

# HEALTHY BROOKLINE VOLUME IX

Elder Health Indicators & Risk Factors



Brookline Department of Public Health

2005

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## Acknowledgements

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# **Executive Summary**

## **Introduction**

The Healthy Brookline Report is published annually by the Brookline Department of Public Health. Each volume researches and profiles the health status and indicators for a specific section of the population or examines a particular set of health indicators in Brookline, Massachusetts. Previous volumes have included *Profile of the Community's Health (Volume III)*, *Communicable Disease Indicators (Volume VII)* and *Youth Risk Behavior Survey (Volume VIII)*. This edition looks specifically at the health status indicators and risk factors for the elderly, including health care, behavioral health, and care giving. It is important to note that while most indicators are for elders 65 and older, some indicators are for elders 60 and older, some are for elders 85 and older, and some start with adults 50 and older.

## **Methodology**

Data for this report were gathered from the 2000 US Census website and MassCHIP, the Massachusetts Community Health Information Profile, a database created and managed by the Massachusetts Department of Public Health. Other sources include the Springwell West Suburban Area Agency on Aging, previous editions of Healthy Brookline (1999), The Brookline Council on Aging and The Brookline Center. Demographic projection data are from The Massachusetts Institute for Social and Economic Research, affiliated with the University of Massachusetts at Amherst.

## **Summary Findings**

### **Demographics**

- There are 9053 persons age 60 and older living in the town of Brookline.
- 60% of older adults (65+) in Brookline are women.

- By 2010, it is projected that the “oldest old” (85+) and “young old” (60-69) will increase significantly in Brookline, while the population of persons ages 70-84 will decrease.
- Brookline’s older adults predominantly identify themselves as white (90%) followed by Asian (7%).
- Brookline and Massachusetts have similar percentages of older adults who are married and widowed, while Brookline has a slightly higher percentage of older adults who are divorced or never married.
- The percentage of older adults with a graduate or professional degree in Brookline (30%) is far higher than the state average of 9%.
- Brookline has a higher percentage of older adults not in the labor force (82%) than the Commonwealth of Massachusetts (61%); and of those in the work force, a larger percentage of adults in Brookline (33%) are employed, compared with 23% of elders in Massachusetts.
- Rates of older adults living above, below or at the poverty level (\$18,850 per year for a family of four ) are similar for Brookline and Massachusetts.

### Health Status and Health Care

- Mortality rates for older adults are similar for residents of Brookline and the Commonwealth of Massachusetts.
- Cardiovascular diseases, followed by cancer and respiratory diseases are the leading causes of death for Brookline and Massachusetts elders.
- The percentage of elders over 65 with a disability is higher for Brookline (34%) than for the Commonwealth of Massachusetts (28%).
- Cerebrovascular disease (stroke) has the highest rates of hospitalization for Brookline elders 85 and elders 65 and older and 85 and older in Massachusetts.



- Elders 65 and older in Brookline have a lower incidence of hospitalization due to chronic obstructive pulmonary disease when compared to elders in all of Massachusetts.
- Rates of hospitalization for cancer have remained similar for Brookline and Massachusetts from 1999 to 2002.
- Rates of hospitalization and death due to diabetes mellitus are lower for Brookline residents than for Massachusetts residents.

### Behavioral Health

- From 1999-2002, hospitalization rates in short term, acute care facilities, due to behavioral disorders have been higher for elders 65 and older in Brookline than for elders in Massachusetts.
- Rates of hospitalization for elders 85 and older are generally higher than those for elders 65 and older in Brookline and Massachusetts, likely due to Alzheimer's Disease and dementia.
- Brookline elders have sought behavioral health services for a variety of diagnoses, including depressive disorders, anxiety disorders, dementia and hoarding.

### Care Giving

- Almost 40% of Brookline elders 65 and older who live in the same household with a grandchild are responsible for that child, compared with approximately 30% of elders in Massachusetts.
- Most of the children receiving care from a grandparent 65 and older are five (5) years or older.
- Many elders have reported that they provide care for another elder and that they need assistance in providing this care.

### Long Term Care

- In the beginning of 2005, 317 Brookline elders received subsidized care from Springwell, the West Suburban Area Agency on Aging.
- In Massachusetts approximately 5% of the over-65 population resides in nursing homes.

### Home and Community Safety

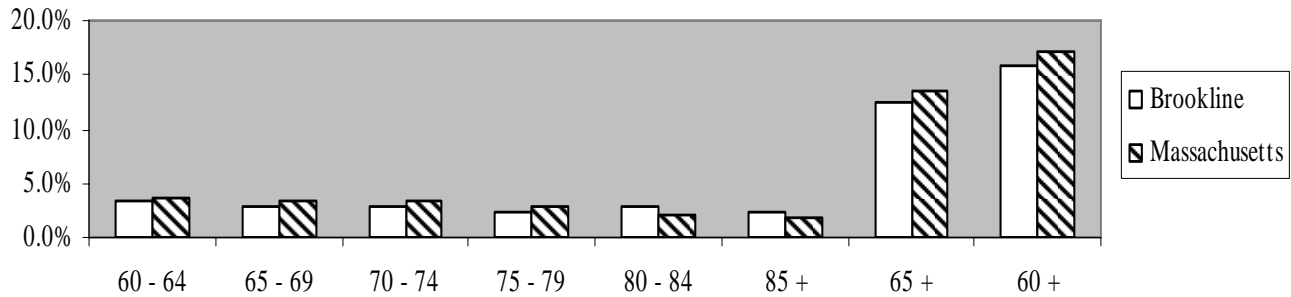
- From 1999-2002, Brookline elders 65 and older had higher death rates due to falls (42.21 per 100,000) than due to fire (0) or motor vehicle accidents (28.14 per 100,000).
- Rates of alcohol and substance abuse related hospitalizations remained stable for Brookline and Massachusetts' elders from 2000 through 2002, except for a spike for Brookline residents 65 and older in 2001.

### Summary

Brookline elders show a similar pattern of health status and health risks as other elders in the Commonwealth of Massachusetts, with a few notable exceptions. Brookline elders have a higher overall level of education but also higher rates of disability. While mortality rates are similar, Brookline elders have higher rates of hospitalization due to cardiovascular disease than elders in Massachusetts. It is also important to note the projected increase in the young old (60-69) as the baby boom generation ages and the increase in the oldest old (80+), as current elders get older. This will likely lead to an increase in need for care giving services, at the time when many elders already report providing care for another elder and needing assistance in doing so.

# Socio-Demographics

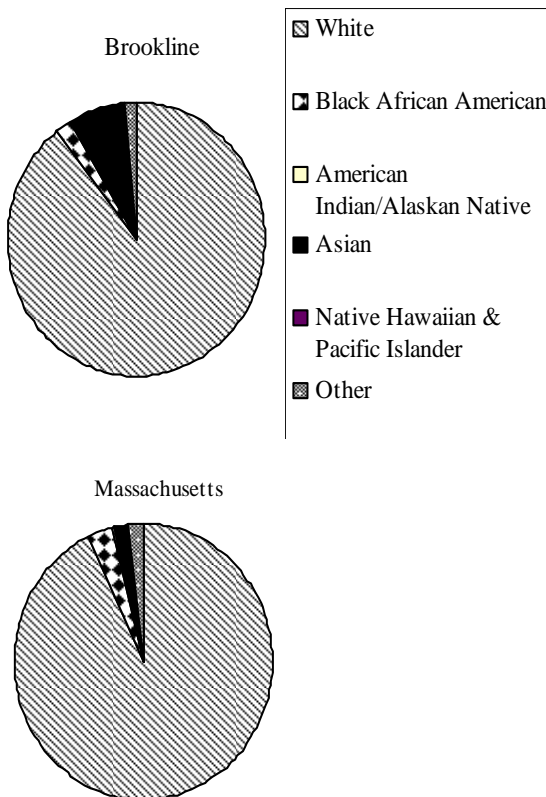
**Chart 1: Age Distribution of Elders 60 and Older**



Source: 2000 US Census

- Older adults (60+) compose a greater percentage of the population for the Commonwealth of Massachusetts than in Brookline.
- Brookline has a larger percentage of the “oldest old” (80+) years old than does the Commonwealth of Massachusetts, 5% and 4% respectively.

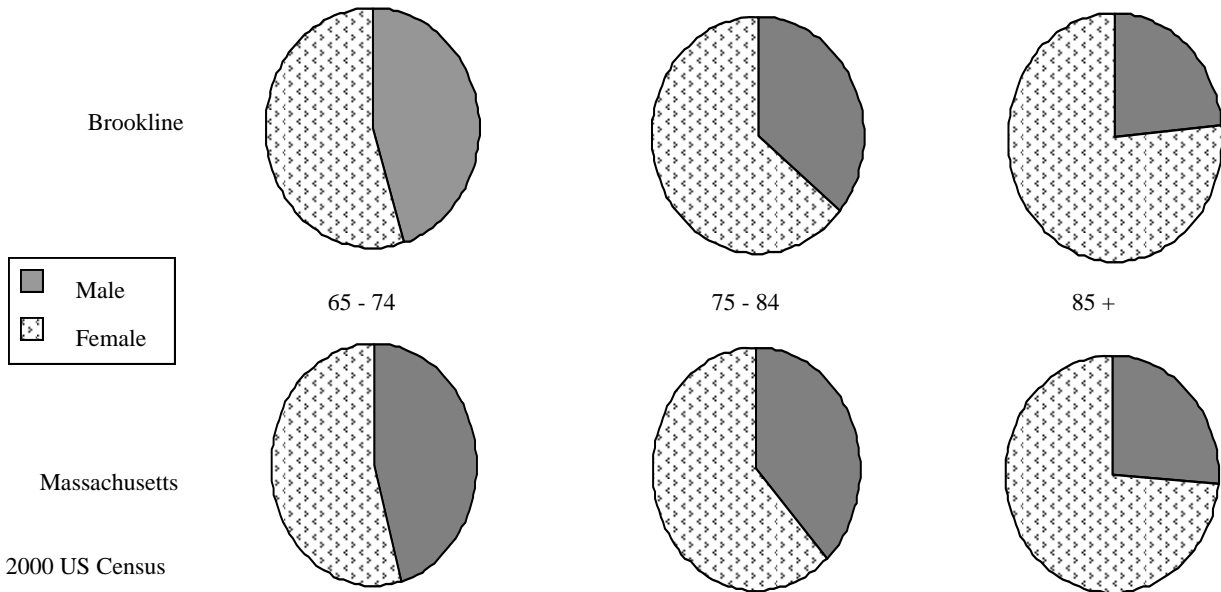
**Chart 2: Race of Elders 60 and Older**



Source: 2000 US Census

- Both Brookline and the Commonwealth of Massachusetts have predominantly white populations (89% in Brookline and 93% in Massachusetts).
- In Brookline, the second largest racial group is Asian (7%) followed by Black African American (2%).
- Massachusetts is 3% Black African American and 2% Asian.
- Native Hawaiian & Pacific Islander and American Indian/Alaskan Native are less than 1% in both Brookline and Massachusetts.
- In Brookline, 1% of the population and in Massachusetts 2% identified themselves as “other” races.

