

HIGHLIGHTS FROM THE  
MASSACHUSETTS HEALTHY  
AGING DATA REPORT:

# COMMUNITY PROFILES 2014



COMMISSIONED BY

TUFTS  Health Plan  
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RESEARCH AND ANALYSIS BY



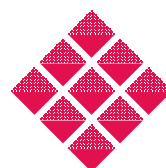
**Gerontology Institute**  
John W. McCormack  
Graduate School of  
Policy and Global Studies

IN COLLABORATION WITH



MASSACHUSETTS

**HEALTHY AGING**  
COLLABORATIVE



**The Massachusetts  
Health Policy Forum**

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The **Massachusetts Healthy Aging Data Report: Community Profiles** was created by researchers at the Gerontology Institute of the John W. McCormack Graduate School of Policy and Global Studies at the University of Massachusetts Boston and commissioned by the Tufts Health Plan Foundation.

In this report, we have created a custom profile of nearly 100 healthy aging indicators for every city and town in Massachusetts including the 16 neighborhoods of Boston (367 Community Profiles). Each Community Profile is designed to help community residents, agencies, providers, and governments understand the older adults who live in their cities and towns – their ages, living arrangements, health status, strengths, and vulnerabilities.

Never before has Massachusetts had such a comprehensive view of healthy aging indicators reported at this local geographic level.

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## TUFTS HEALTH PLAN FOUNDATION MISSION: HEALTHY AGING

Our population is aging. Every day 10,000 adults turn age 65 in the United States and this trend will continue until 2031. As baby boomers age, the older adult population in Massachusetts is expected to grow from 14 percent in 2010 to 21 percent of the state population by the year 2030.

The mission of the Tufts Health Plan Foundation is to promote healthy lifestyles and the delivery of quality care in our communities. The Foundation's goals are to help adults age 60 or older improve and maintain their health, engage in their communities, and access programs and services.

Our view is that healthy aging includes physical and mental health as well as staying involved with friends, family and community, having purpose in life, feeling safe, eating well, drinking responsibly, staying physically active, and being proactive about managing one's health.

Can you imagine the potential benefits to families, communities, and the state if every adult in Massachusetts had the opportunity to age well, to reach their own potential? Virtually every sphere of daily life would be enhanced by their contributions. Employers, organizations dependent on volunteers, faith communities, health care and education systems, transportation, travel and leisure companies, and families could all benefit from healthier older adults.

But where do we begin? How do we expand the conversation and encourage positive change? We have been working with providers, advocates, public officials, researchers, and others on assessing, envisioning, and developing healthy aging initiatives in the Commonwealth for more than four years. Now we have something new to add to the picture: statewide and community-level data.

Since 2009, in collaboration with the Massachusetts Health Policy Forum at Brandeis University, we have engaged key stakeholders, thought leaders, and service providers to identify the critical healthy aging issues for the Commonwealth. These issues formed the basis of more than a year of research into Massachusetts data on healthy aging indicators by community.

The result is the **Massachusetts Healthy Aging Data Report: Community Profiles** created by researchers at the Gerontology Institute of the John W. McCormack Graduate School of Policy and Global Studies at the University of Massachusetts Boston and commissioned by the Tufts Health Plan Foundation. This report would not have been possible without the support and encouragement of the Tufts Health Plan Foundation board of directors and the guidance and advocacy of the Massachusetts Healthy Aging Collaborative.

The **Massachusetts Healthy Aging Data Report** includes Community Profiles for each of the 351 cities and towns in Massachusetts as well as the 16 neighborhoods of Boston (367 Community Profiles). While states are often ranked on various health attributes, this is the first time in Massachusetts that we are able to compare communities within the state on several indicators of healthy aging. This Highlights Report provides an overview of the research findings noting our strengths, challenges, and gaps. The Community Profiles can serve as benchmarks for planning and assessing healthy aging interventions, large and small.

