

Taking Action for Healthier Communities

Every day in Massachusetts, people die needlessly from heart disease, stroke and diabetes. As a community leader, you can do more than you may think to help the people of your city/town escape this fate. For example, Massachusetts enacted a statewide ban on smoking in the workplace in July 2004. Prior to the statewide ban, most cities and towns had local restrictions on smoking. It was these local measures that made the statewide movement possible.

Most people can control their weight and lower their risk of heart disease, stroke, and type 2 diabetes through active living and healthy eating. Changing eating and activity patterns may seem hard, but communities can make it easier. When streets are safe or clear trails wind through well-maintained parks, people are more likely to walk. When neighborhood restaurants offer heart-healthy food or local markets sell an abundance of fruits and vegetables, a healthy diet is easier to maintain. Cities and towns benefit from providing such opportunities, too: they become more inviting places to live.

Cities and towns that provide opportunities for physical activity and healthy eating become more inviting places to live.

Taking Stock

In 2002, the Massachusetts Department of Public Health (MDPH), the Executive Office of Transportation, the Regional Planning Agencies and the Massachusetts Association of Health Boards (MAHB) surveyed the Commonwealth's 351 cities and towns to find out what they were doing to promote active living, healthy eating, and preventive health screenings.¹ More than two-thirds of the communities (239) responded, providing a comprehensive picture of how well our cities and towns support health-promoting behaviors that impact overweight, type 2 diabetes, heart disease and stroke. [Appendix A]

This report shares the survey's major findings. It presents data from other sources as well to help you get a better sense of how your municipal-

ity compares to others in the Commonwealth on measures related to chronic disease risk.

Survey results show that our communities are doing many things right – from providing outdoor recreational space to sponsoring running, walking, and biking events. The survey results also suggest many ways that our communities can become healthier places to live – from providing more bikeways and traffic calming measures to fostering public/private partnerships that promote physical activity and good nutrition.

Making a Difference

No one is in a better position than you to champion policies and environmental change that will improve the health of your community; no effort could be more important. More than half of Massachusetts adults are

above a healthy weight.² We know from national studies that overweight and obesity increase risk for heart disease, stroke, diabetes, asthma, and cancers including colon, kidney, gallbladder, and postmenopausal breast cancer.³

Overweight and obese Bay Staters have better than twice the rate of diabetes and a 50% higher rate of heart disease than residents who have healthy weights. Those with diabetes have twice the rate of heart disease and triple the rate of stroke.² Adults are not the only ones at risk. The number of overweight teens in Massachusetts rose 42% in just two years, from 1999 – 2001.⁴ Increasing weight among our young people has caused an epidemic of type 2 diabetes, raising the specter of a future in which rates of heart disease and stroke increase as well.⁵

The combination of obesity, type 2 diabetes, heart disease, and stroke places an unacceptable burden of ill health and lost productivity on individuals, families, organizations, communities and the state. It strains the Commonwealth's health care system, accounting for more than \$3

billion in medical costs each year.⁶

A Tool for You

This report groups information from cities and towns that are similar to each other. Each section highlights the areas where Massachusetts communities are doing well. Included within each section is a wide array of possible approaches to making our communities healthier places to live. Keep in mind that each municipality is different; resources, both physical and financial, vary.

Solutions that work for one type of community may be inappropriate for another. A riverside path may do more than sidewalks to encourage walking in a small town. The path may be more in keeping with the town's character and the expectations of its residents as well. Similarly, community gardens may draw few participants in a rural area where most residents have enough land for their own gardens, but be highly successful in non-rural communities. Farmers markets, where local growers sell their produce, and school-based programs that bring local gardeners into the classroom, introducing children to locally grown fruits and vegetables, can be beneficial to both rural and non-rural communities.

While this report is meant to help you assess where you are and where you want to go, it is most importantly a call to action.

How You Can Help

As a local government official or community leader, you are in the best position to know which measures might successfully get your residents to move more and improve their diets. You can find the help you might need within your city or town. Planning and zoning boards, school administration and parent-teacher associations, park and recreation commissions, public safety and public health officials, councils on aging, public works departments, regional transportation authorities, faith-based organizations, business leaders, health care professionals, local media, colleges/universities, health/fitness clubs, farmers, and residents of all ages can work together to make our communities healthier places to live and work.