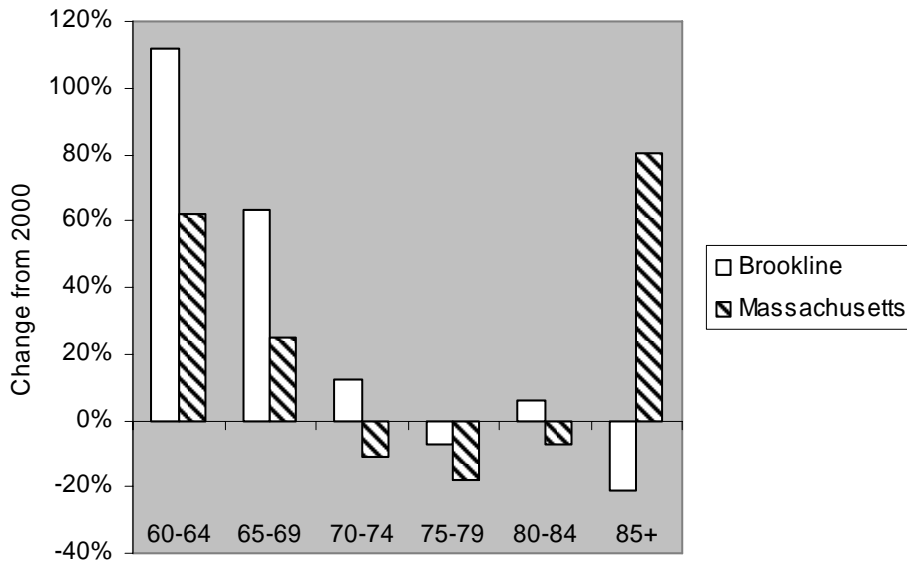
**Chart 3: Gender Distribution of Elders 60 and Older**



Source: 2000 US Census

- The ratio of women to men is similar for the town of Brookline and for Massachusetts across the different age groups.
- As the age of the group increases, the percentage of women also increases.

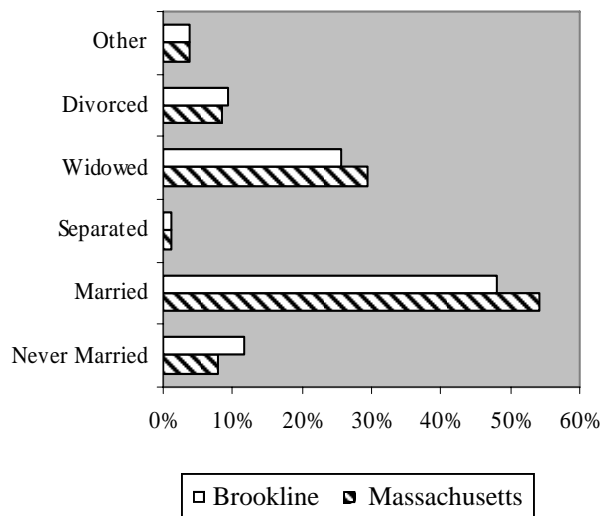
**Chart 4: Projected Changes in Age Distribution by 2010**



Source: MISER

- Both Brookline and Massachusetts are projected to have an increase in the number of “young old” (60-69) and “oldest old” (85 and older) by 2010.
- Brookline is projected to have a decrease in elders ages 75-79, and Massachusetts a decrease in adults ages 70-84 by 2010.

### Chart 5: Marital Status of Elders 60 and Older



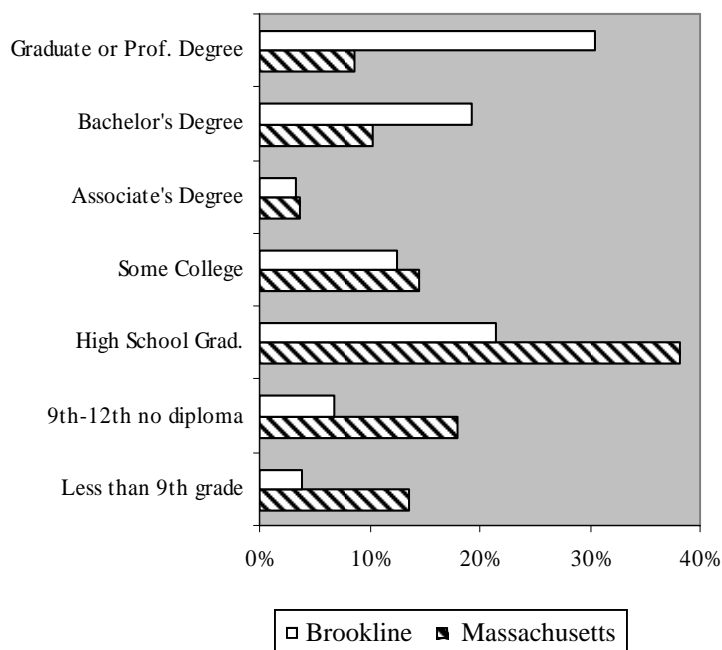
- Approximately half of the elders 60 and older in Brookline and in Massachusetts are married (48% and 54% respectively).

- More than a quarter of elders 60 and older report that they are widowed; Brookline (26%) and Massachusetts (29%) .

Source: 2000 US Census

- Brookline elders report similar trends in marital status as in Massachusetts, with slightly higher rates of divorce and never having been married.

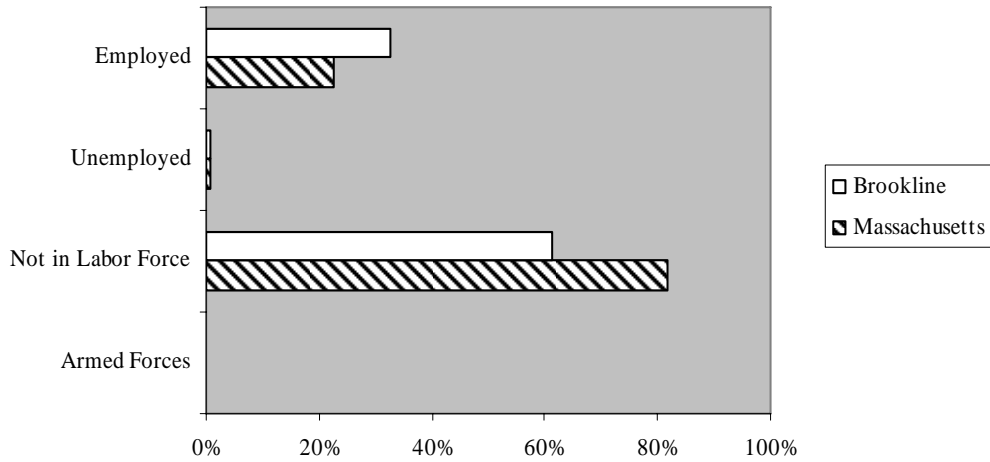
### Chart 6: Educational Achievement of Elders 65 and Older



- Brookline reports a higher percentage of elders 65 and older who have received a Bachelor’s degree and far surpasses Massachusetts for percentage of adults with a graduate or professional degree (30% and 9% respectively).

Source: 2000 US Census

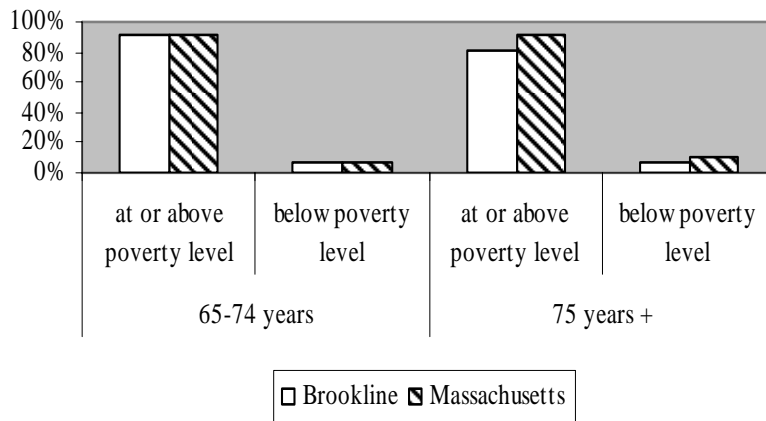
### Chart 7: Employment Status of Elders 60 and Older



Source: 2000 US Census

- The majority of elders 60 and older in Brookline and Massachusetts are not in the labor force, which includes those who are “retired, homemakers, students, institutionalized, or do only unpaid family related work”. (as defined by MassCHIP)

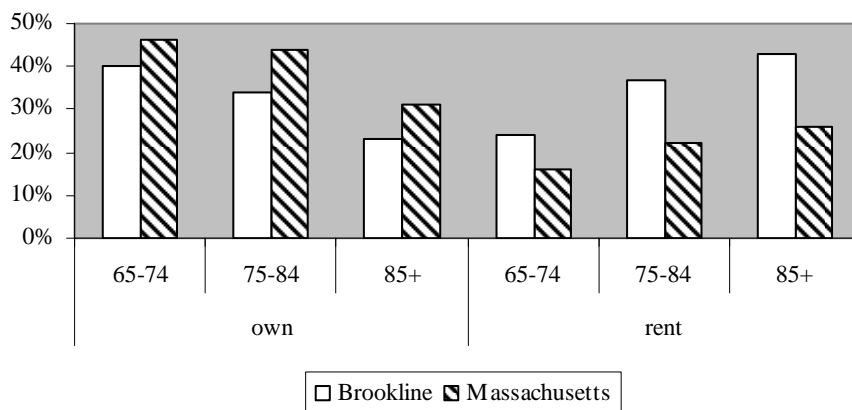
### Chart 8: The Poverty Level



Source: 2000 US Census

- A minority of adults both 65-74 years and 75 years and older are living below the poverty line (\$18,850 per year for a family of four) in Brookline and in Massachusetts.
- Brookline has a lower percentage (14%) of elders 65 and older living below the poverty line than does Massachusetts (18%).

### Chart 9: Housing for Elders 65 and Older



Source: 2000 US Census

- In Brookline and Massachusetts, more elders 65 and older own their home than rent (52% and 69% respectively).
- A larger percentage of all elders in Brookline live in rental properties than in the Commonwealth of Massachusetts.

### Chart 10: Living Situation for Elders 60 and Older

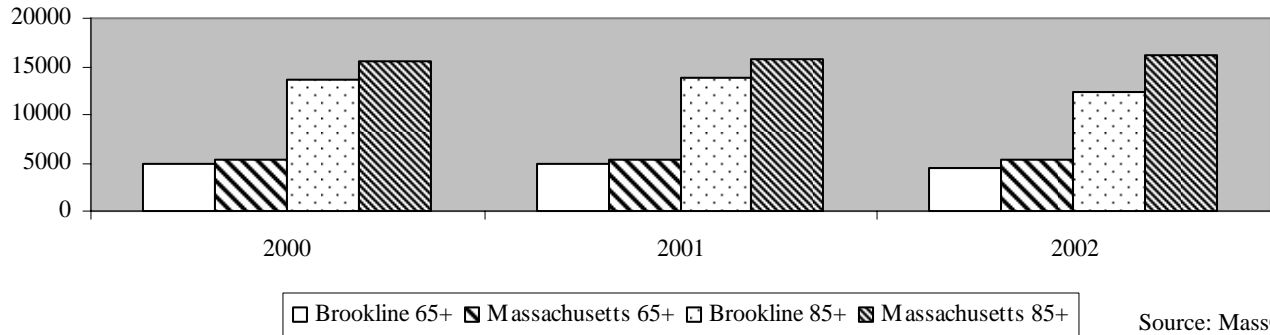


Source: 2000 US Census

- There are noticeable differences in the living situation of elders 60 and older, depending on whether one rents or owns a home.
- In Brookline, far more elders who rent live alone (23%) or with non-family members (24%). A higher percentage of those who own their home live with family (20%).
- In Massachusetts, those who rent seem equally likely to live alone or with non-family members (15%), while a higher percentage of those who own their home live with family members (27%).

