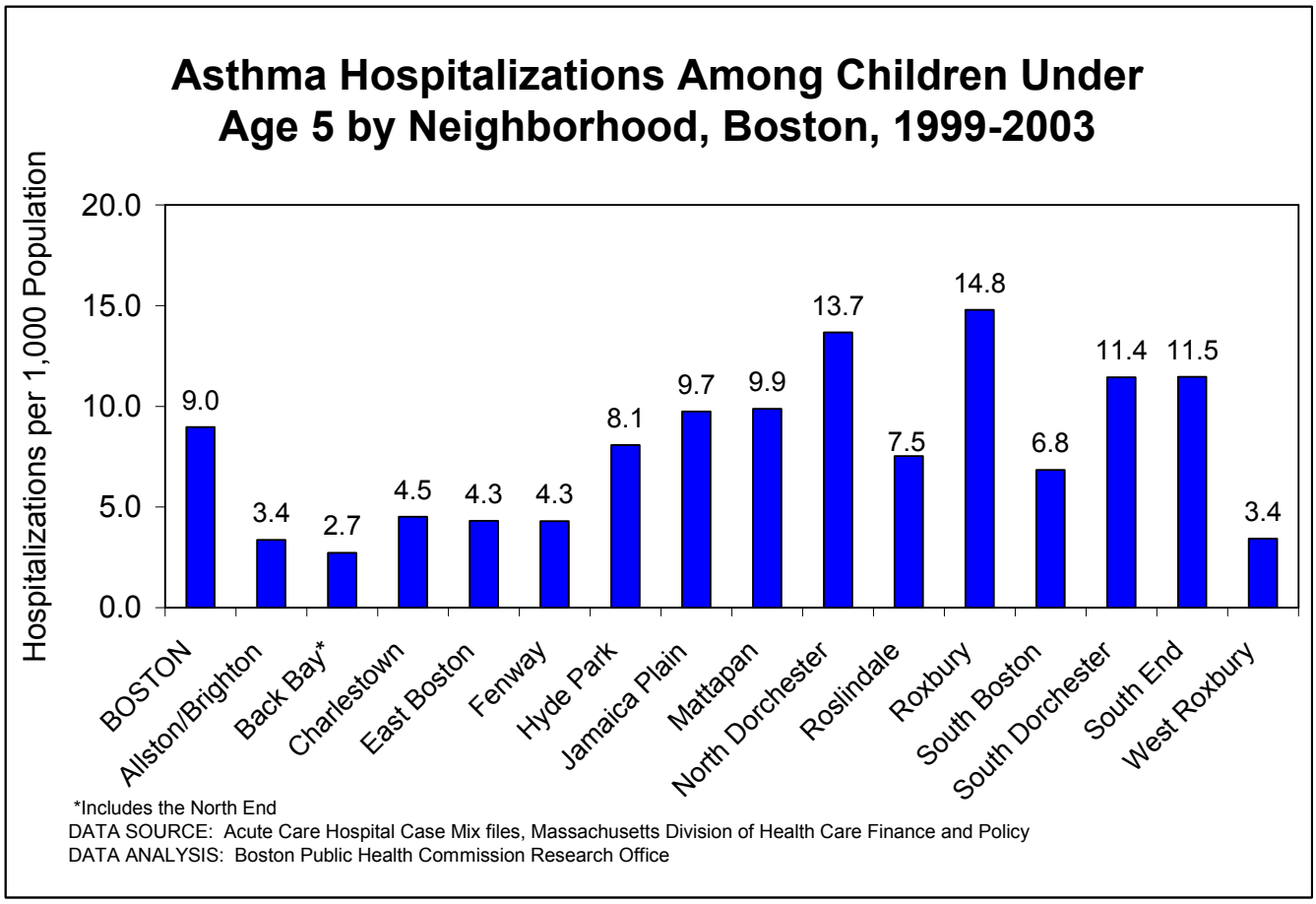


- Residents of South Dorchester (16.6%), North Dorchester (13.6%), and Roxbury (10.5%) accounted for the greatest numbers of ED visits made by Boston residents in 2003.

- Charlestown and West Roxbury residents accounted for the smallest percentages of ED visits by Boston residents, 2.0% and 2.7% of the total, respectively.

Asthma

Asthma is a condition in which the tiny vessels bringing air to the lungs constrict and become inflamed. During asthma attacks, which may be triggered by factors such as allergens, exercise, and cold temperatures, breathing becomes difficult. Hospitalizations for asthma are an indicator of the amount of asthma in a community, the severity of the condition in that population, and the adequacy of outpatient management of asthma.

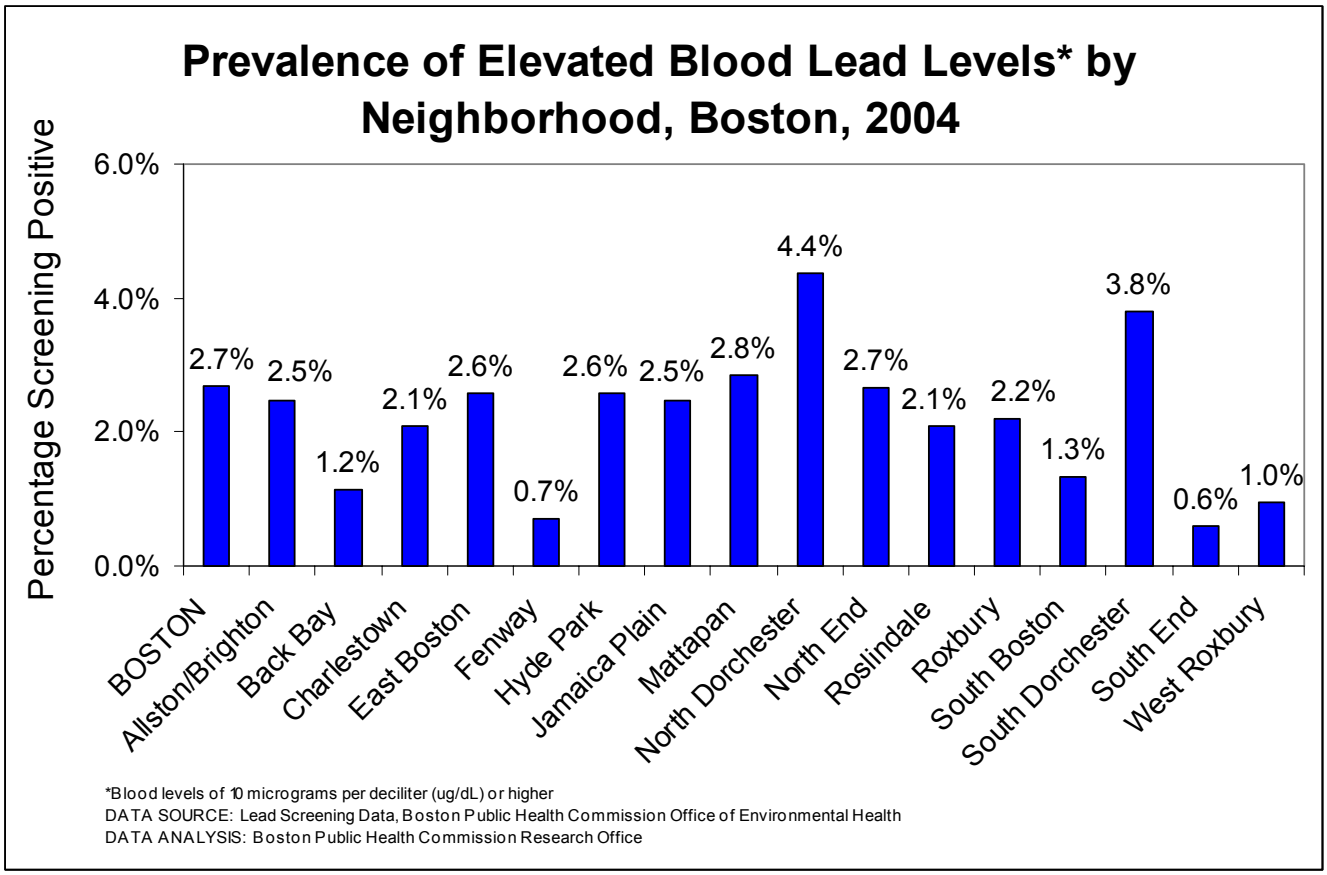


- During 1999-2003, Roxbury was one of several Boston neighborhoods with asthma hospitalization rates for children under age 5 higher than the Boston overall rate. The rate for Roxbury (14.8 asthma hospitalizations per 1,000 population) was 64.4% higher than the Boston rate (9.0 asthma hospitalizations per 1,000 population), and was the highest rate of all Boston neighborhoods.

- Other neighborhoods with rates higher than Boston's were North Dorchester (13.7 asthma hospitalizations per 1,000), the South End (11.5 per 1,000), South Dorchester (11.4 per 1,000), Mattapan (9.9 per 1,000), and Jamaica Plain (9.7 per 1,000).

Childhood Lead Screening

Childhood lead poisoning is a preventable environmental health problem that can cause serious neurological damage in children, including mental retardation. Children under the age of 6 are at risk of lead poisoning because they tend to put their hands and other objects in their mouths. Lead-based paint and lead-contaminated dust from old, deteriorating buildings are the major sources of lead poisoning among U.S. children.



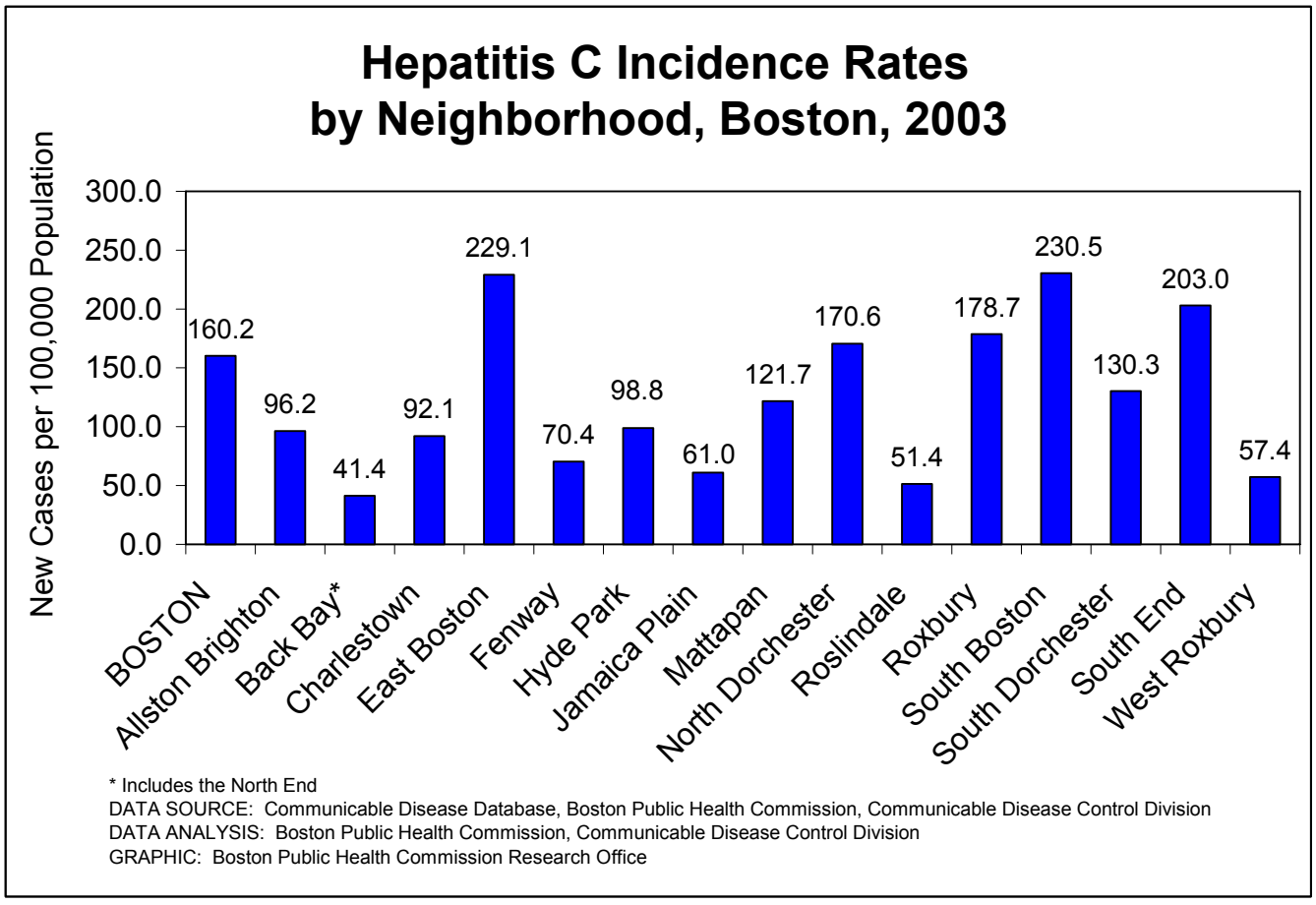
- In 2004, 24,111 Boston children under age 6 were screened for lead in their blood. Of the children screened, 647 (2.7%) had blood levels of 10 micrograms per deciliter (µg/dL) or higher.