As you read through the survey results and suggested action steps, consider what role you can play in championing the formation of a public/private partnership to promote active living, healthy eating and public safety in your community. The initiatives suggested can help move your town closer to meeting the Surgeon General's goals for increasing physical activity and healthy eating among all Americans.⁷

Few measures reflect the success of a community more than the efforts it makes to protect the health and wellbeing of its residents. The Partnership for a Heart Healthy and Stroke Free Massachusetts, and the Partnership for Healthy Weight and the Diabetes Coalition of Massachusetts are committed to working with cities and towns throughout the Commonwealth to forge local coalitions and partnerships, craft policies, and foster environments that create healthier lives for all of our residents. Please join us in this effort. Working together, we can do more to prevent obesity, type 2 diabetes, heart disease and stroke.

For assistance with the initiatives mentioned in this report, you may contact Cheryl Sbarra at the Massachusetts Association of Health Boards at 781-721-0183 or sbarra.mahb.org., unless otherwise noted.

We can create communities that promote safe physical activity.

We can create communities that promote healthier eating.

COMMUNITY SURVEY RESULTS

Where Does Your Community Fit In?

In order to provide meaningful comparisons, this report assigns towns and cities to three categories developed by the MDPH's Office of Rural Health. These categories are based on overall population, population density, and four Federal definitions of "rural."

- **Non-Rural** communities do not meet any of the Federal definitions of rural and/or have a population greater than 10,000 and a population density above 500 people per square mile.
- **Rural 1** communities meet at least one of the Federal definitions and/or have a population less than 10,000 and a density below 500 people per square mile.
- **Rural 2** communities meet at least two of the Federal definitions and/or fulfill the population and density criteria.

To see where your community falls, consult the map on page 10. Appendix A provides more detailed demographic information.

Active Living

Thirty minutes of moderate activity (the equivalent of brisk walking) five or more days a week reduces the risk of type 2 diabetes and premature death from heart disease.^{8, 9} An additional half hour of daily activity helps those who need to shed excess pounds.¹⁰ The activity can be anything that gets the muscles moving – even tasks such as vacuuming or tending the roses count.¹¹

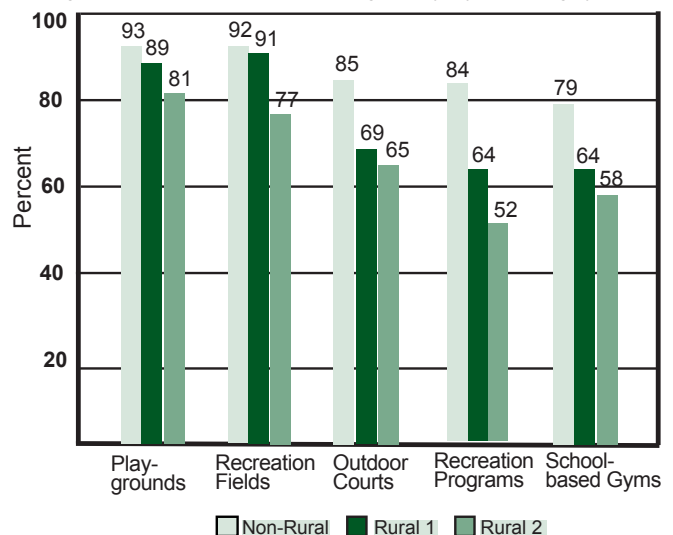
Despite this liberal definition of physical activity, more than half (51%) of Massachusetts adults do not meet the 30-minute-a-day recommendation.¹⁰ Further, an astonishing 23% never walk, bike, bowl, swim, or otherwise get active.¹⁰ Communities can help the Commonwealth's

residents adopt healthier lifestyles. Interviews with municipal leaders suggest that they are well aware of this. City and town officials say they want to improve the availability and use of outdoor space, develop community-wide events such as walking programs, and increase participation in physical activity programs in the community and at schools, among other strategies shown to improve health.¹² The following is a summary of what the state's cities and towns are currently doing to encourage active living.*

Recreation and Open Space

- Public parks and conservation land abound in Massachusetts.
- A majority of the state's towns and cities provide recreational programs and facilities such as playgrounds, ball fields, courts, and gyms (Figure 1).

Figure 1: Recreational facilities and programs by city/town category, 2002



* Throughout this report, the results reported reflect the percent of respondents answering "yes" to a given question. For most questions, that percent is based on the full sample. In some cases, however, the question pertains only to those towns and cities that provide a particular service, so the sample size is smaller.