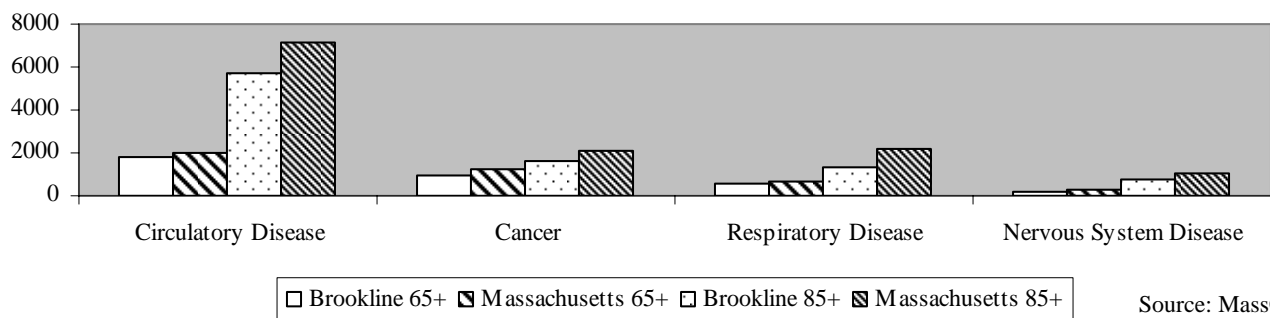
## Health Status and Health Care

**Chart 11: Mortality Rates (Age-specific per 100,000)**



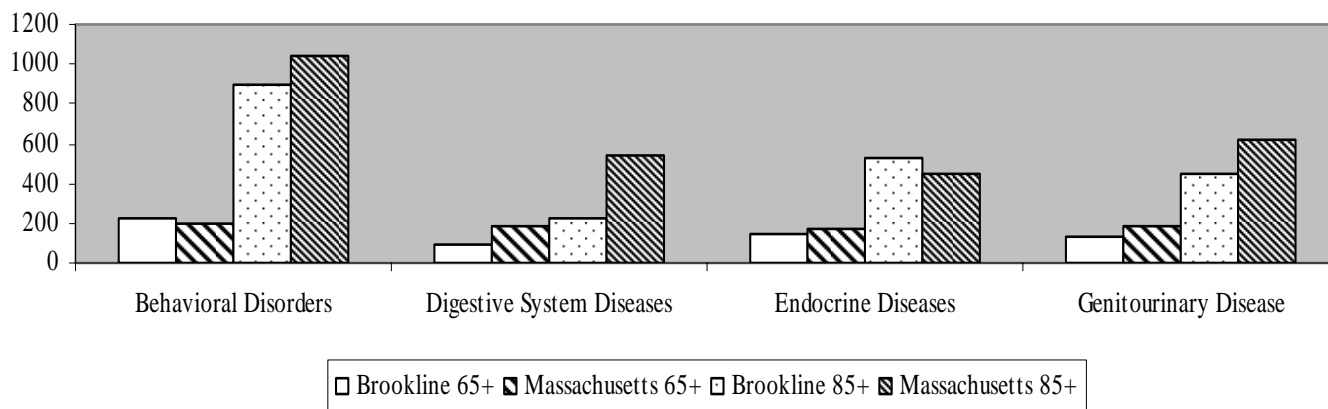
- Mortality rates for elders 65 and older and 85 and older are similar across 2000, 2001 and 2002.
- Mortality rates for elders 65 and older are similar for Brookline and for Massachusetts.
- Mortality rates for adults 85 and older are slightly lower for Brookline than for Massachusetts.

**Chart 12: Cause-Specific Mortality Rates for 2002 (Age-specific per 100,000)**

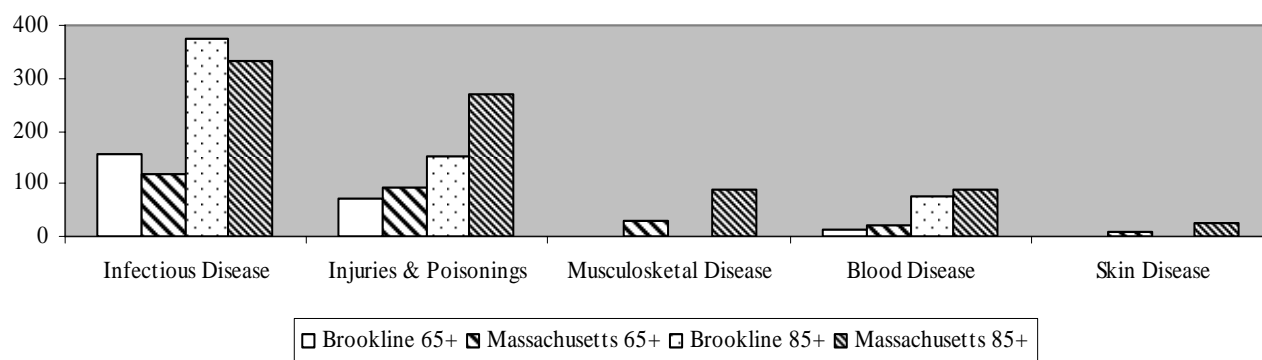


- Mortality rates for circulatory disease were the highest of all causes for both Brookline and Massachusetts elders 65 and older and 85 and older.
- Cancer and respiratory disease were the next leading causes of mortality for elders 65 and older in Brookline and in Massachusetts.



**Chart 12 (continued): Cause-Specific Mortality Rates for 2002 (Age-specific per 100,000)**

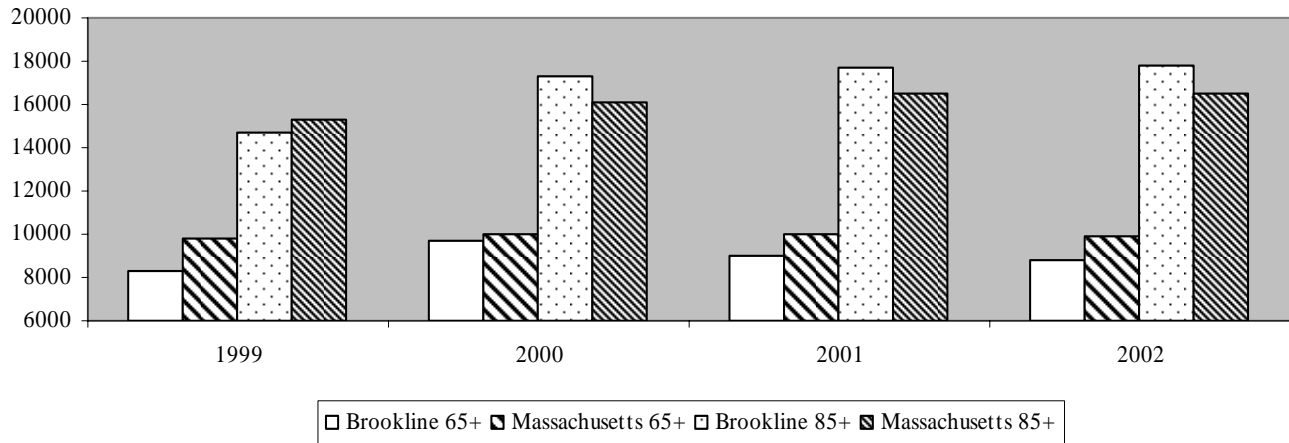
- Mortality rates for behavioral disorders (including dementia, schizophrenia, neuroses, personality and behavioral disorders, and mental retardation) are higher for elders 85 and older than for elders 65 and older.
- Digestive system disease-related mortality rates are much lower for elders 85 and older in Brookline than in the Commonwealth of Massachusetts.

**Chart 12 (continued): Cause-Specific Mortality Rates for 2002 (Age-specific per 100,000)**

- Infectious disease related mortality rates are notably higher for elders 85 and older than for elders 65 and older.
- In 2002 there were no reported cases of musculoskeletal disease or skin disease (not including skin cancer) related deaths for Brookline elders 65 and older and 85 and older.

## Chronic Disease

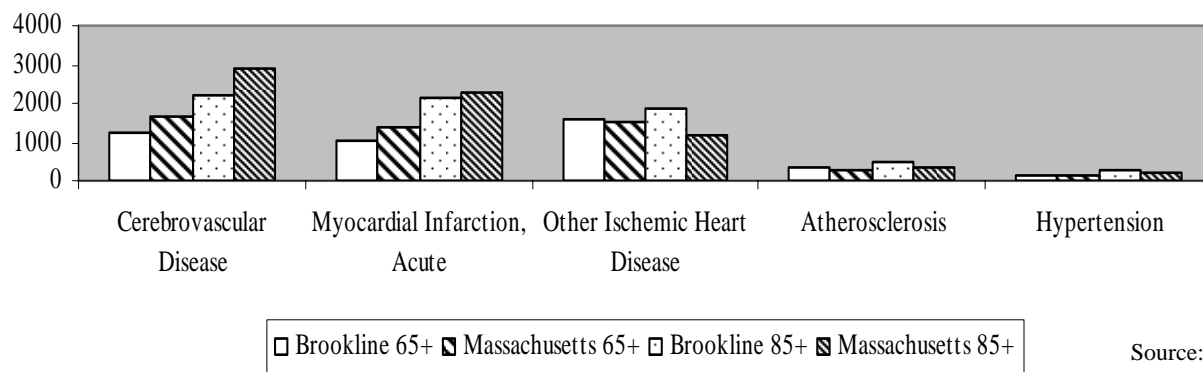
**Chart 13: Hospitalization Rates Due to Cardiovascular Disease  
(Age-specific per 100,000)**



Source: MassCHIP

- From 1999 to 2002, hospitalization rates for all types of cardiovascular disease have increased in Brookline and Massachusetts for elders 85 years and older.
- Hospitalization rates due to cardiovascular disease for elders 65 and older have held relatively constant in Massachusetts during this time period.
- Hospitalization rates due to cardiovascular disease for elders 65 and older in Brookline have decreased since 2000.
- In Brookline and Massachusetts, elders 85 and older have higher rates of hospitalization due to cardiovascular disease than do elders 65 and older.