To view the Community Profiles, please visit the Massachusetts Healthy Aging Collaborative website:  
**[www.mahealthyagingcollaborative.org](http://www.mahealthyagingcollaborative.org)**

Our goal is to activate providers, consumers, communities, policy makers, and legislators to form new partnerships and coalitions that will promote positive changes to enhance the health, social engagement, and independence of older adults. Our focus is on actionable areas – reduction of multiple chronic diseases, including diabetes, obesity, and hypertension – as well as reduction of depression and falls, and increasing opportunities for older adults to get life-saving screenings and immunizations. We also want to encourage community and environmental changes that will allow people to practice healthy behaviors.

Together we can improve healthy aging in Massachusetts.

*James Roosevelt Jr.*  
*President, Tufts Health Plan Foundation*  
*CEO, Tufts Health Plan*

*Ruth Palombo, Ph.D.*  
*Senior Health Policy Officer*  
*Tufts Health Plan Foundation*

## AN AGING POPULATION

We are living in remarkable times. Never before in history could most people expect to live to old age. In a little more than a century, the average American has gained an additional 30 years of life.

A person in 1900 could expect on average to live to age 47. Those born today can expect to live past 80. Due to increased longevity and the aging of the baby boom generation (born 1946-1964), there will be a dramatic increase in the older population. The Centers for Disease Control and Prevention (2013) estimate that by 2030, more than 72 million Americans will reach age 65 or older, an astonishing 20 percent of the population.

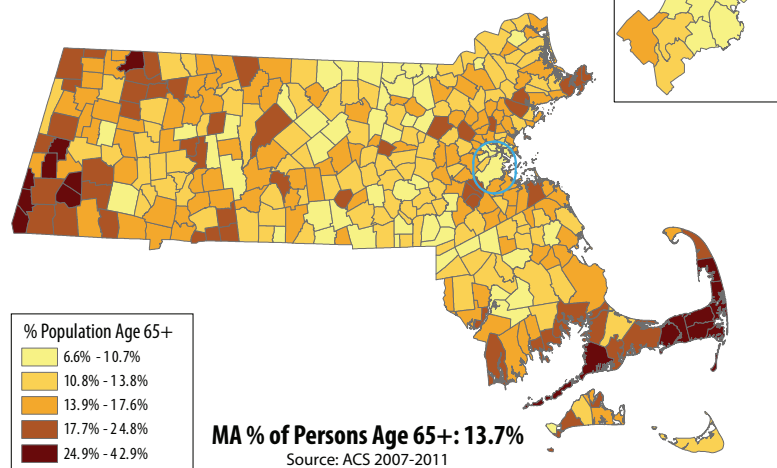
We are not just living longer, but we are living healthier thanks to advances in public health and medicine. The leading causes of death have shifted from infection or acute illnesses to chronic and degenerative diseases. A century ago few people lived with chronic disease, whereas today most of us may live 20, 30, or more years with one or more chronic diseases.

## AGING IN MASSACHUSETTS

The Massachusetts population is slightly older than the U.S. population. For the nation, 13 percent of the population is age 65 or older, while in Massachusetts the rate is about 14 percent (891,303 older adults; using 2010 data). Today 59 percent of older adults age 65 or older in Massachusetts are female, 50 percent are married, and 32 percent live alone.

MAP 1

### Percentage of Population Age 65+ Years By Town/City/Community



Currently, the over 65 population is primarily Caucasian (92 percent). Approximately 4 percent are African American, 3 percent Asian, 3 percent Hispanic/Latino, and 2 percent other races. However, in future years, projections suggest that the aged population will become increasingly diverse in terms of racial and ethnic background. (See “Percentage of Population Age 65+ Years By Town/City/Community,” Map 1, for a look at where older adults are more or less concentrated across the state).

