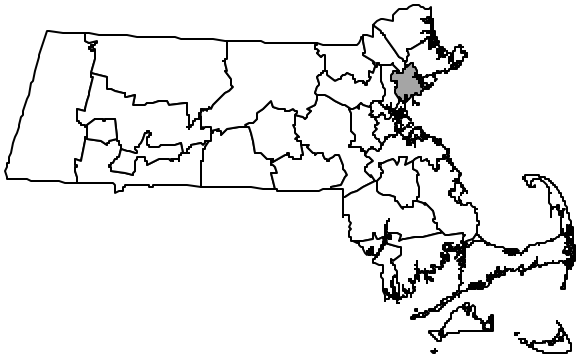
Health Risks and Preventive Behaviors

Results from the Behavioral Risk Factor Surveillance System
(1994-1999)

NORTH SHORE CHNA



CHRONIC DISEASE SURVEILLANCE PROGRAM

BUREAU OF HEALTH STATISTICS, RESEARCH AND EVALUATION

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

MARCH 2001

MASSACHUSETTS CHNAs	
CHNA 1	Community Health Network of Berkshire County
CHNA 2	The Upper Valley Health Web, Franklin County CHNA
CHNA 3	Partnership for Health in Hampshire County, Greater Northampton
CHNA 4	The Community Health Connection, Greater Springfield CHNA
CHNA 21	Four (for) Communities, Greater Holyoke CHNA
CHNA 5	CHNA of Southern Worcester County
CHNA 6	Community Partners for Health, Greater Milford CHNA
CHNA 7	Community Health Network of Greater Metro West, Greater Framingham CHNA
CHNA 8	Community Wellness Coalition, Greater Worcester CHNA
CHNA 9	Fitchburg/Gardner CHNA
CHNA 10	Greater Lowell CHNA
CHNA 11	Greater Lawrence CHNA
CHNA 12	Greater Haverhill CHNA
CHNA 13	Greater Beverly/Gloucester CHNA
CHNA 14	North Shore CHNA
CHNA 15	Greater Woburn/Concord/Littleton CHNA
CHNA 16	North Suburban Health Alliance, Greater Medford/Malden/Melrose CHNA
CHNA 17	Greater Cambridge/Somerville CHNA
CHNA 18	West Suburban Health Network, Greater Newton/Waltham CHNA
CHNA 19	Alliance for Community Health, Boston/Chelsea/Revere/Winthrop CHNA
CHNA 20	Blue Hills Community Health Alliance, Greater Quincy CHNA
CHNA 22	Greater Brockton CHNA
CHNA 23	South Shore Community Partners in Prevention, Greater Plymouth CHNA
CHNA 24	Greater Attleboro-Taunton Health and Education Response (GATHER)
CHNA 25	Partners for a Healthier Community, Greater Fall River CHNA
CHNA 26	Greater New Bedford Health & Human Services Coalition
CHNA 27	Cape and Islands CHNA

HEALTH RISKS AND PREVENTIVE BEHAVIORS

Results from the Behavioral Risk Factor Surveillance System (1994-1999)

North Shore CHNA

Argeo Paul Cellucci, Governor
William D. O'Leary, Secretary of Health and Human Services
Howard K. Koh, MD, MPH, Commissioner of Public Health

Daniel J. Friedman, Assistant Commissioner, Bureau of Health Statistics, Research and Evaluation
Bruce B. Cohen, Director, Research and Epidemiology
Daniel Brooks, Director, Chronic Disease Surveillance Program

Massachusetts Department of Public Health
617-624-5699

March 2001

Acknowledgements

This report was prepared by staff of the Chronic Disease Surveillance Program: Daniel Brooks, Phyllis Brawarsky, Karen Clements, Lorelei Mucci, Jane West, Michelle Benson, Brian Bradbury, Jason Yeaw, and Diana Ventura. We wish to thank Jennifer Norton for production of the maps and Supriya Krishman for her work on this report through a collaborative program with the Department of Biostatistics and Epidemiology, School of Public Health and Health Sciences, University of Massachusetts, Amherst.

We also wish to express our gratitude to the residents of Massachusetts who participated in this survey.

For further information about this report, about the BRFSS, or the Chronic Disease Surveillance Program, please contact: Daniel Brooks, MPH. Chronic Disease Surveillance Program. Bureau of Health Statistics, Research, and Evaluation. Massachusetts Department of Public Health. 250 Washington Street, 6th floor. Boston, MA 02108-4619. telephone: (617) 624-5636. email: daniel.brooks@state.ma.us

To obtain additional copies of this report contact:

Massachusetts Department of Public Health
Bureau of Health Statistics, Research and Evaluation
250 Washington Street
Boston, MA 02108

(617) 624-5699

TABLE OF CONTENTS

INTRODUCTION..... 1

RISK FACTORS..... 3
Smoking..... 3
Alcohol..... 8
Weight Control..... 14
Physical Activity..... 16
Fruits and Vegetables..... 20

CHRONIC CONDITIONS/PREVENTIVE HEALTH..... 22
Hypertension Awareness..... 22
Cholesterol Screening..... 26
Diabetes..... 30
Health Status..... 32
Health Insurance, Access, and Utilization..... 36

CANCER SCREENING..... 43
Breast Cancer..... 43
Cervical Cancer..... 49
Colorectal Cancer..... 52

HIV/AIDS..... 54

SUMMARY OF DATA..... 58

TECHNICAL NOTES..... 59

GLOSSARY..... 61

APPENDIX

INTRODUCTION

In 1994, the Massachusetts Department of Public Health (MDPH) first published reports detailing the sociodemographics, health status indicators, and distribution of deaths in each Community Health Network Area (CHNA).[1] MDPH is now expanding the scope of the data available to CHNAs by providing information on: (1) the prevalence of risk factors for disease and injury; (2) chronic conditions/preventive health; (3) cancer screening; and (4) HIV/AIDS.

Many of the risk factors and behaviors that contribute to the leading causes of death in Massachusetts, which include heart disease, cancer, stroke, pneumonia and influenza, chronic obstructive pulmonary disease (COPD), diabetes, and injury, are well known. Information on the prevalence of these factors helps in identifying and prioritizing areas of greatest need for health intervention and in planning effective health promotion and disease prevention programs.

The data in this report come from the Behavioral Risk Factor Surveillance System (BRFSS), an ongoing, random-digit dial statewide telephone survey of adult residents age 18 and older. The BRFSS is currently conducted in all states as a cooperative effort between the national Centers for Disease Control and Prevention and state health departments. The BRFSS includes questions about a wide variety of health issues, from personal behaviors and access to medical care to opinions on health-related policy issues. (See Technical Notes for a more detailed description of the survey and for important information on limitations of the data.)

This report summarizes results of the BRFSS for the North Shore CHNA for the years 1994 through 1999. A total of 636 residents in the North Shore CHNA were interviewed during 1994 through 1999. Text and graphs in this report provide prevalence estimates for this CHNA, comparison data for Massachusetts and, where available, comparable data for the U.S. as a whole. In addition, where it exists, we provide the relevant national Healthy People 2000 objective. (Refer to the Glossary for an explanation of prevalence and the Healthy People 2000 objectives.)

Analyses were based on six years of data whenever possible to produce more stable estimates of prevalence, as the stability of an estimate increases with an increasing number of respondents. However, not all questions were asked every year, and some analyses are based on less than six years of data. For each question, we provide the prevalence estimate and a 95% confidence interval around the estimate that shows the range of values that would be compatible with the data. (Refer to the Glossary for an explanation of confidence intervals.)

In addition, this report summarizes how the North Shore CHNA, compares to other CHNAs on each health measure. For each health topic, we provide a map of Massachusetts,

---

[1] Updated data is now available through MassCHIP, an internet accessible database information system, developed and administered by the MDPH. Information on how to register as a MassCHIP user is available through the MDPH homepage located at http://www.magnet.state.ma.us/dph/dphhome.htm.

which shows the CHNAs where the prevalence estimate is significantly higher, or significantly lower, than the state average. A test of significance was based on a p-value of less than or equal to 0.10. (Refer to the Glossary for an explanation of p-value.) We also provide the prevalence estimates for all variables for each CHNA in the Appendix.

Due to the limited number of respondents in some CHNAs, we have prepared two versions of this report. The abridged version, prepared for CHNAs with fewer respondents, includes data on questions that are asked of all respondents and questions asked of large groups of respondents, such as questions that focus on all women. The full version, prepared for the larger CHNAs, also includes questions asked of groups with fewer respondents (e.g. individuals over the age of 50).

This report for the North Shore CHNA, is the full version. The North Shore CHNA, has a sufficient number of respondents over the six-year period to report results of questions asked of specific groups of residents. The BRFSS provides a rich source of information on the health of adults residing in Massachusetts and each CHNA. We hope that the data presented in this report will contribute to the development and targeting of medical, educational, and policy initiatives to improve the health status of the North Shore CHNA.

RISK FACTORS

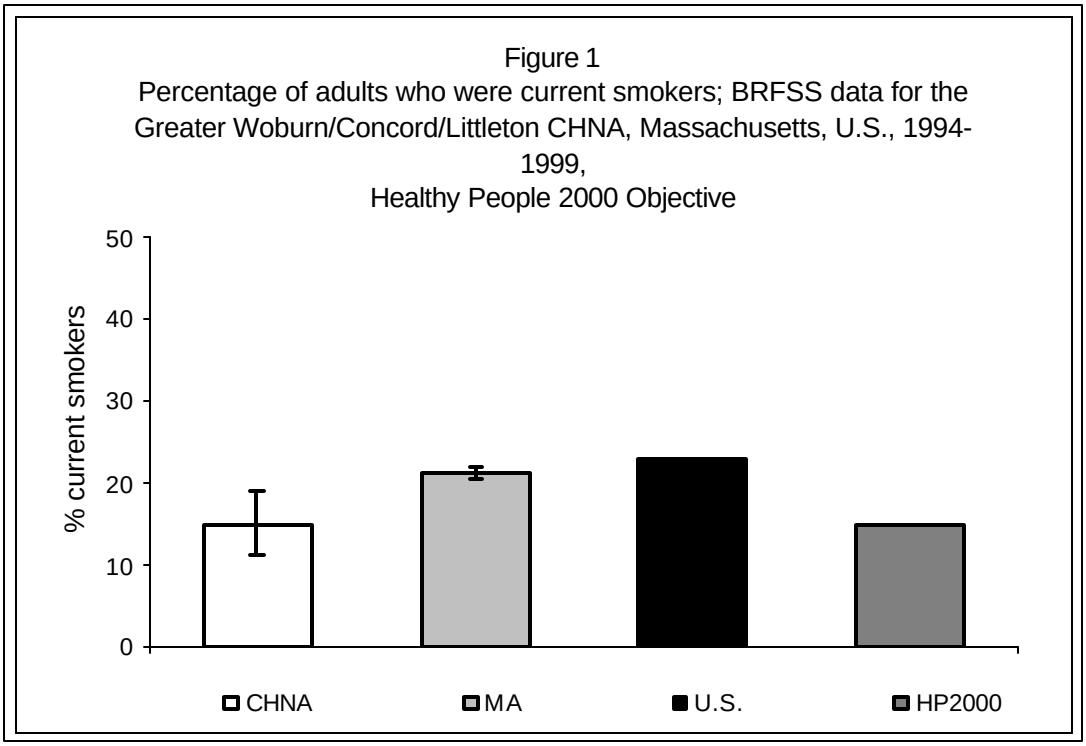
SMOKING

Tobacco use causes more deaths in the U.S. than any other preventable risk factor. Smoking causes lung cancer as well as laryngeal, oral, esophageal, bladder, pancreatic, kidney, and cervical cancers. Lung cancer mortality rates are about 22 times higher for current male smokers and about 10-12 times higher for current female smokers compared to lifelong never smokers. Each year in Massachusetts, approximately 4,300 residents are diagnosed with lung cancer and 3,700 people die of the disease.

Smoking also is a major cause of coronary heart disease and stroke among both men and women. Smokers have twice the risk of having a heart attack and 2 to 4 times the risk of sudden death from heart attack compared to nonsmokers. Smoking is a cause of COPD, a leading cause of death in Massachusetts. Gastric ulcers, intrauterine growth retardation, and low birthweight, among other conditions, are also related to smoking.

In September 1990, the Surgeon General reported that regardless of age, people who quit smoking live longer than those who do not quit. Also, smokers who quit before age 50 have half the risk of dying in the next 15 years compared to those who continue to smoke.

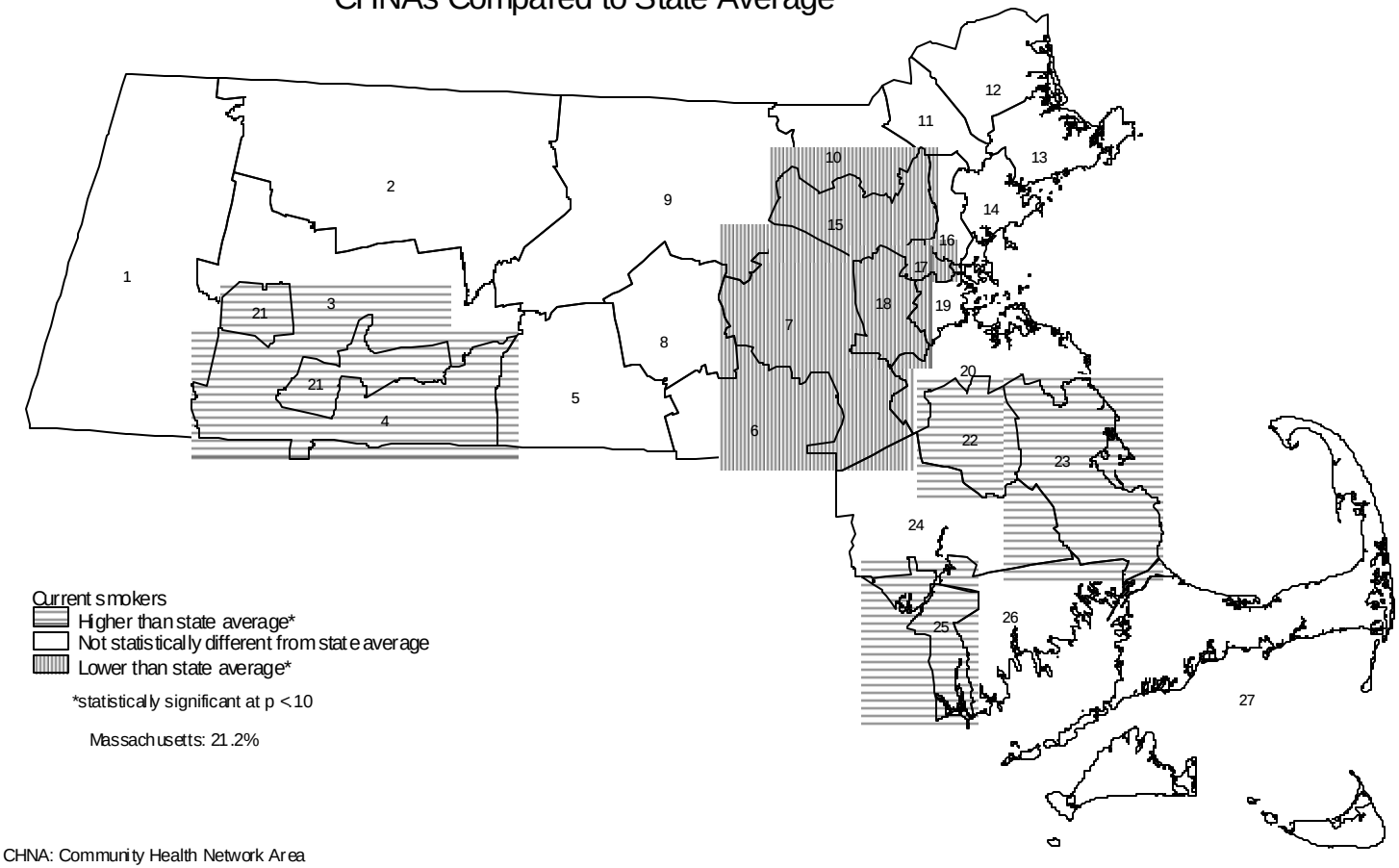
In the North Shore CHNA, 20% of adults were current smokers (Figure 1).[2] The percentage of current smokers was not statistically different from the state average (see map).



	CHNA	MA	US	HP2000[3]
Current smokers **95% CI[4]**	**19.7%** **15.9-23.5**	**21.2%** **20.4-21.9**	**22.9%**	**15%**

[2] The bars within the CHNA and MA bar graphs are "error bars" and show the endpoints and width of the confidence interval.
[3] Healthy People 2000 Objectives (see Glossary)
[4] Confidence Interval (see Glossary)

Percentage of Current Smokers, CHNAs Compared to State Average



Current smokers
- Higher than state average*
- Not statistically different from state average
- Lower than state average*

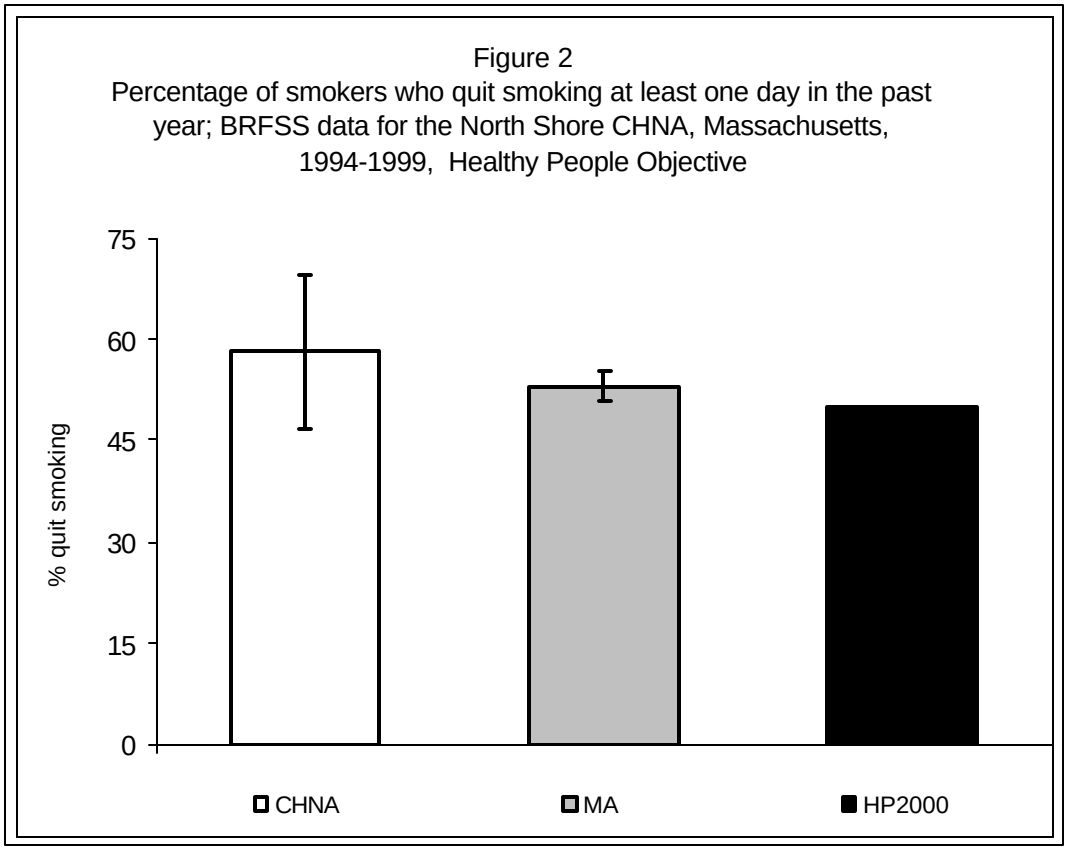
*statistically significant at p < .10

Massachusetts: 21.2%

CHNA: Community Health Network Area

Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1994-1999.

In the North Shore CHNA, 58% of current daily smokers quit smoking for one day or more during the past year (Figure 2).[2]



	CHNA	MA	HP2000[3]
Quit smoking at least once in past year **95% CI[4]**	**58.2%** **46.7-69.6**	**53.0%** **50.9-55.2**	**50%**

[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.
[3] Healthy People 2000 Objectives (see Glossary)
[4] Confidence Interval (see Glossary)

"Percentage of smokers who quit smoking at least one day in the past year" was not provided for all CHNAs due to insufficient numbers of respondents. Therefore, a map is not provided for this variable.

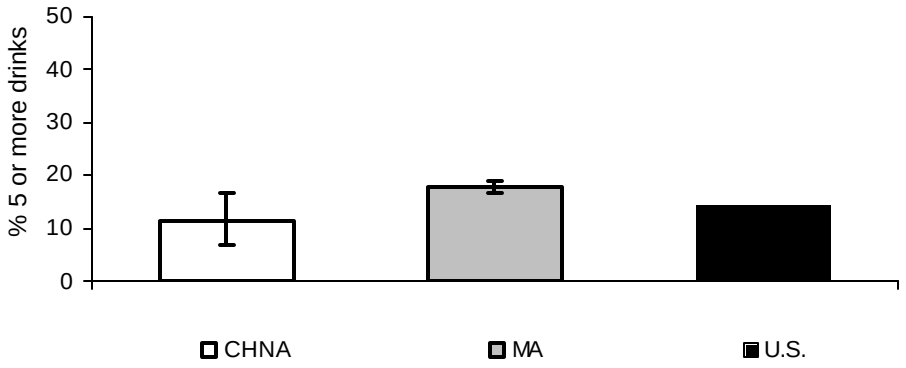
ALCOHOL

Alcohol is a central nervous system depressant that slows reflexes, impairs coordination, and interferes with concentration. In 1999 in Massachusetts, 202 persons died in motor vehicle crashes that involved alcohol. This number represents 49% of all motor vehicle accident fatalities in Massachusetts in 1999.

Alcohol abuse can lead to alcohol addiction, as well as a number of chronic health disorders including liver disease and pancreatitis. Heavy alcohol abuse is a major risk factor for high blood pressure and contributes to the development of diabetes and neurological disorders. It is also associated with increased risk of cancer of the liver, esophagus, nasopharynx, and larynx.

In the North Shore CHNA, 15% of adults consumed five or more drinks at any one occasion ("binge drinking") in the past month (Figure 3).[2] The percentage of adults who consumed five or more drinks on any one occasion in the past month was not statistically different from the state average (see map).