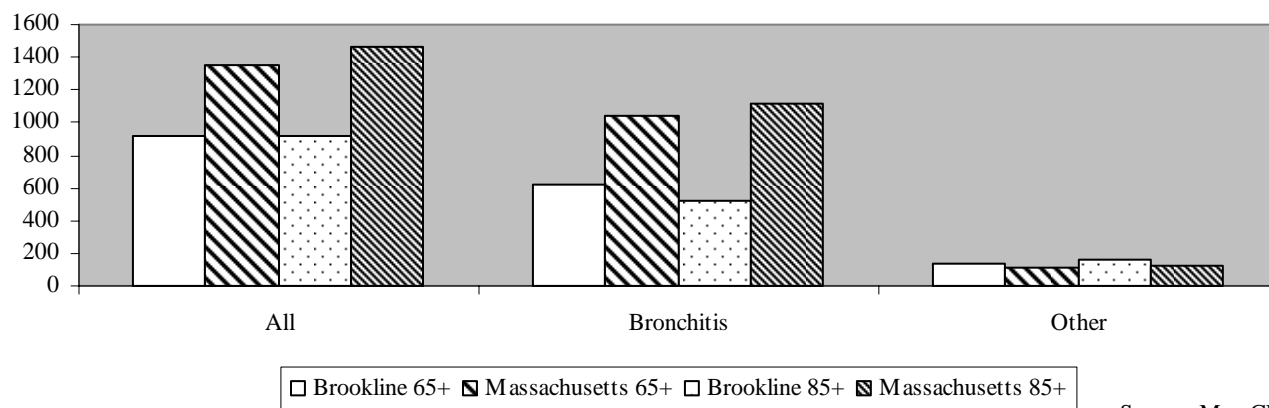
**Chart 14: Hospitalization Rates by Type of Cardiovascular Disease 1999-2002 (Age-specific per 100,000)**



Source: MassCHIP

- Cerebrovascular disease (stroke) has the highest rates of hospitalization for Brookline elders 85 and elders 65 and older and 85 and older in Massachusetts.
- For Brookline elders 65 and older, ischemic heart disease (not including stroke or heart attack) is the leading cause of heart disease-related hospitalizations.

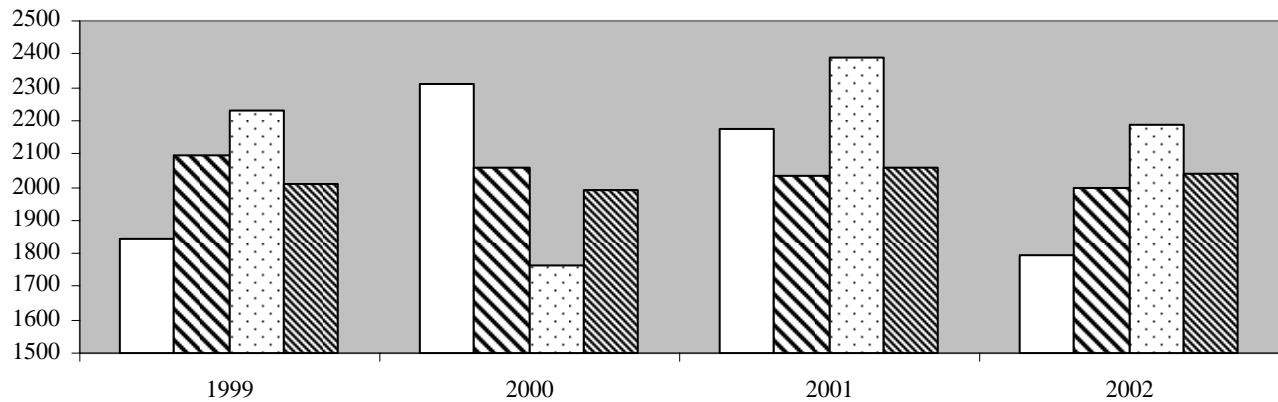
**Chart 15: Chronic Obstructive Pulmonary Disease (COPD) Hospitalization Rates 1999-2002 (Age-specific per 100,000)**



Source: MassCHIP

- Brookline elders 65 and older show lower hospitalization rates due to chronic obstructive pulmonary disease than those of the same age group in the Commonwealth of Massachusetts.

**Chart 16: Cancer Hospitalization Rates (Age-specific per 100,000)**

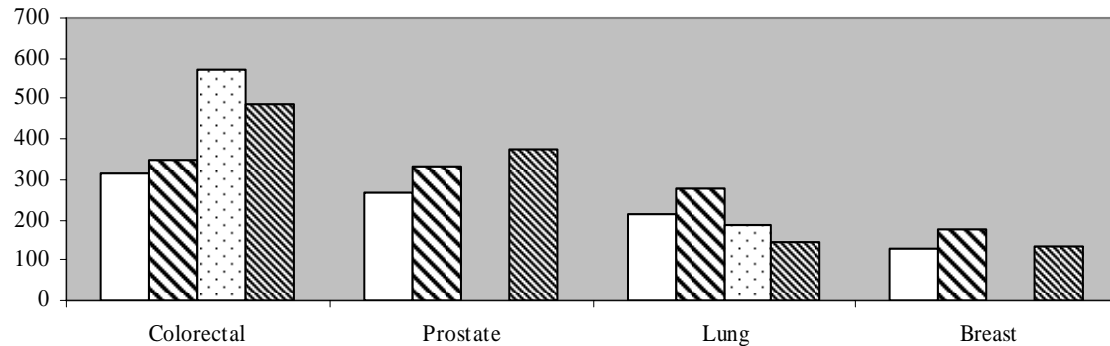


Source: MassCHIP

□ Brookline 65+   ■ Massachusetts 65+   □ Brookline 85+   ■ Massachusetts 85+

- Rates of hospitalizations for all types of cancer have remained fairly steady for Massachusetts, but have been more variable for Brookline.

**Chart 17: Hospitalization Rates by Type of Cancer for 1999-2002 (Age-specific per 100,000)**

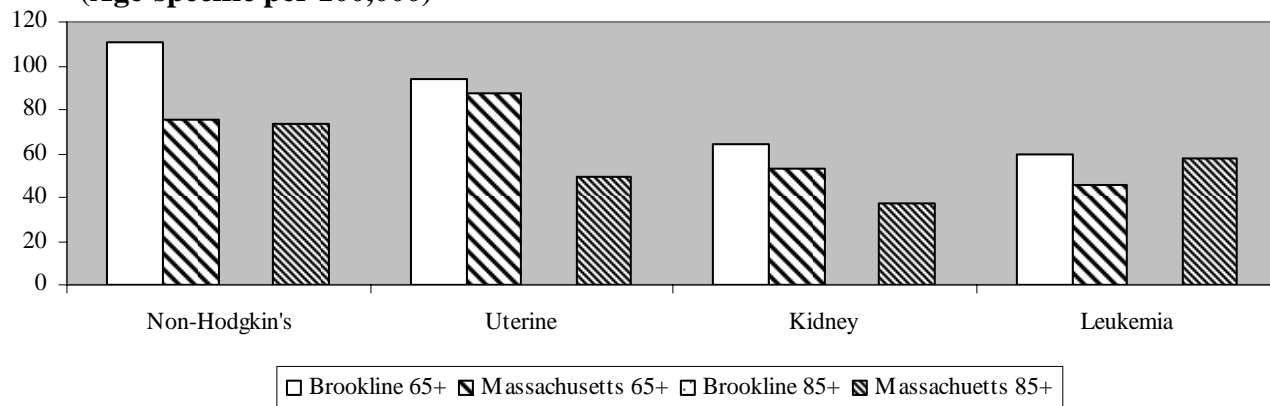


□ Brookline 65+   ■ Massachusetts 65+   □ Brookline 85+   ■ Massachusetts 85+

Source: MassCHIP

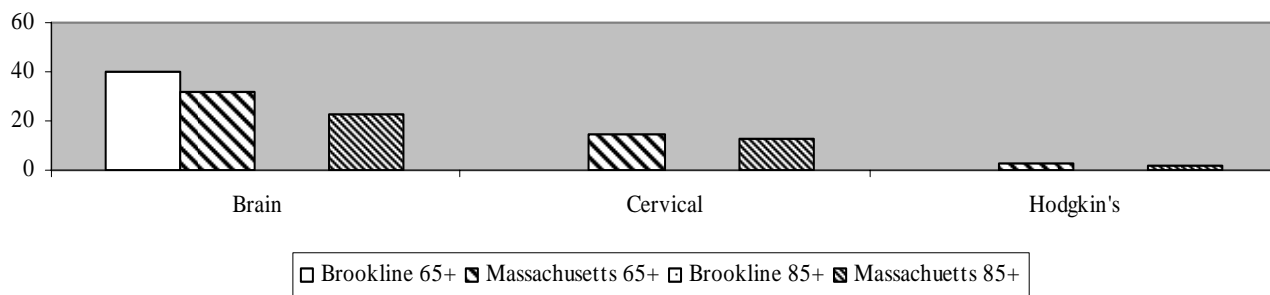
- Colorectal cancer has the highest rates of hospitalization for elders 65 and older in Brookline.
- Prostate cancer has marginally higher rates for elders 65 and older in Massachusetts.
- Women 65 and older in Brookline and Massachusetts had similar rates of breast cancer hospitalization though there were no reported hospitalizations for women 85 and older in Brookline.

**Chart 17 (continued): Hospitalization Rates by Type of Cancer for 1999-2002**  
(Age-specific per 100,000)



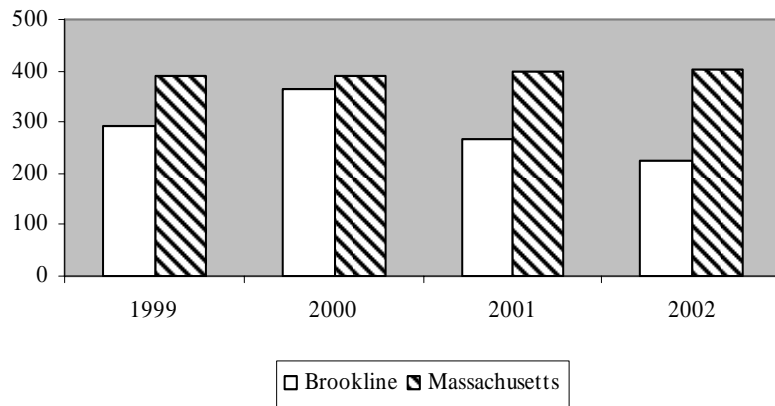
- Rates of hospitalization due to leukemia, uterine or kidney cancer were similar for elders 65 and older in Brookline and in Massachusetts.
- Rates of hospitalization for brain cancer were higher for elders 65 and older in Brookline than in Massachusetts as a whole.
- There were no reported hospitalizations for Hodgkin’s Lymphoma among elders 65 and older in Brookline from 1999-2002.

**Chart 17 (continued): Hospitalization Rates by Type of Cancer for 1999-2002**  
(Age-specific per 100,000)



- Data on the rates of hospitalization due to leukemia, brain, breast, prostate, and kidney cancers were too small to be used for stable generalizations at this level.

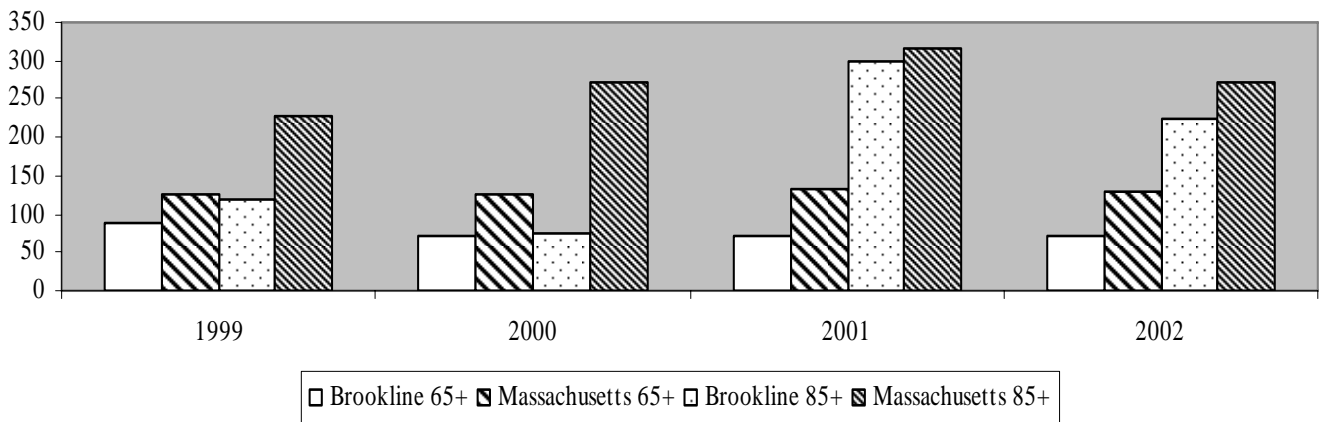
**Chart 18: Diabetes-Related Deaths (Age-specific per 100,000)**



Source: MassCHIP

- For the years 1999-2002, rates of diabetes-related deaths for elders 65 and older are consistently lower for Brookline residents than for Massachusetts residents.
- The largest difference between Brookline and Massachusetts rates of diabetes related deaths occurred in 2002.