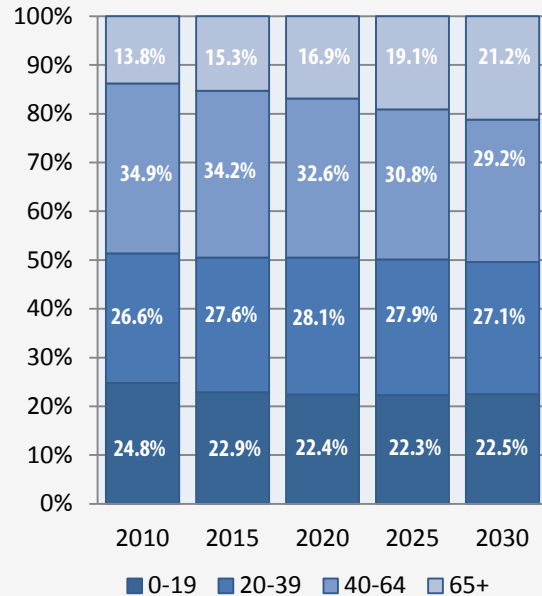
When you look at the very old (e.g., adults age 85 or older), this is a population that is more likely to be female, to live alone, to be very frail, and to have limited financial resources. Nearly 16 percent of Massachusetts older residents are age 85 or older.

According to a recent report by the University of Massachusetts Donahue Institute, the Commonwealth will steadily get older in the future.

The percentage of the state population age 65 or older will increase from 14 percent in 2010, to 15 percent in 2015, to 17 percent in 2020, to 19 percent in 2025, to a remarkable 21 percent in 2030.

Thus, one out of every five people in the state will be an older adult by 2030. This change is illustrated in “Massachusetts Projected Population Distribution by Age Group,” Chart 1. This may seem like a large increase, but the populations in several European countries and Japan are already more than 20 percent over age 65.

**CHART 1: MASSACHUSETTS PROJECTED POPULATION DISTRIBUTION BY AGE GROUP 2010-2030**



Source Data: U.S. Census Bureau, 2010 Census Summary File 1:  
UMass Donahue Institute Population Projections 2013

## Ingredients of Healthy Aging

The healthy aging model developed by the Massachusetts Healthy Aging Collaborative shows that it is possible to experience healthy aging while living with disease or disability. The key is to maximize what is possible (See “Ingredients of Healthy Aging,” Figure 1).

**FIGURE 1: INGREDIENTS OF HEALTHY AGING**



Healthy aging is influenced by our genetics, lifestyle, behaviors, and health practices, which are in turn influenced by our community, our culture, and our differential access to opportunities. From birth to death we are constantly adding to or subtracting from our capacity to age well. It is a complicated, dynamic lifelong process. Although screening, early detection, and management of chronic diseases at the individual level are essential to maximizing both quality of life and longevity, changes in policies and systems that affect healthy aging are also needed, including the development of supportive social systems and physical environments. We are in this together.

Over the next 30 years our population will become older and more racially and ethnically diverse. As a result, the programs and services we offer will need to address the health and social disparities that may be more common among our population in order to encourage healthy aging. Knowing the current status of healthy aging in Massachusetts and making a commitment to act on that knowledge will help us prepare for a better tomorrow.

## How Massachusetts Compares Nationally

Massachusetts is advantaged in several important ways compared to other states, and these benefits translate directly into better healthy aging outcomes. Education, income, and access to health insurance are all above national averages. In a United Health Foundation report<sup>1</sup> of senior health indicators across U.S. states, Massachusetts was ranked

the fourth healthiest state. Strengths noted were: high prevalence of dental visits, high community support expenditures, and high percentage of health screenings.

To further ground readers in how Massachusetts compares to national averages, we compared chronic disease prevalence estimates for aged Medicare beneficiaries in Massachusetts and the U.S. reported on the Health Indicators Warehouse website<sup>2</sup>. These prevalence estimates are based on the presence of diagnostic codes in current Medicare claims for beneficiaries who received all of their care from fee-for-service providers in 2011.