Figure 3
Percentage of adults who had 5 or more drinks at least once in the past month; BRFSS data for the Greater Woburn/Concord/Littleton CHNA, Massachusetts, U.S., 1995, 1997, 1999

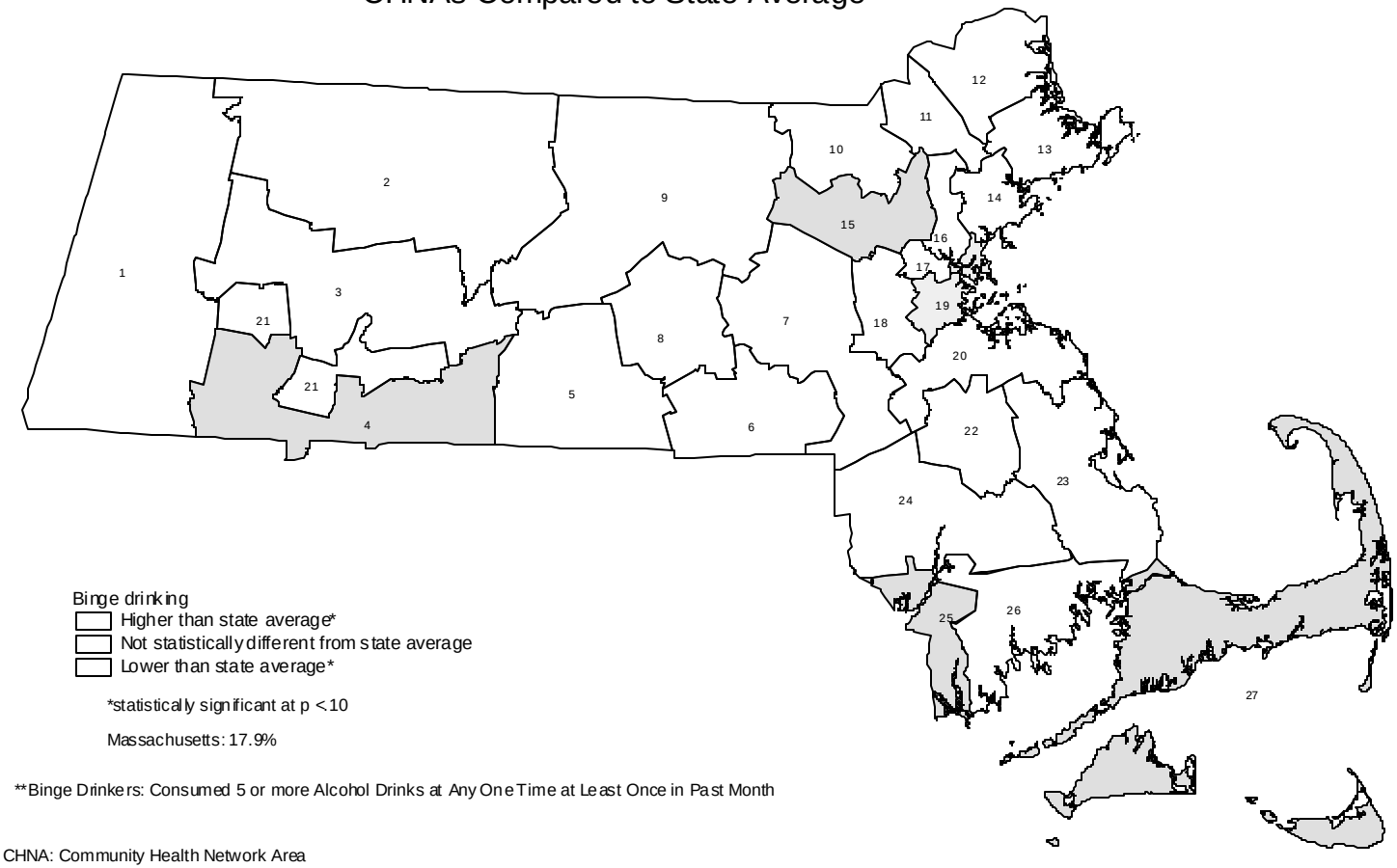


[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

	CHNA	MA	US
5 or more drinks at one occasion in the last month	**14.9%**	**17.9%**	**14.4%**
95% CI[4]	**9.6-20.2**	**16.8-18.9**	

[4] Confidence Interval (see Glossary)

Percentage of Binge Drinkers,**
CHNAs Compared to State Average



Binge drinking
- Higher than state average*
- Not statistically different from state average
- Lower than state average*

*statistically significant at p <.10

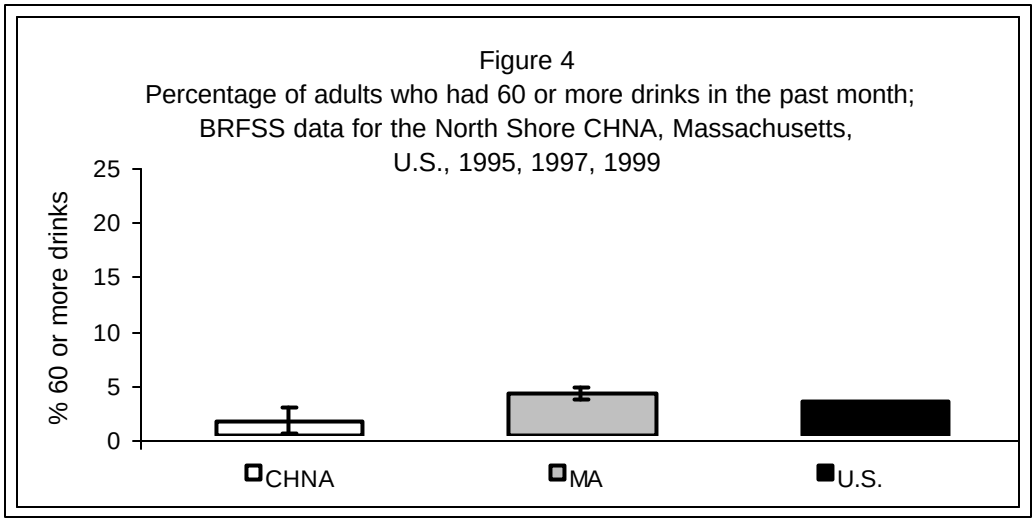
Massachusetts: 17.9%

**Binge Drinkers: Consumed 5 or more Alcohol Drinks at Any One Time at Least Once in Past Month

CHNA: Community Health Network Area

Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1995, 1997, 1999.

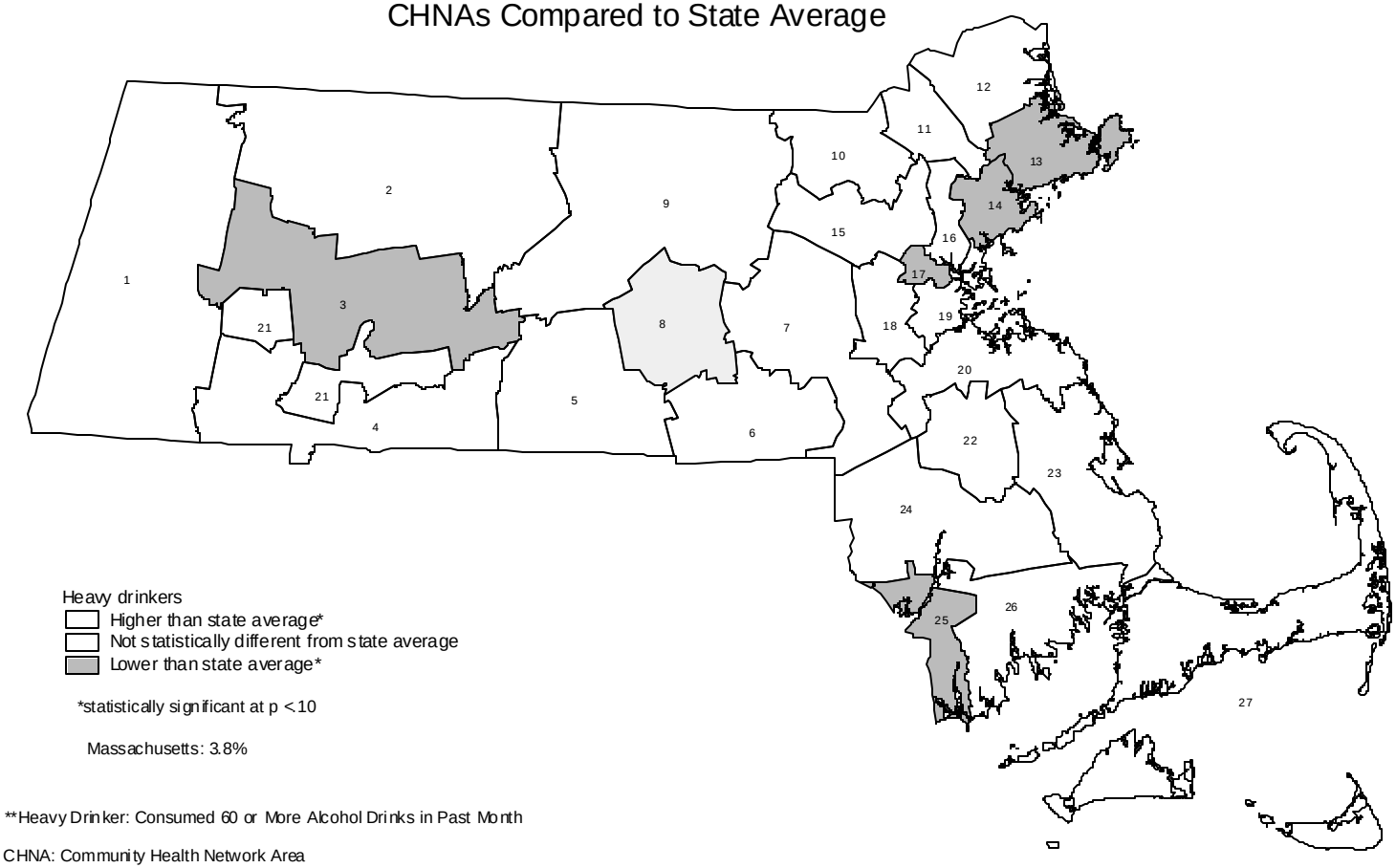
In the North Shore CHNA, 1% of adults consumed more than 60 drinks in the past month ("heavy drinking") (Figure 4).[2] The percentage of adults who consumed more than 60 drinks in the past month was significantly lower than the state average (see map).



	CHNA	MA	US
60 or more drinks in the past month **95% CI[4]**	**1.3%** **0.1-2.5**	**3.8%** **3.3-4.4**	**3.1%**

[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.
[4] Confidence Interval (see Glossary)

Percentage of Heavy Drinkers,**
CHNAs Compared to State Average



Heavy drinkers
- Higher than state average*
- Not statistically different from state average
- Lower than state average*

*statistically significant at p <.10

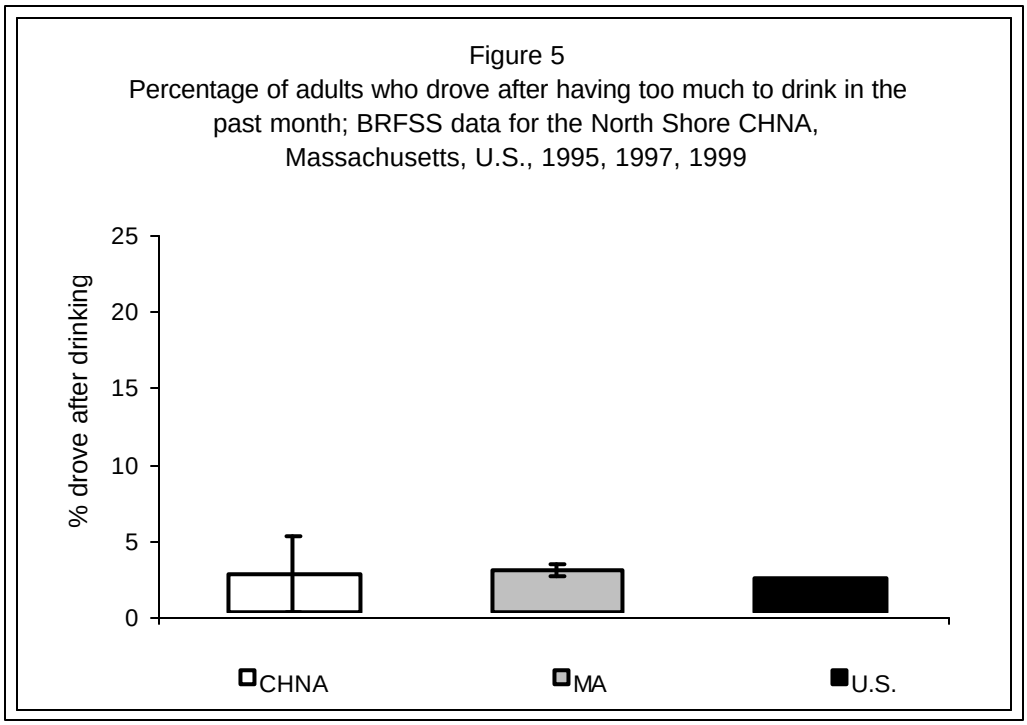
Massachusetts: 3.8%

**Heavy Drinker: Consumed 60 or More Alcohol Drinks in Past Month

CHNA: Community Health Network Area

Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1995, 1997, 1999.

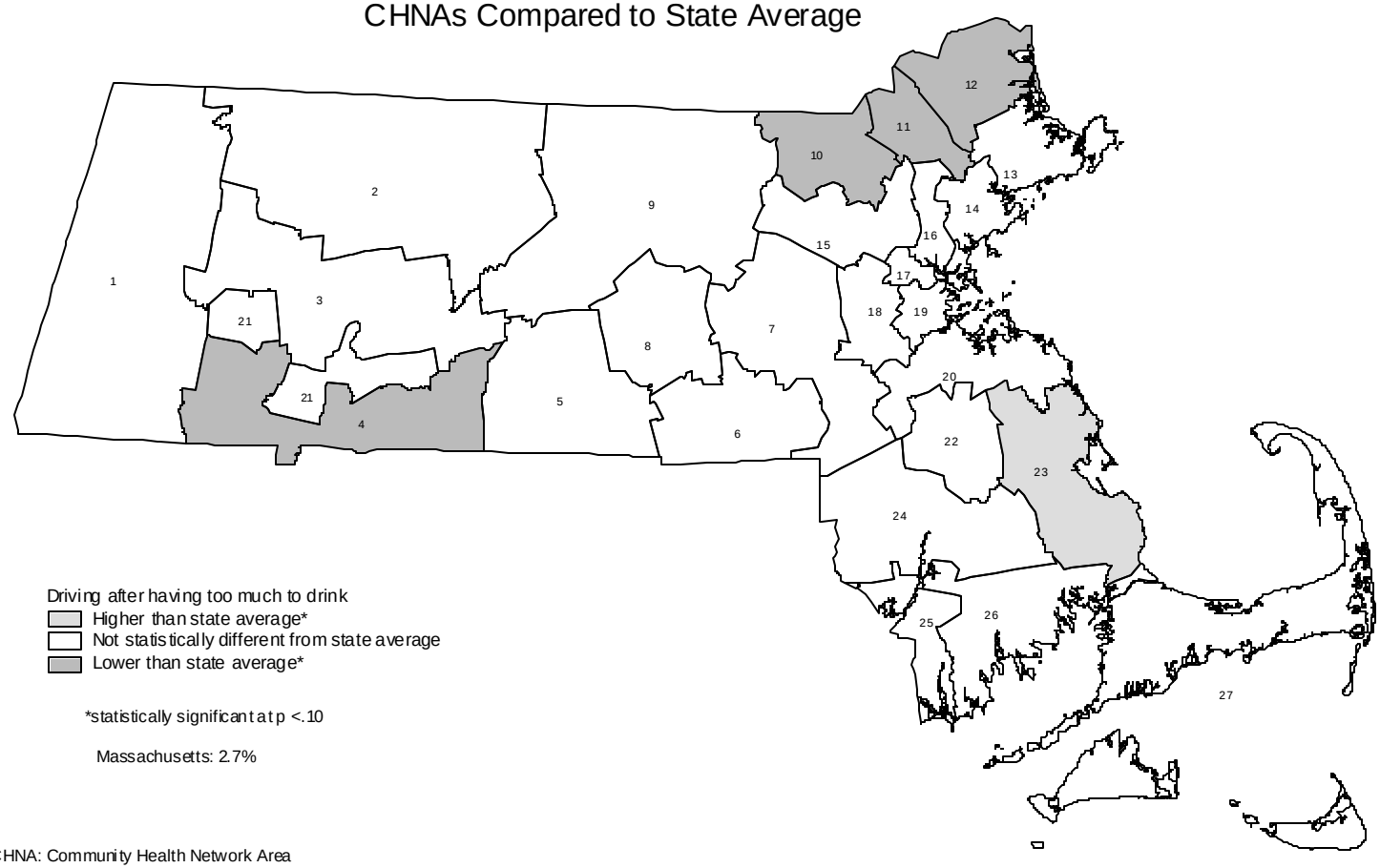
In the North Shore CHNA, 3% of adults drove after having, in their own estimation, too much to drink (Figure 5).[2] The percentage of adults who drove after having too much to drink was not statistically different from the state average (see map).



	CHNA	MA	US
Drove after drinking too much in the past month	**2.5%**	**2.7%**	**2.2%**
95% CI[4]	**0.0-4.9**	**2.3-3.2**	

[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.
[4] Confidence Interval (see Glossary)

Percentage of Adults Driving After Having Too Much to Drink, CHNAs Compared to State Average



Driving after having too much to drink
- Higher than state average*
- Not statistically different from state average
- Lower than state average*

*statistically significant at p <.10

Massachusetts: 2.7%

CHNA: Community Health Network Area

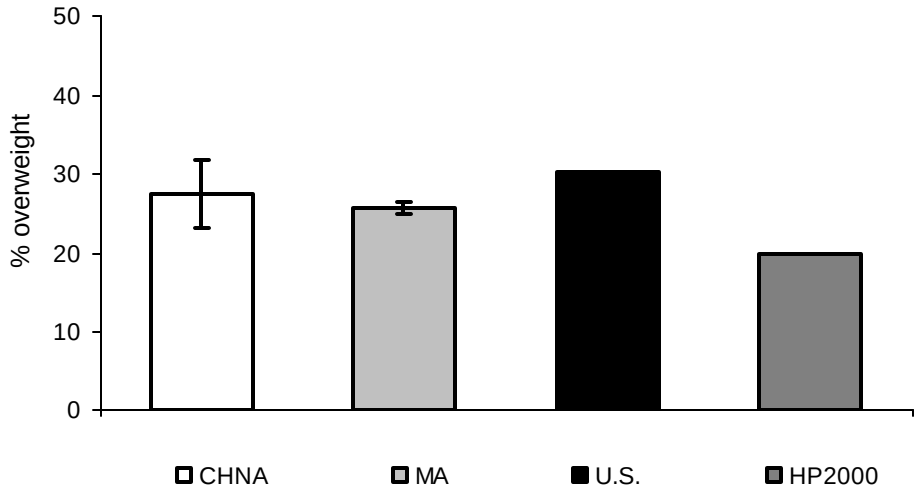
Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1995, 1997, 1999.

WEIGHT CONTROL

Being overweight is defined as having a body mass index (BMI)[5] of 27.8 or greater for men and 27.3 or greater for women.[6] Increasing BMI is positively correlated with higher blood cholesterol levels. In addition, overweight individuals are at increased risk of developing diabetes, hypertension, heart disease, gall bladder disease, and osteoarthritis. The proportion of adults in the U.S. population who are overweight has been increasing over time, a trend that is mirrored in Massachusetts.

In the North Shore CHNA, 28% of adults were overweight, based on self-reported height and weight measurements (Figure 6).[2] The percentage of adults who were overweight was not statistically different from the state average (see map).

Figure 6
Percentage of adults who were overweight; BRFSS data for the North Shore CHNA, Massachusetts, U.S., 1994-1999, Healthy People 2000 Objective

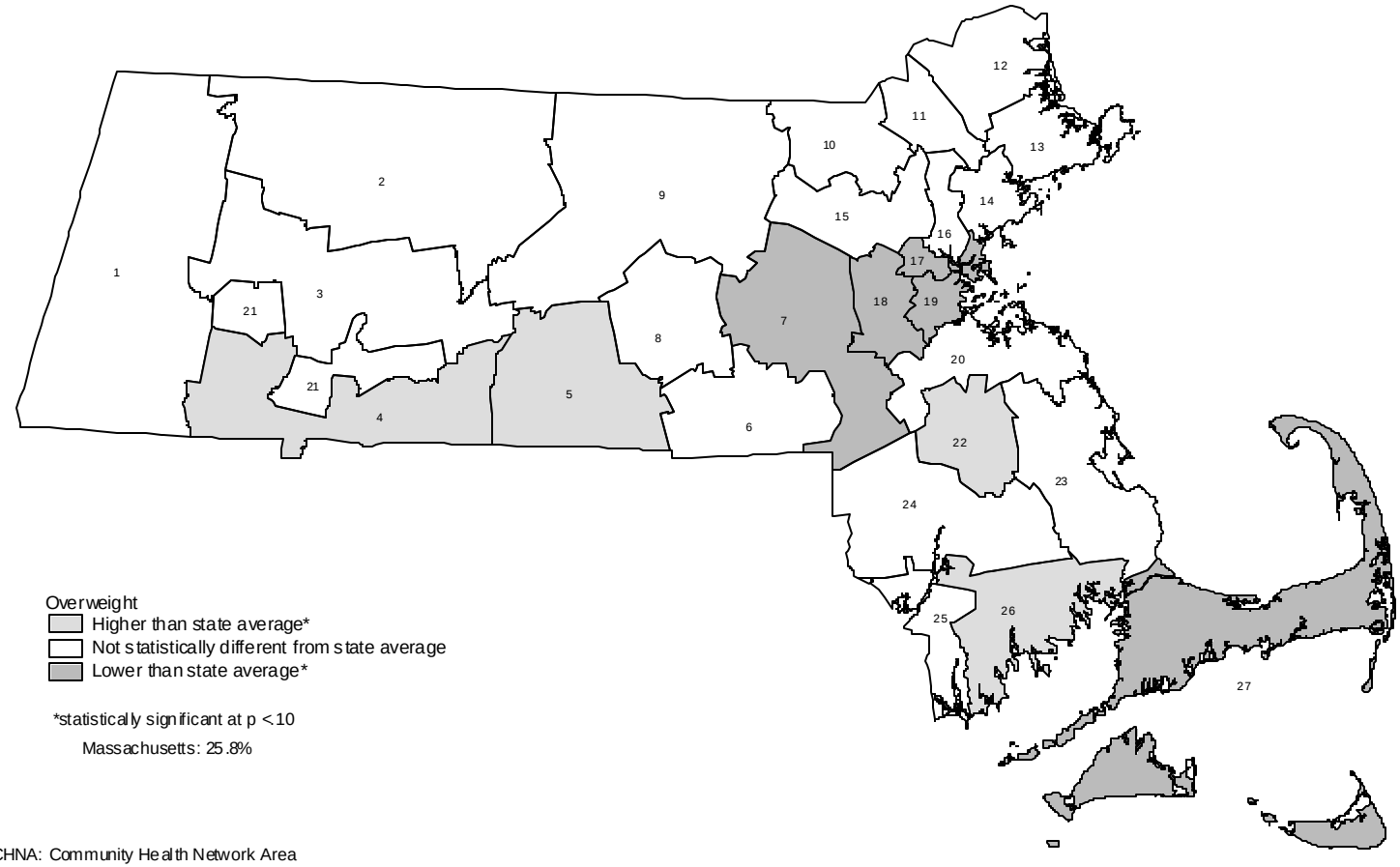


	CHNA	MA	US	HP2000[3]
Overweight based on BMI **95% CI [4]**	**27.5%** **23.1-31.8**	**25.8%** **25.0-26.6**	**30.3%**	**20%**

[5] BMI is calculated by dividing a person's weight in kilograms by his/her height in meters squared.
[6] In June 1998, the National Institutes of Health lowered the threshold for defining overweight by BMI, defining overweight as a BMI of 25 or greater.
[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.
[3] Healthy People 2000 Objectives (see Glossary)

[4] Confidence Interval (see Glossary)

Percentage of Overweight Adults, CHNAs Compared to State Average



Overweight
- Higher than state average*
- Not statistically different from state average
- Lower than state average*

*statistically significant at $p < .10$

Massachusetts: 25.8%

CHNA: Community Health Network Area

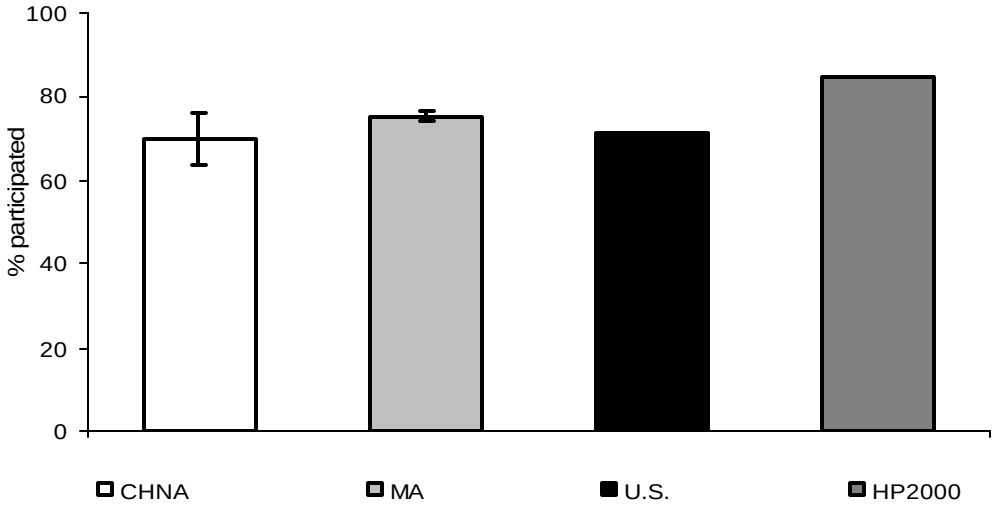
Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1994-1999.