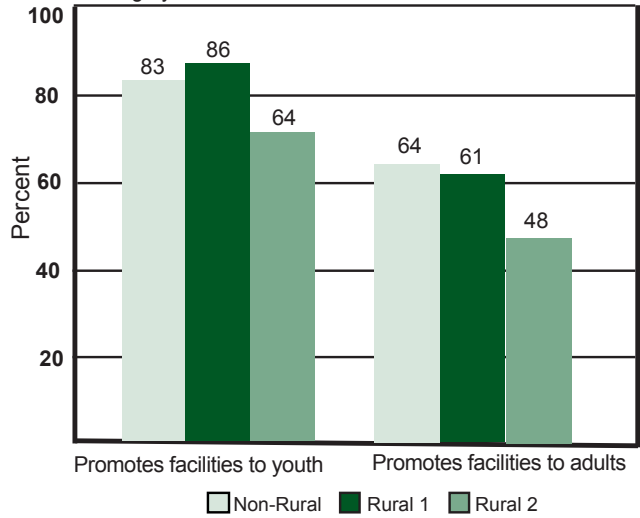
- Three-out-of-four communities regularly maintain their recreational facilities and have at least one public or private facility that is open on weekends (Table 1). Somewhat fewer have facilities that are accessible to those with disabilities. Fewer still have facilities close to public transportation.

Table 1. Recreational facility amenities by city/town category, 2002

Service Provided	Percent of Communities		
	Non-Rural	Rural 1	Rural 2
Maintained on a regular basis	80%	77%	78%
Open on weekdays and weekends	80%	73%	71%
Accessible to people with disabilities	67%	63%	65%
Open during non-business hours	69%	58%	56%
Available for no fee or reduced fee	52%	44%	55%
Provided with on-site supervision	46%	48%	33%
Accessible to public transportation	44%	25%	31%

- Almost three-quarters of the communities open recreation facilities on weekdays and weekends. A little more than half are open during non-business hours. Less than half provide onsite supervision. (Table 1.)
- Only half the cities and towns permit access to recreational facilities for no fee or a reduced fee. (Table 1.)
- The majority of cities and towns promote their facilities to youth (Figure 2). Communities of all sizes are less likely to promote their recreational facilities to adults than to youth.
- Few towns use maps or signs within the community or in the media to promote their facilities. Signage is most likely on walking trails (29%) and in parks (22%).

Figure 2: Promotion for physical activity facilities by city/town category, 2002



Recreation and Open Space: Suggestions for Taking Action

- Provide playing fields and playgrounds that are available and accessible to all residents.
- Establish a regular maintenance schedule for all playing fields and playgrounds.
- Ensure adequate funding in the municipal budget for maintaining and improving the parks and other recreation facilities.
- Provide scholarships for municipal recreation programs to low-income families/individuals.
- Open school and municipal buildings during off-hours for use by adult residents for recreation/leisure activities.
- Maintain and promote green space/conservation land, in part, by preventing over development.



Walking and Bicycling

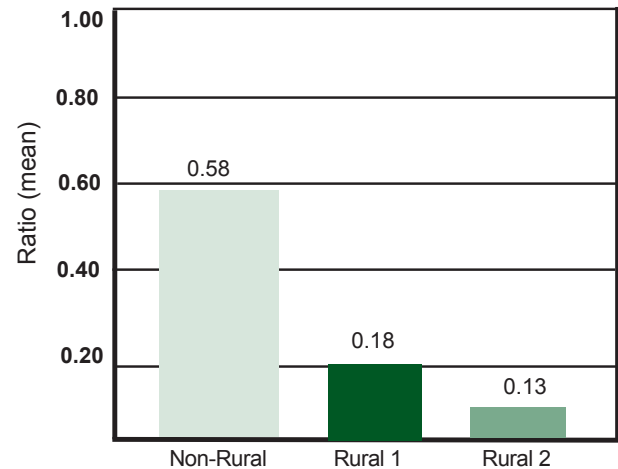
- Sidewalks and crosswalks are most common in Non-Rural communities and least common in Rural 2 areas. The proportion of sidewalks to roads is small in rural compared to Non-Rural communities. (Figure 3.)
- Less than a third of the Commonwealth's towns provide bikeways. (Table 2.)
- Overall fifty-five percent of the cities and towns have regulations requiring new residential or commercial developments to include sidewalks adjacent to roads.
- Only 8% of the state's communities sponsor Walk to School programs. Somewhat more require walkways or bikeways around schools.
- Few communities (8-15%) have policies requiring bikeways or walkways along bridges and roadways, to and within parks, to public transportation, or to shopping centers.
- Just over a quarter of communities statewide provide bike parking at common destination points, while just over a fifth provide it at public transportation hubs. Road races, walk-a-thons, and similar running and walking events take place in almost half of Massachusetts communities, most often in Non-Rural cities and towns.
- Less than a third of the cities and towns sponsor events for bicyclists.