On some indicators, Massachusetts fares better than the national average (Table 1):

**TABLE 1: SAMPLE MA VS. NATIONAL INDICATORS**

	MA	National
Chronic Obstructive Pulmonary Disease	11%	12%
Arthritis	28%	29%
Diabetes	25%	27%

<sup>1</sup> United Health Foundation, "America's Health Rankings," 2013: <http://www.americashealthrankings.org/>

<sup>2</sup> See "CMS Report by Indicator- Disease Prevalence Report": [http://healthindicators.gov/Resources/Initiatives/CMS/Disease-Prevalence-Report\\_13/Indicator/Report](http://healthindicators.gov/Resources/Initiatives/CMS/Disease-Prevalence-Report_13/Indicator/Report)



On other indicators Massachusetts fares worse than the national average (Table 2):

**TABLE 2: SAMPLE MA VS. NATIONAL INDICATORS**

	<b>MA</b>	<b>National</b>
Hypertension	60%	58%
Depression	14%	12%
Alzheimer's Disease or Related Dementias	13%	12%

Although a diabetes diagnosis is only found in the recent Medicare claims for one out of four aged Medicare beneficiaries in Massachusetts, this does not mean that diabetes is a lesser public health concern in the Commonwealth. Earlier estimated rates of diabetes among Massachusetts beneficiaries, based only on recent Medicare claims, have increased at a modest but steady rate since 2007. However, when longer histories of Medicare claims (e.g., since 1999) are examined, a much higher prevalence rate is found. In 2011 nearly one out of every three (32 percent) aged Medicare beneficiaries were ever diagnosed with diabetes. These data suggest that without effective interventions to curb disease onset, the percentage of older Massachusetts residents with diabetes will continue to rise in the future, particularly with a more ethnic and racially diverse aged population.

Therefore, it's clear that despite high national rankings as a state, we could do much better. A staggering 59 percent of older adults in Massachusetts have four or more chronic conditions. While the average education and income levels in Massachusetts are above national averages, there are deep pockets of poverty. In fact, more than 28 percent of households with an older adult have an annual income of less than \$20,000. And, as seen in the data, poverty can be dangerous to your health. Poorer communities with fewer resources tend to rate worse than the state average on more of the indicators measured than those communities with more affluence and resources.

There is no acceptable percentage of adults that should be denied the opportunity to age well. This report looks within Massachusetts to determine how communities are doing on a broad range of healthy aging indicators. To get the most clinically useful picture, we have taken the long view and used data of individuals ever diagnosed with a condition instead of the more narrow diagnosis of individuals who currently have a condition. Please note that while we include an extensive number of indicators, our list is not exhaustive. If you have suggestions for additional data that should be added in future years, we welcome that input.

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## THE MASSACHUSETTS HEALTHY AGING DATA REPORT: COMMUNITY PROFILES

### Key Findings

This Highlights Report summarizes key findings from nearly 100 healthy aging indicators in 367 Community Profiles. The healthy aging indicators in this report represent a broad range of issues: population composition, physical and mental health, chronic disease, nutrition/diet, access to care, service utilization, wellness and prevention, and community variables (walkability, access to resources, safety, and economic factors).

By reporting data at the community-level along with state averages, we aim to help communities focus on both local and statewide problems. Ultimately, we aim to catalyze change to improve healthy aging in Massachusetts. Some key findings of the report include:

- Chronic disease is high among older adults. In Massachusetts, the state average for persons age 65 or older having four or more chronic conditions is 59 percent.
- Rates of depression, hypertension, and Alzheimer's disease or related dementias among older adults are higher in Massachusetts compared to national averages shown in CMS data.
- When longer histories of Medicare claims (e.g., since 1999) are examined, 32 percent of Massachusetts older adults have been diagnosed with diabetes.
- At 15 percent, the prevalence rate of prostate cancer among men in the state is higher than the prevalence rates for all other cancers included in this report, regardless of gender.
- In Massachusetts, 23 percent of adults age 60 and older are considered obese (Body Mass Index of 30 or higher). Only a quarter of older adults in Massachusetts eat the recommended five servings daily of fruits and vegetables.
- About two out of three adults in Massachusetts age 60 or older are getting annual flu shots and have taken the pneumonia vaccine. The state average for getting the shingles vaccine is 15 percent.