- The number of Boston children with elevated blood lead levels has been declining since 1993, when 18.6% of children had levels at least that high (data not shown). Between 2003 and 2004, the percentage of children with blood lead levels of 10µg/dL or higher declined 15.6% (data not shown). The Healthy People 2010 goal is to have no elevated blood lead levels among children.

- In 2004, the prevalence of elevated blood lead levels in children was highest in North Dorchester (4.4%), South Dorchester (3.8%), and Mattapan (2.8%).

Hepatitis

Three major types of this disease of the liver are hepatitis A, B, and C. Each is caused by a virus. Hepatitis C is the most commonly reported blood-borne infection in Boston. Vaccines are available to prevent hepatitis A and hepatitis B infection; however, there is no vaccine for hepatitis C.

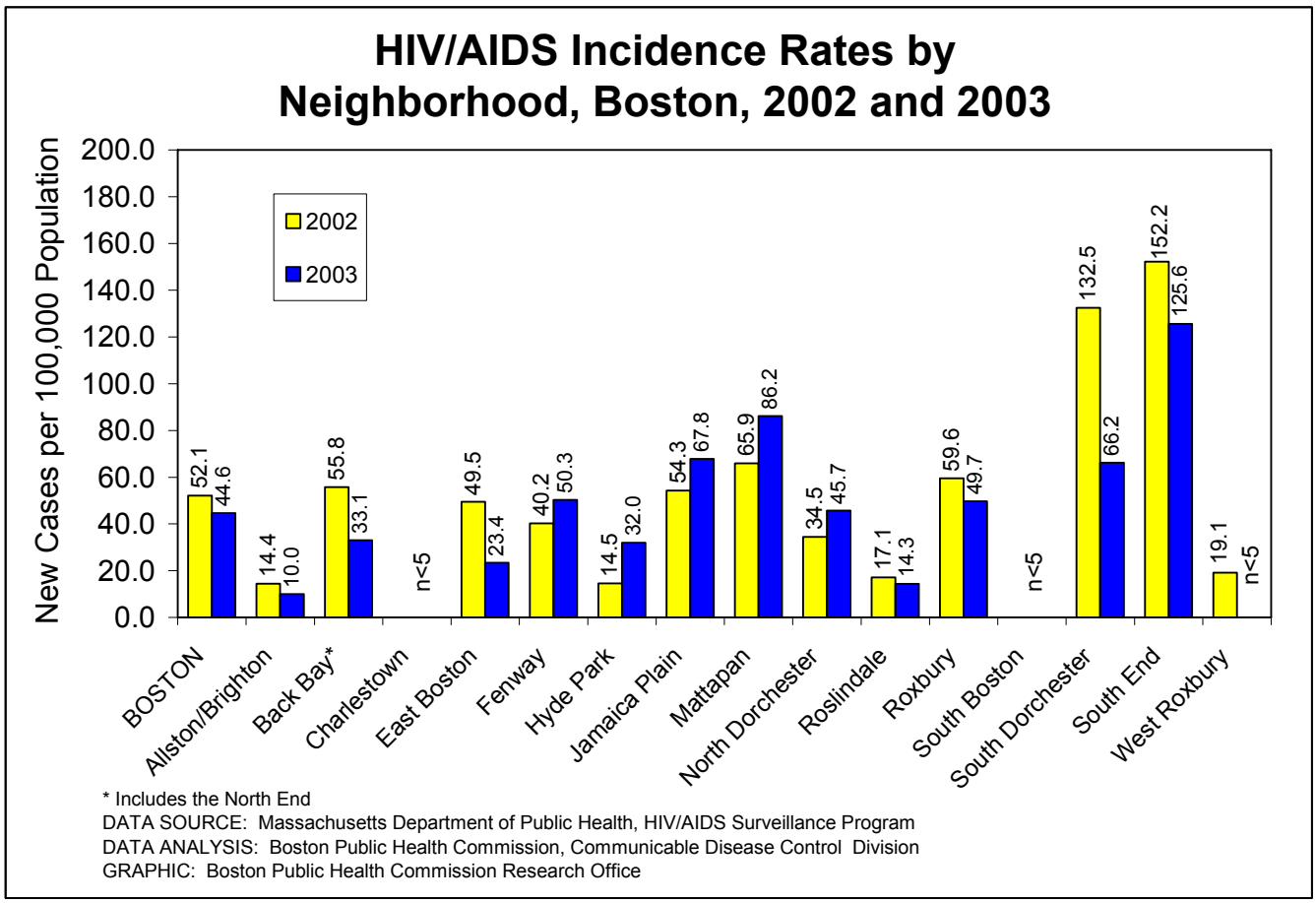


* Includes the North End
DATA SOURCE: Communicable Disease Database, Boston Public Health Commission, Communicable Disease Control Division
DATA ANALYSIS: Boston Public Health Commission, Communicable Disease Control Division
GRAPHIC: Boston Public Health Commission Research Office

- The highest incidence rate of hepatitis C in 2003 was among South Boston residents (230.5 new cases per 100,000 population).This was 43.9% higher than the overall Boston rate (160.2 new cases per 100,000 population).
- East Boston, the South End, Roxbury and North Dorchester also had hepatitis incidence rates that were higher than the overall Boston rate.
- The lowest hepatitis C incidence rates were among residents of Back Bay, Roslindale, West Roxbury, Jamaica Plain, and Fenway.

HIV/AIDS

Human Immunodeficiency Virus (HIV) is the organism that causes AIDS. People become infected with HIV through sexual contact, contact with infected blood, at birth (when infection can be transmitted from mother to baby), or through breastfeeding. Over a period of years, most people who are infected with HIV eventually develop AIDS as the virus damages the immune system.

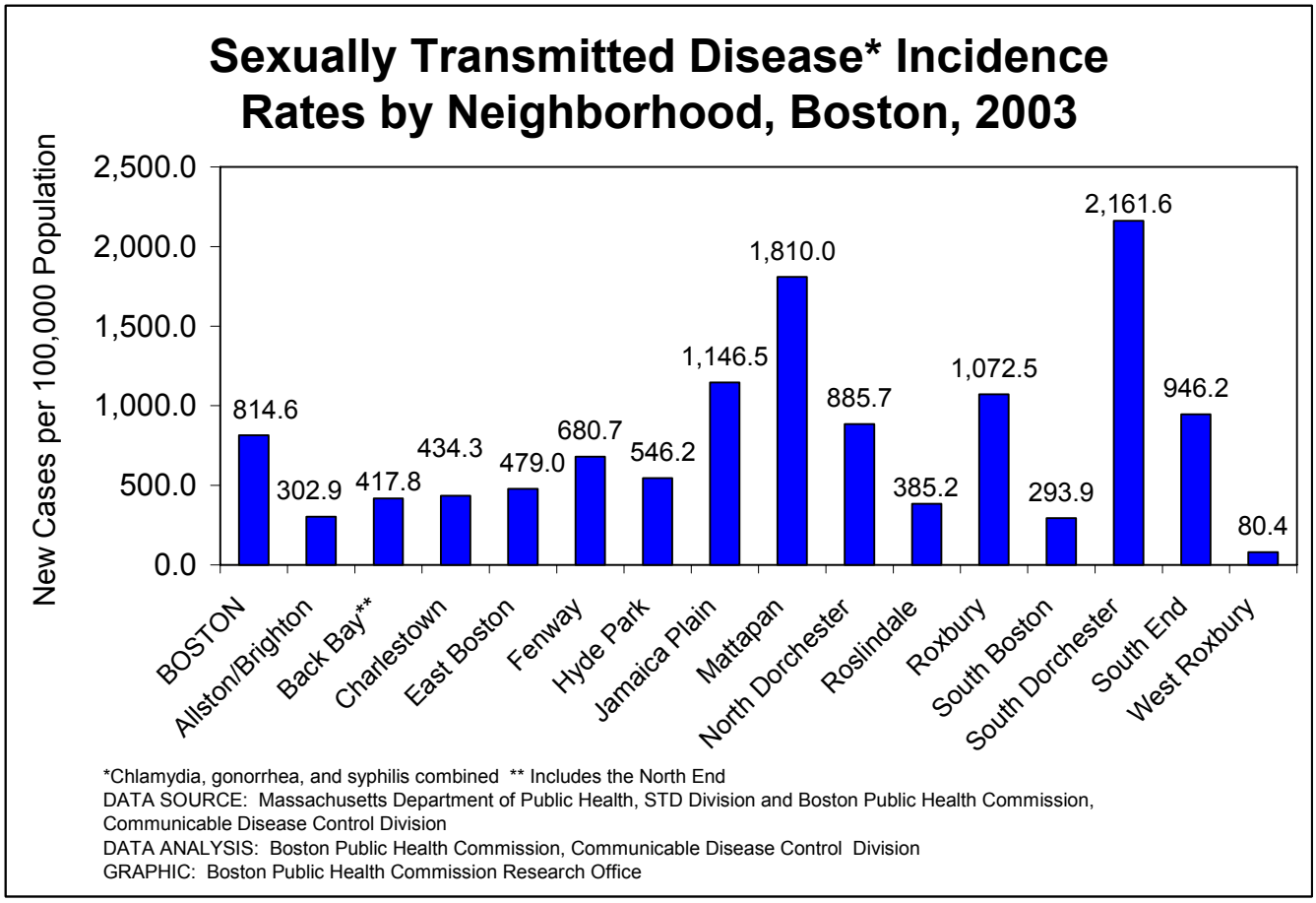


- For Boston overall, the HIV/AIDS incidence rate fell 14.4%, from 52.1 new cases per 100,000 population in 2002 to 44.6 per 100,000 in 2003. However, rates for some neighborhoods, including Fenway, Hyde Park, Jamaica Plain, Mattapan, and North Dorchester, increased.

- In 2002 and 2003, the South End had the highest HIV/AIDS incidence rate among Boston neighborhoods. The South End rate was 192.1% and 181.6% higher than the overall Boston rates for 2002 and 2003, respectively, despite a decline of 17.5% for the South End between the two years.

- Allston/Brighton, Roslindale, East Boston, and Hyde Park had the lowest HIV/AIDS incidence rates in Boston in 2003.

Sexually Transmitted Diseases

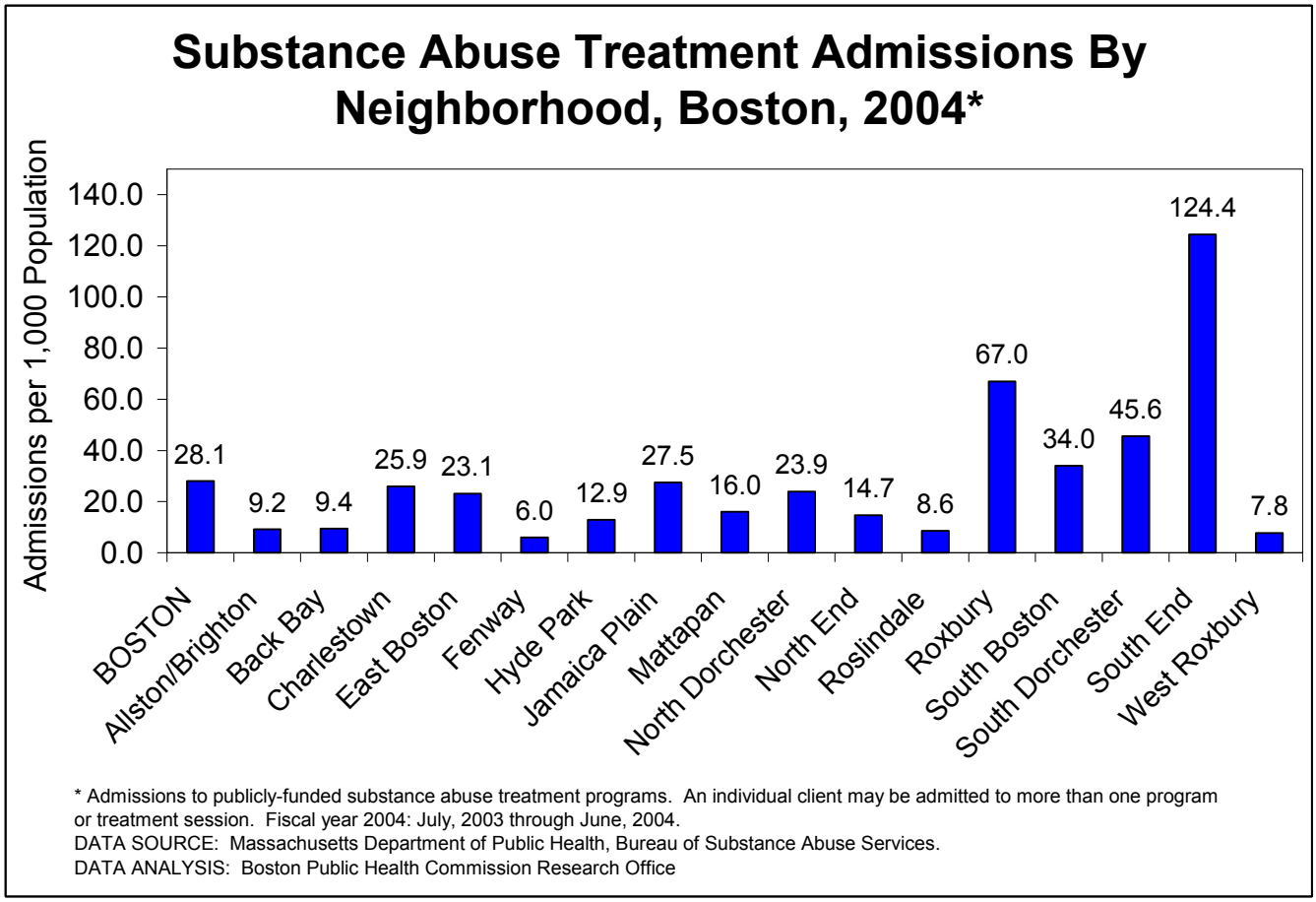


*Chlamydia, gonorrhea, and syphilis combined ** Includes the North End
DATA SOURCE: Massachusetts Department of Public Health, STD Division and Boston Public Health Commission, Communicable Disease Control Division
DATA ANALYSIS: Boston Public Health Commission, Communicable Disease Control Division
GRAPHIC: Boston Public Health Commission Research Office

- In 2003, South Dorchester had Boston's highest incidence rate of reported sexually transmitted diseases (STDs), 2,161.6 new cases per 100,000 population, 2.7 times higher than for Boston overall.
- Mattapan, Jamaica Plain, and Roxbury had the city's second, third, and fourth highest STD incidence rates, respectively.
- In part, differences in neighborhood rates may reflect local differences in STD screening and reporting practices.