**Chart 19: Diabetes-Related Hospitalizations (Age-specific per 100,000)**

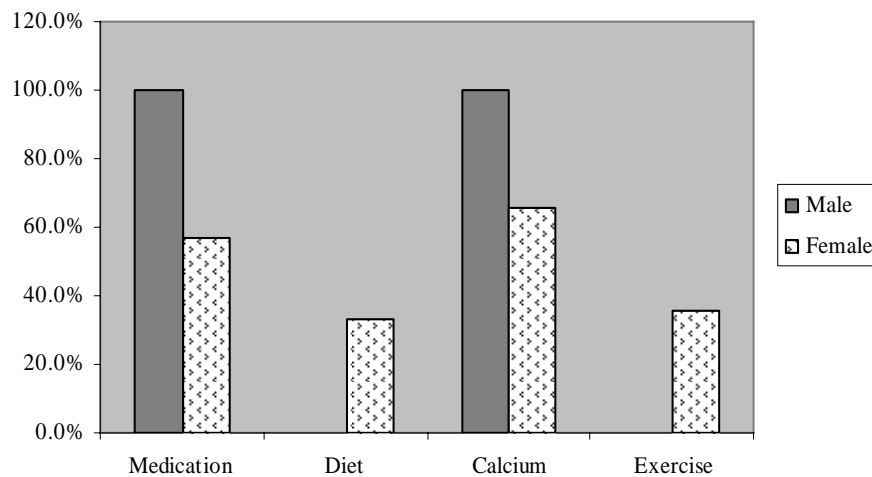


Source: MassCHIP

- During the years reported, the rate of diabetes-related hospitalizations has been lower for Brookline residents than for Massachusetts, with rates for those 65 and older lower than for those 85 and older.

## Osteoporosis in Brookline Adults 50 and Older (1999)

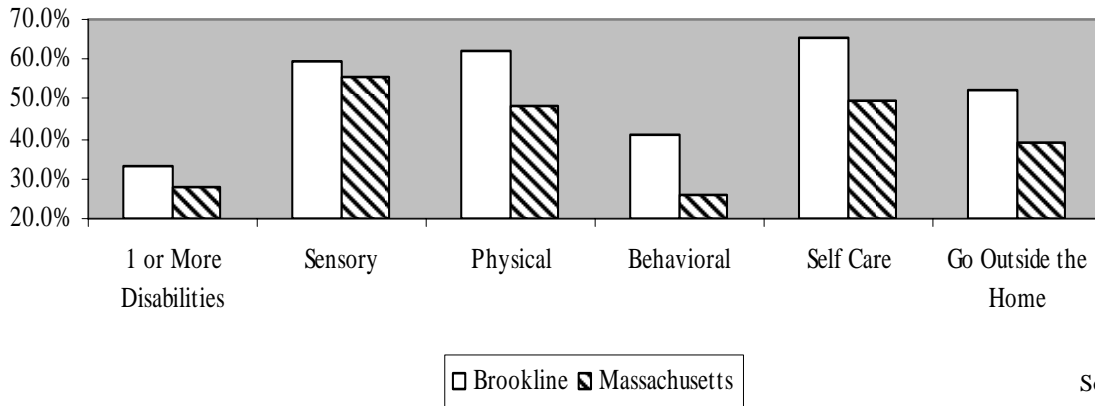
**Chart 20: Osteoporosis Treatments Prescribed to Brookline Residents in 1999**



Source: Healthy Brookline III

- In 1999, 7% of males and 21.1% of females who responded to the Healthy Brookline III survey had been told they had osteoporosis.
- Of the women ages 50 and older responding to these survey questions, 57% were told to take medication, 33.4% needed a special diet, 65.5% were told to take calcium and 35.4% were instructed to exercise to prevent or decrease the effects of osteoporosis.

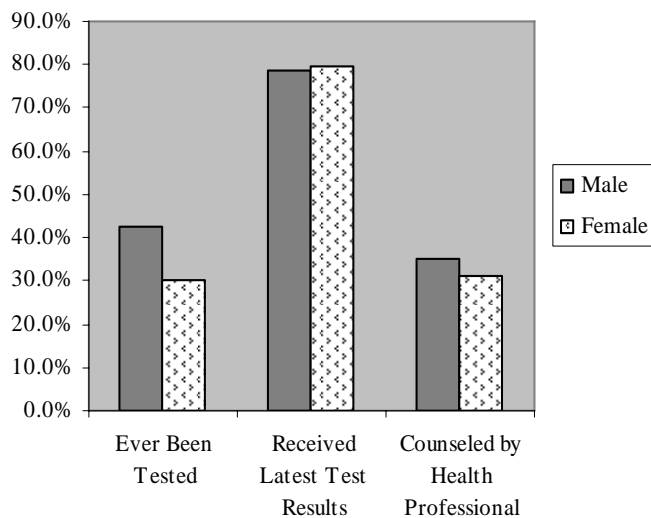
**Chart 21: Disabilities for Elders 65 and Older**



Source: MassCHIP

- Brookline has a higher percentage of elders 65 and older with disabilities (34%) than does the Commonwealth of Massachusetts (28%).
- Self Care disabilities, the inability to care for oneself without oversight, affect 65% percent of elders in Brookline and 49% of elders in Massachusetts.

**Chart 22: HIV/AIDS (1999)**

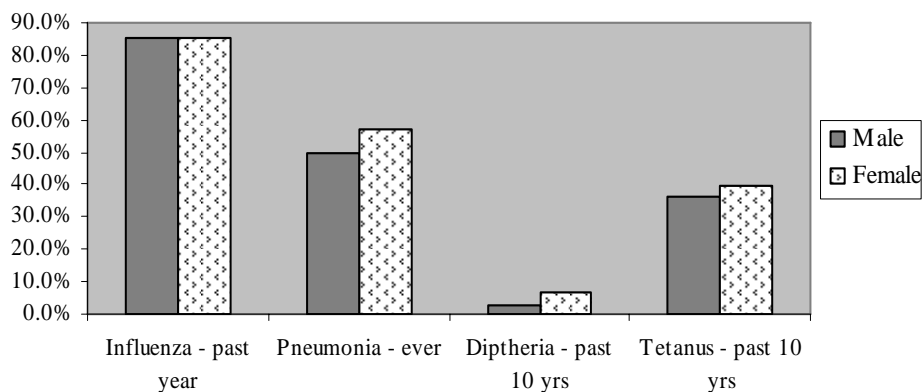


Source: Healthy Brookline III

- Among survey respondents, a higher percentage of men than women (age 50-64) in Brookline, have been tested and counseled about HIV/AIDS.
- Percentages of men and women (age 50-64) receiving their latest HIV/AIDS test results are similar, though neither is at 100%.
- MassCHIP reports zero (0) hospital discharges due to HIV/AIDS for elders 65 and older in Brookline during 1999-2002.



**Chart 23: Vaccination Status of Brookline Elders 65 and Older (1999)**

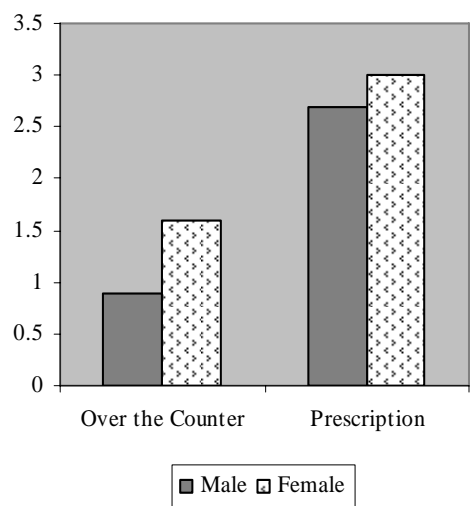


- In 1999, 85% of all men and women 65 and older who responded to the Brookline survey had received a flu shot in the past year. It is recommended that all adults 65 and older receive a flu shot annually.

Source: Healthy Brookline III

- Approximately half of the men and slightly more of the women in Brookline, who answered the survey, had ever received a pneumonia vaccination, which is recommended once after the age of 65.
- Very few men (3%) or women (7%) in Brookline have received a diphtheria vaccination since 1989.
- Approximately one third of Brookline adults 65 and older have received a tetanus shot since 1989.
- Both the tetanus and diphtheria booster shots are recommended once every ten (10) years.

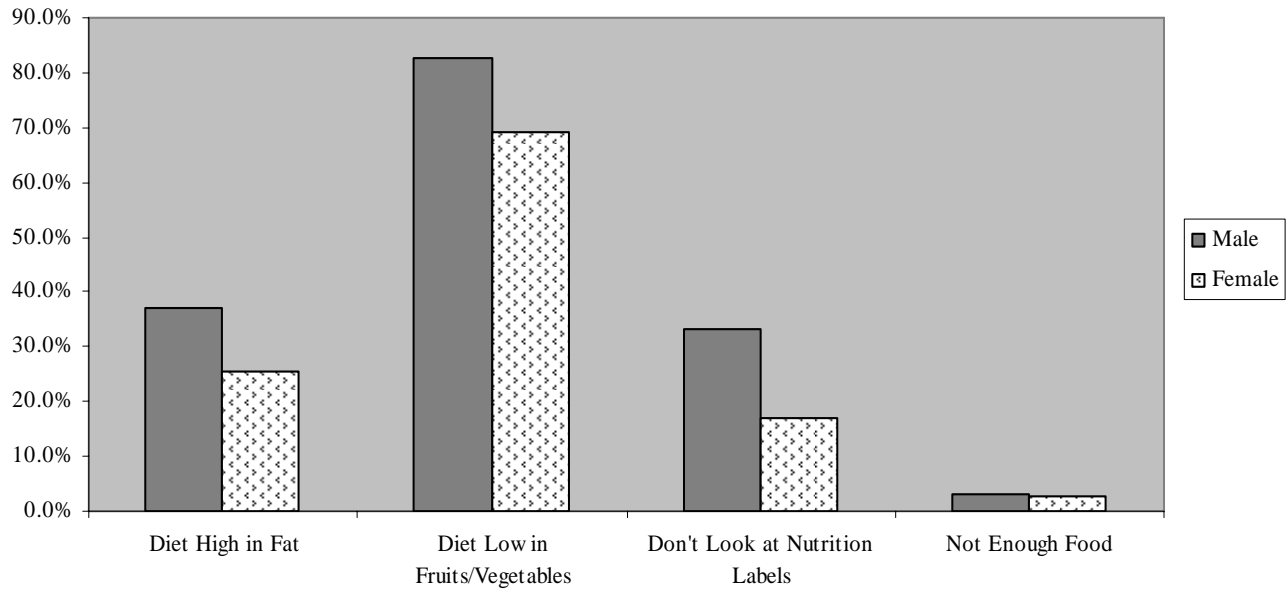
**Chart 24: Average Number of Medications for Brookline Elders 65 and Older (1999)**



- Women 65 and older take more medications on average than do men in Brookline.
- Both men and women take more prescription medications (2.7 and 3 respectively) than over-the-counter medications (0.9 and 1.6 respectively).
- Approximately 64% of men and 39% of women 50 and older were aware of the senior pharmacy program.