PHYSICAL ACTIVITY

Regular physical activity has been demonstrated to have protective effects for several chronic diseases, including coronary heart disease, hypertension, non-insulin-dependent diabetes mellitus, osteoporosis, and colon cancer. Regular physical activity also reduces feelings of depression and anxiety, is an essential component of weight loss programs, and may be linked to reduced risk of back injury. Additional benefits of regular physical activity include helping older adults maintain functional independence and enhancing the quality of life for people of all ages.

The Surgeon General recommends 30 minutes or more of moderate activity 5 times per week or 20 minutes or more of vigorous activity 3 times a week. In the North Shore CHNA, 70% of adults participated in any leisure-time physical activity in the past month (Figure 7).[2] The percentage of adults who participated in any leisure-time physical activity in the past month was significantly lower than the state average (see map).

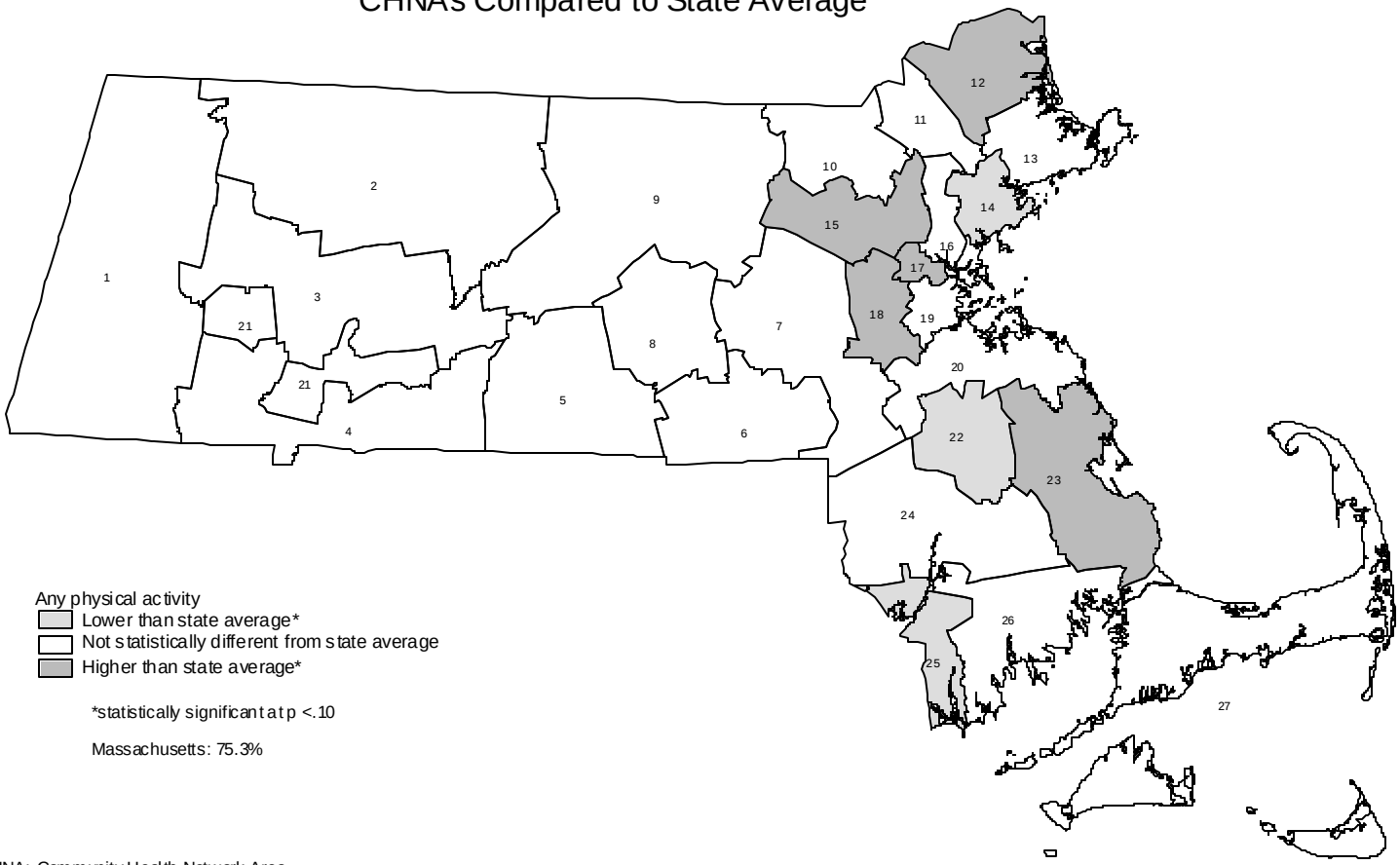
Figure 7
Percentage of adults who participated in any leisure-time physical activity in the past month; BRFSS data for the North Shore CHNA, Massachusetts, U.S., 1994, 1996, 1998, Healthy People 2000 Objective



	CHNA	MA	US	HP2000[3]
Participated in leisure-time physical activity in the past month	**70.0%**	**75.3%**	**71.2%**	**85%**
95% CI[4]	**64.0-76.1**	**74.1-76.4**		

[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.
[3] Healthy People 2000 Objectives (see Glossary)

Percentage of Adults who Participated in any Leisure-time Activity, CHNAs Compared to State Average



Any physical activity
- Lower than state average*
- Not statistically different from state average
- Higher than state average*

*statistically significant at p <.10

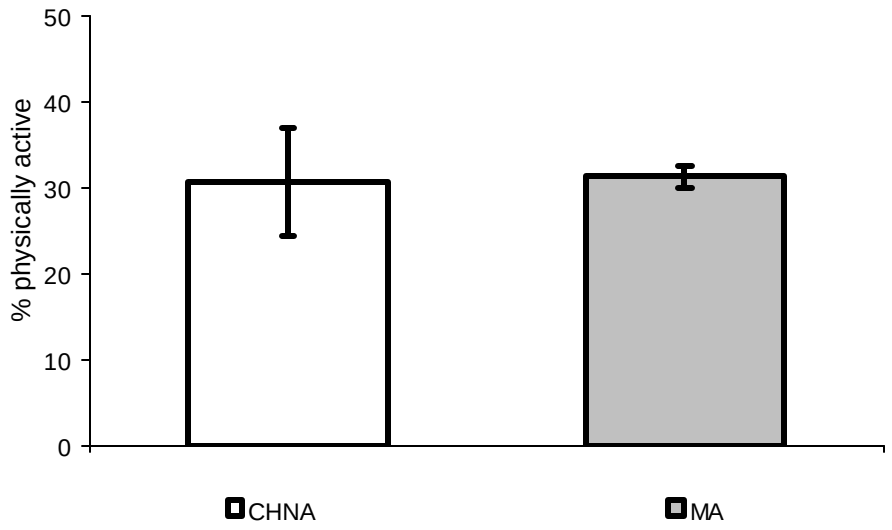
Massachusetts: 75.3%

CHNA: Community Health Network Area

Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1994, 1996, 1998.

In the North Shore CHNA, 31% of adults were regularly physically active, as recommended by the Surgeon General (Figure 8).[2] The percentage of adults who were regularly physically active was not statistically different from the state average (see map).

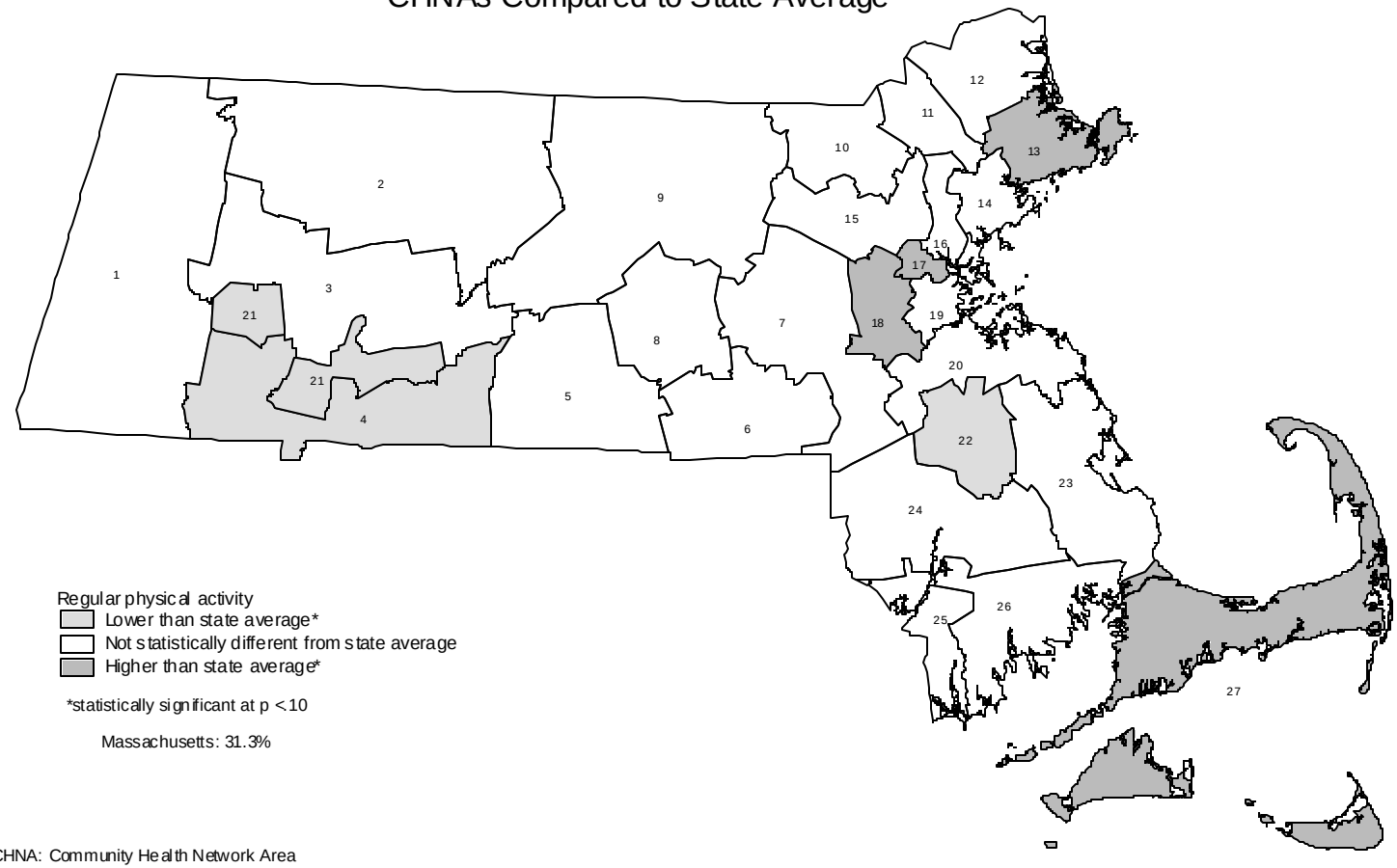
Figure 8
Percentage of adults who were regularly physically active; BRFSS data for the North Shore CHNA, Massachusetts 1994,1996,1998



	CHNA	MA
Regularly physically active **95% CI[4]**	**30.7%** **24.4-37.0**	**31.3%** **30.0-32.5**

[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.
[4] Confidence Interval (see Glossary)

Percentage of Adults who were Regularly Physically Active, CHNAs Compared to State Average



Regular physical activity
- Lower than state average*
- Not statistically different from state average
- Higher than state average*

*statistically significant at p <.10

Massachusetts: 31.3%

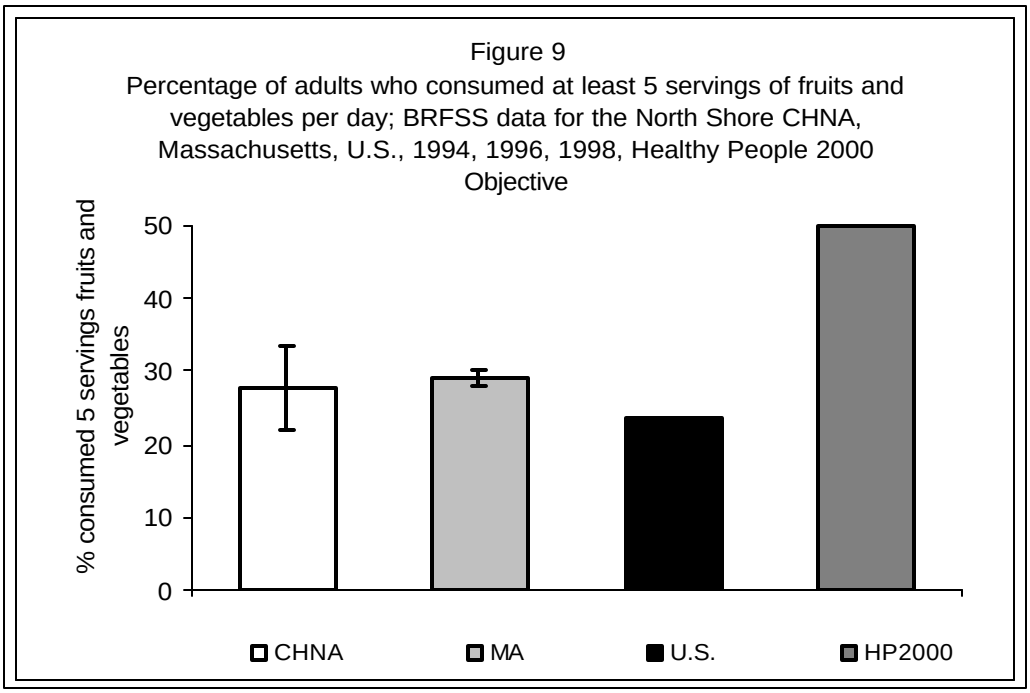
CHNA: Community Health Network Area

Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1994, 1996, 1998.

FRUITS AND VEGETABLES

Fruits and vegetables supply a variety of nutrients. Some are good sources of vitamins A, C, folic acid, potassium, and calcium, and most contain fiber. Fruits and vegetables have no cholesterol, and almost all are naturally low in calories, fat, and sodium. Many studies show that the consumption of fruits and vegetables (especially dark green, leafy vegetables) protects against cancer, particularly cancers of the gastrointestinal and respiratory tracts. In addition, eating fruits and vegetables as part of a diet that is low in fat, saturated fat and cholesterol, and high in fiber can decrease the risk of heart disease. The National Cancer Institute, American Cancer Society, and American Heart Association recommend that individuals consume at least 5 servings of fruits and vegetables daily.

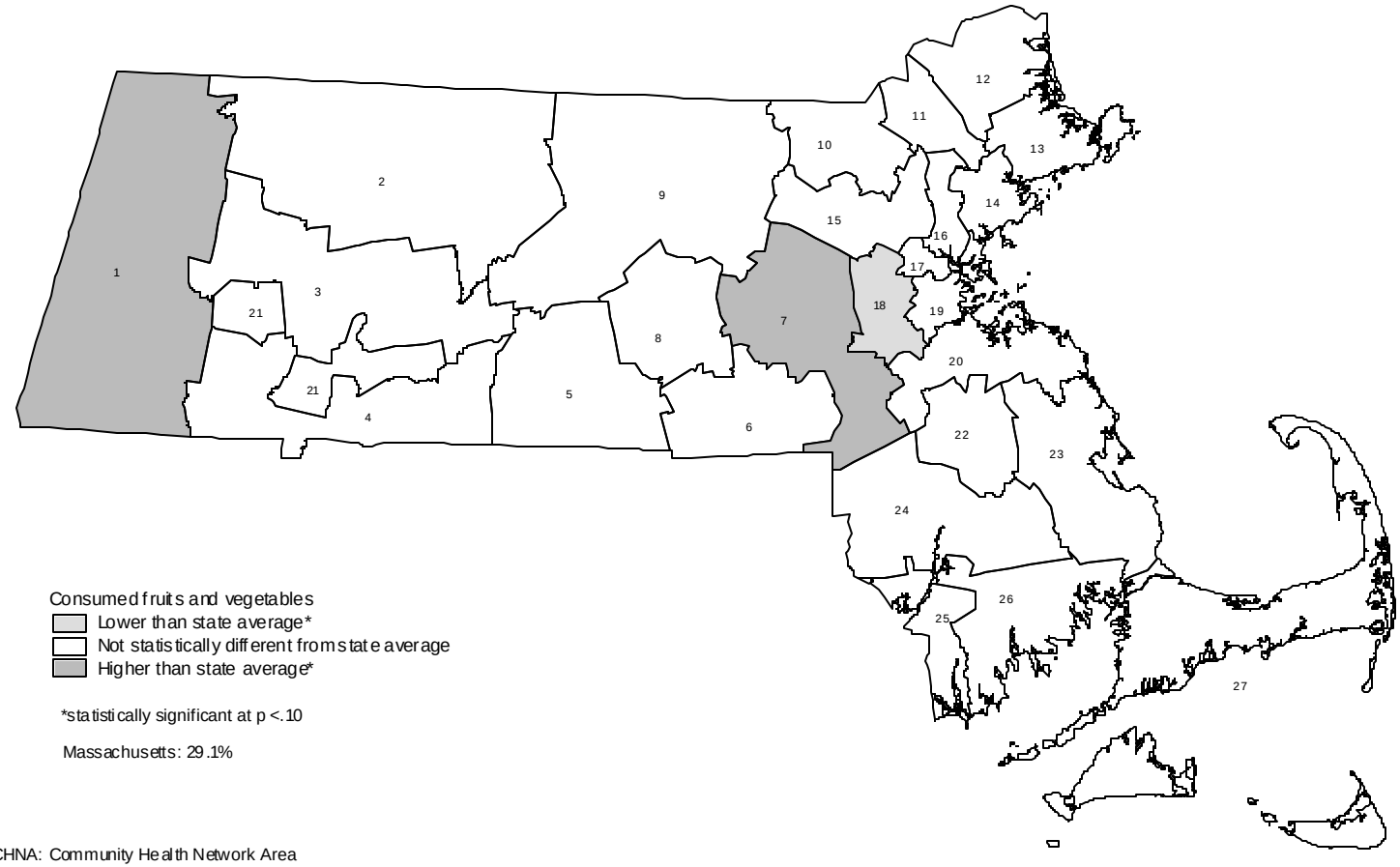
In the North Shore CHNA, 28% of adults consumed at least 5 servings of fruits and vegetables per day (Figure 9).[2] The percentage of adults who consumed at least 5 servings of fruits and vegetables per day was not statistically different from the state average (see map).



	CHNA	MA	US	HP2000[3]
5 or more servings of fruits and vegetables/day	**27.8%**	**29.1%**	**23.6%**	**50%**
95% CI[4]	**21.9-33.6**	**27.9-30.3**		

[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.
[3] Healthy People 2000 Objectives (see Glossary)
[4] Confidence Interval (see Glossary)

Percentage of Adults who Consumed at Least Five Servings of Fruits or Vegetables per Day, CHNAs Compared to State Average



Consumed fruits and vegetables
- Lower than state average*
- Not statistically different from state average
- Higher than state average*

*statistically significant at p <.10

Massachusetts: 29.1%

CHNA: Community Health Network Area

Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1994, 1996, 1998.

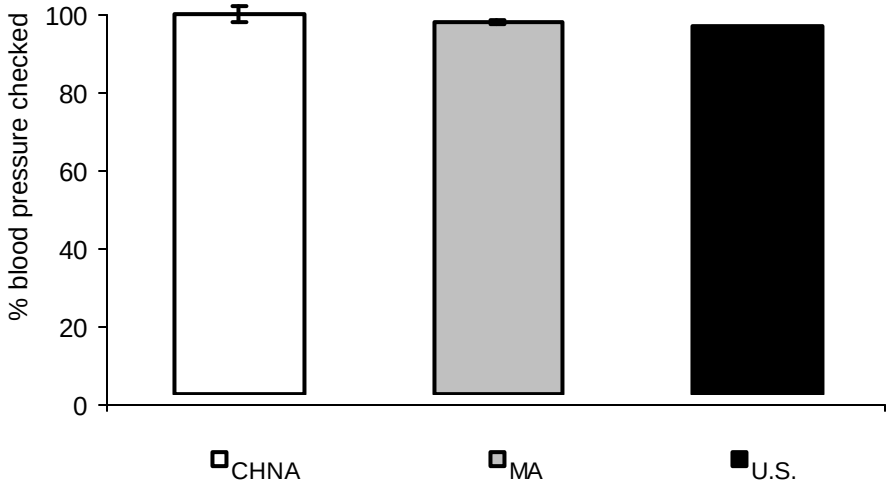
CHRONIC CONDITIONS/PREVENTIVE HEALTH

HYPERTENSION AWARENESS

Hypertension, or high blood pressure, substantially increases the risk of coronary heart disease and stroke, and contributes to damage of the heart, brain, kidneys, and other organs. Modifiable risk factors for hypertension include obesity, high alcohol intake, a diet high in sodium and low in potassium, and physical inactivity. High blood pressure is particularly common among blacks, middle-aged and elderly people, women who are taking oral contraceptives, and individuals with diabetes mellitus, gout, or kidney disease. The American Heart Association recommends that blood pressure be checked by a qualified health professional at least once every two years.

In the North Shore CHNA, 97% of adults have had their blood pressure checked within the last two years (Figure 10).[2] The percentage of adults who had their blood pressure checked within the last two years was significantly higher than the state average (see map).

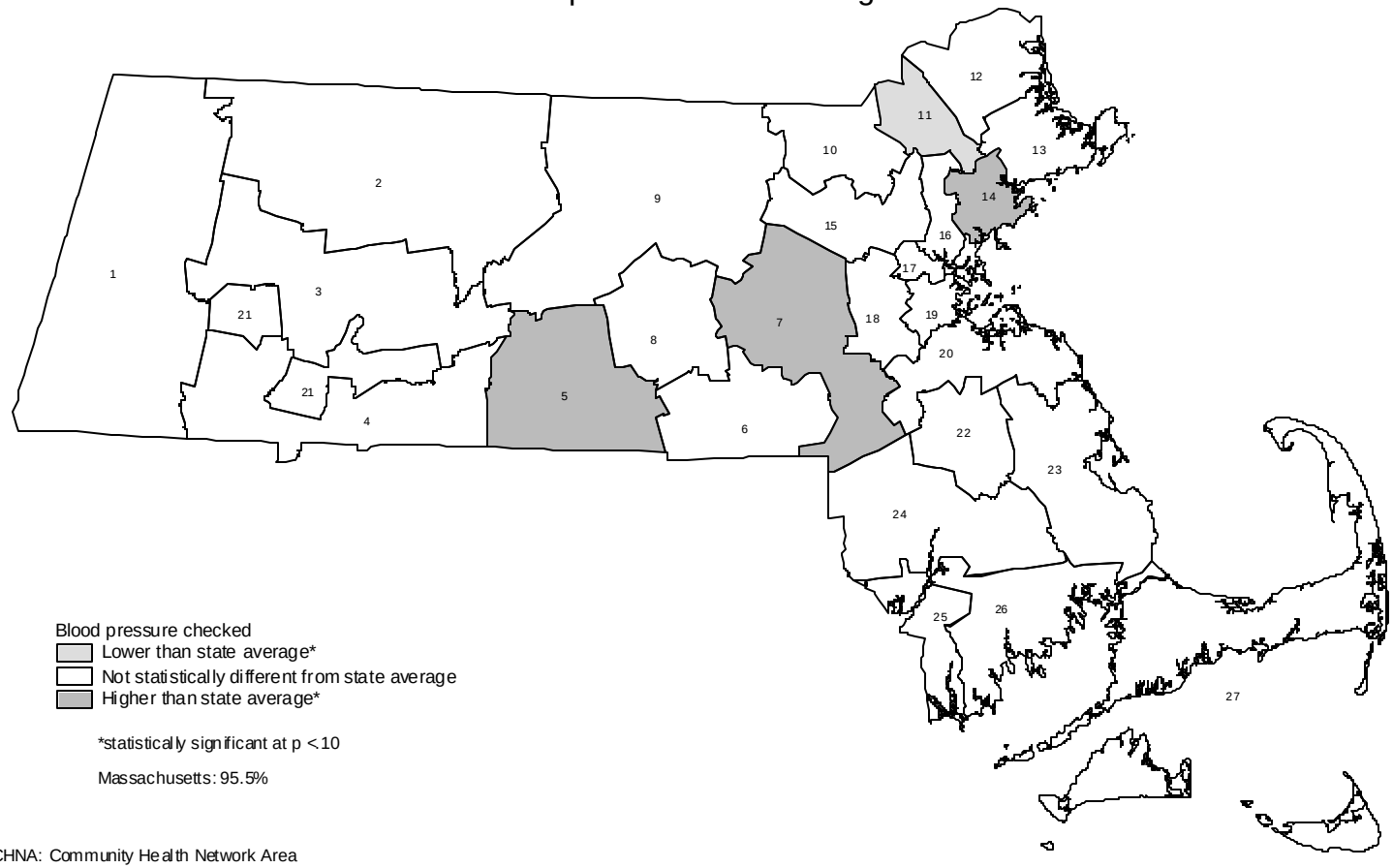
Figure 10
Percentage of adults who had their blood pressure checked within the last two years; BRFSS data for the North Shore CHNA, Massachusetts, U.S., 1995, 1997, 1999



	CHNA	MA	US
Blood pressure checked in past 2 years	**97.3%**	**95.5%**	**94.3%**
95% CI[4]	**95.3-99.3**	**95.0-96.0**	

[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

Percentage of Adults who had Blood Pressure Checked in Past 2 Years, CHNAs Compared to State Average



Blood pressure checked
- Lower than state average*
- Not statistically different from state average
- Higher than state average*

*statistically significant at p <.10

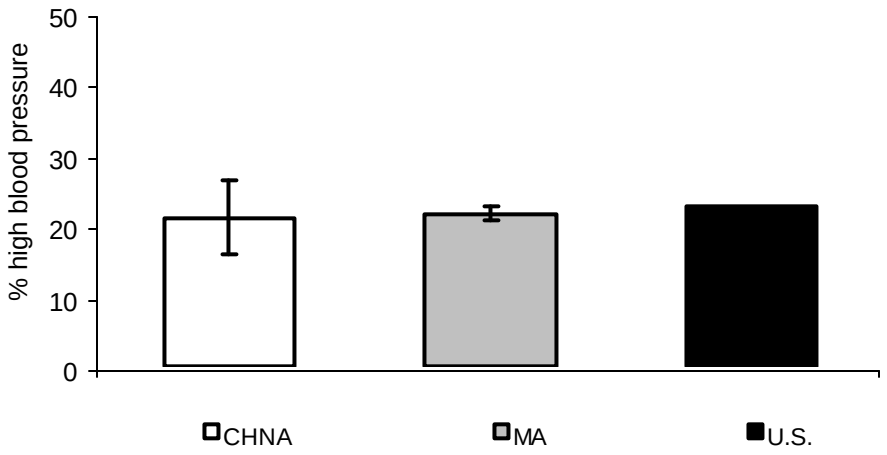
Massachusetts: 95.5%

CHNA: Community Health Network Area

Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1995, 1997, 1999.