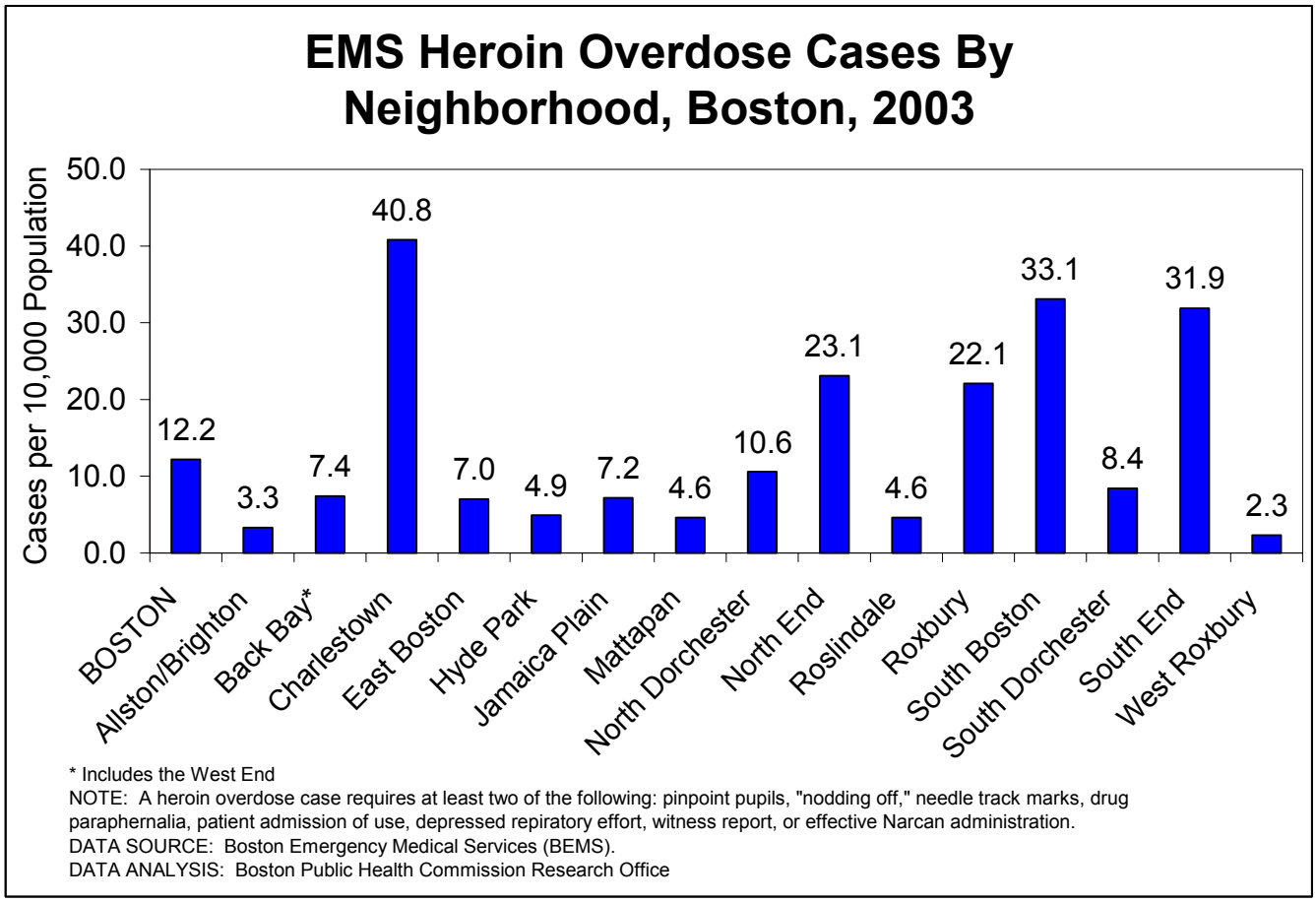
Substance Abuse

Treatment for substance abuse (alcohol and drug dependence or addiction) may include detoxification services, counseling, and other medical treatments. Treatment can be provided in a number of public and private settings.



* Admissions to publicly-funded substance abuse treatment programs. An individual client may be admitted to more than one program or treatment session. Fiscal year 2004: July, 2003 through June, 2004.
DATA SOURCE: Massachusetts Department of Public Health, Bureau of Substance Abuse Services.
DATA ANALYSIS: Boston Public Health Commission Research Office

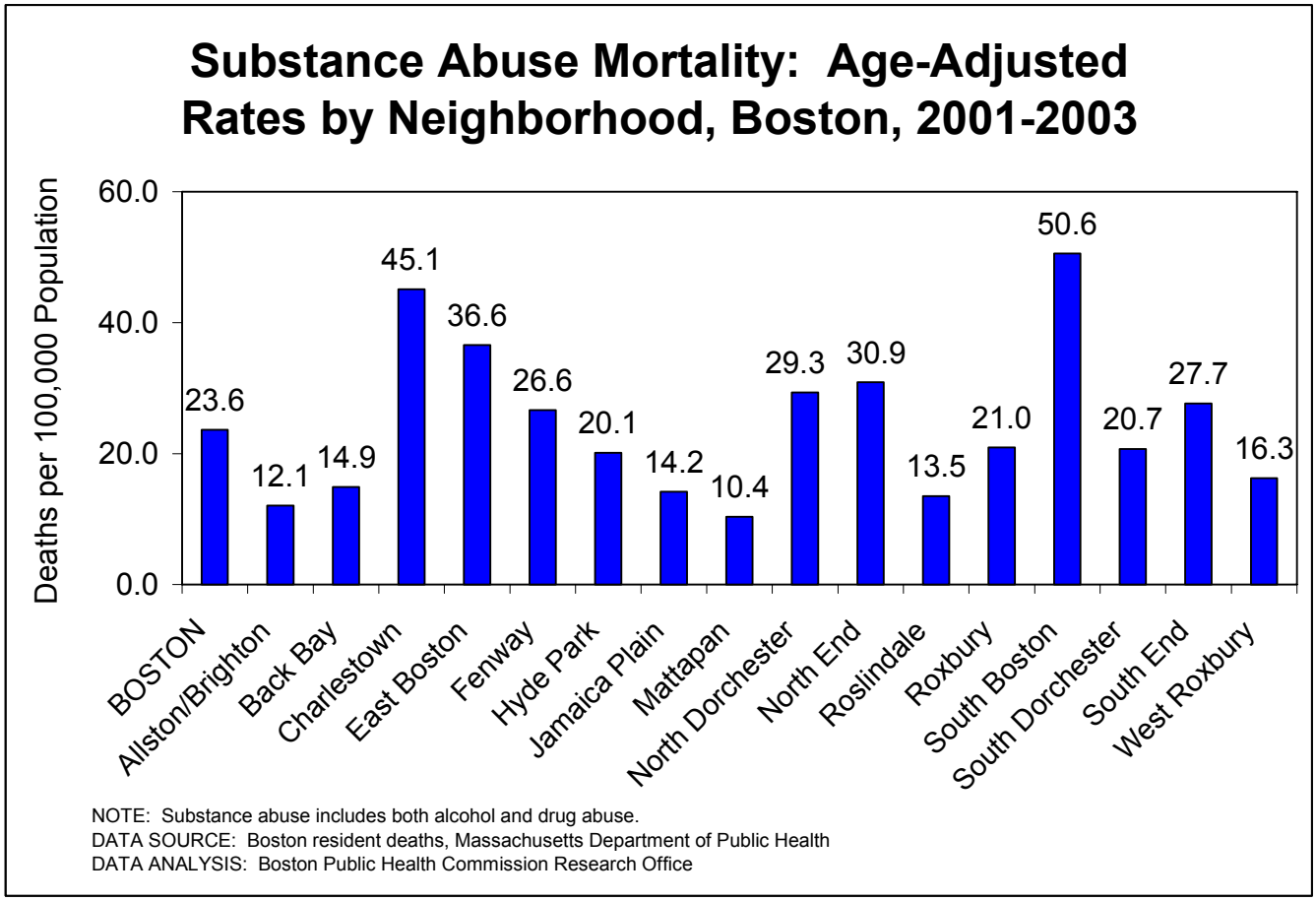
- Both the South End and Roxbury had substance abuse treatment admissions rates that were more than twice the overall Boston rate.
- The city's lowest admissions rates were for the Fenway, West Roxbury, and Roslindale.



* Includes the West End
NOTE: A heroin overdose case requires at least two of the following: pinpoint pupils, "nodding off," needle track marks, drug paraphernalia, patient admission of use, depressed repiratory effort, witness report, or effective Narcan administration.
DATA SOURCE: Boston Emergency Medical Services (BEMS).
DATA ANALYSIS: Boston Public Health Commission Research Office

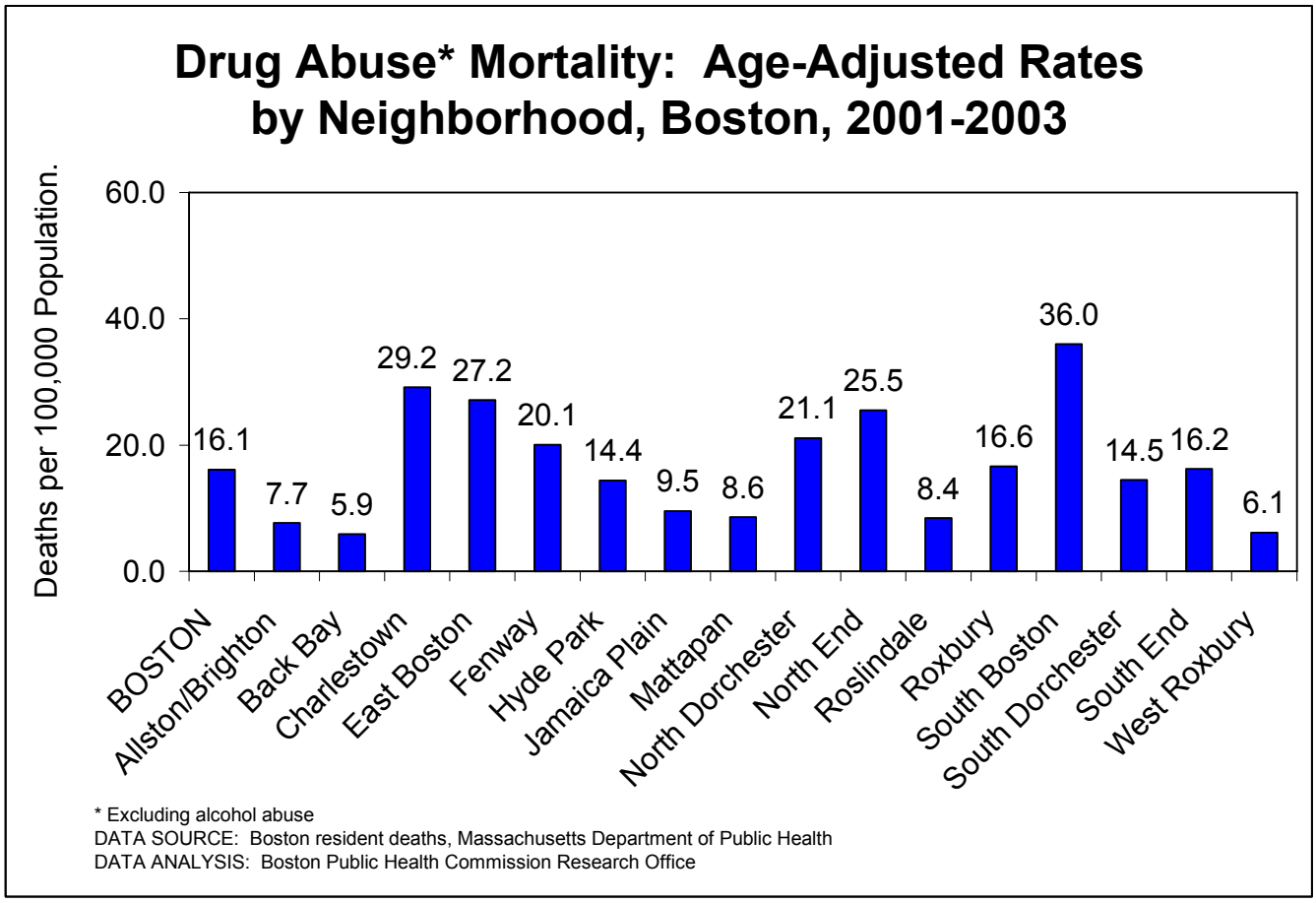
- Charlestown had the highest heroin overdose rate in 2003, 40.8 cases per 10,000 population. This was over three times the Boston rate.
- The city's lowest heroin overdose rates were for residents of West Roxbury, Allston/Brighton, Mattapan, and Roslindale.