Source: Healthy Brookline III

**Chart 25: Nutrition for Brookline Adults 50 and Older**



Source: Healthy Brookline III

- In 1999, the Healthy Brookline Survey asked adults 50 and older about their nutritional habits.
- Of those who responded to the survey, 36.9% of the men and 25.5% of the women had a diet high in fat and the majority of both men and women had a diet that was low in fruits and vegetables.
- More women than men reported looking at nutritional labels. Only 17% of women said that they did not read labels, while 33% of men spent little or no time looking at nutritional labels.
- Close to 3% of men and women worried that they did not have enough food for themselves or their family during the past 30 days.
- In the 30 days prior to the survey, men purchased an average of 9.4 meals outside of the home; for women the average was 7.3 meals.

## **Physical Fitness**

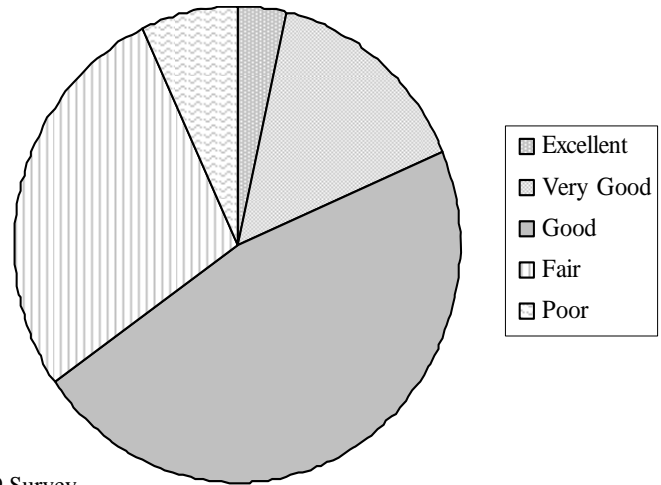
- The 1999 Healthy Brookline report found that 20% of men and 25% of women 50 and older in Brookline were overweight, based on a Body Mass Index (BMI) of greater than 27.

### **Current Resources**

- The Town of Brookline offers at least nine (9) gyms, three (3) martial arts studios, five (5) dance studios and six (6) yoga and pilates studios.
- Of these facilities, at least six (6) offer senior discounts.
- The Brookline Senior Center offers exercise and dance classes as well as walking groups and a strength training program for seniors.
- Brookline Tai Chi offers discounts for seniors as well as for veterans and the disabled.
- There are several sports programs offered in the town of Brookline, including an open skating rink, tennis courts, and the Putterham Meadows Golf Club.
- For more information, please contact the Brookline Department of Public Health (617-730-2300) and ask for the Brookline Fitness Directory.

### Chart 26: Self-Rated Health of Brookline Elders 85 and Older

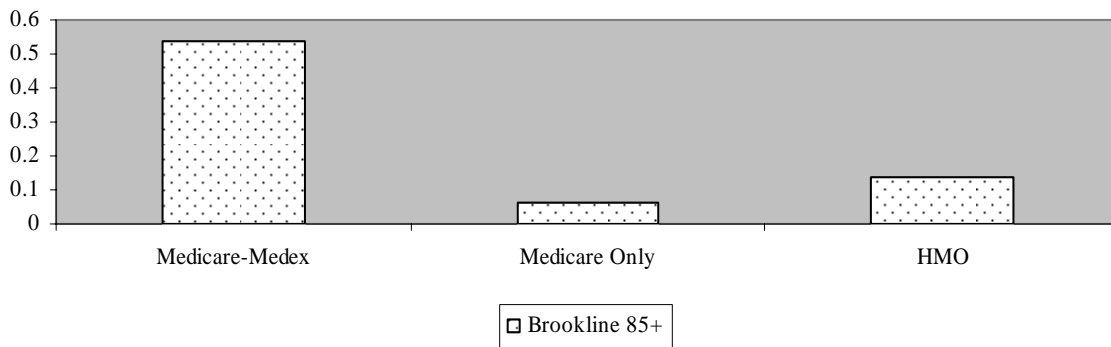
• Among seniors 85 and older responding to the Brookline Council on Aging 1999 survey, 46% reported their health as good, 28% as fair, 15% as very good, 7% as poor and 4% as excellent.



Source: Brookline Council on Aging 1999 Survey

### Health Insurance

#### Chart 27: Types of Insurance Held by Brookline Elders 85 and Older, Participating in the Brookline Council on Aging 1999 Survey

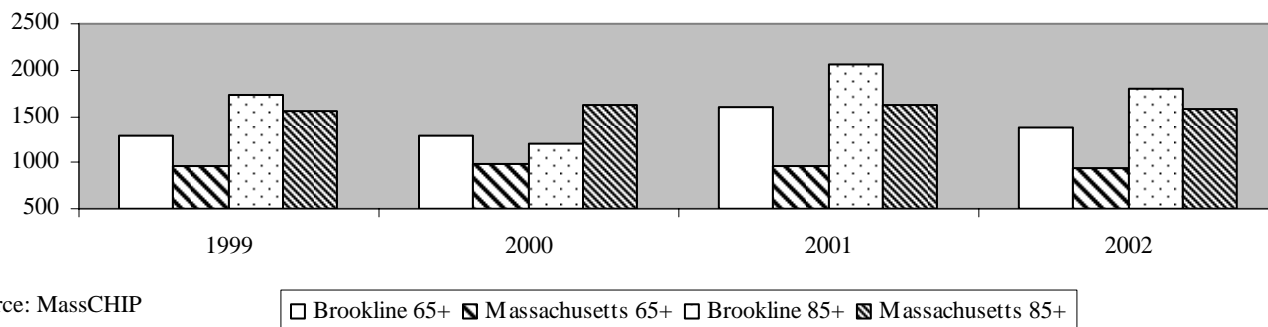


Source: Brookline Council on Aging 1999 Survey

• Of the seniors 85 and older responding to the Brookline Council on Aging 1999 Survey, 54% had Medicare-Medex as their insurance, 14% were members of an HMO and 6% had only Medicare.

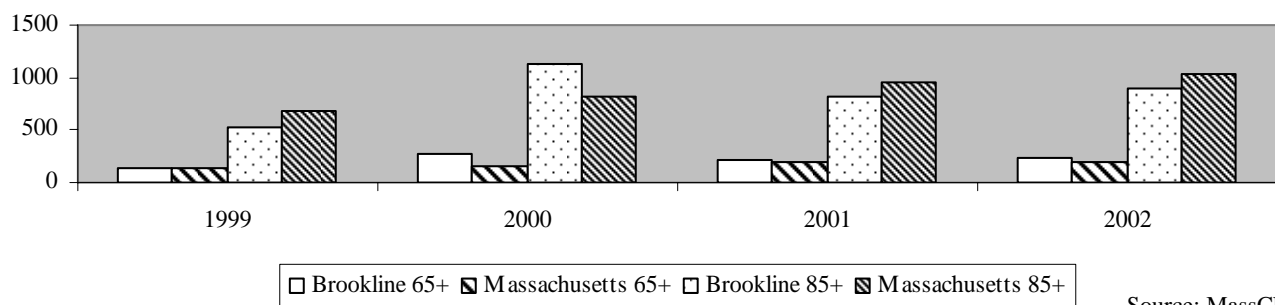
## Behavioral Health

**Chart 28: Hospitalization Rates Due to Behavioral Disorders**  
(Age-specific per 100,000)



- From 1999-2002, hospitalization rates (for short stay acute care facilities) due to behavioral disorders for elders 65 and older in Brookline have been higher than for elders 65 and older in Massachusetts.
- Rates for elders 85 and older are generally higher than those for elders 65 and older in Brookline and Massachusetts.
- Behavioral disorders includes dementia, schizophrenia, neuroses, personality and behavioral disorders, and mental retardation.

**Chart 29: Death Rates Due to Behavioral Disorders (Age-specific per 100,000)**



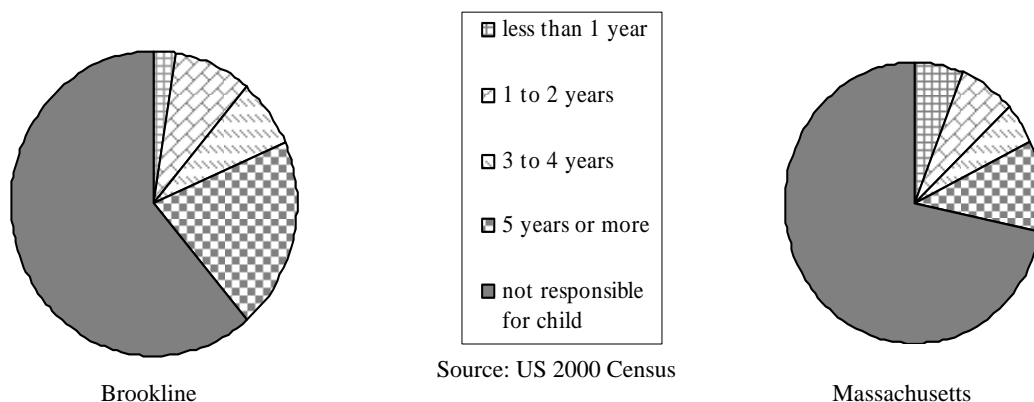
- Death rates were fairly consistent within age groups for Brookline and Massachusetts.
- Death rates for elders 85 and older were significantly higher than those for adults 65 and older in Brookline and Massachusetts, likely due to age rather than disorder.

- In Brookline, there are several organizations that offer behavioral health services including the Brookline Council on Aging, the Brookline Center (formerly the Brookline Center for Mental Health), the Brookline Housing Association, Bournewood Hospital, and Arbour/HRI.
  
- On a daily basis, the Brookline Council on Aging, the Brookline Center, the Brookline Housing Association collectively work with approximately five (5) people over the age of 85 and 51 people over the age of 65.
  
- Brookline elders (65 and older) who seek behavioral health services do so for diagnoses including (but not limited to):
  - serious mental illness
  - schizophrenia
  - depression
  - bi-polar disorder
  - dysthymia
  - post traumatic stress disorder
  - generalized anxiety disorders
  - obsessive compulsive disorder
  - hoarding
  - substance abuse
  - dementia
  - Alzheimer's Disease

## Care Giving

### Elders Giving Care

**Chart 30: Age of Child Receiving Care from a Grandparent 65 and Older**



- According to the 2000 US Census, for Brookline elders 65 and older living in the same household with at least one grandchild under 18 years old, almost 40% of these elders were responsible for the grandchild.
- For the Commonwealth of Massachusetts, nearly 30% of grandparents living with at least one grandchild under the age of 18 were responsible for the child.
- The majority of the children needing care were five (5) years or older.