Table 2. Provides supports for walking and biking by city/town category, 2002

Walking & Biking Supports	Percent of Communities		
	Non-Rural	Rural 1	Rural 2
Provides pedestrian crosswalks	95%	73%	63%
Improved pedestrian crosswalks	51%	40%	32%
Provides sidewalks	94%	71%	60%
Improved sidewalks	63%	34%	26%
Provides on or off road bikeways	38%	34%	11%
Improved on or off road bikeways	16%	15%	11%

Figure 3: Ratio of sidewalk to road mileage



Walking and Bicycling: Suggestions for Taking Action

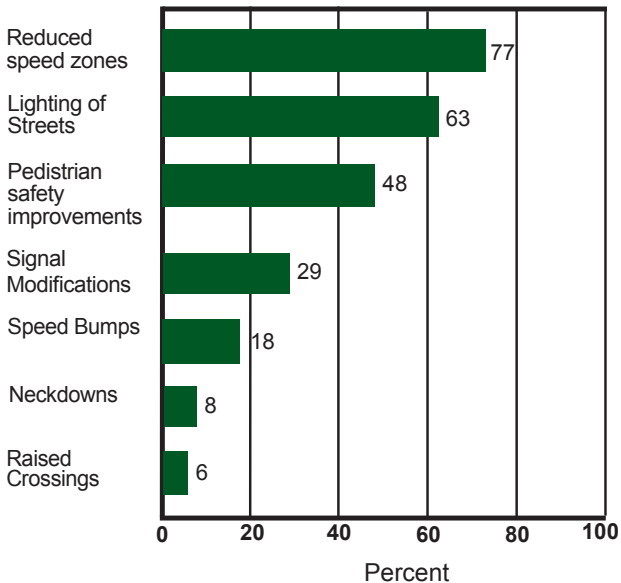
- Start a community-based coalition/partnership to address health issues including increasing physical activity and healthy eating among community members.
- Connect neighborhoods, schools, stores and parks with walking/biking trails and sidewalks.
- Establish a sidewalk committee to assess walkability of community, accessibility for use by all residents, and maintenance needs.
- Add bike lanes and proper signage to key roads.

- Provide sufficient bike racks at schools, public transportation centers and other central locations around community.
- Develop walk-to-school programs, utilizing the “Safe Routes to School” model where appropriate (www.walkboston.org).
- Assess municipality to identify potential locations and support for shared use paths.

Safety

- Most towns make efforts to keep pedestrians and bicyclists safe by providing reduced speed zones and street lighting. Other measures, such as speed bumps or raised crossings, are not widely used.
- Only about 10% of the state’s cities and towns have policies that require lighting and security on walking and bike paths.
- Less than half of the state’s cities and towns require that sidewalks be cleared. Two-thirds of those that have such a policy enforce it through fines, warnings, or other measures.

Figure 4: Safety Measures



Safety: Suggestions for Taking Action

- Ensure adequate lighting is available on walking paths, bikeways, and municipally-owned recreational areas (i.e. track, courts, fields).
- Assess need for and implement traffic calming measures (such as raised crossings, speed bumps, and signal modifications)
- Establish regular schedule for repainting of crosswalks. Provide signage for and enforce “stop for pedestrian in crosswalk” measures.
- Guarantee sidewalks are cleared of snow/ice.
- Establish and enforce leash laws.

Healthy Eating

A diet rich in whole grains, fruits, and vegetables but low in saturated fats and added sugars protects the heart, helps prevent type 2 diabetes, guards against some cancers, and contributes to a healthy weight.^{13,7} The opportunities for communities to promote this healthy style of eating are many. To offer just a few examples: cities and towns can sponsor educational programs, require “healthy option” labeling on menus, or collaborate with local restaurants and grocery stores to promote **5 A Day**, a campaign encouraging everyone to eat five or more servings of fruits and vegetables daily.

As the following results reveal, fewer than half of the cities and towns in Massachusetts had implemented any one of the various approaches to promoting healthy eating covered on the Community Survey.