In the North Shore CHNA, 21% of those who had ever had their blood pressure checked had ever been told by a doctor, nurse, or other health professional that they had high blood pressure (Figure 11).[2] The percentage of adults with high blood pressure was not statistically different from the state average (see map).

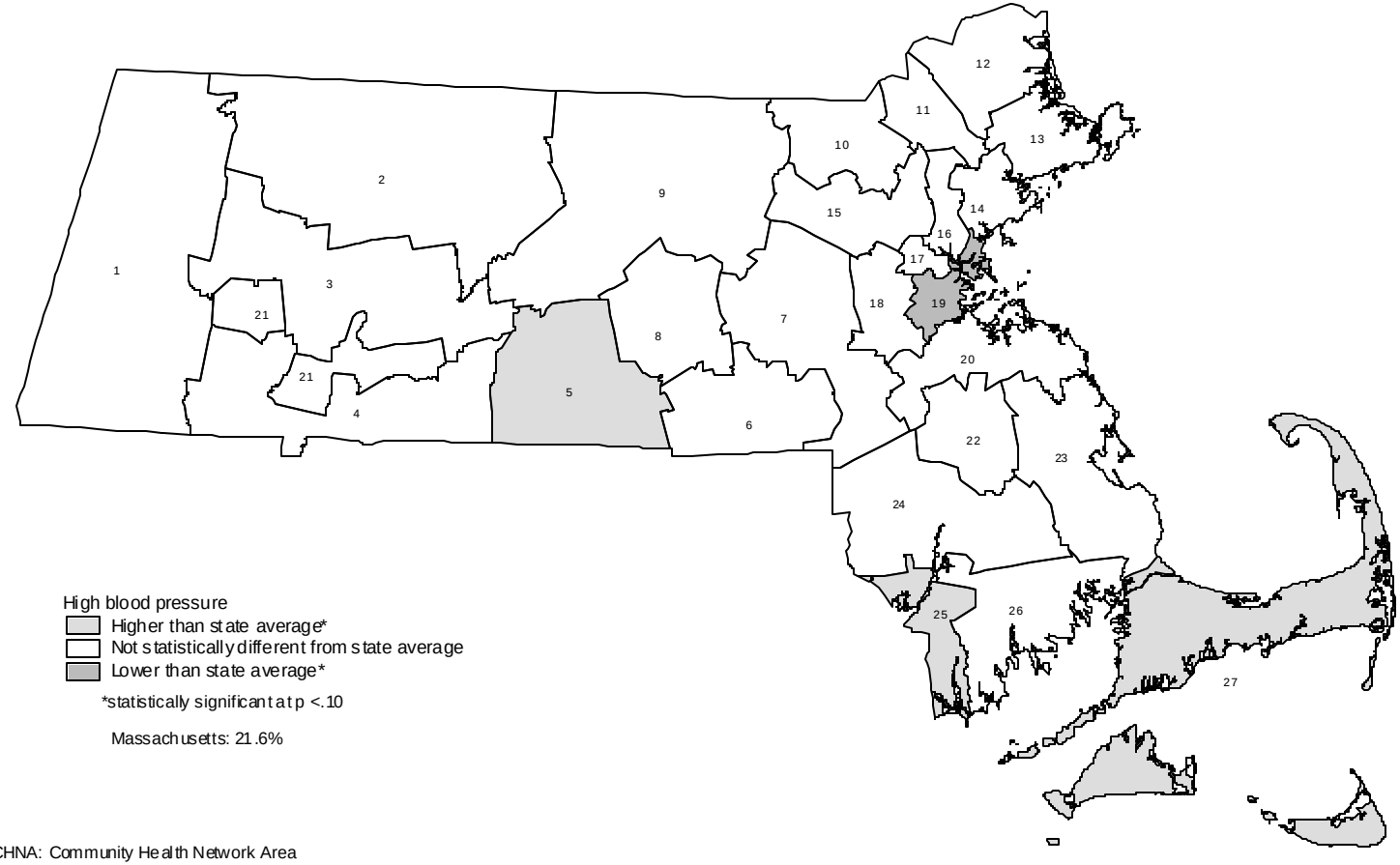
Figure 11
Percentage of adults who were ever told by a health professional that they have high blood pressure (among those who ever had blood pressure checked); BRFSS data for the North Shore CHNA, Massachusetts, U.S., 1995, 1997, 1999



	CHNA	MA	US
Told have high blood pressure **95% CI[4]**	**21.0%** **15.9-26.1**	**21.6%** **20.5-22.6**	**22.7%**

[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.
[4] Confidence Interval (see Glossary)

Percentage of Adults with High Blood Pressure, CHNAs Compared to State Average



High blood pressure

- Higher than state average*
- Not statistically different from state average
- Lower than state average*

*statistically significant at p <.10

Massachusetts: 21.6%

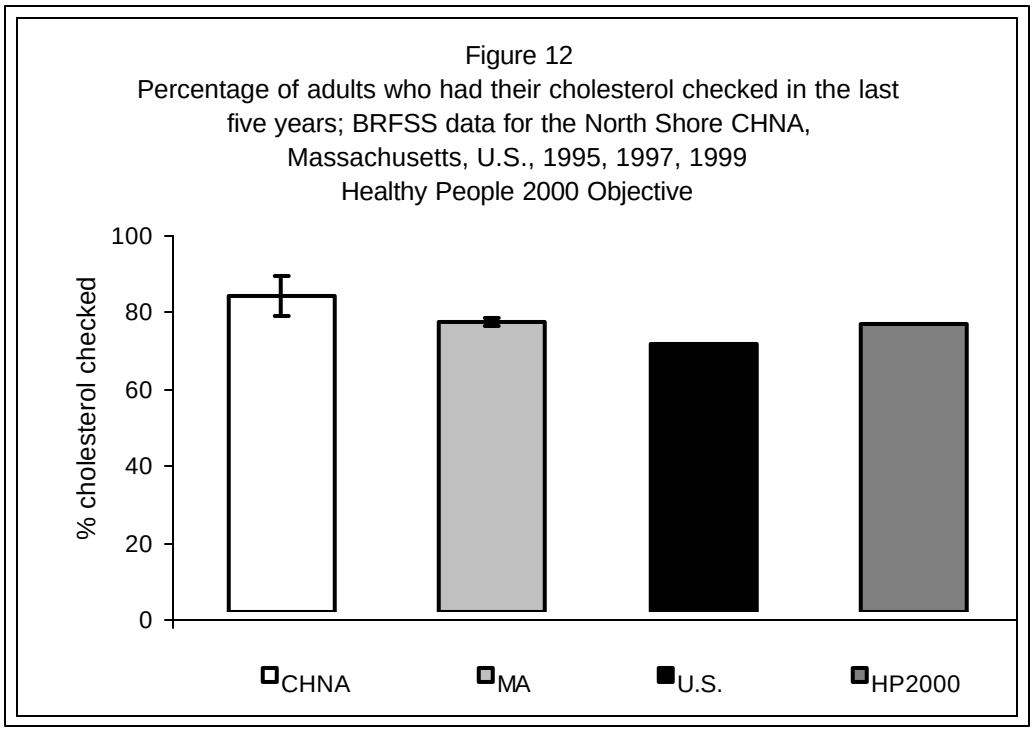
CHNA: Community Health Network Area

Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1995, 1997, 1999.

CHOLESTEROL SCREENING

In 1998, 15,998 residents of Massachusetts died of heart disease, a higher number than from any other cause. Elevated blood cholesterol is associated with increased risk of cardiovascular disease, particularly coronary heart disease. The risk of developing high blood cholesterol increases substantially with age, and is slightly higher for men and whites. Periodic measurement of total serum cholesterol allows for early detection of high blood cholesterol.

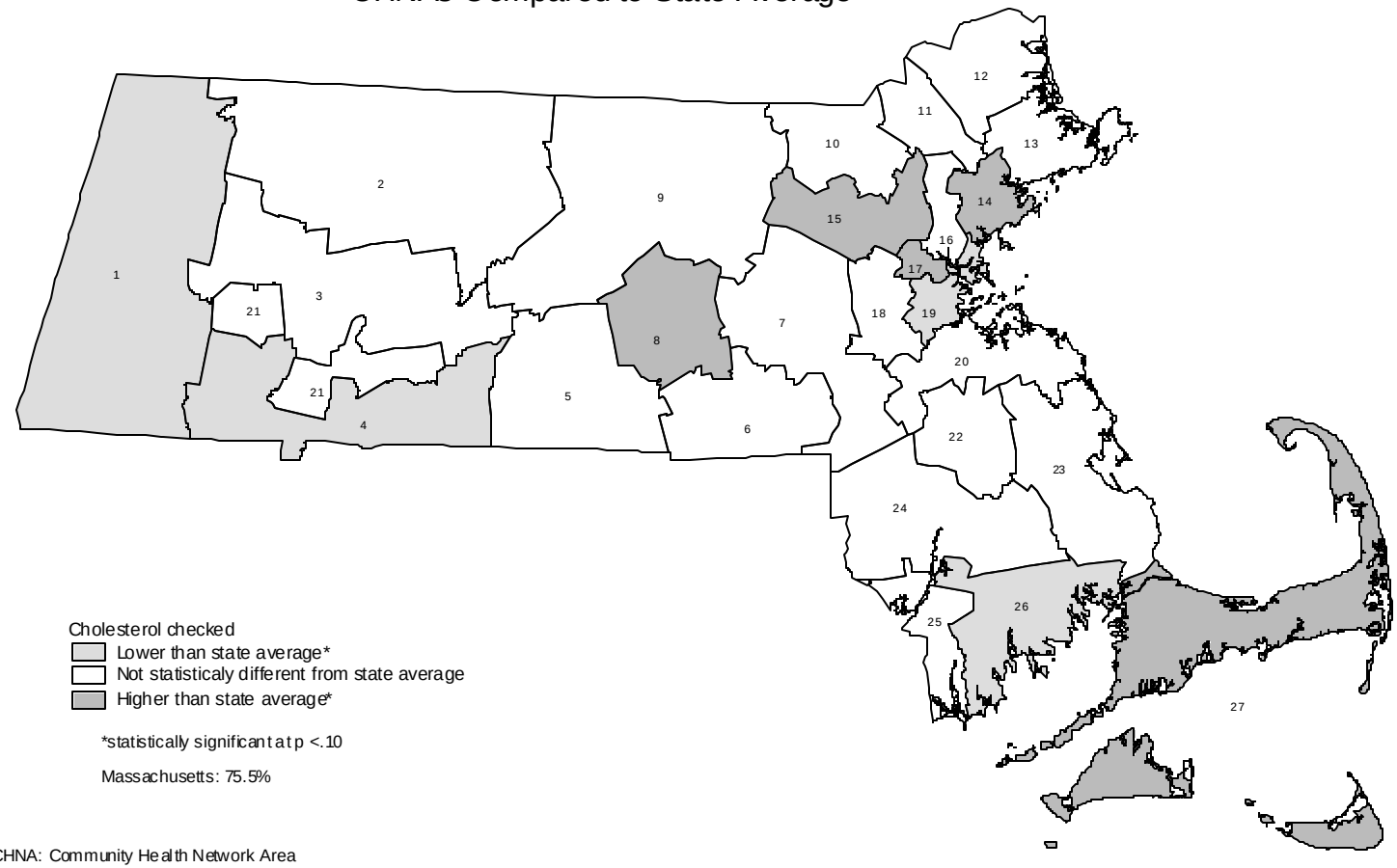
In the North Shore CHNA, 82% of adults had their cholesterol checked within the last five years (Figure 12).[2] The percentage of adults who had their cholesterol checked within the last five years was significantly higher than the state average (see map).



	CHNA	MA	US	HP2000[3]
Cholesterol checked in past 5 years **95% CI[4]**	**82.2%** **77.1-87.3**	**75.5%** **74.3-76.6**	**69.7%**	**75%**

[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.
[3] Healthy People 2000 Objectives (see Glossary)
[4] Confidence Interval (see Glossary)

Percentage of Adults who had Cholesterol Checked in Past 5 Years, CHNAs Compared to State Average



Cholesterol checked
- Lower than state average*
- Not statisticaly different from state average
- Higher than state average*

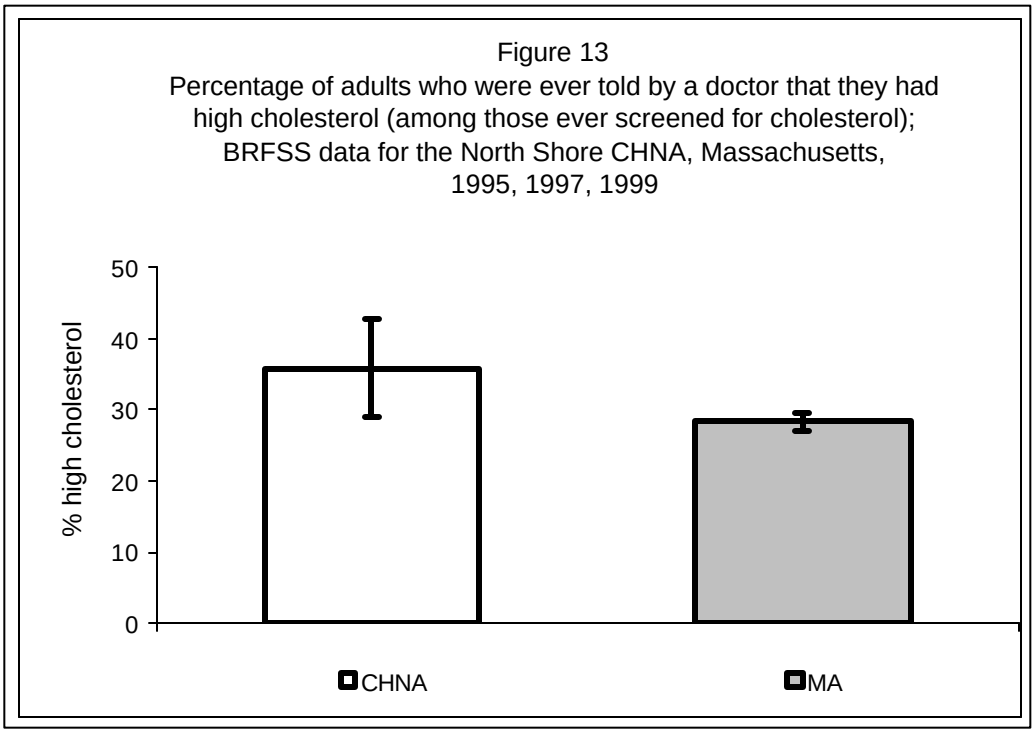
*statistically significant at p <.10

Massachusetts: 75.5%

CHNA: Community Health Network Area

Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1995, 1997, 1999.

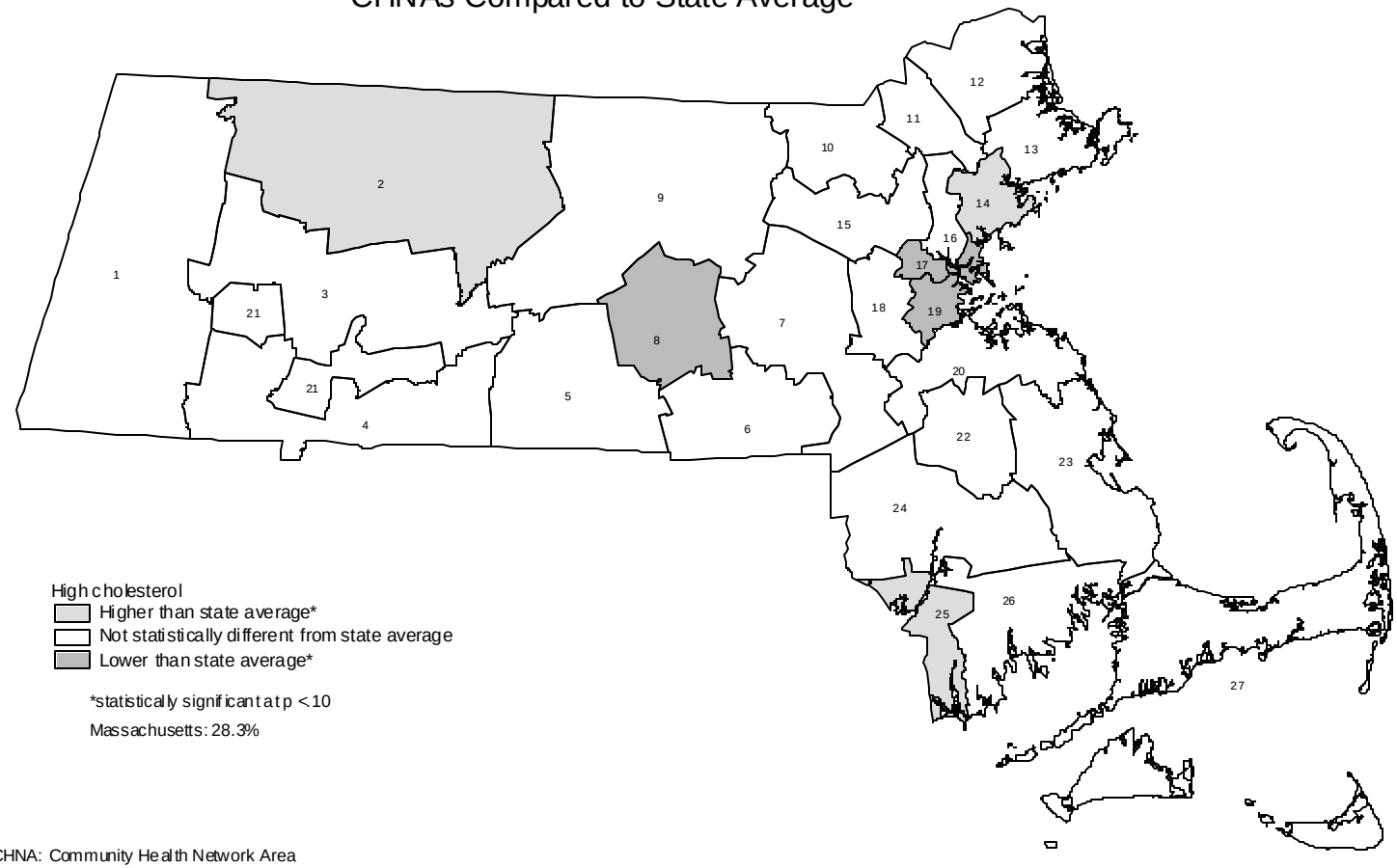
In the North Shore CHNA, among adults who ever had their cholesterol checked, 36% had been told by their doctor that they had high cholesterol (Figure 13).[2] The percentage of adults with high cholesterol was significantly higher than the state average (see map).



	CHNA	MA
Told have high cholesterol	**35.8%**	**28.3%**
95% CI[4]	**28.9-42.7**	**27.1-29.6**

[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.
[4] Confidence Interval (see Glossary)

Percentage of Adults with High Cholesterol, CHNAs Compared to State Average



High cholesterol
- Higher than state average*
- Not statistically different from state average
- Lower than state average*

*statistically significant at p <.10

Massachusetts: 28.3%

CHNA: Community Health Network Area

Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1995, 1997, 1999.

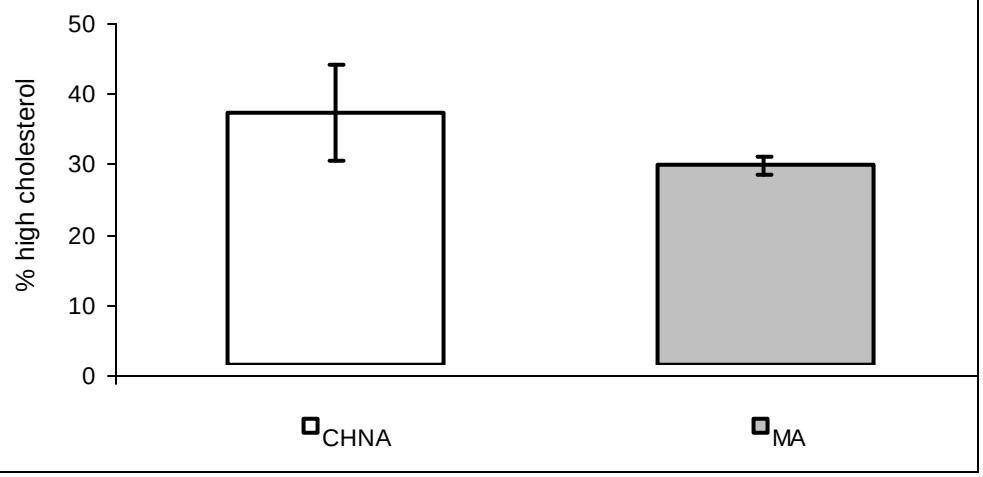
DIABETES

Diabetes mellitus, a chronic condition characterized by elevated blood sugar levels, is a significant contributor to morbidity and mortality in the U.S. Diabetes is the seventh leading cause of death in Massachusetts and can cause debilitating complications such as blindness, renal failure, lower extremity amputations, and cardiovascular disease.

Approximately 200,000 adults in Massachusetts have been diagnosed with diabetes, and a similar number are estimated to have diabetes without being aware of it. Although diabetes occurs among Americans of all ages and racial/ethnic groups, elderly Americans and certain racial/ethnic populations, including blacks, Hispanics, and Native Americans, are more likely to have diabetes.

In the North Shore CHNA, 4% of adults had ever been told by a doctor that they had diabetes (Figure 14).[2] The percentage of adults with diabetes was not statistically different from the state average (see map).