- 
- A 1999 survey conducted by the Brookline Council on Aging reported that of the 214 elders over the age of 85 responding to the survey, 34 said that they had experience in care giving for another elder.
  - In this survey, the majority of responses indicated that the person being cared for was a spouse and the care giving was taking place in the home.
  - Care giving activities included: meal preparation, shopping, household chores, financial management, medication, transportation, personal care and legal assistance.

- Respondents reported providing care for another elder for one to five years (3%) and more than five years (3%).
  - Elders 85 and older reported receiving help from family members, a friend or neighbor, and an agency.
  - Elders responding to the survey reported other areas of care giving with which they would like support with tasks including:
    - housekeeping
    - transportation
    - companionship
    - financial management
- 

## **Elders Receiving Care**

- More than half (60%) of elders 85 and older responding to the Brookline Council on Aging 1999 Survey reported limitations due to health reasons on their every day activities including walking (48%), seeing (20%), carrying (20%), and hearing (18%).
- Elders responding to the survey also reported difficulty with tasks such as household chores, shopping, yard work and home repairs, financial matters and bathing and dressing.
- Most elders 85 and older reported receiving help with these activities from family (31%), an agency (26%), a friend or neighbor (8%) or a caregiver (1%).



## Long Term Care

### **In Home Care**

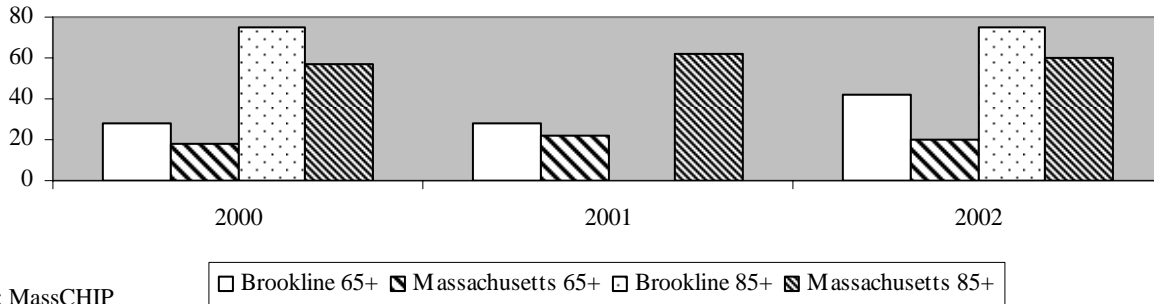
- At the beginning of 2005, 317 Brookline elders 65 and older were receiving state subsidized in home care from Springwell, the West Suburban Area Agency on Aging.
  - At the beginning of 2005, 225 Brookline elders were receiving home delivered meals from Springwell.
  - These two categories are not necessarily mutually exclusive, some of those receiving in home care may also be receiving home-delivered meals.
  - These data provide only a glimpse of the true picture of elders receiving in home care. Medicare and private insurance plans provide different options for in home services.
- 

### **Nursing Homes**

- There are three (3) nursing home facilities located in Brookline: Brookline Health Care Center, Coolidge House, and Epoch Senior Health Care, in Chestnut Hill; and two (2) assisted living facilities: Goddard House and Boylston Place at Chestnut Hill, an Epoch Assisted Living Facility.
- The Massachusetts Extended Care Federation reports 680 admissions to Brookline nursing home facilities during 2002. This number is likely artificially high as one person can account for more than one admission over the course of a year.
- The Kaiser Family Foundation reports that in 2002, 5.3% of the Massachusetts population over the age of 65 were residents of nursing home facilities.

## Home and Community Safety

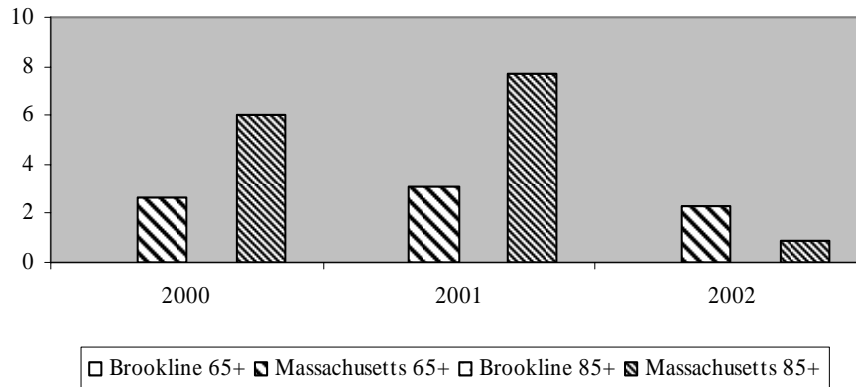
**Chart 31: Death Rates Due to Falls (Age-specific per 100,000)**



Source: MassCHIP

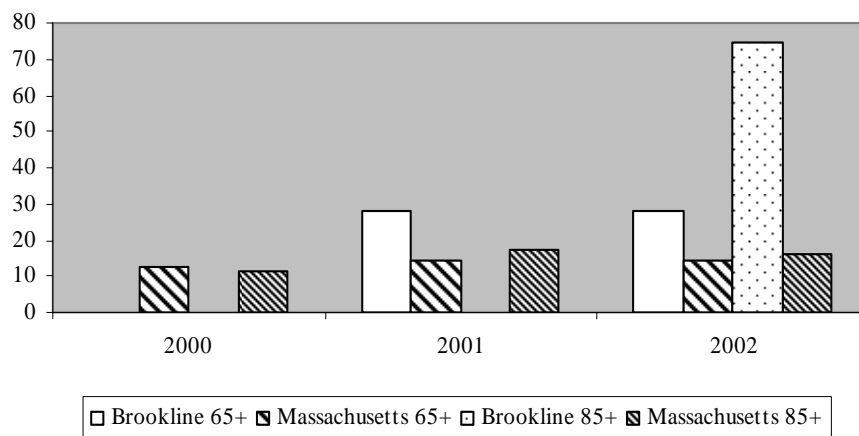
- In Brookline and Massachusetts, reported deaths due to falls have notably higher rates than deaths due to fire or motor vehicle accidents.
- Rates of deaths due to falls in both age groups are higher for Brookline than Massachusetts, except for the year 2001 when the reported rate in Brookline for adults 85 and older was zero.

**Chart 32: Death Rates Due to Fire (Age-specific per 100,000)**



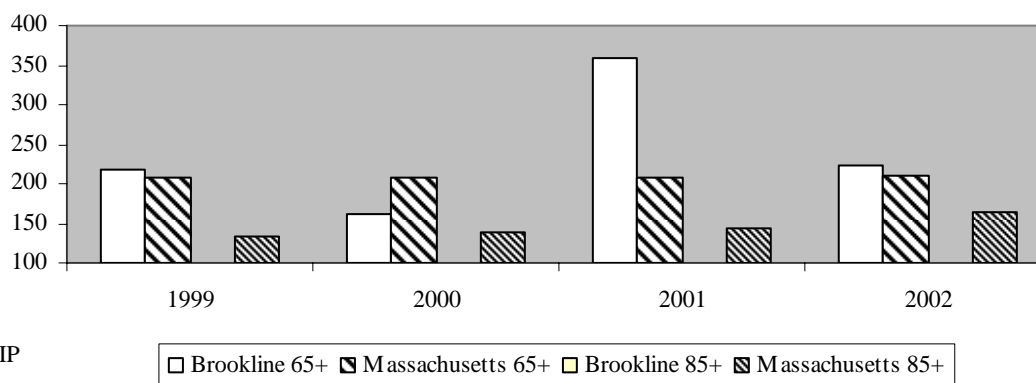
Source: MassCHIP

- There were no reported fire related deaths for older adults in Brookline during the years 2000, 2001 and 2002.
- Rates of fire related deaths in 1999, 2001, and 2002 for Massachusetts are relatively low for both age groups.

**Chart 33: Death Rates Due to Motor Vehicle Accidents (Age-specific per 100,000)**

Source: MassCHIP

- In 2000 there were no reported motor vehicle related deaths among elders in Brookline, but by 2001 rates of motor vehicle related deaths surpassed those of Massachusetts for adults 65 and older and by 2002 for adults 85 and older.

**Chart 34: Hospitalization Rates Due to Alcohol and Substance Use (Age-specific per 100,000)**

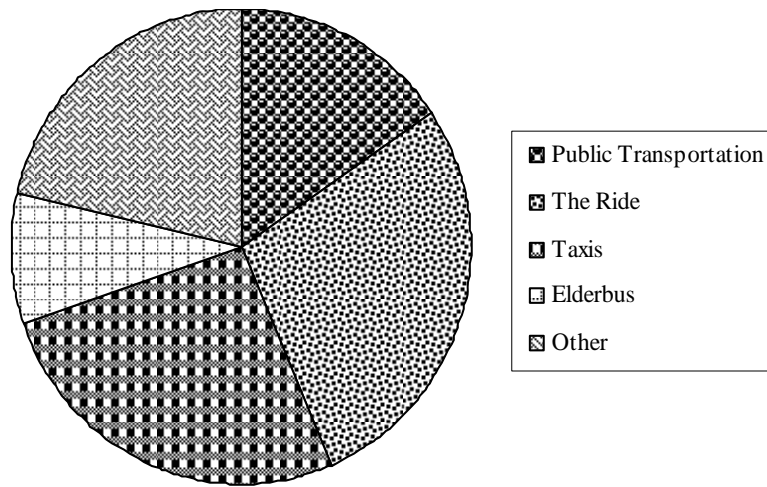
Source: MassCHIP

- Alcohol and substance related hospitalization rates have remained relatively steady for the years 1999-2002, except for a spike in rates for Brookline elders 65 and older in 2001.
- Rates of hospitalization for Brookline elders 85 and older were too small to be stable in larger generalizations.

## Transportation

- Of the elders 85 and older responding to the Brookline Council on Aging 1999 Survey, 26% said that they drive a car and 4% responded that someone else was concerned about their driving.

**Chart 35: Other Means of Transportation for Brookline Elders 85 and Older**



Source: Brookline Council on Aging 1999 Survey

- Of the Brookline elders responding to the survey, 43% reported using The Ride, a service offered by the Metropolitan Boston Transit Authority that provides door-to-door transportation for eligible members.
- Brookline elders 85 and older also reported using taxis (43%), public transportation (24%), and the Elderbus (14%) as alternative means of transportation.