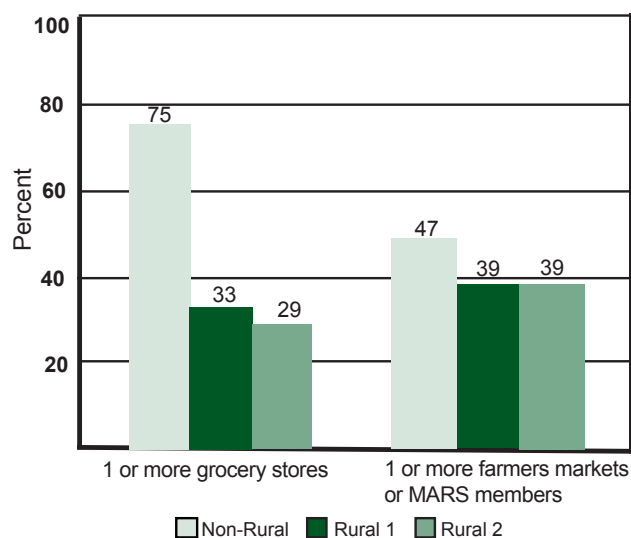


- Supermarkets provide shoppers with a large variety of affordable foods from which to choose. Only half of the state's cities and towns have one or more large supermarkets.¹⁴
- Only about 40% of the state's cities and towns have farmers' markets or roadside farm stands, some of the best sources for wholesome fruits and vegetables. Farmers' markets are more common than supermarkets in rural communities; the reverse is true in Non-Rural areas.
- The percentage of communities that require health labeling on restaurant menus is negligible (4%).
- Few municipalities collaborate with private organizations to promote healthy eating (7%).
- Only 1% of cities and towns with vending machines in municipal buildings require that they offer healthy options.
- All nutrition programs for seniors and Women, Infants, and Children (WIC) surveyed about the state's **5 A Day** initiative promote eating five or more servings of fruits and vegetables a day, Twenty-seven percent of health boards promote **5 A Day**.
- Only half of the health boards that do not currently promote **5 A Day** are interested in learning to do so.
- Less than 20% of cities and towns offered classes or sponsored educational campaigns related to healthy eating in the year before the survey.

Table 3. Healthy Eating Educational Initiatives, Provided, by City/Town Category, 2002

Educational Topic	Percent of Communities		
	Non-Rural	Rural 1	Rural 2
Class: How to choose healthy foods	18%	16%	16%
Class: How to prepare healthy foods	18%	17%	16%
Class: Growing fruits and vegetables	10%	5%	8%
Campaign: Diet and Health	20%	5%	16%
Campaign: 5+Fruites and Vegetables a Day	15%	5%	15%

Figure 5: MA Grocery stores & farmers markets *
MA Association of Roadside Stands, members (MARS)



* Primarily includes large supermarket chains, may underestimate actual numbers; Sources: MA Food Association, UMass Extension, MARS

Healthy Eating: Suggestions for Taking Action

- Offer free or low-cost classes on healthy eating for community members. Have specific classes on “healthy cooking for one” at Council on Aging Senior Centers.
- Establish farmers' market and/or community gardens.
- Require that vending machines in municipal buildings offer healthy options such as yogurt and water.

- Work with local restaurants to offer healthy meal options, reduced portion sizes, and nutritional content, where possible. Work with local grocery stores to offer healthy choices.
- Start a community-based coalition/partnership to address health issues including increasing physical activity and healthy eating among community members.

5 A Day for Better Health

Eating fruits and vegetables is a good way to prevent some cancers, heart disease, diabetes, and stroke. To spread this word and increase fruit and vegetable consumption, the National Cancer Institute and the Produce for Better Health Foundation, a nonprofit group that represents the fruit and vegetable industry, launched 5 A Day for Better Health.

This national program provides resource materials communities can use to encourage their residents to eat more fruits and vegetables. For more information, go to www.5aday.gov or call the Massachusetts 5 A Day Coordinator at 617-624-5070.