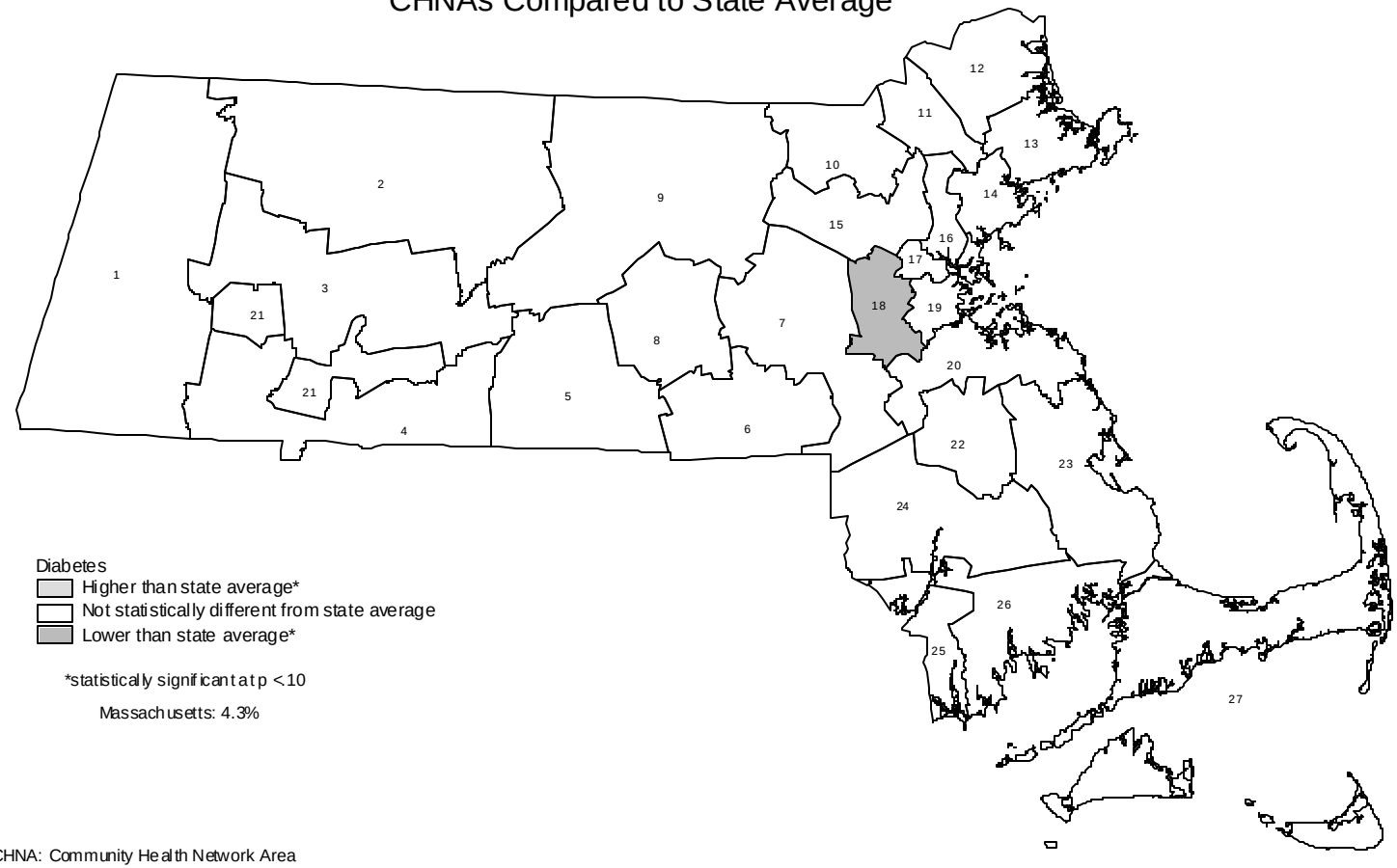
Figure 14
Percentage of adults who were ever told by a doctor that they had high cholesterol (among those ever screened for cholesterol); BRFSS data for the North Shore CHNA, Massachusetts, 1995, 1997, 1999



	CHNA	MA	US	HP2000[3]
Told have diabetes **95% CI[4]**	**3.9%** **2.3-5.4**	**4.3%** **3.9-4.6**	**4.8%**	**2.5%**

[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.
[3] Healthy People 2000 Objectives (see Glossary)

Percentage of Adults with Diabetes, CHNAs Compared to State Average



Diabetes
- Higher than state average*
- Not statistically different from state average
- Lower than state average*

*statistically significant at $p < .10$

Massachusetts: 4.3%

CHNA: Community Health Network Area

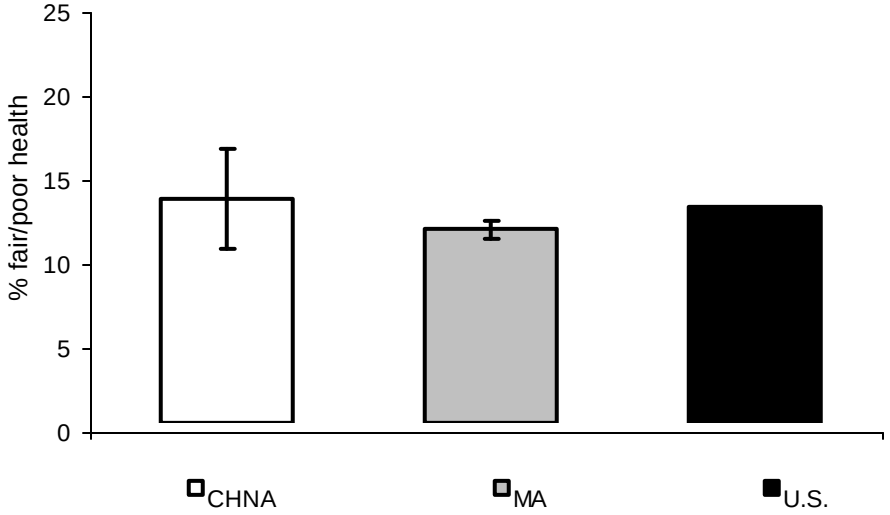
Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1994-1999.

HEALTH STATUS

A description of the diseases and chronic conditions that affect an individual provides an important, but not complete, picture of an individual's overall health and well-being. Another way to assess overall health and well-being is through an individual's self-perception of health status and an evaluation of quality of life indicators. Respondents in this survey were asked to describe their health status, and to assess the number of days that poor physical or mental health prevented them from participating in usual activities.

In the North Shore CHNA, 13% of the adults felt they were in fair or poor health (Figure 15).[2] The percentage of adults who felt they were in fair or poor health was not statistically different from the state average (see map).

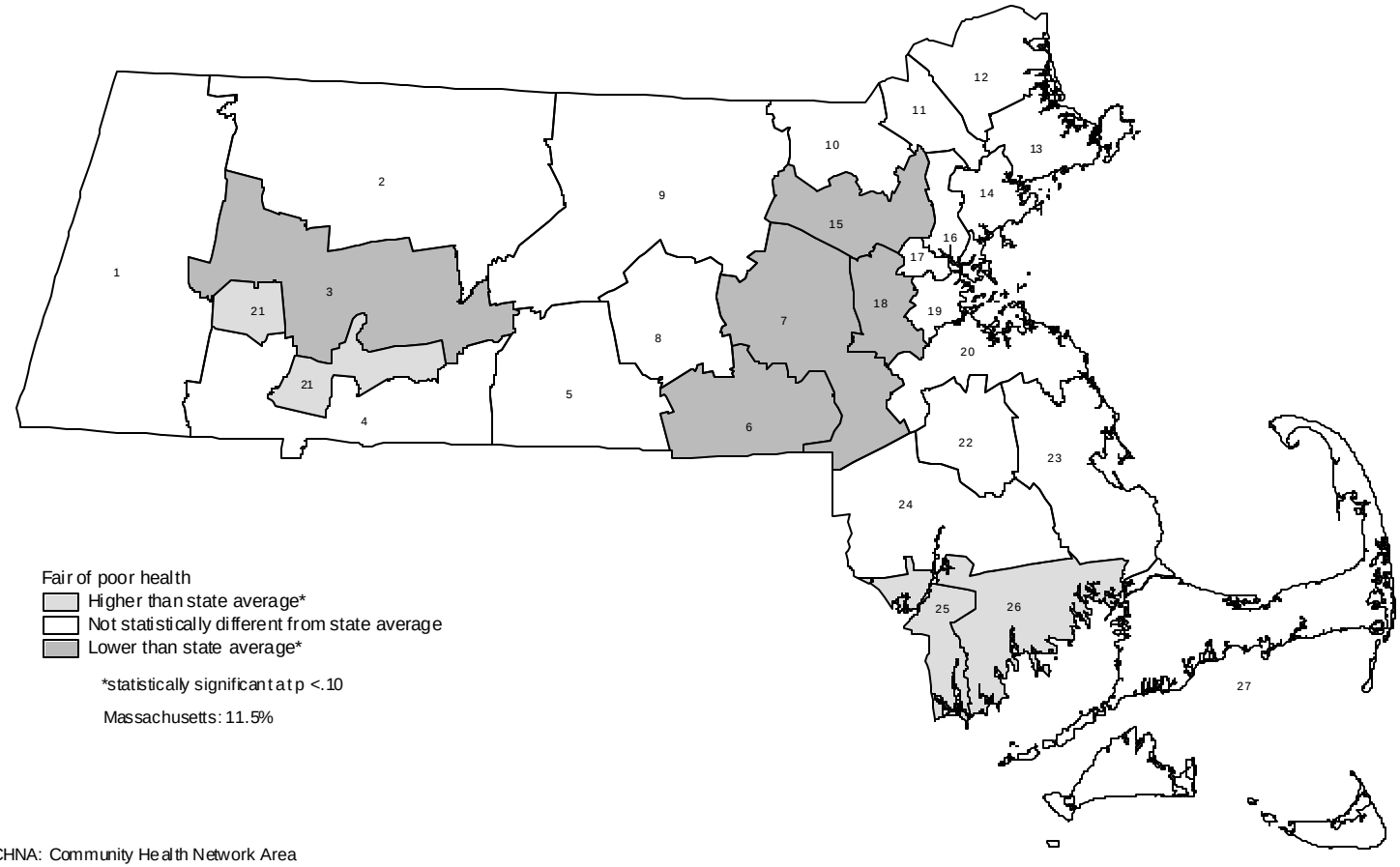
Figure 15
Percentage of adults who described their health as fair/poor; BRFSS data for the North Shore CHNA, Massachusetts, U.S., 1994-99



	CHNA	MA	US
Thought health was fair/poor	**13.4%**	**11.5%**	**12.9%**
95% CI[4]	**10.4-16.4**	**10.9-12.0**	

[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.
[4] Confidence Interval (see Glossary)

Percentage of Adults in Fair or Poor Health, CHNAs Compared to State Average



Fair of poor health
- Higher than state average*
- Not statistically different from state average
- Lower than state average*

*statistically significant at p <.10

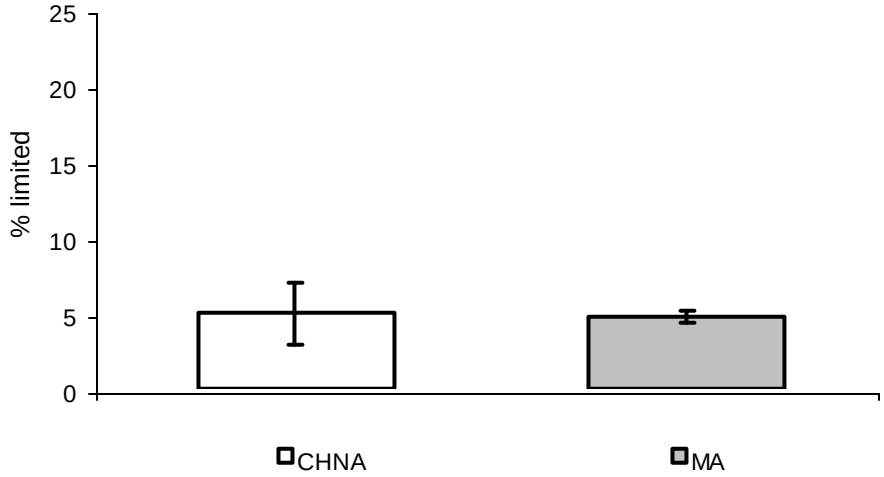
Massachusetts: 11.5%

CHNA: Community Health Network Area

Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1994-1999.

In the North Shore CHNA, poor physical or mental health prevented 5% of adults from engaging in usual activities, such as self-care, work, or recreation for at least 15 out of the past 30 days (Figure 16).[2] The percentage of adults who were limited in usual activities due to poor physical or mental health was not statistically different from the state average (see map).

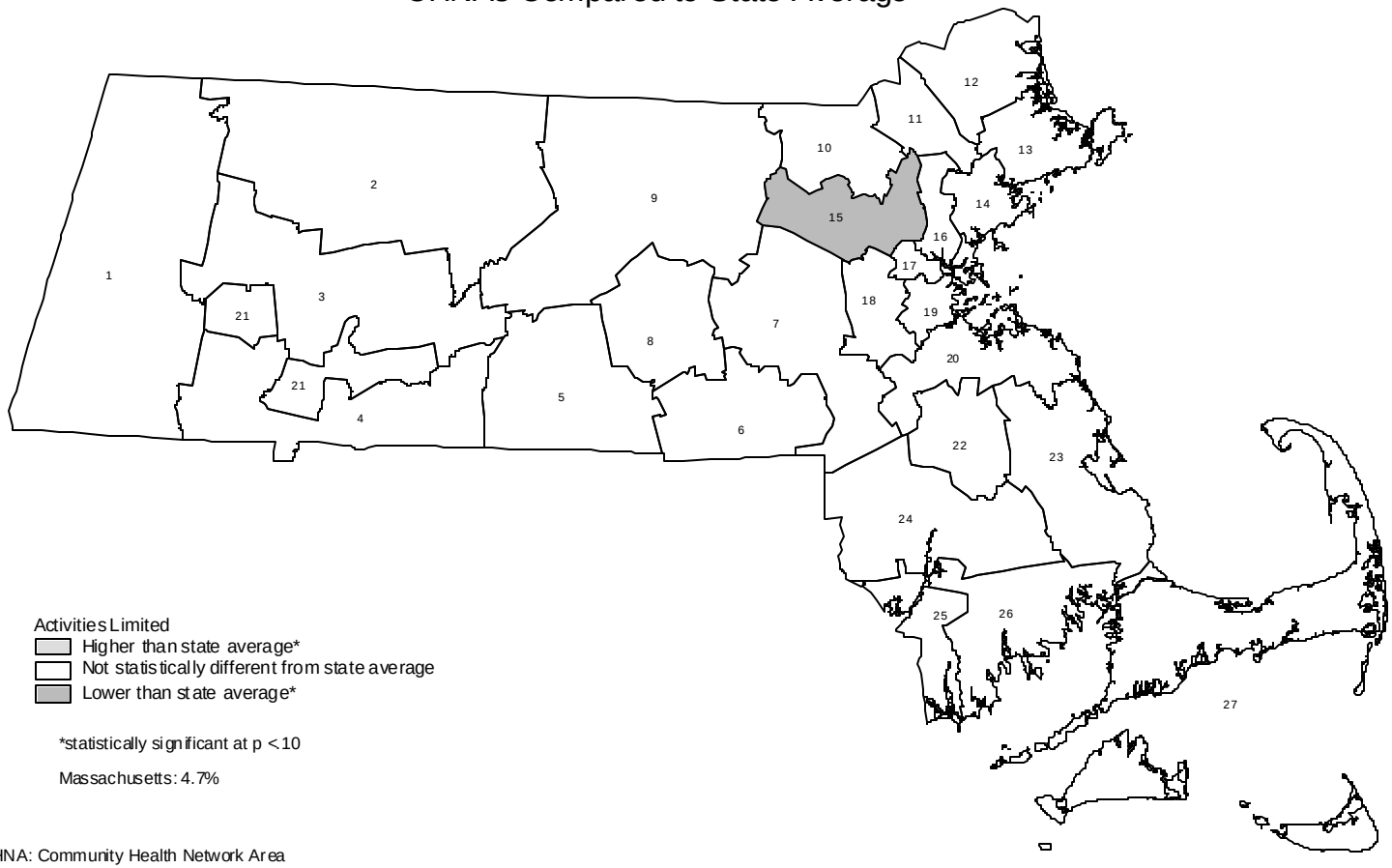
Figure 16
Percentage of adults who were limited in usual activities for 15 or more days in the past month due to poor physical/mental health; BRFSS data for the North Shore CHNA, Massachusetts, 1994-99



	CHNA	MA
Activities limited for 15 or more days in past month	**5.0%**	**4.7%**
95% CI[4]	**3.0-7.0**	**4.4-5.1**

[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.
[4] Confidence Interval (see Glossary)

Percentage of Adults whose Usual Activities were Limited due to Poor Health, CHNAs Compared to State Average



Activities Limited
- Higher than state average*
- Not statistically different from state average
- Lower than state average*

*statistically significant at p <.10

Massachusetts: 4.7%

CHNA: Community Health Network Area

Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1994-1997.

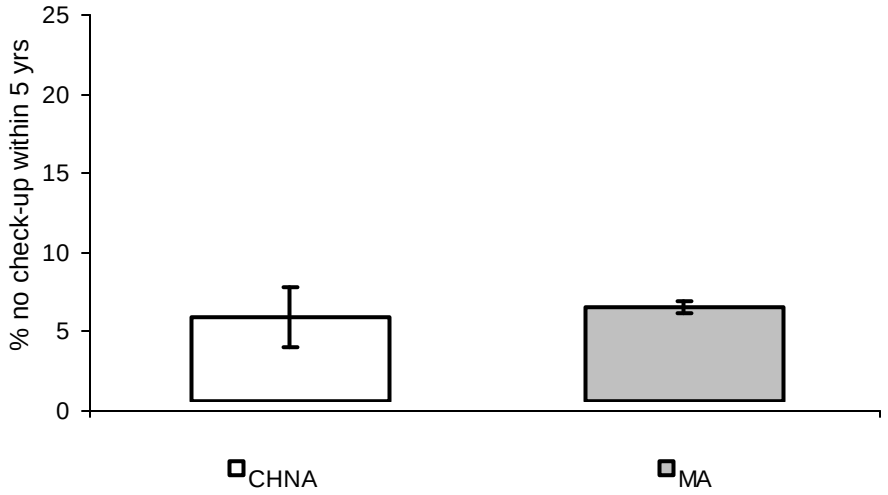
HEALTH INSURANCE, ACCESS, AND UTILIZATION

Access to health professionals for disease prevention and health promotion services, early detection and treatment of acute illness, and management of chronic disease all play an important role in maintaining the health of the population.

Financial barriers can limit overall access to these services. Financial barriers include lack of health insurance and inability to see a doctor because of cost, regardless of insurance status.

In the North Shore CHNA, 5% of adults had not visited a doctor for a routine medical check-up within 5 years (Figure 17).[2] The percentage of adults who did not have a routine check-up within five years was not statistically different from the state average (see map).

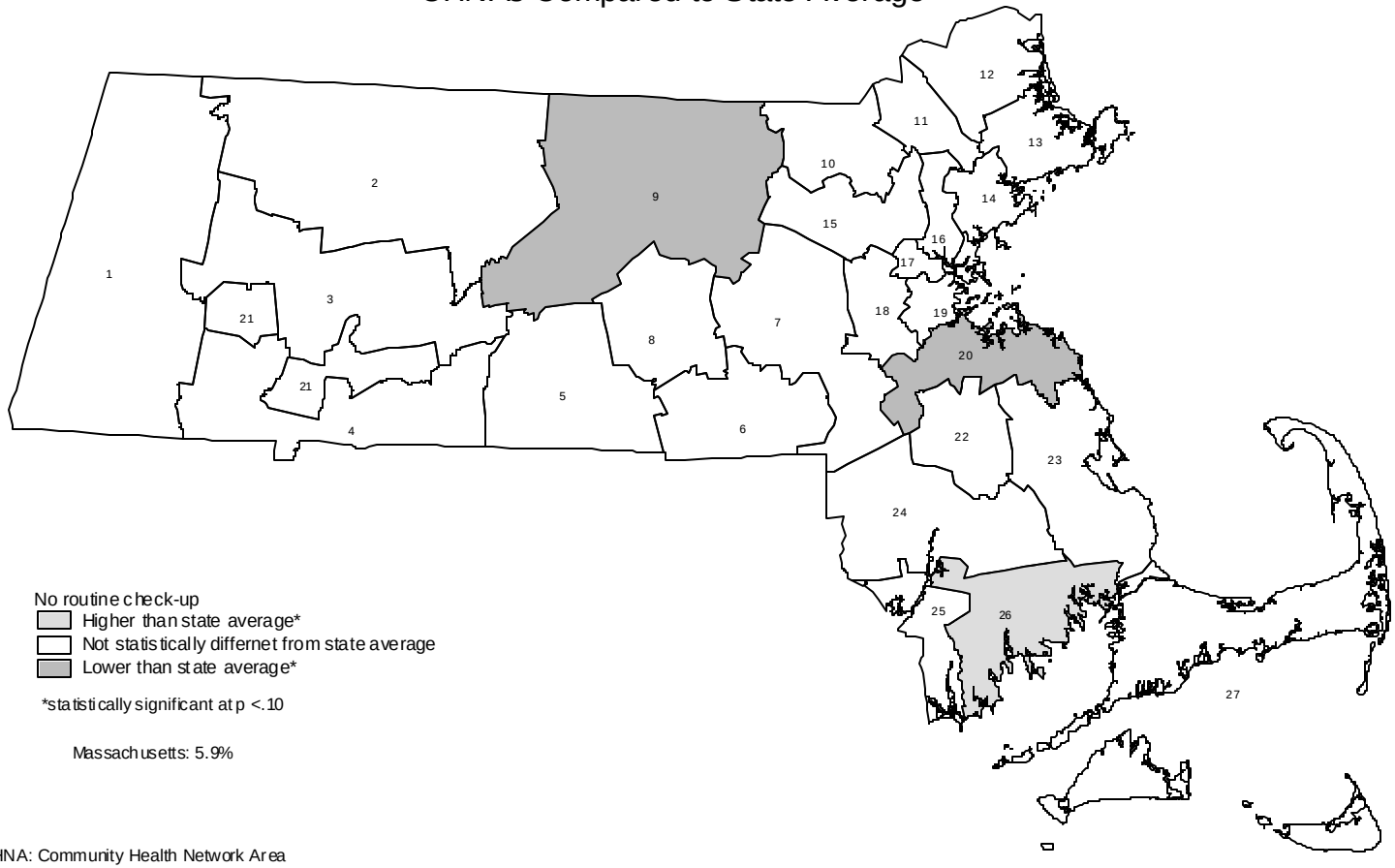
Figure 17
Percentage of adults who had not visited a doctor for a routine check-up within 5 years; BRFSS data for the North Shore CHNA, Massachusetts, 1994-1999



	CHNA	MA
Routine check-up more than 5 years ago	**5.3%**	**5.9%**
95% CI[4]	**3.4-7.2**	**5.5-6.4**

[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.
[4] Confidence Interval (see Glossary)

Percentage of Adults who Have Not Had a Routine Check-up in Past 5 Years, CHNAs Compared to State Average



No routine check-up
- Higher than state average*
- Not statistically differnet from state average
- Lower than state average*

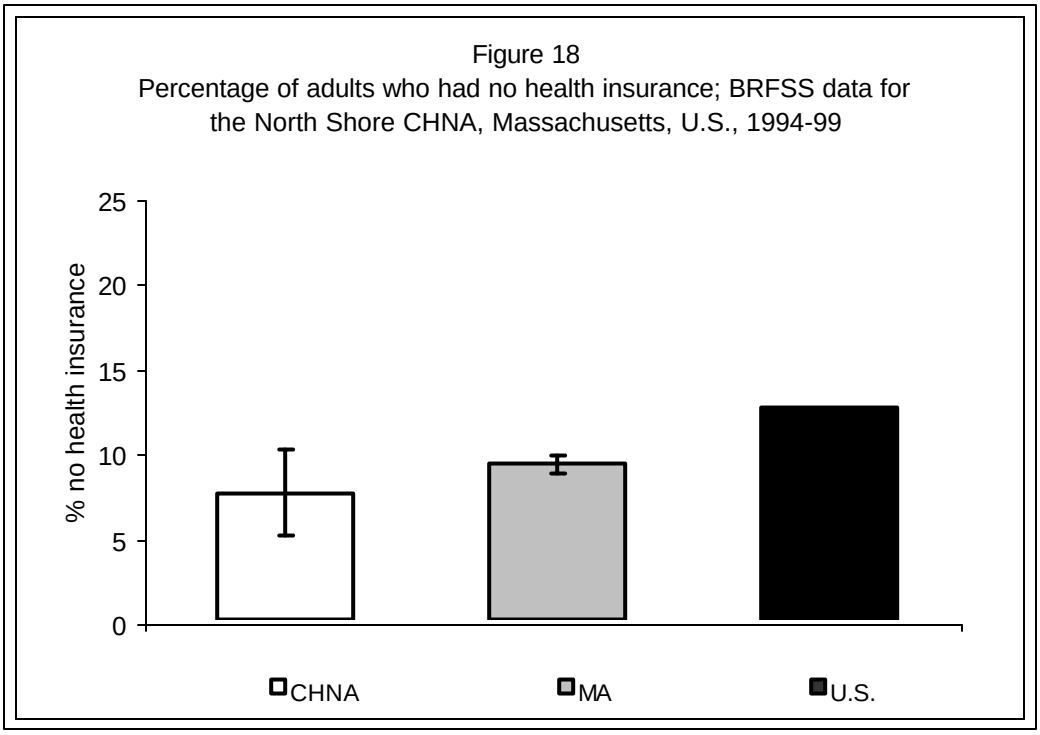
*statistically significant at p <.10

Massachusetts: 5.9%

CHNA: Community Health Network Area

Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1994-1999.