## Appendix

**Chart 1: Age Distribution of Elders 60 and Older**

	60 - 64	65 - 69	70 - 74	75 - 79	80 - 84	85 +	65 +	60 +
Brookline	3.4%	3.0%	2.8%	2.4%	2.9%	2.3%	13.4%	16.8%
Massachusetts	3.7%	3.4%	3.3%	2.9%	2.1%	1.8%	13.6%	17.3%

**Chart 2: Race of Elders 60 and Older**

	White	Black African American	American Indian/Alaskan Native	Asian	Native Hawaiian & Pacific Islander	Other
Brookline	89.38%	2.07%	0.08%	7.17%	0.01%	1.29%
Massachusetts	93.16%	3.01%	0.12%	1.70%	0.02%	2.00%

**Chart 3: Gender Distribution of Elders 60 and older**

	Brookline		Massachusetts	
	Male	Female	Male	Female
60 - 74	2381	2864	301802	362433
75 - 84	893	1580	120293	195347
85 +	312	1023	30948	85744

**Chart 4: Projected Changes in Age Distribution by 2010**

	2000		2010		% change	
	Brookline	MA	Brookline	MA	Brookline	MA
60-64	1945	236405	4129	381869	112%	62%
65-69	1698	216498	2774	269798	63%	25%
70-74	1602	211332	1795	187601	12%	-11%
75-79	1391	184941	1290	152494	-7%	-18%
80-84	982	132208	1045	123198	6%	-7%
85+	1335	61896	1056	111458	-21%	80%

**Chart 5: Marital Status of Elders 60 and Older**

	Never Married	Married	Separated	Widowed	Divorced	Other
Brookline	12%	48%	1%	26%	9%	4%
Massachusetts	8%	54%	1%	29%	8%	4%

**Chart 6: Educational Achievement of Elders 65 and Older**

	Less than 9th grade	9th-12th No Diploma	High School Grad.	Some College	Associate's Degree	Bachelor's Degree	Graduate or Prof. Degree
Brookline	4%	7%	22%	13%	3%	19%	30%
Massachusetts	14%	18%	38%	14%	4%	10%	9%

**Chart 7: Employment Status of Elders 60 and Older**

	Armed Forces	Not in Labor Force	Unemployed	Employed
Brookline	0%	61%	1%	33%
Massachusetts	0%	82%	1%	23%

**Chart 8: The Poverty Level**

	65-74 years		75 years +	
	at or above poverty level	below poverty level	at or above poverty level	below poverty level
Brookline	92%	7%	82%	7%
Massachusetts	91%	7%	91%	11%

**Chart 9: Housing for Elders 65 and Older**

	own			rent		
	65-74	75-84	85+	65-74	75-84	85+
Brookline	40%	34%	23%	24%	37%	43%
Massachusetts	46%	44%	31%	16%	22%	26%

**Chart 10: Living Situation for Elders 60 and Older**

	owner			renter		
	w/ family	w/ non-family	alone	w/ family	w/ non-family	alone
Brookline	20%	15%	13%	8%	24%	23%
Massachusetts	27%	16%	16%	5%	15%	14%

**Chart 11: Mortality Rates (Age-specific per 100,000)**

	2000	2001	2002
Brookline 65+	4797.41	4966.24	4501.97
Massachusetts 65+	5279.59	5247.15	5234.13
Brookline 85+	13558.1	13932.6	12359.6
Massachusetts 85+	15522.1	15763.7	16143.4

**Chart 12: Cause-Specific Mortality Rates for 2002 (Age-specific per 100,000)**

	Brookline 65+	Massachusetts 65+	Brookline 85+	Massachusetts 85+
Circulatory Disease	1857.06	2002.53	5692.88	7131.59
Cancer	956.67	1200.7	1647.94	2049.84
Respiratory Disease	534.61	656.16	1348.31	2156.1
Nervous System Disease	225.1	289.95	749.06	1076.34
Mental Disease	225.1	203.8	898.88	1037.77
Digestive System Diseases	98.48	179.97	224.72	539.03
Endocrine Diseases	140.69	175.43	524.34	444.76
Genitourinary Disease	126.62	178.92	449.44	617.87
Infectious Disease	154.76	116.37	374.53	332.5
Injuries & Poisonings	70.34	93.24	149.81	269.08
Musculoskeletal Disease	0	29.53	0	86.55
Blood Disease	14.07	22.79	74.91	87.41
Skin Disease	0	6.51	0	25.71

**Chart 13: Hospitalization Rates Due to Heart Disease (Age-specific per 100,000)**

	1999	2000	2001	2002
Brookline 65+	8345.69	9653.91	9040.66	8807.68
Massachusetts 65+	9830.25	10041.2	9959.23	9865.97
Brookline 85+	14708.2	17277.9	17719.9	17762.6
Massachusetts 85+	15266.2	16100.6	16454.5	16537.1

**Chart 14: Hospitalization Rates by Type of Heart Disease 1999-2002  
(Age-specific per 100,000)**

	Major Cardiovascular Disease	Heart Disease	Coronary Heart Disease	Ischemic Heart Disease	Heart Attack	Hypertension
Brookline 65+	8491.12	6548.9	2767.2	2718.02	1018.98	133.81
Massachusetts 65+	9506.94	7124.88	3115.49	3036.46	1378.67	125.46
Brookline 85+	15824.39	12626.41	4362.94	4248.35	2112.27	268.81
Massachusetts 85+	15361.10	11618.33	3878.54	3705.68	2299.94	195.46

**Chart 15: Chronic Obstructive Pulmonary Disease (COPD) Hospitalization Rates 1999 - 2002 (Age-specific per 100,000)**

	All	Bronchitis	Other
Brookline 65+	917.92	616.18	140.99
Massachusetts 65+	1350.56	1039.72	106.93
Brookline 85+	914.75	516.20	161.37
Massachusetts 85+	1461.33	1110.27	117.87

**Chart 16: Cancer Hospitalization Rates (Age-specific per 100,000)**

	1999	2000	2001	2002
Brookline 65+	1840.93	2308.95	2171.92	1792.21
Massachusetts 65+	2092.57	2060.54	2034.03	1995.08
Brookline 85+	2228.85	1765.54	2389.51	2185.77
Massachusetts 85+	2009.35	1992.56	2057.7	2042.29



**Chart 17: Hospitalization Rates by Type of Cancer for 1999-2002**  
(Age-specific per 100,000)

	Brookline 65+	Massachusetts 65+	Brookline 85+	Massachusetts 85+
Colorectal	316	346	573.61	487.49
Prostate	266.82	330.54	NA	372.55
Lung	212.77	280.3	185.48	145.79
Breast	128.82	174.71	NA	135.41
Non-Hodgkin's	110.64	75.17	NA	73.33
Uterine	94.29	87.77	NA	49.59
Kidney	64.29	53.42	NA	37.3
Leukemia	60	46.02	NA	57.99
Brain	40.1	31.65	NA	22.59
Cervical	0	14.39	0	12.47
Hodgkin's	0	3.02	0	1.92

**Chart 18: Diabetes-Related Deaths (Age-specific per 100,000)**

	1999	2000	2001	2002
Brookline 65+	88.01	70.34	70.34	70.34
Massachusetts 65+	124.09	124.05	132.65	128.7
Brookline 85+	118.84	74.91	299.63	224.72
Massachusetts 85+	229.23	271.66	315.36	272.51

**Chart 19: Diabetes-Related Hospitalizations (Age-specific per 100,000)**

	1999	2000	2001	2002
Brookline 65+	88.01	70.34	70.34	70.34
Massachusetts 65+	124.09	125.05	132.65	128.7
Brookline 85 +	118.84	74.91	299.63	224.72
Massachusetts 85+	229.23	271.66	315.36	272.51

**Chart 20: Osteoporosis Treatments Prescribed to Brookline Residents in 1999**

	Medication	Diet	Calcium	Exercise
Male	100.0%	0.0%	100.0%	0.0%
Female	57.0%	33.4%	65.5%	35.4%

**Chart 21: Disabilities for Elders 65 and Older**

	1 or More Disabilities	Sensory	Physical	Behavioral Disability	Self Care	Go Outside the Home
Brookline	33.5%	59.4%	62.4%	41.0%	65.1%	52.2%
Massachusetts	28.1%	55.4%	48.2%	26.1%	49.3%	39.1%

**Chart 22: HIV/AIDS (1999)**

	Ever Been Tested	Received Latest Test Results	Counseled by Health Professional
Male	42.3%	78.7%	35.0%
Female	30.3%	79.6%	31.1%

**Chart 23: Vaccination Status of Brookline Elders 65 and Older (1999)**

	Influenza - past year	Pneumonia - ever	Diphtheria - past 10 yrs	Tetanus - past 10 yrs
Male	85.3%	49.7%	3.0%	36.5%
Female	85.0%	57.2%	7.0%	39.8%

**Chart 24: Average Number of Medications for Brookline Elders 65 and Older (1999)**

	Male	Female
Over the Counter	0.9	1.6
Prescription	2.7	3

**Chart 25: Nutrition for Brookline Adults 50 and Older**

	Male	Female
Diet High in Fat	36.9%	25.5%
Diet Low in Fruits/Vegetables	82.6%	69.1%
Don't Look at Nutrition Labels	33.3%	17.0%
Not Enough Food	2.9%	2.6%

**Chart 26: Self-Rated Health of Brookline Elders 85 and Older**

Excellent	Very Good	Good	Fair	Poor	Total
8	32	101	60	15	216

**Chart 27: Types of Insurance Held by Brookline Elders 85 and Older, Participating in the Brookline Council on Aging 1999 Survey**

None	9.0%
Medicare, Part A only	0.0%
Medicare, Parts A & B	55.0%
MassHealth/Medicaid	5.0%
Veteran's Health Benefits	10.0%
Employer Retiree Plan	18.0%
Current Employer Plan	9.0%
Nursing Home Insurance	0.0%
Other Long-Term Care Plan	2.0%
Other Private Insurance	23.0%

**Chart 28: Hospitalization Rates Due to Behavioral Disorders (Age-specific per 100,000)**

	1999	2000	2001	2002
Brookline 65+	1302.04	1290.94	1596.09	1369
Massachusetts 65+	964.74	983.81	958.49	941.4
Brookline 85+	1722.52	1199.25	2050.19	1806
Massachusetts 85+	1555.93	1626.51	1614.75	1580

**Chart 29: Death Rates due to Behavioral Disorders (Age-specific per 100,000)**

	1999	2000	2001	2002
Brookline 65+	138.3	267.3	211.03	225.1
Massachusetts 65+	141.69	162.99	193.22	203.8
Brookline 85+	534.76	1123.6	823.97	899
Massachusetts 85+	682.66	810.68	958.93	1038

**Chart 30: Age of Child Receiving Care from a Grandparent 65 and Older**

	Less Than 1 year	1 to 2 years	3 to 4 years	5 years or more	Not Responsible for Child
Brookline	2.60%	8.40%	7.20%	20.70%	61.10%
Massachusetts	6.1%	6.9%	4.8%	10.6%	71.6%

**Chart 31: Death Rates Due to Falls (Age-specific per 100,000)**

	2000	2001	2002
Brookline 65+	28.14	28.14	42.21
Massachusetts 65+	18.48	21.74	19.53
Brookline 85+	74.91	0	74.91
Massachusetts 85+	57.42	61.7	59.99

**Chart 32: Death Rates Due to Fire (Age-specific per 100,000)**

	2000	2001	2002
Brookline 65+	0	0	0
Massachusetts 65+	2.67	3.14	2.33
Brookline 85+	0	0	0
Massachusetts 85+	6	7.71	0.86

**Chart 33: Death Rates Due to Motor Vehicle Accidents (Age-specific per 100,000)**

	2000	2001	2002
Brookline 65+	0	28.14	28.14
Massachusetts 65+	12.44	14.42	14.07
Brookline 85+	0	0	74.91
Massachusetts 85+	11.14	17.14	16.28

**Chart 34: Hospitalization Rates Due to Alcohol and Substance Use  
(Age-specific per 100,000)**

	1999	2000	2001	2002
Brookline 65+	217.72	161.37	358.75	223.8
Massachusetts 65+	206.86	207.18	207.88	211.1
Brookline 85+	NA	NA	NA	NA
Massachusetts 85+	132.67	138.88	143.12	164.5

**Chart 35: Other Means of Transportation for Brookline Elders 85 and Older**

Public Transportation	The Ride	Taxis	Elderbus	Other
24%	43%	40%	14%	33%