Substance abuse, including both drugs and alcohol in this definition, is a major cause of premature death among several segments of the population, especially males ages 25-44. It is also a leading cause of death at the state and national levels.



- For the period 2001 through 2003, South Boston had the highest substance abuse mortality rate of all Boston neighborhoods, at 50.6 per 100,000 population. South Boston's rate was 114.4% higher than the overall Boston rate of 23.6.

- Mattapan had the city's lowest rate for 2001-2003, 10.4 deaths per 100,000 population.

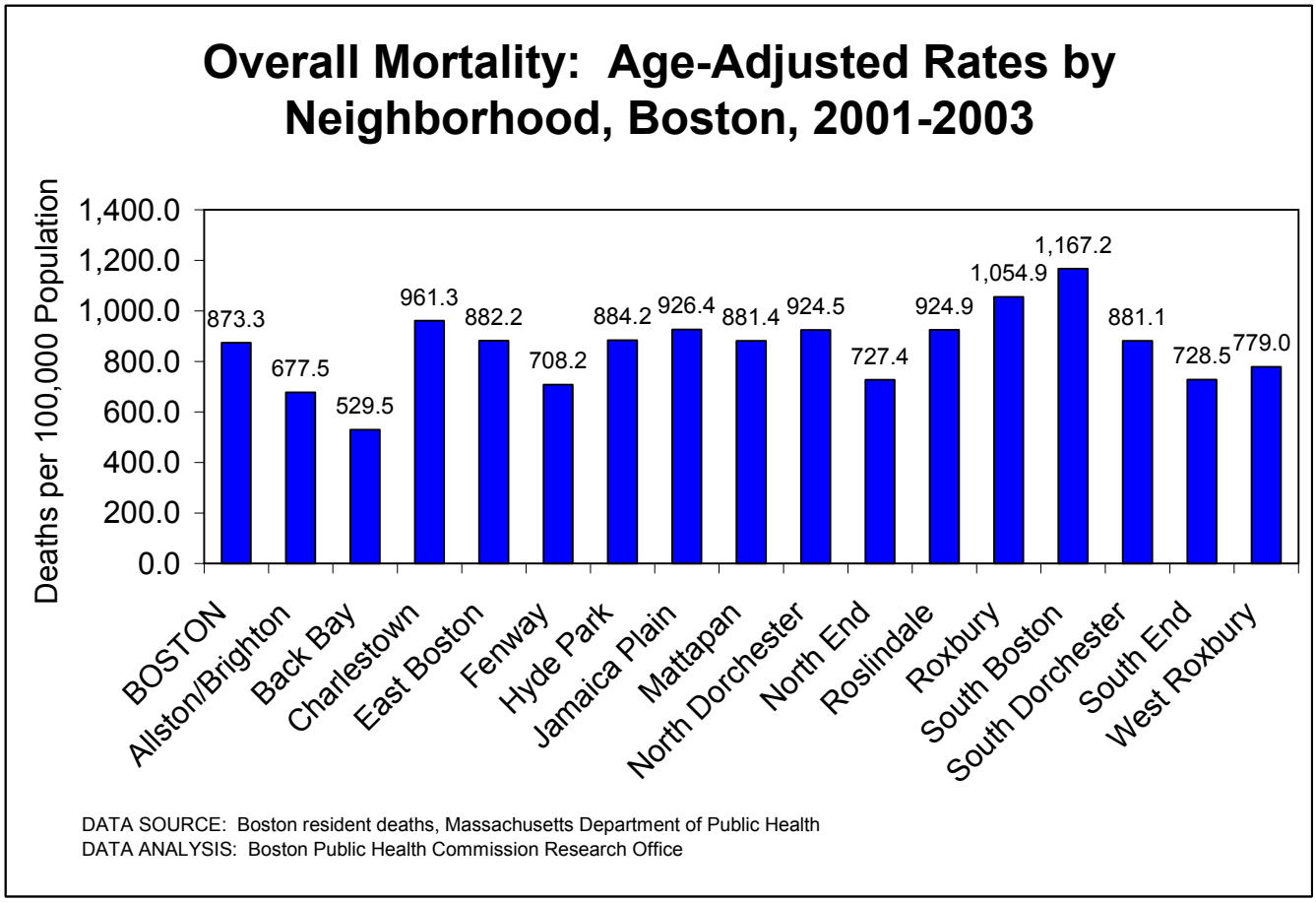


- South Boston also had the highest drug abuse mortality rate of all Boston neighborhoods, at 36.0 deaths per 100,000 population for the period 2001 through 2003. South Boston's rate was 123.6% higher than the overall Boston rate of 16.1.

- Charlestown and East Boston has the second and third highest drug abuse mortality rates, 29.2 deaths and 27.2 deaths per 100,000 population, respectively.

- Back Bay had the city's lowest rate for 2001-2003, with 5.9 deaths per 100,000 population due to drug abuse.

Overall Mortality

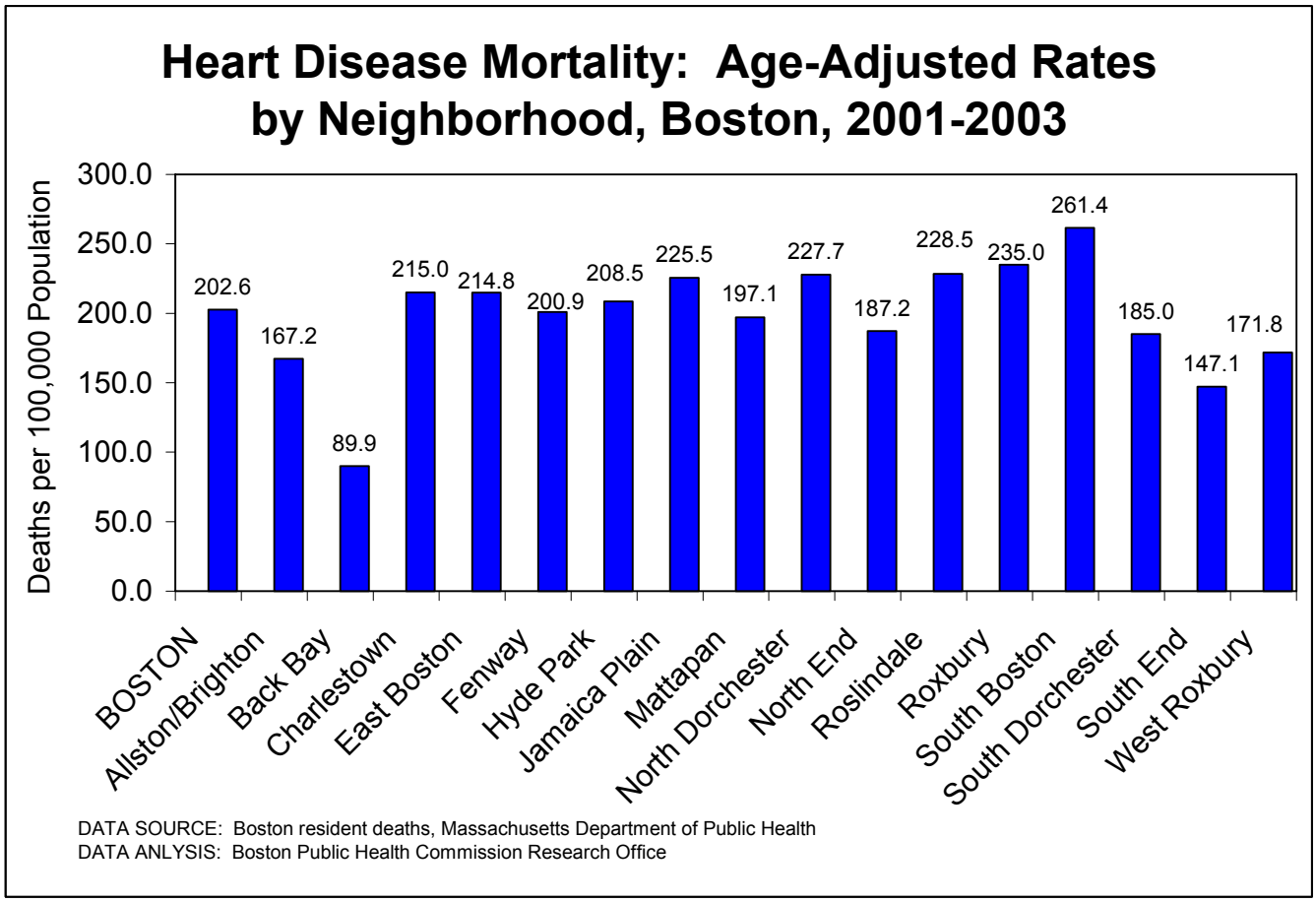


- During 2001-2003, overall mortality age-adjusted rates ranged from 529.5 deaths per 100,000 population in the Back Bay to 1,167.2 deaths per 100,000 in South Boston. The rate for South Boston was 33.7% higher than the rate for Boston overall.

- Like South Boston, Roxbury residents had a mortality rate that exceeded one thousand deaths per 100,000 population. For Roxbury, the rate was 1,054.9 deaths per 100,000.

Heart Disease

Heart (cardiovascular) disease is a group of disorders that affect the heart and blood vessels. Major risk factors are high blood pressure and high blood cholesterol. However, age, gender, race and ethnicity, exposure to tobacco smoke, poor nutrition, limited physical activity, overweight/obesity, and diabetes are other factors that affect cardiovascular disease risk. Nationally, cardiovascular disease has been the leading cause of death for the U.S. population for almost every year since 1900.

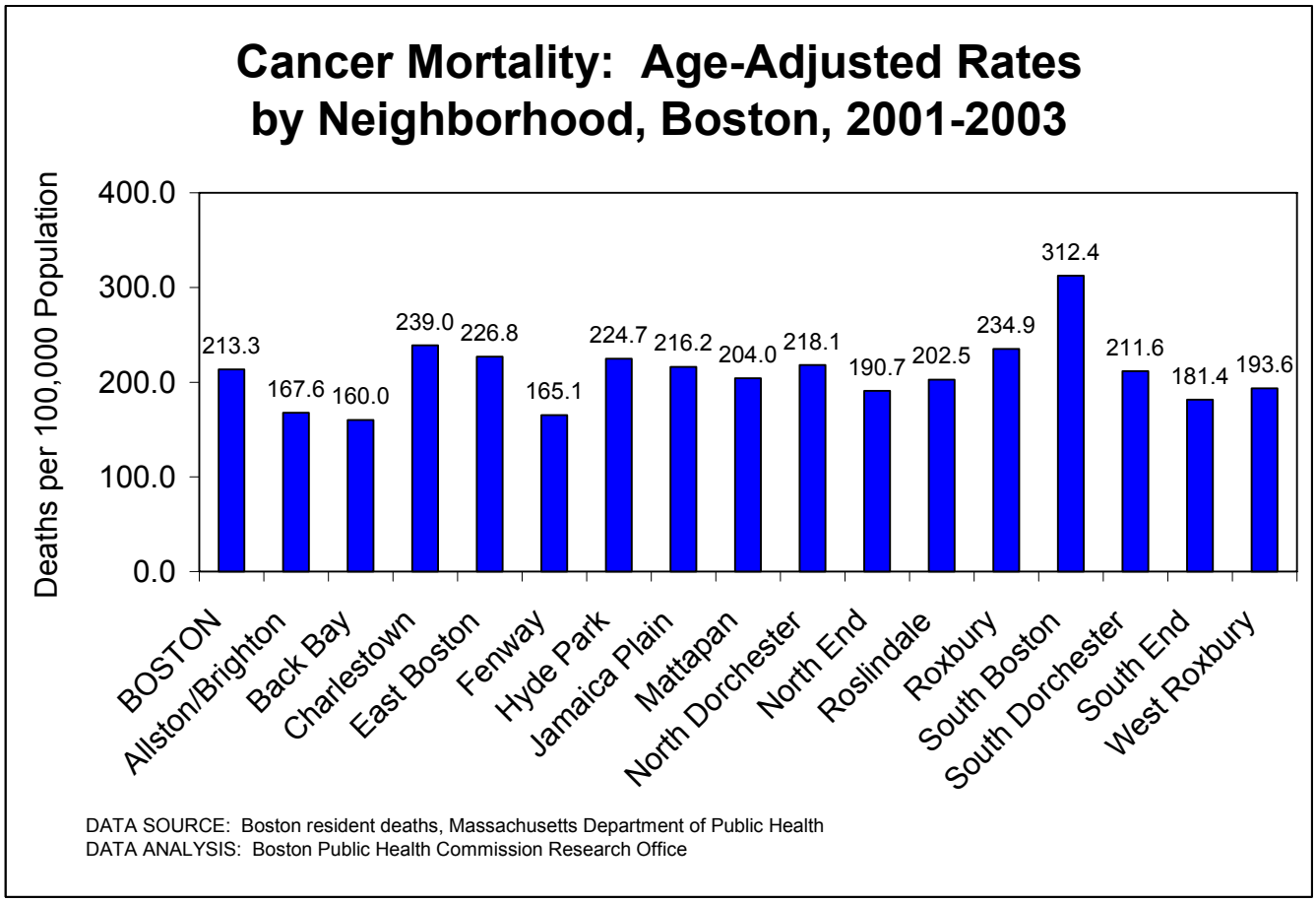


- Age-adjusted heart disease mortality rates vary considerably across Boston's sixteen neighborhoods.