Disease Prevention and Emergency Care

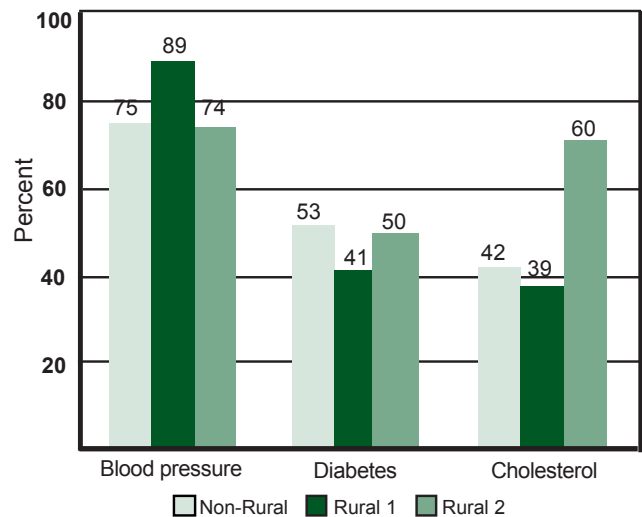
The changes that produce Type 2 diabetes, heart disease and stroke, and some cancers develop long before symptoms appear. Detecting these changes at the earliest possible moment is critical to preventing and controlling disease. That's why community-based health screenings are so important. They can reach many people who do not see a doctor regularly and link these individuals to primary care services. They can save lives.

Many Massachusetts communities offer screenings; fewer implement other disease-prevention measures, such as educational campaigns about the signs and symptoms of these diseases.

Many communities could also do more to improve emergency preparedness. For someone who is having a heart attack or stroke, time is life. New treatments can stop a heart attack or stroke in progress and limit damage, but they must be given quickly.¹⁵ Cities and towns that qualify as HeartSafe communities are better equipped to respond to such emergencies.

- In the 12 months before the survey, about 80% of the state's cities and towns had offered blood pressure screenings to their residents.
- During the same period, just under half had provided cholesterol or diabetes (blood sugar) screenings.

Figure 6: Health screenings offered in past year



- Ninety percent or more of the towns that provide screenings assure access for people with disabilities.
- Only about 20% of communities had sponsored a media campaign on disease prevention in the past year.
- As of June 2004, a quarter of the cities and towns had earned HeartSafe Community designation.

- All Massachusetts cities and towns have Enhanced 9-1-1 (E9-1-1) service. E9-1-1 provides address information for any call that comes in from a landline, expediting emergency response. Telephone companies are now working on making E9-1-1 service available for cell phone calls so that responders can pinpoint the exact location of the call. It should be noted that cell phone service is inconsistent or unavailable in parts of Massachusetts.

Disease Prevention and Emergency Care: Suggestions for Taking Action

- Take the steps necessary to become a designated HeartSafe or HeartSmart Community. For more information, please contact Massachusetts OEMS Education and Training Program at 617-753-7300 or the American Heart Association Regional ECC Service Center at 888-277-5463.
- Increase disease prevention through educational programs and health screenings. For assistance contact your local hospital or community health center.
- Raise awareness about the importance of receiving the flu vaccine for those at high risk due to chronic disease.
- Encourage strict enforcement of the statewide workplace smoking ban. For information or to report violations, contact the MDPH Massachusetts Tobacco Control Program 800-992-1895.
- Offer smoking cessation programs for municipal employees and local residents.
- Promote 1-800-try-to-stop and www.trytostop.org resources.
- Conduct educational programs and/or local media campaigns on the signs and symptoms of heart attack and stroke and on the appropriate response - call 9-1-1. For more information, call 800-487-1119 or e-mail heart.stroke@state.ma.us.

- Establish medical emergency response plans for all school and municipal buildings. Encourage private businesses/worksites to establish plans as well.
- Encourage sun-safety practices at town-owned recreational facilities and/or town-sponsored recreation activities.

HeartSafe Community

The American Heart Association, in conjunction with the MDPH's Office of Emergency Medical Services (OEMS), sponsors the HeartSafe Community program to help the Commonwealth's cities and towns improve the chances that anyone experiencing a cardiac arrest will have the best possible chance for survival.

To qualify as a Heart Safe Community, a city or town must provide CPR training to the community, all first response designated vehicles equipped with automatic external defibrillators (AEDs) and AED trained personnel; public access to strategically placed AEDs; advanced cardiac life support (ACLS) dispatched to priority medical emergencies and an ongoing process to evaluate the "Chain of Survival". The number of training courses and AEDs required depends on the size of the city or town.

For more information about becoming a HeartSafe Community, please contact the American Heart Association Regional ECC Service Center at 888-277-5463 or the OEMS Education and Training Program at 617-753-7300.