## How to Use this Report

This Highlights Report presents a snapshot of findings intended to generate dialogue and action. Where we have identified challenges to healthy aging we consider that gender, race, ethnicity, and socioeconomic status may all contribute to the differences observed.

The graying of the Commonwealth offers unprecedented opportunities and challenges, and effective

solutions may involve individual, system, or community changes. The goal is for these data to be used to spur action and also as way to benchmark success in the healthy aging movement. Here are three steps we would like everyone to take after reading this Highlights Report and the corresponding Community Profiles. We hope the following guidance is helpful.

- **UNDERSTAND.** These data tell a lot about who lives in your community and how your community differs from other local communities. You will also learn how your community differs from state averages and find a list of healthy aging programs that exist in your region and across the state. Use these data to educate yourselves and others in your community about strengths, challenges and areas for improvement. Bring stakeholders together to discuss the data and think about what the data mean. Data provide an impetus for communities to come together and identify trends and community needs. Use this data to start a conversation with your local board of health, local Councils on Aging, or Department of Public Health (DPH) programs in your community.
- **ACT.** Some of the reported indicators will be easier to change than others. We think local communities can best decide how to prioritize targets for intervention. Use data to prioritize needs and potential interventions. Data can be helpful with decision making around priorities and allocation of resources.
- **ENGAGE.** Be part of the Massachusetts Healthy Aging Collaborative and start with a visit to the website ([www.mahealthyagingcollaborative.org](http://www.mahealthyagingcollaborative.org)). Here you will be able to stay connected to what is happening in the state. Share ideas and best practices. Let us know what strategies have helped to improve healthy aging in your community and could also potentially benefit other communities.

## Healthy Aging: By Region

Many Massachusetts communities have indicators that can be improved upon to enhance the health of older adults. In other words, many Massachusetts communities can be healthier than they currently are. For example, six urban communities – New Bedford, Springfield, Fall River, Worcester, Lowell and South Boston – scored below state averages on multiple indicators of healthy aging (See “Communities with Challenges in Healthy Aging,” Table 3).

**TABLE 3: COMMUNITIES WITH CHALLENGES IN HEALTHY AGING**

	# of indicators below state average
New Bedford	-31
Springfield	-25
Fall River	-24
Worcester	-20
Lowell	-19
South Boston	-16

While it may not be feasible in the short-term to make significant changes in rates of chronic disease, poverty, or crime in these communities, there are steps that can be taken. For example, these data can be used by communities to increase awareness of challenges, target interventions, educate key stakeholders, create opportunities for building and expanding partnerships and collaborative efforts, and help with decision making around setting priorities and allocating resources. Other target areas for improvement may include improving access to community health and social services, creating

opportunities for enhancing social connections, and supporting healthy behaviors through offering evidence-based health promotion programs and promoting necessary immunizations (e.g. flu, shingles and pneumonia).

Not surprisingly, communities in Massachusetts scoring better than the state average on indicators of healthy aging were relatively more affluent and suburban communities which tend to have more available resources. (See “Communities with Strengths in Healthy Aging,” Table 4). In the coming year, we will be seeking to learn what factors in these communities are contributing most to these positive healthy aging indicators.