- For 2001-2003, heart disease mortality was highest in South Boston, where the age-adjusted rate of 261.4 deaths per 100,000 population was 29.0% higher than the rate for Boston overall. Heart disease mortality was lowest in the Back Bay, where the age-adjusted rate of 89.9 deaths per 100,000 population was 55.6% lower than the rate for Boston overall.

Cancer

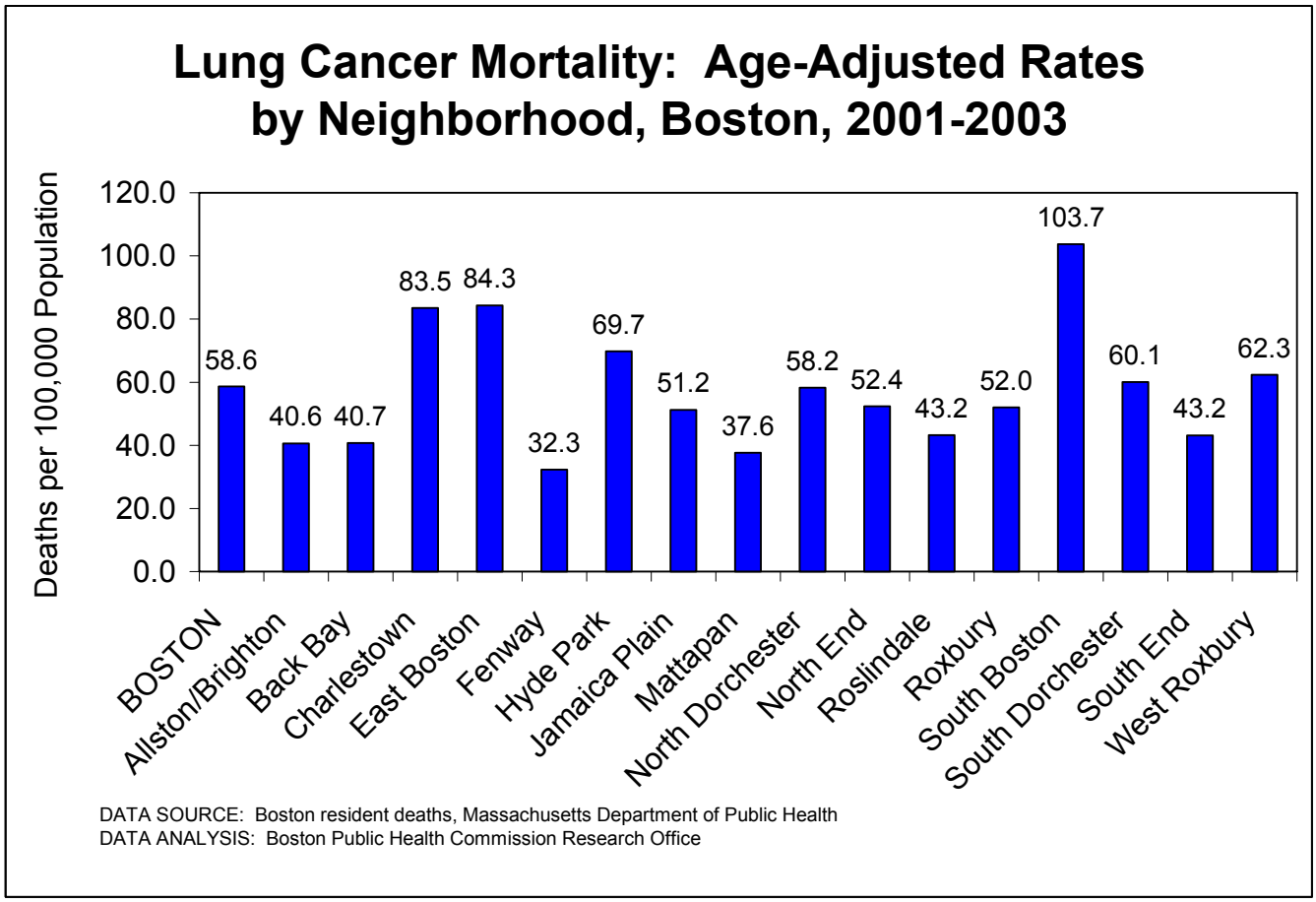
Cancer is a chronic disease involving the uncontrolled growth and spread of abnormal cells. Lung cancer is the leading cause of cancer death in the U.S. Among the many risk factors for cancer are tobacco use, exposure to certain chemicals, excess radiation, infectious organisms, sun damage to the skin, heredity, hormones, immune conditions, metabolic mutations, and age. Many cancer deaths are preventable. According to the American Cancer Society, about a third of the cancer deaths expected for 2003 will be related to nutrition, physical inactivity, overweight or obesity, and other lifestyle factors.



- During 2001-2003, age-adjusted cancer mortality rates for Boston neighborhoods ranged from 160.0 deaths per 100,000 population in Back Bay to 312.4 deaths per 100,000 population in South Boston.

- Cancer mortality rates for 7 of Boston's 16 neighborhoods exceeded the overall Boston rate of 213.3 deaths per 100,000 population. For example, rates for South Boston and Charlestown (312.4 and 239.0 deaths per 100,000) were 46.5% and 12.0% higher, respectively, than the Boston rate.

- Allston/Brighton, Back Bay, and Fenway had the lowest cancer mortality rates of all Boston neighborhoods.



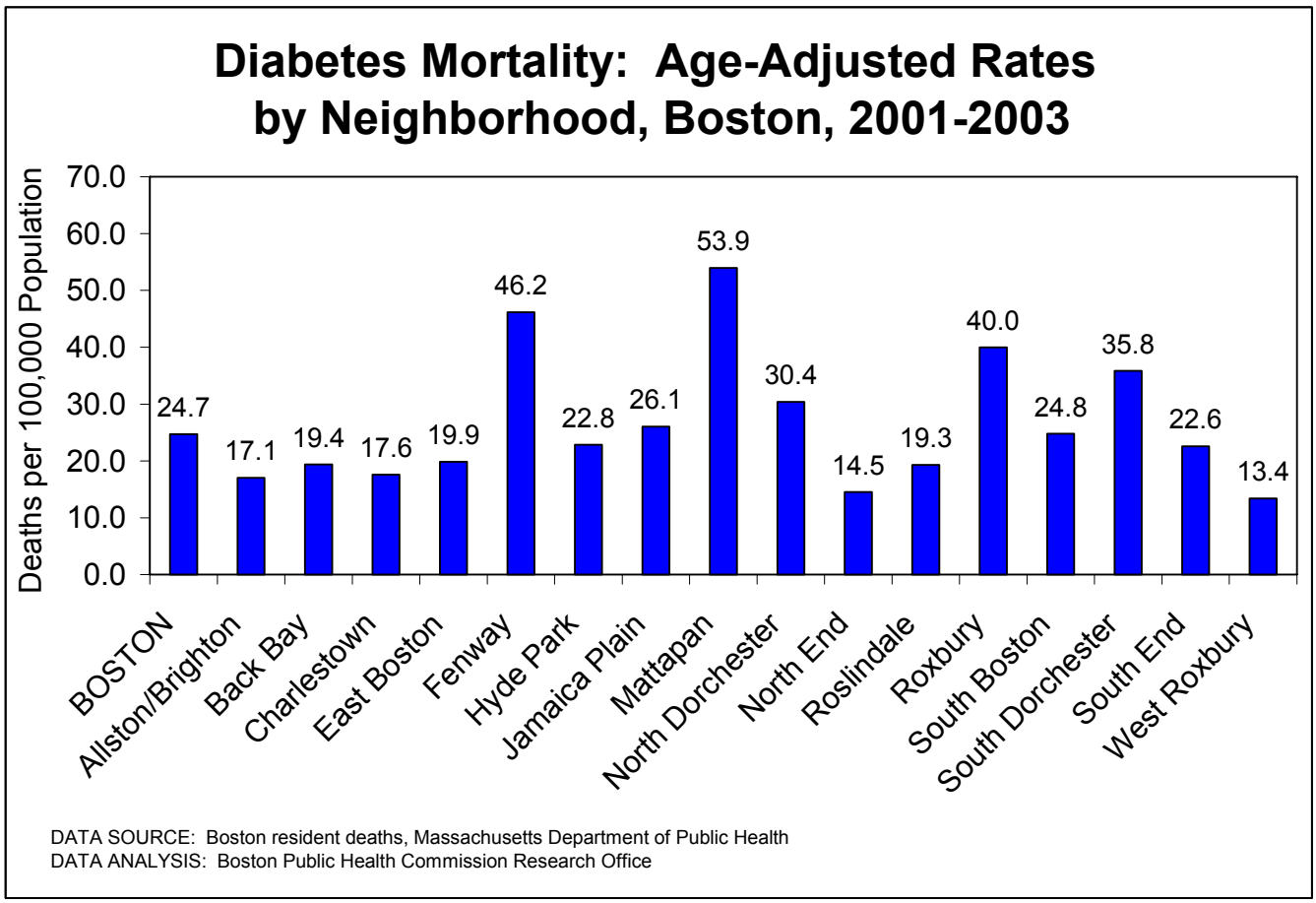
- During 2001-2003, age-adjusted lung cancer mortality rates for Boston neighborhoods ranged from 32.3 deaths per 100,000 population in Fenway to 103.7 deaths per 100,000 population in South Boston.

- Lung cancer mortality rates for 6 of Boston's 16 neighborhoods exceeded the overall Boston rate of 58.6 deaths per 100,000 population. For example, the rate for South Boston (103.7 per 100,000) was 77.0% higher than the Boston rate.

- The lung cancer mortality rate for Fenway (32.3 deaths per 100,000 population) was 44.9% lower than the overall Boston rate.

Diabetes

Diabetes is a chronic disease in which the body does not produce adequate insulin or does not properly use insulin. Insulin is a hormone in the body that is necessary for converting sugar, starches and other food. There are two major types of diabetes: Type 1 and Type 2. Type 1 diabetes occurs when the body does not produce insulin. Type 2 diabetes, the more common of the two types, occurs when the body does not properly use insulin. In 2003, diabetes was the sixth leading cause of death in the U.S.

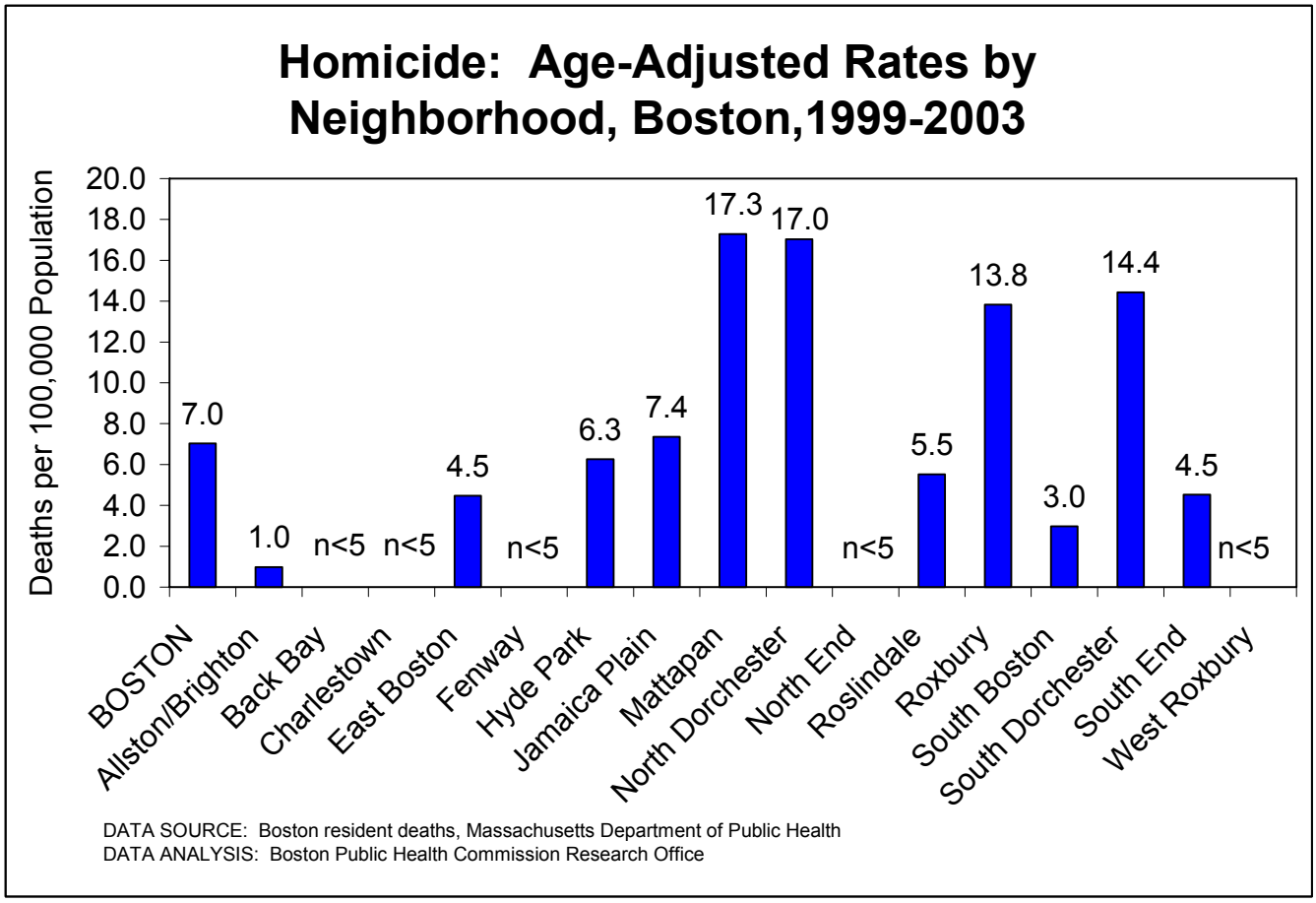


- For this time period, diabetes mortality was highest in Mattapan, where the age-adjusted diabetes mortality rate of 53.9 deaths per 100,000 population was 118.2% higher than the rate for Boston overall.