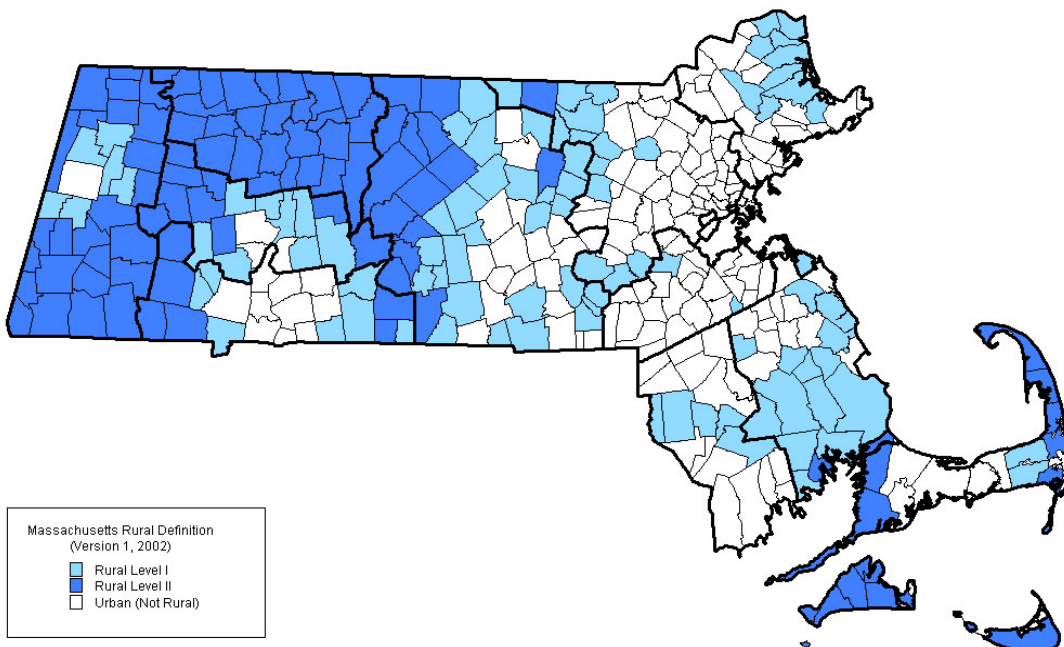
APPENDIX A: Demographic Characteristics of Sample

- Non-rural communities had the largest populations, while Rural Level 2 communities had the smallest.
- Cities and towns classified as Non-Rural were more likely to be from the Northeast and Metrowest regions of the state than were cities and towns classified as rural level 1 or rural level 2.
- Rural Level 1 towns were more likely to be located in the Central region, whereas Rural Level 2 towns were more likely to be from the Western region.
- Communities categorized as either Non-Rural or Rural Level 1 tended to have higher median incomes than did those classified as Rural Level 2.

Demographic variables (Means)	Non-Rural (n=115)	Rural Level 1 (n=62)	Rural Level 2 (n=62)	TOTAL (N=239)
Population (2000)	16,500	8,024	4,596	27,487
Median Household Income (1999)	\$62,625	\$62,517	\$47,152	\$58,583

Region	Non-Rural (n=115)	Rural Level 1 (n=62)	Rural Level 2 (n=62)	TOTAL (N=239)
Western	10%	24%	68%	28%
Central	12%	32%	13%	18%
Northeast	23%	13%	0%	14%
Metrowest	34%	11%	0%	19%
Southeast	19%	19%	19%	19%
Boston	3%	0%	0%	1%

Massachusetts Cities and Towns, Considered to be Rural by Federal Definition



GLOSSARY

At-risk for overweight – Children who are in the 85-95% of BMI for their age and sex are considered at risk of overweight.

Automatic external defibrillator (AED) – A device that detects irregular heart rhythms and delivers an electrical pulse to correct them.

Blood glucose – The main sugar found in the blood and the body's main source of energy.

Blood pressure – The force blood exerts against the walls of the arteries as the heart pumps. Blood pressure is typically recorded as two numbers: the systolic pressure (as the heart beats) over the diastolic pressure (as the heart relaxes between beats). For example: 120/70.

Body mass index (BMI) – A measure of weight in relation to height that is used to screen for overweight and obesity.

Cardiovascular disease (CVD) – Any disorder that affects the ability of the heart and blood vessels to function normally. Cardiovascular disease includes stroke and heart disease.

Chain of Survival – a four-step process providing treatment to victims of sudden cardiac arrest: recognize an Emergency, call 9-1-1, cardiopulmonary resuscitation (CPR) and use the automated external defibrillator (AED), then transfer to advanced care.