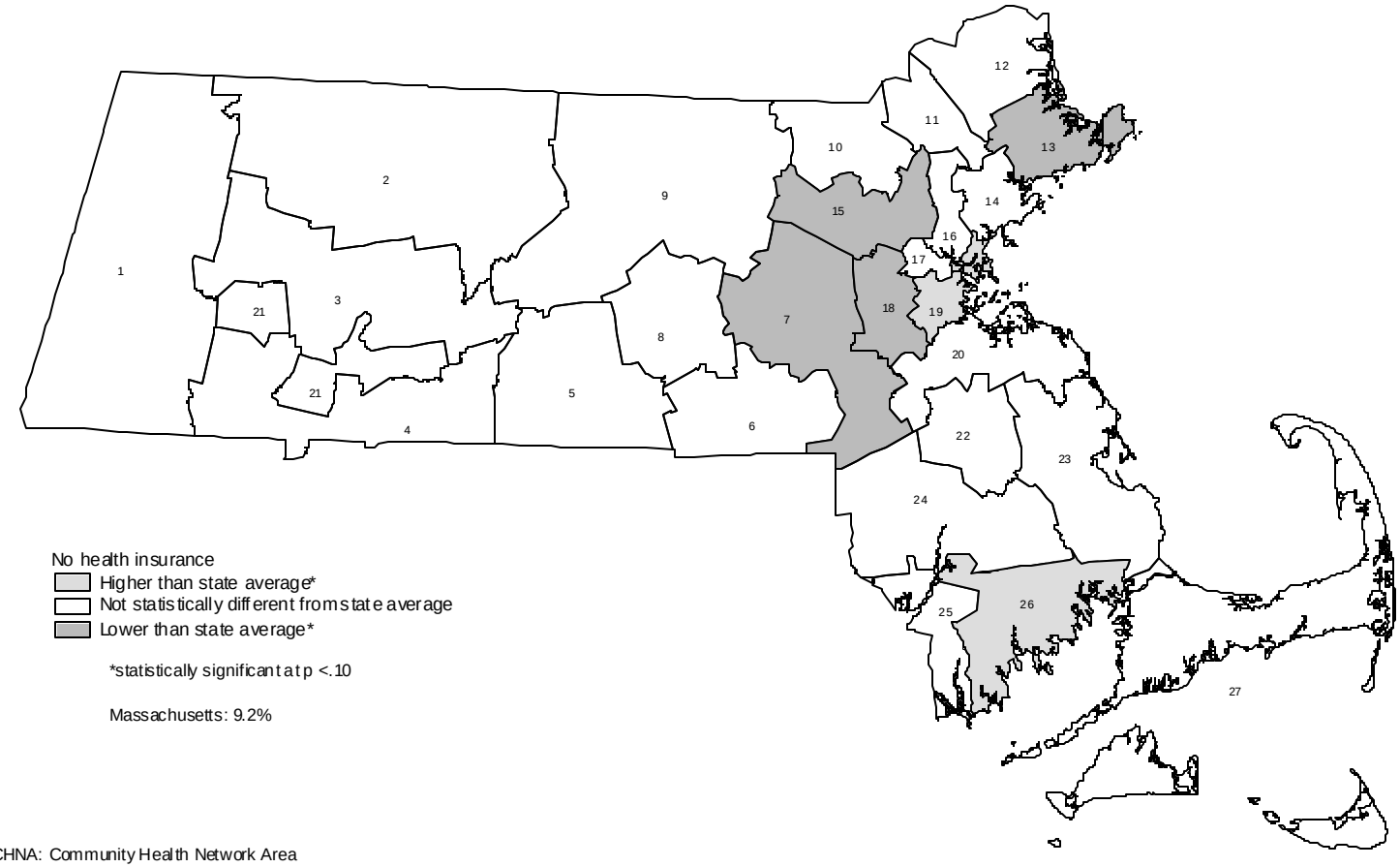
In the North Shore CHNA, 8% of adults had no health insurance (Figure 18).[2] The percentage of adults who had no health insurance was not statistically different from the state average (see map).



	CHNA	MA	US
Did not have health insurance	**7.5%**	**9.2%**	**12.5%**
95% CI[4]	**4.9-10.0**	**8.6-9.7**	

[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.
[4] Confidence Interval (see Glossary)

Percentage of Adults Without Health Insurance, CHNAs Compared to State Average



No health insurance
- Higher than state average*
- Not statistically different from state average
- Lower than state average*

*statistically significant at p <.10

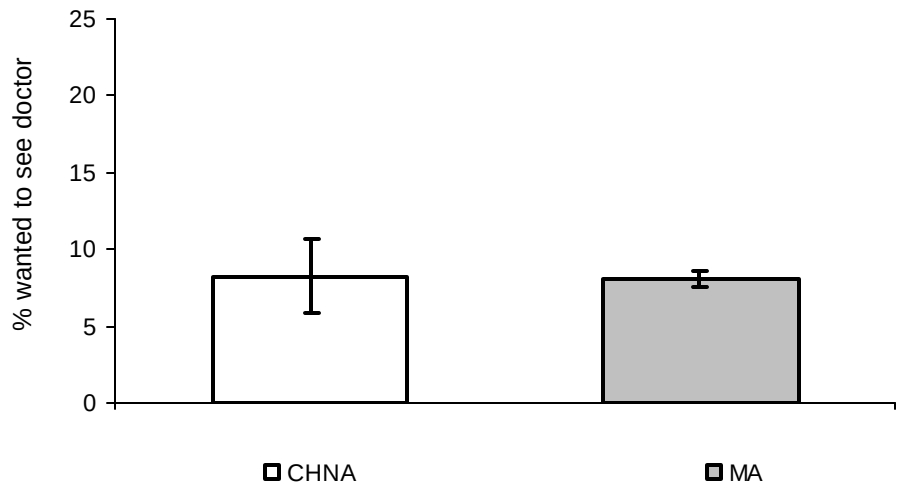
Massachusetts: 9.2%

CHNA: Community Health Network Area

Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1994-1999.

In the North Shore CHNA, 8% of adults wanted to see a doctor in the past 12 months but could not because of the cost (Figure 19).[2] The percentage of adults who were unable to see a doctor due to cost was not statistically different from the state average (see map).

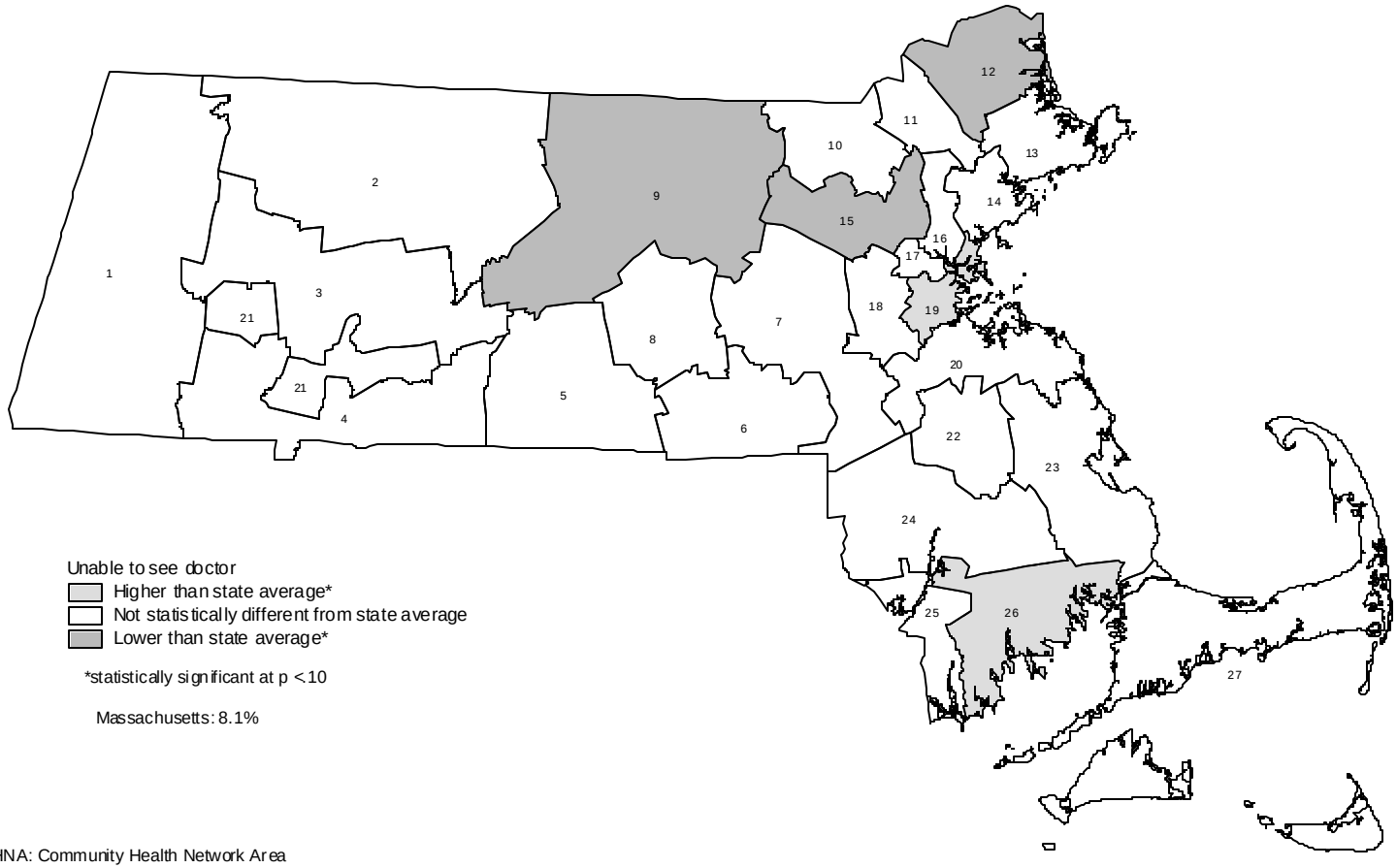
Figure 19
Percentage of adults who wanted to see the doctor but could not because of the cost during the past 12 months; BRFSS data for North Shore CHNA, Massachusetts, 1994-99



	CHNA	MA
Wanted to see doctor but did not because of cost	**8.3%**	**8.1%**
95% CI[4]	**5.8-10.7**	**7.6-8.6**

[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.
[4] Confidence Interval (see Glossary)

Percentage of Adults Unable to See Medical Doctor Due to Cost, CHNAs Compared to State Average



Unable to see doctor
- Higher than state average*
- Not statistically different from state average
- Lower than state average*

*statistically significant at p < .10

Massachusetts: 8.1%

CHNA: Community Health Network Area

Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1994-1999.

CANCER SCREENING

BREAST CANCER

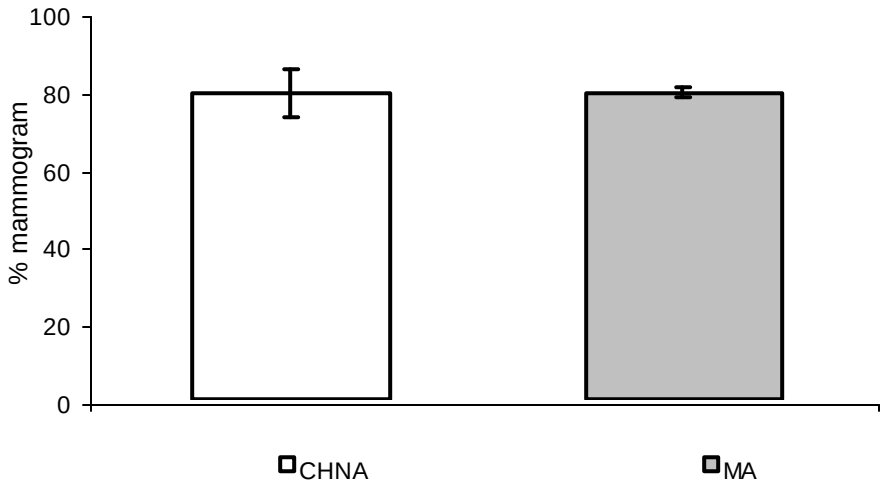
Breast cancer is the most common cancer among women in Massachusetts and the second leading cause of cancer deaths among Massachusetts women. Each year approximately 4,700 women are diagnosed with breast cancer and 1,100 women die of the disease in Massachusetts. Currently, most of the known risk factors for breast cancer are often unalterable. Thus, a primary goal in reducing mortality is early detection of breast cancer through screening.

During the 1994-1996 time period, the American Cancer Society recommended an annual or biennial mammogram from age 40 to 49 and then an annual mammogram starting at age 50. The current American Cancer Society guidelines are for an annual mammogram for women age 40 and older.

The American Cancer Society also recommends that all women older than 20 perform breast self-examination once a month, that women between the ages of 20 to 40 have a clinical breast exam every 3 years, and that women over age 40 have a clinical exam every year.

In the North Shore CHNA, 79% of women age 40 and older had a mammogram within the last two years (Figure 20).[2] The percentage of women who received a mammogram within the last two years was not statistically different from the state average (see map).

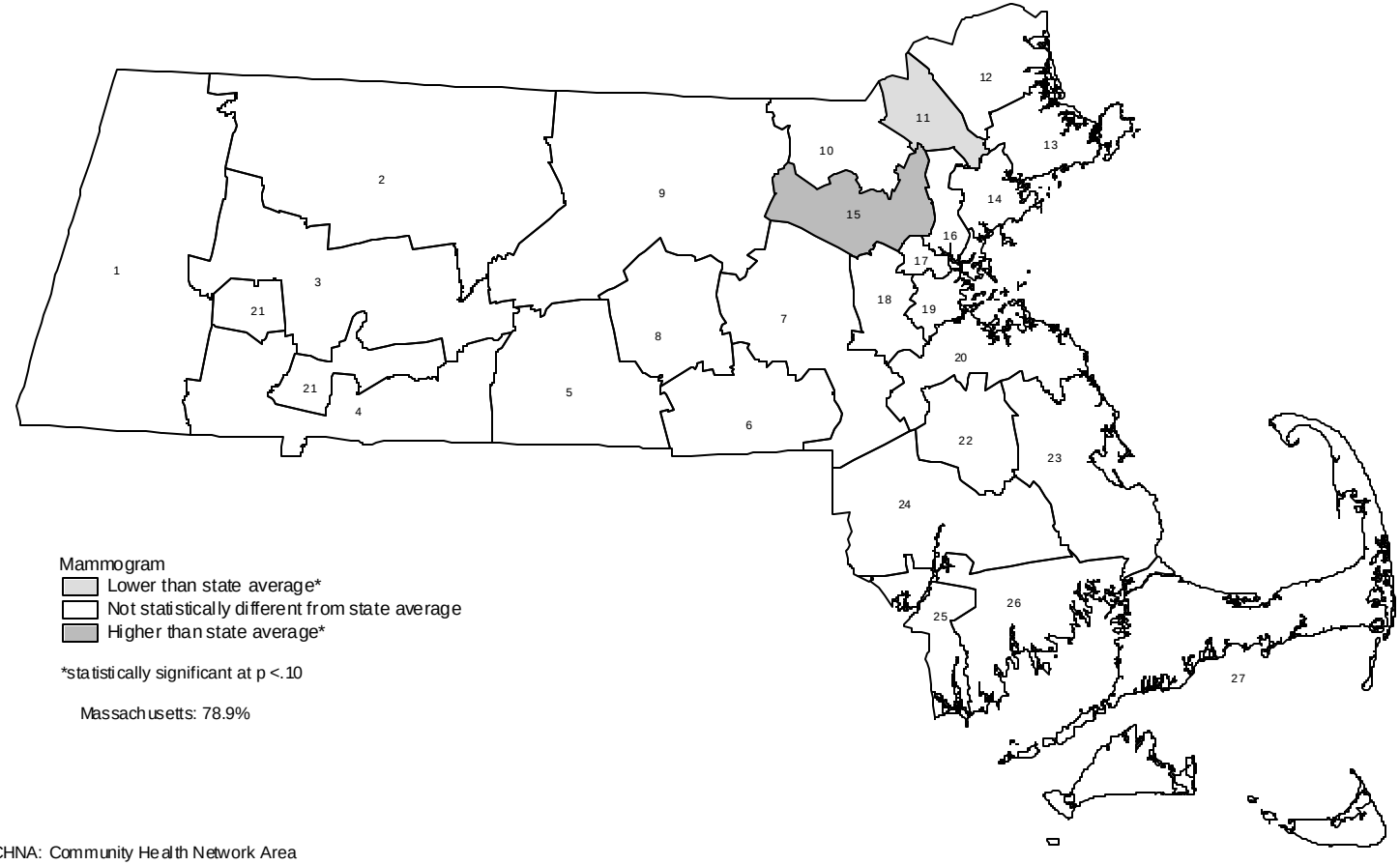
Figure 20
Percentage of women, aged 40 and older, who had a mammogram within the last two years; BRFSS data for the North Shore CHNA, Massachusetts, 1994-99



	CHNA	MA
Mammogram within the past 2 years **95% CI[4]**	**78.9%** **72.9-85.0**	**78.9%** **77.7-80.2**

[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.
[4] Confidence Interval (see Glossary)

Percentage of Women Age 40 years and Older who Received a Mammogram in Past 2 Years, CHNAs Compared to State Average



Mammogram
- Lower than state average*
- Not statistically different from state average
- Higher than state average*

*statistically significant at p <.10

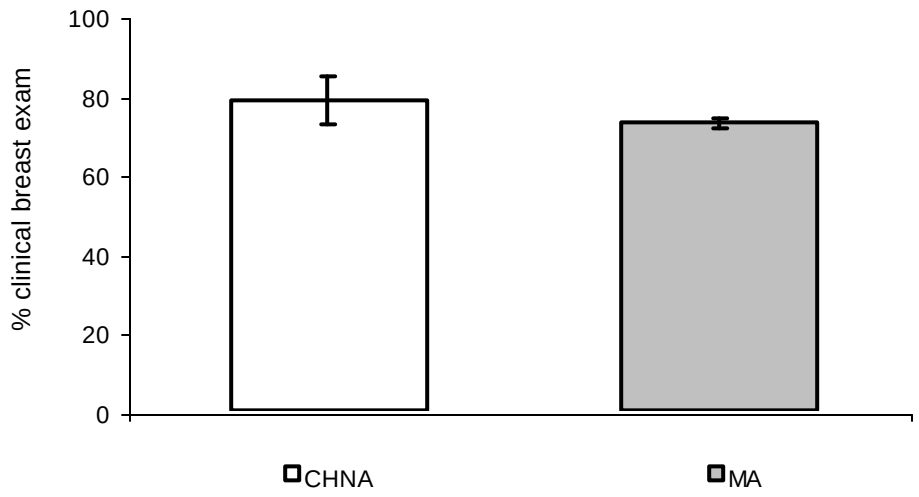
Massachusetts: 78.9%

CHNA: Community Health Network Area

Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1994-1999.

In the North Shore CHNA, 78% of women 40 and older received a clinical breast exam in the past year (Figure 21).[2] The percentage of women who received a clinical breast exam within the last two years was significantly higher than the state average (see map).

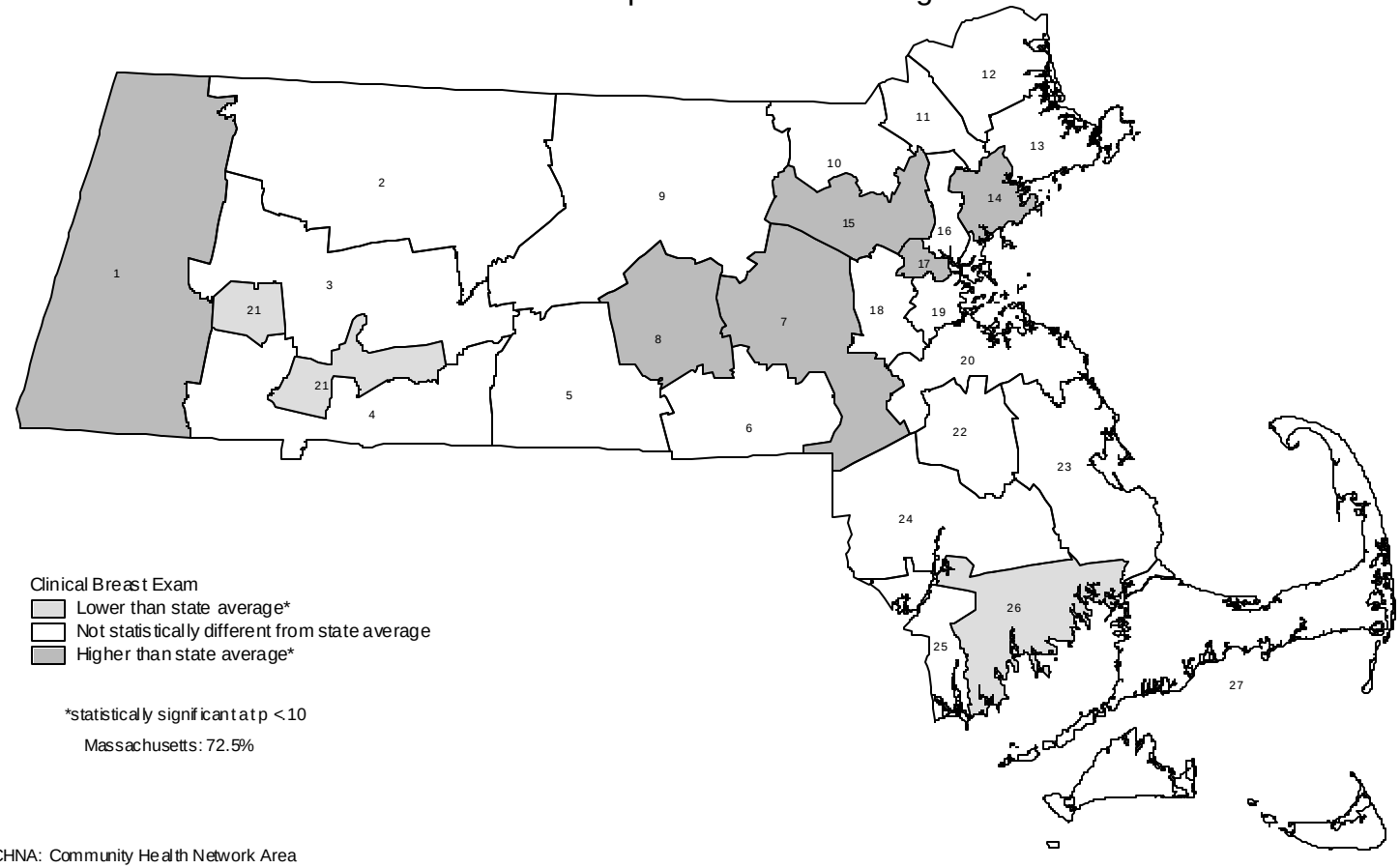
Figure 21
Percentage of women, aged 40 and older, who received a clinical breast exam in the past year; BRFSS data for the North Shore CHNA, Massachusetts, 1994-1999



	CHNA	MA
Clinical breast exam in the past year	**78.3%**	**72.5%**
95% CI[4]	**72.0-84.6**	**71.1-73.9**

[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.
[4] Confidence Interval (see Glossary)

Percentage of Women Age 40 years and Older who Received a Clinical Breast Exam in Past Year, CHNAs Compared to State Average



Clinical Breast Exam
- Lower than state average*
- Not statistically different from state average
- Higher than state average*

*statistically significant at $p < .10$

Massachusetts: 72.5%

CHNA: Community Health Network Area

Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1994-1999.