- The Fenway and Roxbury had the second and third highest diabetes mortality rates, 46.2 deaths and 40.0 deaths per 100,000 population, respectively.

- Diabetes mortality was lowest in West Roxbury, where the age-adjusted diabetes mortality rate of 13.4 deaths per 100,000 population was 45.7% lower than the rate for Boston overall.

Homicide



- During the period 1999-2003, there were 245 homicides of Boston residents, yielding an age-adjusted mortality rate of 7.0 per 100,000 population.
- The highest homicide mortality rates were for Mattapan (17.3 deaths per 100,000), North Dorchester (17.0 deaths per 100,000), South Dorchester (14.4 deaths per 100,000), and Roxbury (13.8 deaths per 100,000). These rates were double or more the overall Boston rate.
- The number of homicides for residents of several Boston neighborhoods was too low to permit rate calculations.

APPENDIX 1

NUMBER OF DEATHS FOR SELECTED CAUSES

Number of deaths for selected causes by race/ethnicity and sex, Boston, 2000-2003

Cause of Death		2000	2001	2002	2003
Heart Disease		1,067	1,112	964	992
	Asian	25	24	18	33
	Black	216	221	205	225
	Latino	20	32	30	35
	White	802	834	709	699
	Male	511	518	456	486
	Female	556	594	508	506
Cancer (all sites combined)		1,109	1,030	1,072	1,036
	Asian	33	35	47	49
	Black	273	254	251	268
	Latino	39	42	40	38
	White	764	698	733	677
	Male	563	504	516	502
	Female	546	526	556	534
Diabetes		98	107	140	120
	Asian	N<5	6	5	7
	Black	31	40	47	50
	Latino	14	5	11	6
	White	51	56	76	57
	Male	36	41	61	53
	Female	62	66	79	67
Stroke		270	251	227	222
	Male	97	100	92	77
	Female	173	151	135	145
All Injuries Combined		226	295	275	279
	Male	161	215	194	199
	Female	65	80	81	80
Chronic Obstruction Pulmonary Disease		172	182	156	203
	Male	65	85	78	97
	Female	107	97	78	106

Cause of Death		2000	2001	2002	2003
Pneumonia/Influenza		163	167	160	151
	Male	72	68	56	59
	Female	91	99	104	92
Nephritis/Nephrosis		125	117	107	117
	Male	66	48	55	56
	Female	59	69	52	61
Septicemia		118	119	112	107
	Male	51	46	44	54
	Female	67	73	68	53
Substance Abuse		108	127	116	145
	Male	82	95	82	108
	Female	26	32	27	37
	Asian	n<5	n<5	n<5	n<5
	Black	23	26	22	32
	Latino	5	12	11	19
	White	83	85	81	94
Alzheimer's Disease		81	94	85	78
	Male	20	22	22	22
	Female	61	72	63	56
HIV/AIDS		59	64	72	52
	Male	42	49	51	38
	Female	17	15	21	14
Total Deaths		4,500	4,575	4,412	4,287
	Asian	128	147	135	165
	Black	1,015	1,103	1,041	1,058
	Latino	172	197	216	205
	White	3,177	3,115	3,005	2,845
	Male	2,110	2,141	2,092	2,056
	Female	2,390	2,434	2,320	2,231

APPENDIX 2

TECHNICAL NOTES

TECHNICAL NOTES

Rates
Statistical Significance
Confidence Intervals
Population
Racial and Ethnic Designations
Age-Adjusted Mortality
Neighborhoods
Data Sources
Glossary

Rates

Four types of rates are presented in this report: crude rates, age-specific rates (ASR), age-adjusted rates (AARs), and incidence rates. A rate is a measure of some event, disease, or condition in relation to a unit of population, per year.

Crude rates are used to present data pertaining to the entire population, such as all of Boston, or to present data pertaining to an entire group within a population, such as all males or females. A crude rate is calculated by dividing the number of events for the entire population by the total population. It is usually calculated on the basis of every 100,000 people or, in the case of birth rates, every 1,000 females.

Age-specific rates take into account the size and age distribution of the population. They enable the reader to compare different groups without being concerned that differences in health status are due to differences in the size of the groups or in the distribution of ages. An ASR is calculated by dividing the number of events among people in an age group by the number of people in that age group. ASRs for deaths and for communicable diseases are usually calculated on the basis of every 100,000 people.

Unless otherwise indicated, the age-specific rates provided in *The Health of Boston* are average annual rates. Average annual rates are calculated by dividing the age-specific rates by the number of years in the time period the data represent.

Age-adjusted rates are used to present data for comparison among several populations, such as Boston neighborhoods, in which distribution of age can differ considerably. The calculation for AARs takes into account the differences in age distribution and adjusts for them.

The AAR is calculated by applying the age-specific rate in a population for a specific event such as death to a standard population (typically, the 2000 US standard population). AARs are used for Boston mortality data for overall Boston, for overall Boston mortality data by sex, by race/ethnicity, by neighborhood, and for hospitalization data.

Incidence rates are used to present data relating to reported new cases of disease during a specified time period and are usually calculated on the basis of every 100,000 people. Incidence rates may or may not be age-specific.

Statistical Significance

An array of statistical tools is available to determine whether findings, typically differences observed between groups or within a group over a period of time, are large enough that they are not likely to have been due to chance. Essentially, statistical significance testing provides an assessment of how reasonable it would be to conclude that an observed difference is real. It is not capable of overcoming other issues such as noncomparable samples or too few cases in a sample, but is a valuable guide to the interpretation of rates, proportions, and similar measures.

Statistical significance is only one measure of significance. There may be findings that have other relevance clinically or for public health programs, regardless of statistical significance. An absence of statistical significance should not be used to imply an absence of other significance. For most purposes, 95% confidence intervals are used to determine the statistical significance of findings.

Confidence Intervals

A confidence interval is a range of values used to describe uncertainty around a data point such as an age-adjusted mortality rate. Confidence intervals are a measure of variability in the data.

A confidence interval is calculated based on a stated probability (usually 95%) that the confidence interval includes the “real” value that would be identified if samples did not vary due to chance. In an example using an age-adjusted mortality rate, a 95% confidence interval would be described as having a 95% probability of including the “real” age-adjusted mortality rate. Generally, if confidence intervals overlap, the rates would be considered not significantly different. If the confidence intervals do not overlap, then the rates would be considered significantly different and the finding would be called statistically significant.

Confidence intervals provide a way of reporting the reliability of, for example, a rate or proportion. They also account for the difference between a sample from a population and the population itself.

C. Population

Health status reports often use population statistics for analyzing health data. These population statistics may be drawn from two sources. The first is the census of the population taken every ten years by the federal government, a literal count of all people living in the United States. The second is estimates of the population made by the US Census Bureau or some other source in the intervening years.

The census provides the best available actual count of the population. It also presents data to the level of small areas called census tracts, each of which has only a few thousand residents. Census tracts can be combined to produce neighborhood-level analyses.

Population projections or estimates are developed by the Census Bureau and other institutions using sophisticated statistical methods. The results are designed to take into account in- and out-migration and other changes occurring in the population between census years. And yet estimates of population changes between census years have some drawbacks. They do not typically account for changes in the racial composition of a community, and they do not generally permit neighborhood-level analyses. Perhaps most importantly, even small errors in the accuracy of projections for neighborhoods or other population subgroups can result in large distortions in the resulting statistical estimates.

To provide data on people of Latino ethnicity, who may be of any race, this report uses the 2000 US census for Boston census tracts, produced by the Bureau of the Census, and MISER and Massachusetts Department of Public Health population estimates, for denominators for rate calculations. This avoids the double-counting which would result if Latinos were included in the White, Black, and Asian racial categories as well as in the Latino categories. However, in hospitalization data, Latinos are reported in the White, Black, Latino, or Asian category, depending on the individual hospital's practices. This produces unreliability in data reporting, and readers must interpret hospitalization data by race/ethnicity with considerable caution.

Population estimates from the Massachusetts Institute for Social and Economic Research (MISER) and the Massachusetts Department of Public Health were used to calculate crude, age-adjusted, and age-specific rates for years between 1990 and 2000 U.S. Census.

Racial and Ethnic Designations

The classification of race/ethnicity depends upon the data source. In this report, all racial and ethnic designations except those used on the death certificate are self-reported. Several cautions should also be kept in mind when using data reported by race/ethnicity.

Race and ethnicity are social constructions, not biological facts. There is typically more genetic variation between members of the same race than between members of different races. In addition, the meanings of these designations are highly subject to historical, cultural, and political forces. Not only do these designations change over time, but there is also a very subjective element that influences who is considered a member of one group or another. And the concept of race can be notably vague: the term "Black," for example, includes people describing themselves as African American, African, or Caribbean, groups with distinct histories and differing health risks.

Nevertheless, racial designations are useful in that they are nearly universally used by people in the United States to describe themselves, and they permit us to identify and address the often huge disparities in health that exist across race/ethnicity groups. Race is often a proxy for such factors as socioeconomic status, inadequate access to health care, and racial discrimination.

Boston-specific data in this report are presented for each racial and ethnic subgroup when numbers are large enough to allow calculation of percentages or reliable rates. Few sources have data in large enough numbers to allow presentation of data about smaller groups such as the many ethnicities included in the category "Asian/Pacific Islander."

Since Latinos can be of any race, the federal sources often report data for Blacks and Whites, including Latinos in those categories. However, in *The Health of Boston*, Latino ethnicity is presented as a separate category. Exceptions to this are the hospitalization and asthma hospitalization data by race/ethnicity, for which race/ethnicity reporting practices vary by hospital. The US Census Bureau does not recommend comparing the population by race in 1990 with the population by race in 2000.

Age-Adjusted Mortality

Age-Adjusted Rates (AARs) are used to present data for comparison among several populations, such as Boston neighborhoods, in which distribution of age can differ considerably. The calculation for AARs takes into account the differences in age distribution and adjusts for them. The AAR is calculated by applying the age-specific rate in a population (for a specific event such as death) to a standard population. The year 2000 standard US population is used in this report.

The International Classification of Disease (ICD) is a coding system developed by the World Health Organization (WHO) and 10 international centers. The ICD system standardizes medical terms used on death certificates and groups them for statistical purposes. The International Classification of Disease, Ninth Revision, Clinical Modification (ICD-9-CM) is used for categorizing and classifying morbidity data from inpatient and outpatient records of hospitals. It should not be confused with the International Classification of Disease used for categorizing and classifying mortality data from death certificates, whose revision from ICD-9 to ICD-10 became effective with 1999 mortality data.

Mortality data are coded using ICD-10. The change from ICD-9 to ICD-10 means that causes of death classified according to the ICD-10 are not precisely comparable to causes of death classified according to ICD-9.

Boston Neighborhoods

Census tracts are so small that there are often not a sufficient number of health-related events—such as deaths—to calculate reliable rates. For *The Health of Boston* and other reports, census tracts are aggregated into Boston neighborhoods for the presentation of the mortality data. Zip codes are combined into neighborhoods for the presentation of hospitalization data by neighborhood.

Some of Boston's neighborhoods are clearly defined. West Roxbury, for example, is bordered by the West Roxbury Parkway, the Stony Brook Reservation, and Dedham. The boundaries of most neighborhoods, however, are less distinct and often the subject of dispute. The neighborhood definitions used here were defined by the Boston Public Health Commission in consultation with local residents, health care providers, and advocates throughout the city.

Data Sources

AIDS Reporting System (ARS). Massachusetts Department of Public Health, Bureau of Communicable Disease Control, HIV/AIDS Surveillance Program.

Acute Care Hospital Case Mix files. Massachusetts Division of Health Care Finance and Policy.

Acute Care Hospital Discharges. Massachusetts Health Data Consortium, Inc.

Behavioral Risk Factor Survey. Behavioral Risk Factor Surveillance System. Boston: Massachusetts Department of Public Health and Boston Public Health Commission.

Boston resident births. Massachusetts Department of Public Health, Center for Health Information, Statistics, Research, and Evaluation, Registry of Vital Records and Statistics.

Boston resident deaths. Massachusetts Department of Public Health, Center for Health Information, Statistics, Research, and Evaluation, Registry of Vital Records and Statistics.