Cholesterol – A soft, waxy substance, manufactured by the body and found in certain foods. Excess cholesterol can build up in blood vessels, contributing to cardiovascular disease.

Diabetes – A disease in which the body does not produce or properly use insulin. The major types of diabetes are:

Type 1 - A disease in which the body does not produce insulin, most often occurring in children and young adults.

Type 2 - A disease in which the body does not produce enough insulin or cannot properly use the insulin it does make. It is the most common form of the disease,

accounting for 90-95% of all diabetes.

Gestational Diabetes - Diabetes that begins during pregnancy and disappears when the pregnancy ends.

Epidemic – A disease or condition that spreads rapidly and extensively, affecting many individuals in an area or a population at the same time.

Heart disease – Any disease or condition of the heart. Abnormalities of the arteries, valves, and muscle of the heart are all forms of heart disease.

High blood pressure – Blood pressure that is consistently above 140/90 or for those with diabetes above 130/80.

Obesity – An excessively high amount of body fat in relation to lean body mass. Obesity is defined as a Body Mass Index of 30 or more for both men and women.

Overweight – Excess weight for height. A Body Mass Index between 25 - 29.9 is considered overweight for adults. Children are considered overweight when their BMI is at or above the 95 percentile for their sex and age.

Risk factor – A behavior, clinical condition, or characteristic that is associated with an increased possibility of developing a chronic illness.

Stroke – Brain cell damage caused by either insufficient blood flow (ischemic stroke) or bleeding (hemorrhagic stroke) in part of the brain. A stroke can impair movement, vision, and speech, among other functions.

End Notes:

- ¹ Massachusetts Department of Public Health. Inventory of Policies and Programs Related to Health for Cities and Towns in Massachusetts. September, 2002.
- ² Massachusetts Department of Public Health. Massachusetts Behavioral Risk Factor Surveillance Survey. 2001.
- ³ U.S. Department of Health and Human Services. The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, Office of the Surgeon General. 2001.
- ⁴ Massachusetts Youth Risk Behavior Survey, 2001
- ⁵ Fagot-Campagna, A, et al. Type 2 diabetes among North American children and adolescents: An epidemiologic review and a public health perspective. *The Journal of Pediatrics* 136(5): 664-672. 1999.
- ⁶ The Financial Cost of Specific Risk Factors in the Commonwealth of Massachusetts. Year 2002 Cost-Savings Report prepared for the Division of Health Promotion and Disease Prevention, MA Department of Public Health, November 2003. Health Management Associates.
- ⁷ U.S. Department of Health and Human Services. Healthy People 2010. 2nd ed. With Understanding and Improving Health and Objectives for Improving Health. 2 vols. Washington, DC: U.S. Government Printing Office, November 2000.
- ⁸ Knowler, WC, et al. Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. *NEJM* 346(6): 393-403. 2002.
- ⁹ Centers for Disease Control and Prevention. National Center for Chronic Disease Prevention and Health Promotion. Physical Activity and Health: A Report of the Surgeon General Online reference. <http://www.cdc.gov/nccdphp/sgr/mm.htm>. Page last updated November 17, 1999.
- ¹⁰ Centers for Disease Control and Prevention. National Center for Chronic Disease Prevention and Health Promotion. Nutrition and Activity Recommendations. Online reference. <http://www.cdc.gov/nccdphp/dnpa/physical/recommendations/index.htm>
- ¹¹ Centers for Disease Control and Prevention. Prevalence of physical activity, including lifestyle activities among adults – United States, 2000-2001. *MMWR* 52(32): 764-769. 2003. Online reference. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5232a2.htm>
- ¹² Massachusetts Department of Public Health. Cardiovascular Health Initiative Key Informant Interviews. Unpublished manuscript. March 21, 2003.
- ¹³ MCCullough, ML, Feskanich, D, et al. Diet quality and major chronic disease risk in men and women: moving toward improved dietary guidance. *American Journal of Clinical Nutrition*: 76(6): 1261-71. 2002.
- ¹⁴ Personal communication with Massachusetts Food Association and the University of Massachusetts Extension. Data was provided by Shelly Strowman, 2003.
- ¹⁵ American Heart Association. "Heart Attack, Stroke, and Cardiac Arrest Warning Signs." Online resource. http://www.americanheart.org/presenter.jhtml?identifier=3053#Heart_Attack. Accessed October 20, 2003.