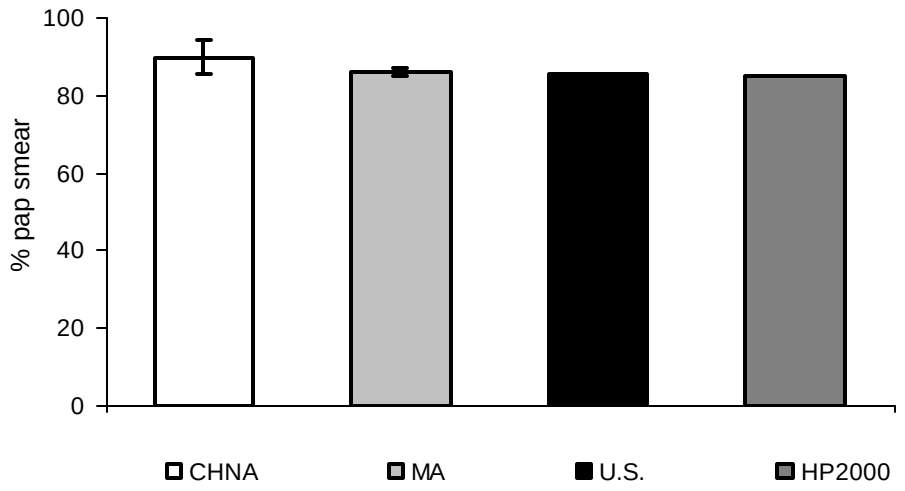
CERVICAL CANCER

Each year, approximately 300 women are diagnosed with invasive cervical cancer and approximately 85 women die of the disease in Massachusetts. Early detection of cervical cancer increases the likelihood of cure. Use of the Papanicoloau (or 'Pap') smear, a screening test to detect early cervical cancer and other abnormalities of the cervix, has contributed to a 74% decrease in the number of deaths due to cervical cancer in the U.S. between 1955 and 1992.

The Pap smear is a simple procedure that can be performed by a health care professional as part of a pelvic exam, and, if performed regularly, can prevent nearly all deaths from cervical cancer. The American Cancer Society recommends that women 18 years of age and older, or younger if sexually active, have an annual Pap smear and pelvic exam. After three or more consecutive, satisfactory, and normal annual exams, the Pap smear may be performed less frequently at the discretion of the physician. However, women classified as high risk for cervical cancer should have an annual Pap smear. Risk factors include certain types of human papilloma virus (HPV, the virus that causes genital warts), sexual intercourse before age 19, multiple sexual partners, intercourse without a condom, smoking, and infection with HIV.

In the North Shore CHNA, 90% of women who have not had a hysterectomy had a Pap smear test within the last three years (Figure 22).[2] The percentage of women who had a Pap smear within the last three years was not statistically different from the state average (see map).

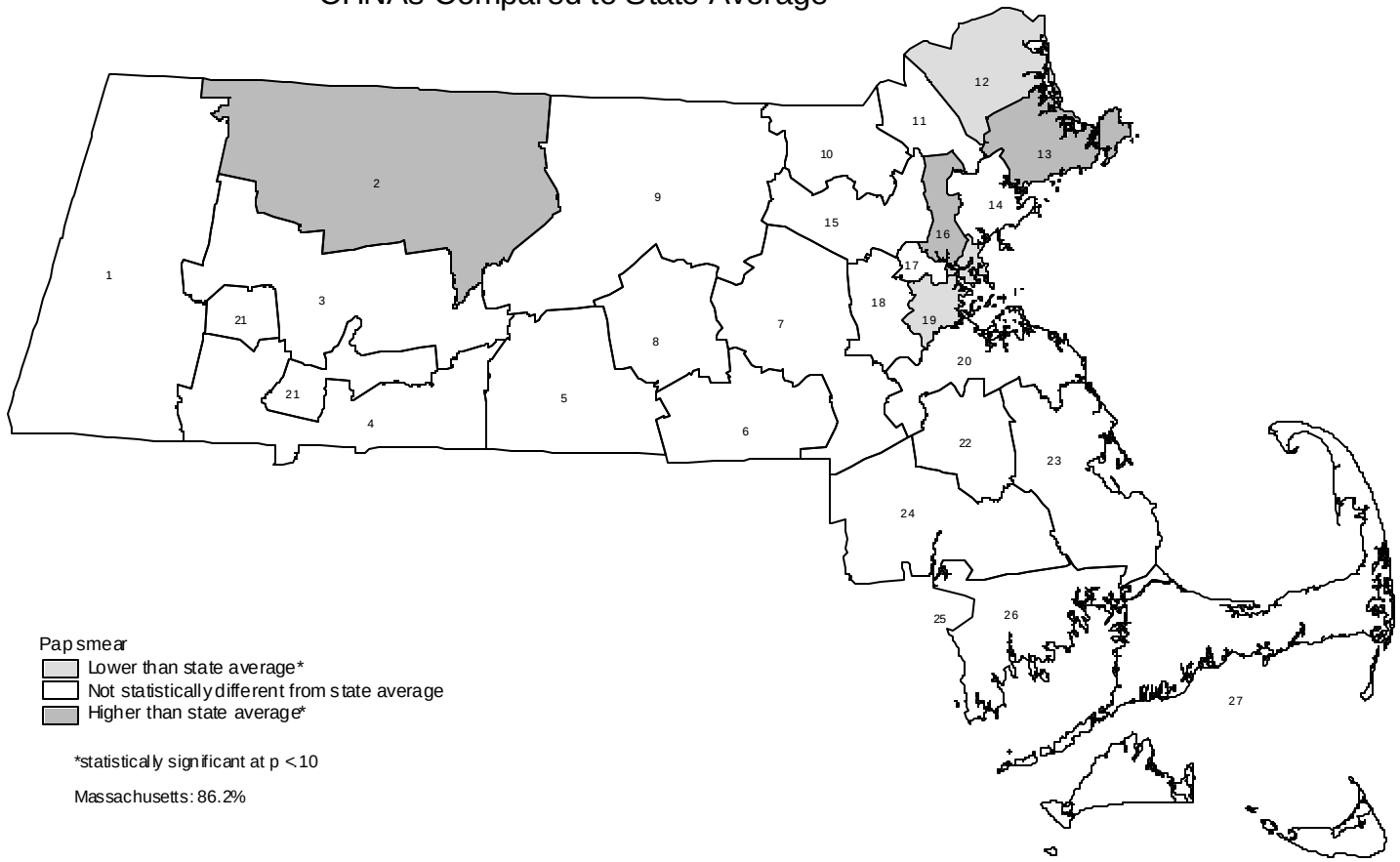
Figure 22
Percentage of women who had a pap smear in the last three years; BRFSS data for the North Shore CHNA, Massachusetts, U.S.,1994-99, Healthy People 2000 Objective



	CHNA	MA	US	HP2000[3]
Pap smear within the past 3 years **95% CI[4]**	**89.8%** **85.5-94.1**	**86.2%** **85.3-87.2**	**85.5%**	**85%**

[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.
[3] Healthy People 2000 Objectives (see Glossary)
[4] Confidence Interval (see Glossary)

Percentage of Women who Received a Pap Smear in Last 3 Years, CHNAs Compared to State Average



Pap smear
- Lower than state average*
- Not statistically different from state average
- Higher than state average*

*statistically significant at p <.10

Massachusetts: 86.2%

CHNA: Community Health Network Area

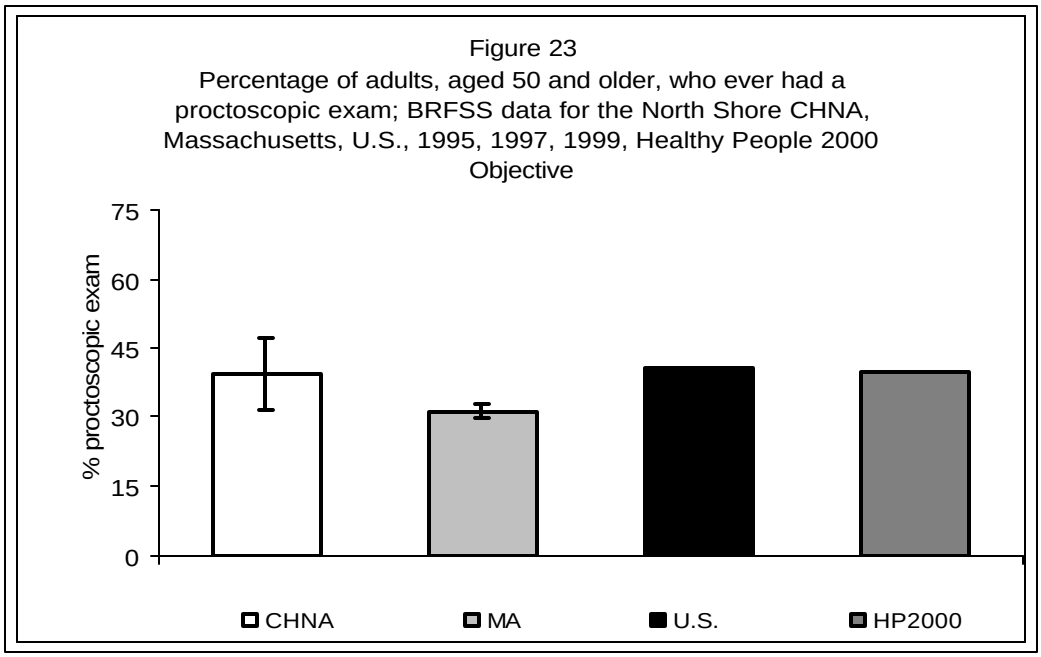
Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1994-1999.

COLORECTAL CANCER

Each year in Massachusetts, approximately 3,800 men and women are diagnosed with colorectal cancer and approximately 1,600 people die of the disease.

The Massachusetts Colorectal Cancer Working Group recommends that men and women age 50 and older have a yearly fecal occult blood test, or a flexible sigmoidoscopy every 5 years, or a home fecal occult blood test every year and a flexible sigmoidoscopy every 5 years, or a colonoscopy every 10 years, or a double-contrast barium enema every 10 years. Individuals with a personal history of colorectal cancer, adenomatous polyps, or chronic inflammatory bowel disease, or a family history of colorectal cancer, polyps, or hereditary colorectal cancer syndromes should begin colorectal screening earlier and/or undergo screening more often. These recommended screening tests offer the best opportunity to detect colorectal cancer at an early stage when successful treatment is most likely, and to prevent the development of some cancers through detection and removal of polyps.

In the North Shore CHNA, 40% of residents age 50 and older had ever had a proctoscopic exam (flexible sigmoidoscopy or colonoscopy) (Figure 23).[2]



	CHNA	MA	US	HP2000[3]
Ever had proctoscopic exam **95% CI[4]**	**39.6%** **31.8-47.4**	**31.5%** **30.0-33.0**	**40.5%**	**44%**

"Percentage of adults 50 and older who ever had a proctoscopic exam (flexible sigmoidoscopy or colonoscopy)" was not calculated for all CHNA's due to insufficient numbers of respondents. Therefore a map was not provided for this variable.

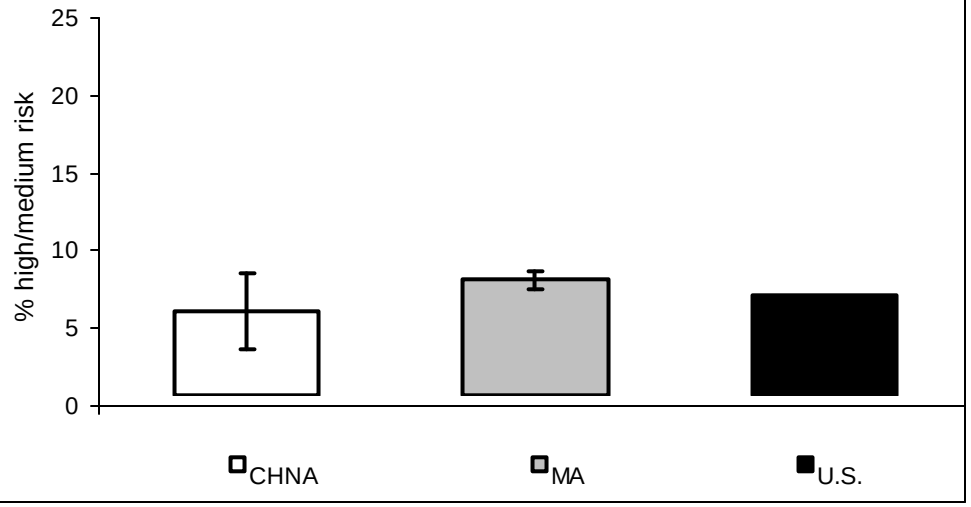
[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.
[3] Healthy People 2000 Objectives (see Glossary)
[4] Confidence Interval (see Glossary)

HIV/AIDS

AIDS is the eighth leading cause of death in the U.S. The Massachusetts AIDS Surveillance Program reports that, as of June 1, 1999, a total of 14,509 AIDS cases had been reported in Massachusetts since 1985. The two leading risk factors for HIV transmission in Massachusetts are unprotected sex among males having sex with males and the sharing of needles to inject drugs. The Massachusetts AIDS Bureau recommends that people at high risk, especially those who do not obtain regular medical care, be offered counseling and testing for HIV at every intervention.

In the North Shore CHNA, 5% of residents age 18 to 64 thought they had a high/medium chance of getting infected with HIV (Figure 24).[2] The percentage of adults who thought they had a high or medium risk of getting infected with HIV was not statistically different from the state average (see map).

Figure 24
Percentage of adults, aged 18-64, who consider themselves at high/medium risk of HIV infection; BRFSS data for the North Shore CHNA, Massachusetts, U.S., 1994-99

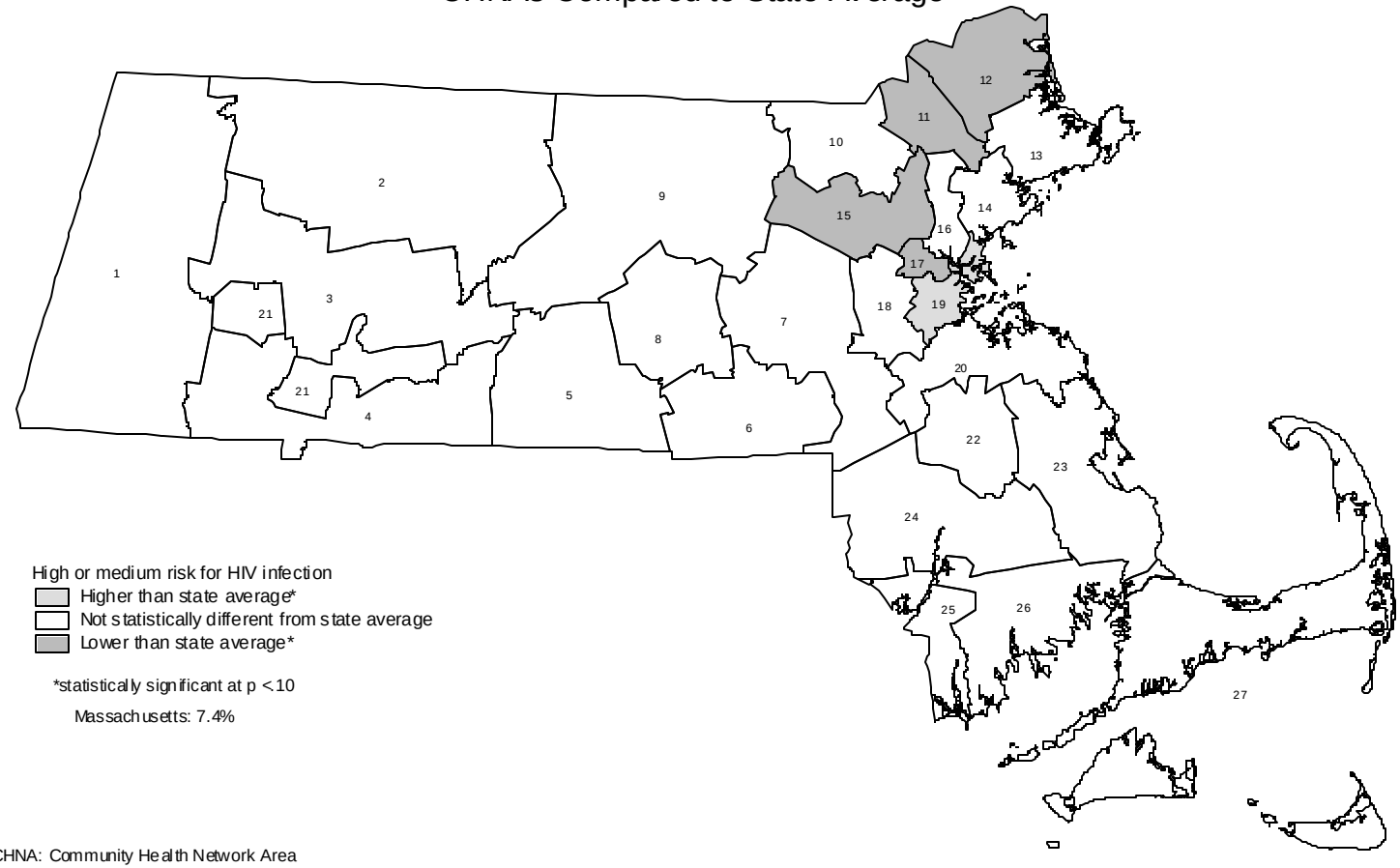


[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

	CHNA	MA	US
high/medium chance of HIV infection **95% CI**[4]	**5.4%** **2.9-7.9**	**7.4%** **6.8-8.0**	**6.5%**

[4] Confidence Interval (see Glossary)

Percentage of Adults Ages 18-64 years who Reported Being at High or Medium Risk for HIV Infection, CHNAs Compared to State Average



High or medium risk for HIV infection

- Higher than state average*
- Not statistically different from state average
- Lower than state average*

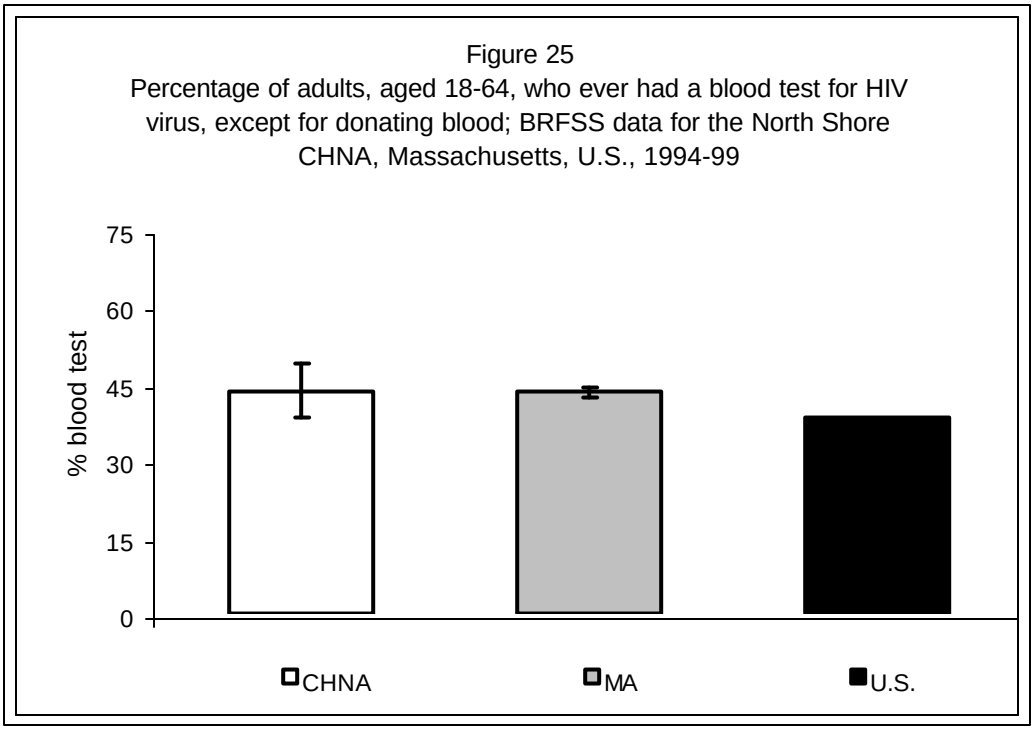
*statistically significant at p <.10

Massachusetts: 7.4%

CHNA: Community Health Network Area

Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1994-1999.

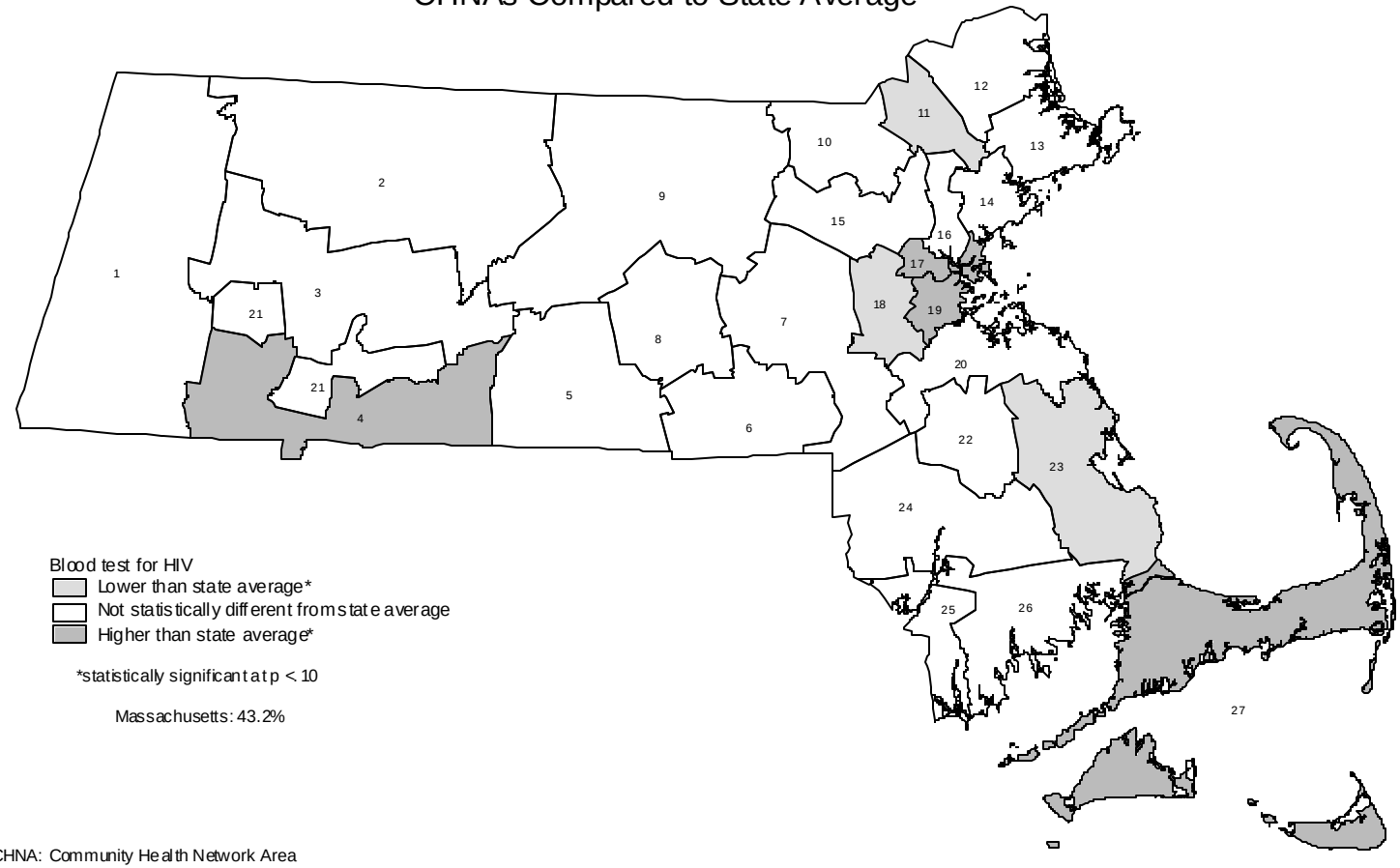
In the North Shore CHNA, 44% of adults 18 to 64 years have ever had a blood test for HIV[7] (Figure 27).[2] The percentage of adults who ever had a blood test for HIV was not statistically different from the state average (see map).