Communicable diseases. Boston Public Health Commission, Communicable Disease Control Division.

Census 2000, US Department of Commerce, Bureau of the Census, American Fact Finder.

Drug arrests. Boston Police Department, Office of Research and Evaluation.

Emergency department visits. Division of Health Care Finance and Policy.

Homeless counts. City of Boston Emergency Shelter Commission.

Lead screening. Boston Public Health Commission, Office of Environmental Health, Boston Childhood Lead Poisoning Prevention Program.

Population estimates. Massachusetts Institute for Social and Economic Research, University of Massachusetts, Amherst.

Sexually transmitted diseases. Massachusetts Department of Public Health, STD Division, and the Boston Public Health Commission Communicable Disease Control Division.

Substance abuse treatment. Massachusetts Department of Public Health, Bureau of Substance Abuse Services.

Youth Risk Behavior Survey. Boston School Department, Unified Student Services.

Weapon-related injuries. Massachusetts Department of Public Health, Weapon-Related Injury Surveillance System.

Glossary

To help the reader compare the data presented for specific health indicators in this report to data from other sources, the definitions provided below include the codes used to classify causes of hospitalization or death. The hospitalization codes are from the Diagnostic Related Grouping (DRG), based on version 18 of the Federal Grouper. The cause-of-death codes are from the International Classification of Diseases, 9th Revision, (ICD-9), and International Classification of Diseases: 10th Revision (ICD-10), products of the US Department of Health and Human Services.

AAR: See Age-Adjusted Mortality Rate.

Acquired Immune Deficiency Syndrome (AIDS): See HIV/AIDS.

Adolescent Births: Births to adolescents 15 to 17 years of age.

African American: All persons self-identified as being born in the US and of African descent. The numbers from the 2000 census used in the Demographics section use a different way of counting races and ethnicity and should not be compared with numbers drawn from earlier censuses.

Age-Adjusted Mortality Rate (AAR): The age-adjusted mortality rate is calculated by applying the age-specific mortality rates in a population to a standard population (typically, and in this report, the 2000 US population). The age-adjusted rate of one area or group can be compared to the age-adjusted rate of another area or group with confidence that differences in the rates of the two areas or groups do not stem from differences in the age structure of their populations. AARs are extensively used in the Healthy People 2010 goals.

Age-Specific Mortality Rate (ASR): The number of deaths per year in a given age group per 100,000 people in that age group.

Age-Specific Birth Rate: The number of live births in a population divided by the total female population for a specific age group and expressed per 1,000 persons.

Alcohol-Related Deaths: Causes of death directly related to alcohol use/abuse, such as liver disease attributed to alcohol consumption, accidental alcohol overdose, etc. This category does not include deaths indirectly due to alcohol use, such as deaths due to injuries occurring while intoxicated or deaths caused by another person who was intoxicated. For pre-1999 data in this report, ICD-9 codes 291, 303, 305.0, 357.5, 425.5, 535.3, 571.0-571.3, 790.3, E860; for data from 1999 and later years ICD-10 codes F10, G31.2, G62.1, I42.6, K29.2, K70, R78.0, X45, X65, Y15.

Amebiasis: Parasitic infection of the intestine, spread through ingestion of fecally contaminated food or water. Transmission may occur sexually by fecal-oral contact. Symptoms are often mild and can include loose stools, stomach pain, and stomach cramping.

Asian: All persons self-identified as Asian or Pacific Islander (e.g., Chinese, Japanese, Hawaiians, Cambodians, Vietnamese, Asian Indians, Filipinos) who do not identify themselves as Latino. The numbers from the 2000 census used in the Demographics section

use a different way of counting races and ethnicity and should not be compared with numbers drawn from earlier censuses.

Asthma and Bronchitis: Asthma is a chronic inflammatory condition defined by sudden periodic attacks of difficulty in breathing accompanied by wheezing caused by a spasm of the bronchial tubes. Bronchitis refers to inflammation of the mucous membrane of the bronchial tubes. DRG 96-98.

Behavioral Risk Factor Surveillance System (BRFSS): A random telephone survey of Massachusetts adults ages 18 years and older. The survey is sponsored by the Centers for Disease Control and Prevention (CDC) and is conducted annually in all 50 states. The BRFSS collects information regarding various health-related issues, such as behavior, attitudes, knowledge, access to health care, and opinions on health policy issues. The responses to the survey provide important information regarding the prevalence of risk factors that are responsible for causing premature death, illness, and disability among Massachusetts residents.

Birth Rate: The number of live births per year, per 1,000 women ages 15-44.

Birthweight: The weight of an infant at the time of delivery. It may be recorded in either grams or pounds/ounces. If recorded in pounds/ounces, it is converted to grams for use in this report based on the following formula: 1 pound = 453.6 grams; 1,000 grams = 2 pounds and 3 ounces.

Black: All persons self-identified as Black (e.g., African Americans, Haitians, West Indians) who do not identify themselves as Latino. The numbers from the 2000 census used in the Demographics section use a different way of counting races and ethnicity and should not be compared with numbers drawn from earlier censuses.

Blood Cholesterol: Cholesterol is a soft, waxy substance found among the lipids (fats) in the blood stream and cells. It is an important steroid because it comprises cell membranes, hormones, and tissues. However, levels of cholesterol in the blood that are too high are a major risk factor for coronary heart disease, which leads to a heart attack.

Blood Lead Levels: The amount of lead detected in the blood during the finger-stick screening or venous-confirmation blood tests. ("Venous" means "in or of the bloodstream or veins.")

Body Mass Index (BMI): Calculated by dividing a person's weight in kilograms by his or her height in meters squared (kg/m^2); a measure of the appropriateness of weight in relation to height. This calculation is used to screen and monitor populations in order to detect risks of health or nutritional disorders.

BMI is used differently with children than with adults and is plotted according to age and sex-specific charts. The 1995 BMI cutpoints for adults are as follows:

Overweight	BMI of 25.0 to 29.9
Obese	BMI of 30.0 or more

The Centers for Disease Control and Prevention states that a BMI of 30 is equivalent to one being approximately 30 pounds overweight.

In 1995 the World Health Organization released new guidelines adopted by Healthy People 2010 for categorizing adult males and females as overweight.

Cancer: A group of diseases characterized by uncontrolled growth and spread of abnormal cells. For pre-1999 data in this report, ICD-9 codes 140-208; for 1999 data and later years, ICD-10 C00-C97.

Breast Cancer (Female): For pre-1999 data in this report, ICD-9 code 174; for data from 1999 and later years, ICD-10 code C50.

Colorectal Cancer: For pre-1999 data in this report, ICD codes 153-154; for data from 1999 and later years, ICD-10 codes C18-C21.

Lung Cancer: For pre-1999 data in this report, ICD-9 code 162; for data from 1999 and later years, ICD-10 codes C33-C34.

Prostate Cancer: For pre-1999 data in this report, ICD-9 code 185; for data from 1999 and later years ICD-10 codes C61.

Cardiovascular Disease (CVD): A group of diseases that affect the heart, including high blood pressure, coronary heart disease, stroke, congestive heart failure, and congenital heart defects. For pre-1999 data in this report, ICD-9 codes 390-398, 402, 404, 410-429, 430-434, 436-438, 440; for data from 1999 and later years, ICD-10 codes I00-I09, I11, I13, I20-I51, I60-I69, I70.

Cellulitis: An infection of skin or connective tissues (an infection in or close to the skin) is usually controlled by body defense mechanisms. DRG 277-279.

Census 2000: The count of the population undertaken by the Census Bureau in 2000. At the time of publication of this report, national, state, and local numbers have been released. The census 2000 should not be confused with the year 2000 standard population, which is a set of population weights used to calculate age-adjusted rates.

Cerebrovascular Disease: A set of diseases of the vascular system (which conveys blood throughout the body) that affect the supply of oxygen to the brain, thereby damaging brain cells. This category includes strokes. For pre-1999 data, ICD-9 codes 430-434, 436-438; for data from 1999 and later years, ICD-10 codes I60-I69. DRG 14 for hospitalization data.

Chlamydia: A sexually transmitted disease caused by any member of the genus Chlamydia.

Chronic Obstructive Pulmonary Disease (COPD): Diseases including bronchitis, asthma, emphysema, and allergies from inhaled organic dust particles that decrease the ability of the lungs to perform their function (oxygenating the blood system). For pre-1999 COPD data in this report, ICD-9 codes 490-494, 496; for 1999 data, ICD-10 codes J40-J47. For hospitalization data, the DRG code is 88.

Colon and Rectum: The two parts of the large intestine. The colon comprises the upper five or six feet of the large intestine, while the rectum comprises the remaining five to six inches. Together, they are the location of colorectal cancers.

Coronary Heart Disease: A disease of the heart caused by narrowing or blockage of the arteries supplying the heart muscle. For pre-1999 data in this report, ICD-9 codes 402, 410-417, 429.2; for data from 1999 and later years, ICD-10 codes I11, I20-I25, I26-I28, I51.6.

Confidence Interval: The range within which lies the true value of a variable, based on a chosen probability. For example, given the probability 95%, one can be ninety-five percent certain that the true value lies between numbers X and Y. The range between X and Y is the confidence interval.

Death Rate: The number of deaths per year per 100,000 population.

Demographics: The statistical study of characteristics of human populations and of population distributions such as age, sex, and race/ethnicity.

Diabetes: A chronic metabolic disease characterized by inadequate insulin production by the pancreas. ICD-9-CM codes 250.0-250.9; for data from 1999 and later years, ICD-10 codes E10-E14.

Diagnostic Related Grouping (DRG) Codes: Codes used to group causes of hospitalization.

Drug-Related Deaths: Causes of death related to the use of drugs other than alcohol and tobacco, including direct physiological causes as well as some accidental deaths in which drug use/abuse is involved. Does not include deaths indirectly due to drug use, such as death due to injuries occurring while under the influence of drugs or deaths caused by another person under the influence of drugs. For pre-1999 data in this report, ICD-9 codes 292, 304, 305.2-305.9, E850-E858, E950.0-E950.5, E962.0, E980.0-E980.5; for data from 1999 and later years, ICD-10 codes 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-X64, X85, Y10-Y14.

E-Codes: "E-codes" refer to the supplementary classification within ICD-9-CM of the external causes of injury and poisoning, such as environmental events, circumstances, and conditions. This is particularly helpful in planning intervention. E-codes are intended to be used as an addition to the main ICD code, which classifies the injury or poisoning by the biological system affected.

Gastroenteritis, Esophagitis, and Miscellaneous Digestive Disorders: Infection of the mucous membranes of the stomach and intestine.

Gonorrhea: A contagious catarrhal inflammation of the genital mucous membrane, transmitted chiefly by sexual intercourse and due to Neisseria gonorrhoeae; may involve the lower or upper genital tract, especially the urethra, endocervix, and Fallopian tubes, or spread to the peritoneum and rarely to the heart, joints, or other structures by way of the bloodstream.

Healthy People 2010 Goals and Objectives: Targets established by the US Public Health Service, in conjunction with the Centers for Disease Control and Prevention and the National Center for Health Statistics, to assist communities with health promotion and disease prevention efforts and to establish health status goals to be met by the year 2010.

Heart Disease: A group of diseases affecting the heart, including valve and conductive disorders as well as hypertensive diseases. For pre-1999 data in this report ICD-9 codes 390-398, 402, 404, 410-429; for data from 1999 and later years, ICD-10 codes I00-I09, I11, I13, I20-I51.

Heart Failure and Shock: Heart failure occurs when the heart is unable to pump blood in an efficient manner. Shock results when the heart cannot pump blood adequately to the tissues and vital organs. DRG 127.

Hepatitis: A contagious viral disease that can be transmitted via sexual contact, contact with blood and other bodily fluids, contaminated food or water, or blood to blood contact. There are many strains of hepatitis, including hepatitis A, hepatitis B, hepatitis non-A non-B, hepatitis B (unknown carrier), hepatitis B (unverified carrier), hepatitis C, hepatitis D, or hepatitis unspecified.

Hepatitis A: Liver disease caused by infection of the hepatitis A virus (HAV). HAV is transmitted person-to-person through the fecal-oral route, most commonly through contaminated food or water. Onset is abrupt, and symptoms include jaundice, fatigue, abdominal pain, nausea, diarrhea, and fever. Infection does not become chronic.

Hepatitis B: Liver disease caused by infection with the hepatitis B virus (HBV). HBV is transmitted person-to-person through contact with blood and other bodily fluids. Symptoms include jaundice, abdominal pain, fatigue, and joint pain. Acute infection resolves over time. Chronic infection occurs in 90% of infants born with HBV, 20-50% of children less than 5 years old, and 1-10% of persons infected as adults.

Hepatitis C: Liver disease caused by infection with the hepatitis C virus (HCV). HCV is transmitted through blood-to-blood contact, most often through injection drug use. 80% of people infected with HCV will not develop any symptoms, which include jaundice, fatigue, dark urine, and abdominal pain. 75-85% of those infected with HCV will develop chronic liver disease.

Hispanic: See Latino.

HIV/AIDS: The Human immunodeficiency virus (HIV) infection, which leads to Acquired Immune Deficiency Syndrome (AIDS) or other HIV infections. For pre-1999 data in this report ICD-9 codes 042-044; for data from 1999 and later years, ICD-10 codes B20-B24.

HIV+ or HIV Infected: Having tested positive for the antibodies to human immunodeficiency virus (HIV), meaning that one is infected with the virus, with or without major related conditions. DRG 700-702, 704-708, 710-714.

Homeless: The federal government defines “homeless” to mean (1) an individual who lacks a fixed, regular, and adequate night-time residence; and (2) an individual who has a primary night-time residency that is (i) a supervised publicly or privately operated shelter designed to provide temporary living accommodations (including welfare hotels, congregate shelters, and transitional housing for the mentally ill); (ii) an institution that provides a temporary residence for individuals intended to be institutionalized; or (iii) a public or private place not designed for, or ordinarily used as, a regular sleeping accommodation for human beings. This term does not include any individual imprisoned or otherwise detained under an Act of Congress or a state law.

Homicide: A death intentionally caused by a person other than the deceased. For pre-1999 data in this report, ICD-9 codes E960-E969; for data from 1999 and later years, ICD-10 codes X85-Y09, Y87.1.

Hospitalization: A patient’s continuous stay of one night or more in the hospital for observation, care, diagnosis, or treatment before being released by the hospital, or before death.

Human Immunodeficiency Virus (HIV): The virus that is responsible for causing AIDS.

ICD-9 Codes: Codes designed for the classification of morbidity and mortality information for statistical purposes and for the indexing of hospital records by disease and operations for data storage and retrieval. International Classification of Disease Codes, 9th Revision, Clinical Modification (ICD-9-CM) is based on the official version of the World Health Organization's 9th Revision, International Classification of Diseases (ICD-9). ICD-9 codes were used to classify mortality data from 1979 to 1998. ICD-9 classification has been replaced by ICD-10 classification for mortality. ICD-9CM codes are still used to classify morbidity data such as hospitalization data.

ICD-10 Codes: Data from 1999 and later years is classified according to the International Classification of Disease Codes, 10th Revision (ICD-10), released by the World Health Organization in 2000 and adopted by the United States National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention. ICD-10 classification replaces ICD-9 classification. For more information on these codes and their use, see http://www.cdc.gov/nchs/icd9.htm#ICD-10-CM.

IMR: See Infant Mortality Rate.

Incidence: The number of reported new cases of a particular disease over a period of time and in relation to the population in which it occurs.

Incident: A term used by Emergency Medical Services (EMS) to refer to an event leading to the dispatch of one or more Boston EMS units.

Infant Mortality Rate (IMR): The number of deaths under one year of age per 1,000 live births.

Injury: Injury deaths include five categories: homicides, suicides, motor vehicle-related injuries, (other) unintentional injuries, and "undetermined" injuries (for which it was not determined on the death certificate whether the injury was intentional). The latter two categories are frequently presented together in this report. The determinations of intent are for purposes of medical record-keeping only. Each chart that includes data on injury deaths specifies exactly which types of injuries are included. For hospitalization-related charts and text in this report, injury is an aggregation of DRGs 280-282, Major Diagnostic Classification (MDC) 21, 22, and 24 which include for, example, surgical procedures performed due to injury, traumatic injury (open wounds, multiple fractures, limb reattachment), poisoning and toxic effects of drugs, and burns.

Latino: Includes people of any race (Asian, Black, White, or Other) self-identified as Hispanic or Latino (such as Puerto Rican, Mexican, Cuban, Spanish, or Dominican).

Lead Screening: The measurement of blood-lead levels in children to identify those who have been exposed to toxic levels of environmental lead.

Low Birthweight (LBW): Birthweight less than 2,500 grams (or 5.5 lbs).

Malignant Tumor: A tumor which has the ability to invade the surrounding tissues and to spread to other tissue and organ sites. Only malignant tumors are classified as cancers.

Mammogram: A radiographic examination of the breast to screen for malignancies.

Median: Median is the middle value in a distribution. The median divides the total frequency into two parts. One half the cases fall below the median and one half fall above the median. This should not be confused with mean, which is the arithmetic average of a set of values.

Metabolic Disorders: A condition that disrupts the biological process of breaking down food into a form useable by the body.

µg/dL: Micrograms per deciliter. A measurement unit for level of lead in a measured quantity of blood: a billionth of a gram in a tenth of a liter.

Moderate Physical Activity: Defined here as physical activity for 30 minutes that does not cause sweating or hard breathing, on five or more of the seven previous days.

Morbidity: Illness, disease, and/or injury. May be presented as a rate in a specific population in a geographical locality within a particular time period.

Mortality: Death, or the relative frequency of death per unit of population in a specific time period; death rate.

N<5: A notation used on charts in *The Health of Boston* to indicate that for this health indicator there were fewer than five occurrences (for example, births, deaths, new case of a disease) and that a rate could not be calculated.

Neighborhood: One of 16 distinct geographical areas in Boston.

Newborns/Neonates: Infants from the time of their birth through the first 27 days of age. DRG 602-640 and “Not Classified” Category.

Pap Smear: A screening test to detect cancerous or precancerous conditions of the cervix.

Pneumonia/Influenza: Bacterial or viral infections of the lungs that primarily affect the aged and persons with compromised immune systems. For pre-1999 data in this report ICD-9 codes 480-487; for 1999 data ICD-10 codes J10-J18.

Pregnancy: The condition of carrying a developing embryo or fetus in the uterus. DRG 370-384.

Psychoses: Acute mental disorders characterized by loss of contact with reality and personality disintegration. DRG 430.

Risk Factor: A characteristic or agent whose presence increases the probability of occurrence of a particular disease, injury, cause of death, or birth outcome.

Sexually Transmitted Disease: Infection spread by transfer of organisms from person to person during sexual contact.

Shock: See Heart Failure and Shock.

Sigmoidoscopy: A screening test for colorectal cancer to examine the rectum and lower colon, parts of the large intestine.

Socioeconomics: The statistical study of the social and economic characteristics of a population, such as education and poverty levels.

Statistical Significance: A certain group of statistical tests determines whether findings accurately describe the population of interest or whether they can be explained by chance. If these tests identify the findings to be outside of the range of chance, they are considered to have achieved statistical significance.

Standard Population: An estimate of the US population in which the age, race, and sex distributions are known, resulting in a set of population weights that can be used to calculate adjusted mortality rates. In this report, the year 2000 US standard population is used to calculate age-adjusted mortality rates.

Stroke: A cerebrovascular accident. Stroke occurs when a blood vessel in the brain bursts or when the blood supply to part of the brain is blocked, depriving the brain of oxygen. For pre-1999 data in this report, ICD-9 codes 430-434, 436-438; for 1999 data, ICD-10 codes I60-I69.

Substance Use and Abuse: Use or overuse of ingested substances both legal (such as alcohol) and illegal (such as cocaine). For pre-1999 alcohol related data in this report, ICD-9 codes 291, 303, 305.0, 357.5, 425.5, 535.3, 571.0-571.3, 790.3, E860; for 1999 data, ICD-10 codes F10, G31.2, G62.1, I42.6, K29.2, K70, R78.0, X45, X65, Y15. For pre-1999 drug-related data in this report, ICD-9 codes 292, 304, 305.2-305.9, E850-E858, E950.0-E950.5, E962.0, E980.0-E980.5; for 1999 data, ICD-10 codes 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-X64, X85, Y10-Y14. Hospitalization substance abuse data include alcohol and/or drug abuse, dependence, and detoxification and rehabilitation therapy (MDC code 20).

Suicide: The intentional and voluntary taking of one's own life. ICD-9-CM codes E950.0-E959.9. For data from 1999 and later years, ICD-10 codes X60-X84, Y87.0.

Syphilis: An acute and chronic infectious disease caused by Treponema pallidum and transmitted by direct contact, usually through sexual intercourse. After an incubation period of 12 to 30 days, the first symptom is a chancre, followed by slight fever and other constitutional symptoms.

Tuberculosis (TB): A bacterial infection which primarily affects the lungs. TB is transmitted through airborne droplets through sneezing or coughing or spitting. People who are infected with latent TB are asymptomatic and cannot transmit the bacteria to others. People with TB disease experience symptoms including chronic cough, pain in the chest, coughing up blood or sputum, fatigue, weight loss, and fever.

Unintentional Injury: An accidental injury. ICD-9-CM codes E800.0-E809.9, E830.0-E949.9, E980.0-E989.9. The ICD-9-CM codes used by the Healthy People 2010 are slightly different: E800.0-E949.9. For the data from 1999 and later years, ICD-10 codes V01.0, V01.1, V01.9, V05.0, V05.1, V05.9, V06.0, V06.1, V06.9, V09.1, V09.3, V09.9, V10.0, V10.1-V10.5, V10.9, V11.0-V11.5, V11.9, V15.0-V15.5, V15.9, V16.0-V16.5, V16.9, V17.0-V17.5, V17.9, V18.0-V18.5, V18.9, V19.3, V19.8, V19.9, V80.0-V80.2, V80.7-V80.9, V81.2-V81.9, V82.2-V82.9, V87.9, V88.9, V89.1, V89.3, V89.9, V90-V95, V96.0-V96.2, V96.8-V96.9, V97.0-V97.3, V97.8-V97.9, V98-V99, W00-X59, Y85.0, Y85.9, Y86.

Uterine Procedures: For hospitalization-related charts and text in this report, uterine procedures are an aggregation of DRGs 354-359, codes for surgical procedures involving the uterus, ovaries, and/or fallopian tubes.

Weighted Percentage: A value determined by assigning weights to individual measurements. Each value is assigned a nonnegative coefficient (weight).

White: All persons self-identified as White who do not also identify themselves as Latino.

Youth Risk Behavior Surveillance System (YRBSS): A surveillance system developed by the Centers for Disease Control and Prevention (CDC) to monitor the prevalence of youth behaviors that influence health. The survey consists of representative samples of ninth- through twelfth-graders in the United States.

HEALTHY PEOPLE 2010 GOALS AND OBJECTIVES

Healthy People 2010

Category and Objective:	Target
♦ **Infant Mortality Rates**	
Reduce deaths in infants <1 year old	4.5 per 1,000 live births
♦ **Low Birthweight**	
Reduce low birthweight rate	5.0 % of births
♦ **Teen Birth Rates**	
Reduce adolescent births	46 births per 1,000
♦ **Childhood Lead Poisoning**	0
♦ **Childhood Asthma**	
Reduce hospitalizations for children <5	25 per 10,000
♦ **STD**	
Reduce by Type:	
Chlamydia	
Males ages 15-24 attending STD clinics	3.0%
Females ages 15-24 attending STD/family planning clinics	3.0%
Gonorrhea	19 new cases per 100,000
Primary and secondary syphilis	0.2 new cases per 100,000
♦ **AIDS**	
Reduce AIDS among adolescents and adults	1.0 new cases per 100,000
♦ **Cancer**	
Reduce overall cancer death rate	158.7 deaths per 100,000
Reduce the lung cancer death rate	44.8 deaths per 100,000
Reduce breast cancer death rates	22.2 deaths per 100,000 females
Reduce cancer uterine cervix cancer death rates	2.0 deaths per 100,000 females
Reduce colorectal cancer death rates	13.9 deaths per 100,000
Reduce oropharyngeal cancer death rates	2.6 deaths per 100,000
Reduce prostate cancer death rates	28.7 deaths per 100,000 males
Reduce melanoma cancer death rates	2.5 deaths per 100,000
Screening	
Increase percentage of females who receive a Pap test:	
Females 18 and over who have ever received one	97%
Females 18 and over who received one in preceding 3 years	90 %
Increase percentage of females ages 40 and over who received a mammogram within past 2 years	70 %
Increase percentage of adults with colorectal cancer screening examination:	
Adults over age 50 who have ever received a sigmoidoscopy	50 %
Adults over age 50 who received a fecal occult blood test within past 2 years	50%

Category and Objective:	Target
• **Coronary Heart Disease (CHD)**	
Reduce CHD mortality rate	166 deaths per 100,000
Risk Factors:	
Reduce proportion of adults with high blood pressure	16 %
Reduce percentage of adults with high blood cholesterol	21%
Reduce proportion of adults who are obese	15%
♦ **Stroke**	
Reduce stroke mortality rate	48 deaths per 100,000
♦ **Diabetes**	
Reduce diabetes mortality rate	45 deaths per 100,000
Reduce rate of lower extremity amputations among diabetics	5 deaths per 1,000 per year
♦ **Substance Abuse**	
Reduce drug mortality rate	1 death per 100,000
Reduce cirrhosis mortality rate	3 deaths per 100,000
Reduce cigarette smoking by adults	12 %
Reduce tobacco use by adolescents	21 %
Reduce binge drinking among adults ages 18 and over	6%
Reduce binge drinking among adolescents ages 12-17	3%
♦ **Violence**	
Reduce homicide mortality rate	3.2 homicides per 100,000
Reduce suicide mortality rate	6.0 deaths per 100,000
Reduce rate of suicide attempts by adolescents	12 month average of 1%
♦ **Nutrition**	
Increase the proportion of persons age 2 and older:	
Who consume at least two daily servings of fruit	75%
Who consume at least three daily servings of vegetables (at least 1/3 being dark green or deep yellow)	50%
Who consume at least 6 daily servings of grain products	50%
♦ **Physical Activity**	
Reduce the percentage of adults who engage in no leisure time physical activity	20%
Increase the percentage of adults who engage in regular, moderate physical activity daily for at least 30 minutes	30%
Increase the percentage of adolescents who engage in moderate physical activity for at least 30 minutes on 5 or more of previous days	30%