	CHNA	MA	US
Ever had blood test for HIV **95% CI[4]**	**43.5%** **38.2-48.9**	**43.2%** **42.2-44.3**	**38.4%**

[7] Blood tests are performed for several reasons including risk of infection, legal and insurance purposes.
[2] The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.
[4] Confidence Interval (see Glossary)

Percentage of Adults age 18-64 years who Ever had a Blood Test for HIV, CHNAs Compared to State Average



Blood test for HIV
- Lower than state average*
- Not statistically different from state average
- Higher than state average*

*statistically significant at $p < .10$

Massachusetts: 43.2%

CHNA: Community Health Network Area

Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1994-1999.

SUMMARY of DATA for CHNA OF NORTH SHORE, MA, US, HP 2000 OBJECTIVES

	YEAR	N[8]	CHNA (%)	MA (%)	US (%)	HP2000 (%)
RISK FACTORS						
Smoking						
Current smoker	94-99	632	19.7	21.2	22.9	15
Quit smoking at least 1 day in past year [9]	94-99	109	58.2	53.0		50
Alcohol [10]						
Had 5 or more drinks at least once in the past month	95,97,99	316	14.9	17.9	14.4	
Had 60 or more drinks in the past month	95,97,99	315	1.3	3.8	3.1	
Drove after drinking too much in the past month	95,97,99	317	2.5	2.7	2.2	
Weight Control						
Overweight	94-99	597	27.5	25.8	30.3	20
Physical Activity						
Participated in physical activities in the past month	94,96,98	318	70.0	75.3	71.2	85
Regularly physically active [11]	94,96,98	318	30.7	31.3		
Fruits and Vegetables						
Consume 5 or more servings of fruits and vegetables/day	94,96,98	318	27.8	29.1	23.6	50
CHRONIC CONDITIONS/PREVENTIVE HEALTH						
Hypertension Awareness						
Had blood pressure checked within the last 2 years	95,97,99	314	97.3	95.5	94.3	
Ever told had high blood pressure [12]	95,97,99	318	21.0	21.6	22.7	
Cholesterol Screening						
Had cholesterol checked in last 5 years	95,97,99	306	82.2	75.5	69.7	75
Ever told had high cholesterol [13]	95,97,99	262	35.8	28.3		
Diabetes						
Ever told had diabetes	94-99	635	3.9	4.3	4.8	2.5
Health Status						
Reported health was fair or poor	94-99	632	13.4	11.5	12.9	
Prevented from usual activities by poor physical/mental health	94-99	634	5.0	4.7		
Health Insurance, Access and Utilization						
Routine checkup more than 5 years ago	94-99	634	5.3	5.9		
Had no health insurance	94-99	633	7.5	9.2	12.5	
Wanted to see doctor but could not because of cost	94-99	635	8.3	8.1		
CANCER SCREENING						
Breast Cancer Screening						
Had mammogram in last two years [14]	94-99	228	78.9	78.9		
Received clinical breast exam in the past year [14]	94-99	225	78.3	72.5		
Cervical Cancer Screening						
Had a Pap-smear within the last three years [15]	94-99	306	89.8	86.2	85.5	85
Colorectal Cancer Screening						
Ever had a proctoscopic exam[16]	95,97,99	204	39.6	31.5	40.5	40
AIDS/HIV [17]						
High/medium chance of getting the AIDS virus	94-99	493	5.4	7.4	6.5	
Ever had a blood test for AIDS	94-99	458	43.5	43.2	38.4	

[8] Number of respondents to each question

[9] Among current smokers

[13] Among adults who had ever had cholesterol checked

[14] Among women 40 and older

[10] Includes individuals who consume no alcohol
[11] 30 minutes of physical activity at any intensity 5x per week
[12] Among adults who had ever had blood pressure checked
[15] Among women without hysterectomy
[16] Among adults age 50 and older
[17] Among adults age 18-64

TECHNICAL NOTES

The BRFSS has been conducted in Massachusetts since 1986 as a cooperative effort between the national Centers for Disease Control and Prevention and the Massachusetts Department of Public Health (MDPH). In 1994-1999, the BRFSS was conducted for the MDPH by Northeast Research (1994-1996) and Macro International (1997-1999), using a list-assisted random-digit-dial sampling methodology. Telephone numbers were randomly selected, and multiple attempts were made to reach each phone number. To be eligible for the survey, the telephone had to serve a household in which at least one adult eighteen years or older resided. Persons residing in institutions, group quarters of ten or more unrelated adults, and temporary residences for less than a month, such as summer homes, were not eligible for the survey.

One adult from each household was randomly selected to complete the interview. No substitute respondents were allowed to complete the interview in place of the selected adult. In addition, no one could assist the selected adult in completing the interview if the selected adult had difficulty in participating for any reason, such as a language barrier or disability.

A total of 3,288 interviews were completed statewide in 1994, 3,311 in 1995, 3,041 in 1996, 3,725 in 1997, 4,944 in 1998, and 5,023 in 1999. Interviews were completed in 54-74% of eligible households. Interviews were not completed in 2% of households due to language barriers and in 1% of households due to disability of the selected respondent.

The information provided in this report is intended to be an estimate of the prevalence of risk factors and conditions in the adult population of the state and the CHNA. Therefore, the data are weighted to account for the probability of being selected as a respondent, including the number of phones and number of adults in the household. The Massachusetts data and CHNA-specific data are then further adjusted to the sex-age-race distribution of the adult population of Massachusetts. U.S. estimates were calculated as the average of the national annual medians, derived from the 1994-1999 national BRFSS Summary Prevalence Reports.

Analyses in this report were conducted using two computer programs -- SAS and SUDAAN. The latter was used to calculate 95% confidence intervals that accounted for the weighting and complex sampling design of the survey.

Potential sources of error in the BRFSS should be taken into account when interpreting the data. First, households without telephones do not have the opportunity to be included in the sample. According to the 1990 census, 2% of all Massachusetts households do not have a telephone; however, 10% of households below poverty level lack a phone. Among those eligible, selected respondents may be unable or unwilling to participate. Inability to participate may be due to language barriers (the survey is conducted in English, Spanish, or Portuguese), disability, or temporary absence from the household. As with all surveys that collect self-reported data on behaviors, biased response is another source of concern. Respondents may over-report socially desirable behaviors, while underreporting behaviors they perceive to be socially unacceptable. Respondents may also have difficulty recalling the frequency or the time frame of various behaviors. Finally, because the BRFSS surveys a sample of Massachusetts adults, results could differ to some extent from results of another sample taken from the same population due to chance alone.

GLOSSARY

CHNA

A CHNA is defined as an aggregation of cities and towns. The Department of Public Health, in collaboration with health service providers, coalition members, and interested citizens has designated 27 areas for community health planning. In each of these areas, the Department has fostered the development of Community Health Networks -- consortia of health care providers, human service agencies, schools, churches, youth, parents, elders, advocacy groups, and individual consumers -- to address the health needs of the community.

Confidence Interval

While we are interested in the true proportion of adults with risk factors or disease in the population, we cannot know this unless we ascertain the status of everyone in the population. Because this is not feasible, we instead take a random sample from the population. This sample is subject to statistical variation. Two successive surveys of the same population may not yield the same observed proportion, even though the true underlying proportion of the population was unchanged.

The 95% confidence interval (CI) for the estimate is a range of values that has a 95% chance of including the true proportion in the population, if there is no bias. The confidence interval describes the precision of an observed estimate of the underlying proportion, with a wider interval indicating less certainty about this estimate. The main factor affecting the width of the CI is the number of respondents.

Readers should note that not all values within the confidence interval are equally likely. Values close to the estimate are more likely than values near the end points of the confidence interval. For example, the estimate for the percentage of adults in the North Shore CHNA who are current smokers is 19.7%. The 95% confidence interval for this estimate is 15.9-23.5%. However, upon repeated surveys, half of the values would be expected to fall within the range 18.4-21.0%.

Healthy People 2000 Objectives

The Healthy People 2000: National Health Promotion and Disease Prevention Objectives was a national agenda that aimed to significantly improve the health of the American people in the decade preceding the year 2000. (Healthy People 2010 Objectives for the coming decade have recently been released.) Developed through an extensive governmental, professional, and public national process, Healthy People 2000 defined three broad national goals: to increase the span of healthy life; to reduce health disparities; and to achieve access to preventive services for all. These goals were supported by 300 specific objectives that set priorities for public health during the 1990's. The objectives were organized into 22 priority areas such as physical activity and fitness, nutrition, and tobacco. For each objective, a numeric national target for the

year 2000 was set. For each CHNA health status indicator which has a corresponding Healthy People 2000 Objective, that year 2000 target is shown in the relevant graphs and tables.

Median

The median is the middle observation; i.e. the one that divides the distribution into halves. It is also equal to the 50th percentile.

P-value

A small p-value (aka "statistically significant") suggests that it is unlikely that the difference in the estimates would have been observed if there were truly no difference between the CHNA estimate and the statewide average. In other words, a small p-value suggests that the difference between the CHNA and the state is not likely due to chance. A large p-value (aka "not statistically significant") can mean one of two things. First, there really is no difference between the two estimates. For example, the prevalence of overweight adults is truly the same in the CHNA compared to the rest of the state. Second, there really is a difference between the two estimates but the sample size of the CHNA was too small to detect it.

Both the magnitude of the difference between the estimates and the sample sizes influence the calculation of the p-value. For the purposes of this report, those differences between the CHNA and the statewide average that have a p-value less than or equal to 0.10 are considered to be statistically significant.

APPENDIX

SUMMARY OF DATA FOR MASSACHUSETTS CHNAs

	Smoking		Alcohol[2]			Weight Control
	Current smoker	*Quit smoking at least one day in past year[1]*	*5 or more drinks at least once in past month*	*60 or more drinks in the past month*	*Drove after drinking in past month*	*Overweight*
	(%)	*(%)*	*(%)*	*(%)*	*(%)*	*(%)*
1 Berkshire County	22.8	*	18.1	3.9	2.6	22.9
2 Franklin County	18.5	*	16.8	3.7	2.5	30.9
3 Greater Northampton	23.7	*	18.1	0.8	1.9	27.4
4 Greater Springfield	24.7	51.9	14.0	3.2	1.2	33.1
5 Greater Southbridge	20.9	*	18.8	4.7	7.2	33.6
6 Greater Milford	23.9	*	20.1	4.2	1.5	25.6
7 Greater Framingham	16.1	52.7	15.9	3.7	2.9	21.6
8 Greater Worcester	20.6	51.4	18.9	6.5	2.7	26.0
9 Fitchburg/Gardner	20.6	45.3	15.4	5.4	1.7	27.4
10 Greater Lowell	21.3	49.4	18.4	3.4	1.6	28.1
11 Greater Lawrence	19.6	47.3	14.5	2.9	1.5	26.5
12 Greater Haverhill	20.0	*	14.5	2.3	0.3	28.9
13 Greater Beverly/Gloucester	23.5	*	17.5	1.2	2.4	23.6
14 North Shore	19.7	58.2	14.9	1.3	2.5	27.5
15 Greater Woburn/Concord/Littleton	15.0	*	11.7	4.3	1.8	22.3
16 Greater Medford/Malden/Melrose	20.7	53.0	21.4	2.9	3.0	26.8
17 Greater Cambridge/Somerville	16.1	49.2	21.1	2.0	3.6	20.5
18 Greater Newton/Waltham	15.7	54.7	16.7	6.3	4.0	19.5
19 Boston/Chelsea/ Revere/Winthrop	21.0	59.7	23.7	5.6	2.1	22.8
20 Greater Quincy	21.1	51.9	18.3	2.9	2.2	25.0
21 Greater Holyoke	26.0	55.2	19.9	3.3	1.8	25.9
22 Greater Brockton	29.3	60.1	19.3	3.9	6.4	30.5
23 Greater Plymouth	25.6	59.2	16.7	4.4	6.2	28.0
24 GATHER	24.4	46.9	16.7	3.4	4.4	29.0
25 Greater Fall River	27.5	47.2	11.0	2.1	2.0	27.9
26 Greater New Bedford	24.1	53.3	19.1	3.1	2.9	29.8
27 Cape and Islands	18.3	55.0	13.9	4.7	3.8	20.0

* not provided due to insufficient sample size

[1] Among current smokers.
[2] Individuals who consume no alcohol are included in these analyses.

SUMMARY OF DATA FOR MASSACHUSETTS CHNAs

	Physical Activity		Fruits and Vegetables	Hypertension awareness		Cholesterol Screening	
	Any physical activity in the past month	*Regularly physically active*[3]	*Eat 5 or more fruits and vegetables/day*	*BP checked in last 2 years*	*Ever told had high BP*[4]	*Cholesterol checked in past 5 years*	*Ever told had high cholesterol1*[5]
	(%)	*(%)*	*(%)*	*(%)*	*(%)*	*(%)*	*(%)*
1 Berkshire County	74.1	35.3	36.2	95.0	23.3	66.4	33.4
2 Franklin County	81.5	35.9	31.7	96.7	25.7	76.3	39.3
3 Greater Northampton	78.0	33.3	27.6	96.8	21.8	70.5	28.2
4 Greater Springfield	72.3	24.9	28.7	95.3	21.7	71.1	31.1
5 Greater Southbridge	71.5	24.6	31.8	99.1	29.0	67.5	35.2
6 Greater Milford	72.1	26.4	32.5	93.5	18.7	76.2	29.2
7 Greater Framingham	79.1	29.2	34.8	97.3	19.4	79.3	28.2
8 Greater Worcester	73.0	34.2	29.9	95.1	22.3	79.3	24.5
9 Fitchburg/Gardner	73.3	35.1	29.3	93.3	18.6	72.0	28.9
10 Greater Lowell	72.9	30.1	27.0	96.9	19.6	76.0	25.6
11 Greater Lawrence	70.2	28.1	30.8	92.4	21.1	73.9	25.6
12 Greater Haverhill	83.8	26.0	24.0	96.7	24.2	73.2	32.9
13 Greater Beverly/Gloucester	75.3	43.7	30.1	97.2	16.5	80.2	24.3
14 North Shore	70.0	30.7	27.8	97.3	21.0	82.1	35.8
15 Greater Woburn/Concord/Littleton	82.0	37.4	30.1	93.5	21.4	81.5	26.0
16 Greater Medford/Malden/Melrose	76.5	28.0	26.8	95.2	19.5	71.5	27.0
17 Greater Cambridge/Somerville	80.4	38.0	30.0	94.1	22.0	82.8	22.5
18 Greater Newton/Waltham	84.9	42.3	23.4	94.5	18.9	78.8	29.1
19 Boston/Chelsea/ Revere/Winthrop	75.3	31.7	26.7	95.2	18.5	72.0	24.1
20 Greater Quincy	77.1	31.2	31.1	95.9	20.8	78.3	30.1
21 Greater Holyoke	73.3	23.7	36.2	95.8	21.8	71.1	25.3
22 Greater Brockton	67.0	25.0	28.1	96.9	23.3	75.5	30.7
23 Greater Plymouth	83.3	27.5	26.6	95.1	27.7	72.2	30.4
24 GATHER	78.2	27.8	25.9	95.0	20.7	80.1	26.9
25 Greater Fall River	69.5	26.8	24.9	95.9	29.2	75.6	36.8
26 Greater New Bedford	72.5	29.6	28.9	95.8	19.5	70.9	26.9
27 Cape and Islands	76.1	39.0	33.4	96.0	33.6	80.0	29.6

[3]30 minutes of physical activity at any intensity 5x per week.

[4]Among adults who ever had blood pressure checked.
[5]Among adults who ever had cholesterol checked.

SUMMARY OF DATA FOR MASSACHUSETTS CHNAs

	Diabetes	Health Status		Health Insurance, Access and Utilization		
	Ever told had diabetes	*Reported health was fair or poor*	*Prevented from usual activities by poor health*	*Routine check-up more than 5 years ago*	*No health insurance*	*Could not see doctor because of cost*
	(%)	*(%)*	*(%)*	*(%)*	*(%)*	*(%)*
1 Berkshire County	5.0	9.5	6.3	8.8	11.3	9.9
2 Franklin County	3.1	12.1	3.9	4.6	11.5	6.1
3 Greater Northampton	4.4	8.2	4.1	7.4	9.5	6.6
4 Greater Springfield	5.2	11.5	4.3	5.8	10.2	9.3
5 Greater Southbridge	6.6	12.3	4.6	5.5	8.3	5.5
6 Greater Milford	2.8	8.5	3.5	6.8	8.6	8.0
7 Greater Framingham	3.9	9.2	4.3	5.6	5.1	6.9
8 Greater Worcester	5.6	10.8	4.2	5.7	7.6	7.5
9 Fitchburg/Gardner	4.5	10.6	4.7	4.2	8.9	6.0
10 Greater Lowell	4.8	12.6	4.7	5.4	7.7	8.4
11 Greater Lawrence	4.4	12.5	5.3	5.3	9.0	7.5
12 Greater Haverhill	3.1	11.0	5.7	8.0	11.6	5.4
13 Greater Beverly/Gloucester	5.1	9.8	5.9	3.9	4.9	5.8
14 North Shore	3.9	13.4	5.0	5.3	7.5	8.3
15 Greater Woburn/Concord/Littleton	3.0	7.9	2.9	6.6	4.3	4.5
16 Greater Medford/Malden/Melrose	3.9	11.1	4.1	5.1	7.7	7.4
17 Greater Cambridge/Somerville	4.5	10.7	5.0	6.4	9.8	7.2
18 Greater Newton/Waltham	1.2	6.6	3.4	5.9	5.0	6.9
19 Boston/Chelsea/ Revere/Winthrop	4.0	12.5	4.6	5.4	13.0	10.8
20 Greater Quincy	4.1	11.7	4.9	3.8	8.3	7.4
21 Greater Holyoke	6.3	15.9	5.6	8.7	10.1	7.3
22 Greater Brockton	3.5	14.4	4.4	5.3	9.7	8.1
23 Greater Plymouth	4.2	11.6	5.5	5.6	8.0	7.3
24 Greater Attleboro/Taunton	3.9	12.3	6.4	6.4	9.7	7.8
25 Greater Fall River	6.1	15.2	5.1	8.2	11.4	9.3
26 Greater New Bedford	4.8	14.9	6.2	7.9	12.3	12.7
27 Cape and Islands	4.4	11.3	4.4	7.8	9.1	8.1

SUMMARY OF DATA FOR MASSACHUSETTS CHNAs

	Breast Cancer Screening		Cervical Cancer Screening	Colorectal Cancer Screening	AIDS/HIV[9]	
	Mammogram in last two years[6]	*Clinical breast exam in past years*[6]	*Pap smear within the last three years*[7]	*Ever had a proctoscopic exam*[8]	*High/medium chance of getting AIDS virus*[9]	*Ever had a blood test for HIV*[9]
	(%)	*(%)*	*(%)*	*(%)*	*(%)*	*(%)*
1 Berkshire County	83.0	80.0	89.7	33.4	7.4	38.4
2 Franklin County	79.3	64.7	91.8	*	9.7	37.1
3 Greater Northampton	74.5	69.2	86.7	43.1	10.1	39.6
4 Greater Springfield	78.3	73.7	86.0	29.8	7.2	47.7
5 Greater Southbridge	79.9	72.3	84.9	34.5	6.8	42.8
6 Greater Milford	74.8	78.9	88.0	28.3	8.2	40.2
7 Greater Framingham	83.0	78.8	84.3	32.8	6.5	44.5
8 Greater Worcester	82.0	77.0	87.8	34.8	9.3	43.5
9 Fitchburg/Gardner	73.6	66.6	87.7	27.9	8.1	40.7
10 Greater Lowell	78.4	72.7	85.1	29.1	6.2	41.7
11 Greater Lawrence	72.1	66.1	85.7	25.7	3.4	38.6
12 Greater Haverhill	76.5	69.1	79.4	20.4	3.3	39.9
13 Greater Beverly/Gloucester	74.3	71.4	93.1	34.9	6.2	37.9
14 North Shore	78.9	78.3	89.8	39.6	5.4	43.5
15 Greater Woburn/Concord/Littleton	85.4	81.1	89.9	42.9	4.3	43.9
16 Greater Medford/Malden/Melrose	82.9	73.9	90.7	22.6	6.4	41.5
17 Greater Cambridge/Somerville	82.2	79.5	82.7	28.6	5.5	48.6
18 Greater Newton/Waltham	83.8	77.6	87.2	35.2	11.9	35.1
19 Boston/Chelsea/ Revere/Winthrop	77.8	69.6	83.2	26.5	9.3	48.0
20 Greater Quincy	80.4	75.9	86.7	26.5	6.3	40.0
21 Greater Holyoke	74.6	61.8	82.7	35.4	7.8	41.8
22 Greater Brockton	80.8	66.2	88.3	17.3	7.2	42.9
23 Greater Plymouth	79.1	71.6	86.3	26.7	9.2	37.9
24 GATHER	78.8	69.7	89.9	35.7	7.8	45.0
25 Greater Fall River	82.7	72.3	82.4	27.0	6.1	40.7
26 Greater New Bedford	76.4	61.9	85.9	29.9	10.0	47.2
27 Cape and Islands	73.8	68.5	85.3	50.9	6.4	48.3

* not provided due to insufficient sample size

[6]Among women 40 and older.
[7]Among women without hysterectomy.
[8]Among adults 50 and older.
[9]Among adults age 18-64.

MASSACHUSETTS CHNAs	
CHNA 1	Community Health Network of Berkshire County
CHNA 2	The Upper Valley Health Web, Franklin County CHNA
CHNA 3	Partnership for Health in Hampshire County, Greater Northampton
CHNA 4	The Community Health Connection, Greater Springfield CHNA
CHNA 21	Four (for) Communities, Greater Holyoke CHNA
CHNA 5	CHNA of Southern Worcester County
CHNA 6	Community Partners for Health, Greater Milford CHNA
CHNA 7	Community Health Network of Greater Metro West, Greater Framingham CHNA
CHNA 8	Community Wellness Coalition, Greater Worcester CHNA
CHNA 9	Fitchburg/Gardner CHNA
CHNA 10	Greater Lowell CHNA
CHNA 11	Greater Lawrence CHNA
CHNA 12	Greater Haverhill CHNA
CHNA 13	Greater Beverly/Gloucester CHNA
CHNA 14	North Shore CHNA
CHNA 15	Greater Woburn/Concord/Littleton CHNA
CHNA 16	North Suburban Health Alliance, Greater Medford/Malden/Melrose CHNA
CHNA 17	Greater Cambridge/Somerville CHNA
CHNA 18	West Suburban Health Network, Greater Newton/Waltham CHNA
CHNA 19	Alliance for Community Health, Boston/Chelsea/Revere/Winthrop CHNA
CHNA 20	Blue Hills Community Health Alliance, Greater Quincy CHNA
CHNA 22	Greater Brockton CHNA
CHNA 23	South Shore Community Partners in Prevention, Greater Plymouth CHNA
CHNA 24	Greater Attleboro-Taunton Health and Education Response (GATHER)
CHNA 25	Partners for a Healthier Community, Greater Fall River CHNA
CHNA 26	Greater New Bedford Health & Human Services Coalition
CHNA 27	Cape and Islands CHNA