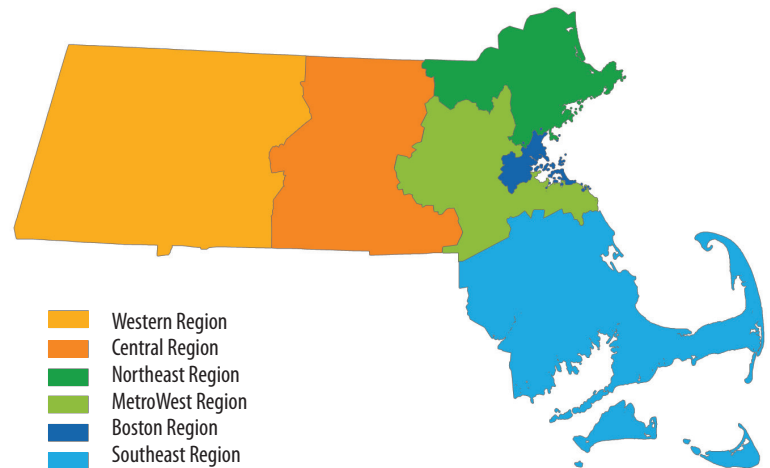
**TABLE 4: COMMUNITIES WITH STRENGTHS IN HEALTHY AGING**

	# of indicators better than state average
Carlisle	+24
Wellesley	+23
Harvard	+21
Brookline	+20
Belmont	+20
Stow	+20

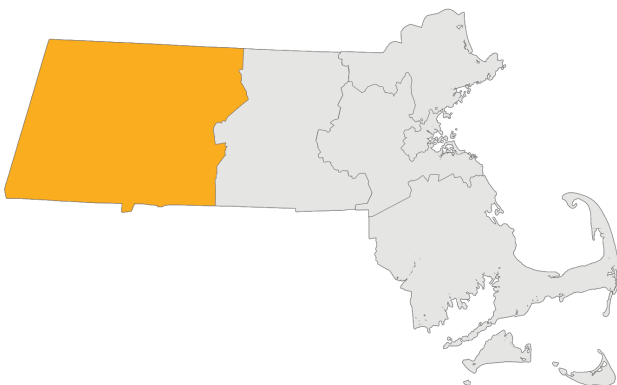
Looking at indicators by region of the state may identify regional differences or trends that could inform policy or intervention. While there are many ways to divide the state, we have used the six regions specified by the Executive Office of Health and Human Services (See “Executive Office of Health and Human Services Regions,” Map 2).

Healthy aging varies by region, but there are also substantial health differences within regions. For descriptive purposes we highlight some strengths and challenges observed in the communities within regions. The community data we have chosen to highlight as “better” or “worse” than the state average for specific healthy aging indicators have been selected for their statistical significance.

**MAP 2: EXECUTIVE OFFICE OF HEALTH AND HUMAN SERVICES REGIONS**

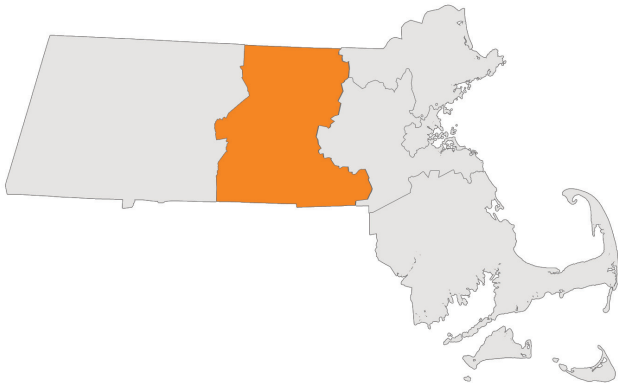


## The Western Region



With the exception of Springfield and some smaller cities, most communities in the Western region of the state are sparsely populated and rural in character. In this region we observe some of the lowest rates of glaucoma and chronic disease. However, Springfield has among the highest rates of older persons reporting fair or poor health, physically unhealthy days, and disability. Both Williamstown and Springfield have above the state average rates of Alzheimer’s disease or related dementias.

## The Central Region

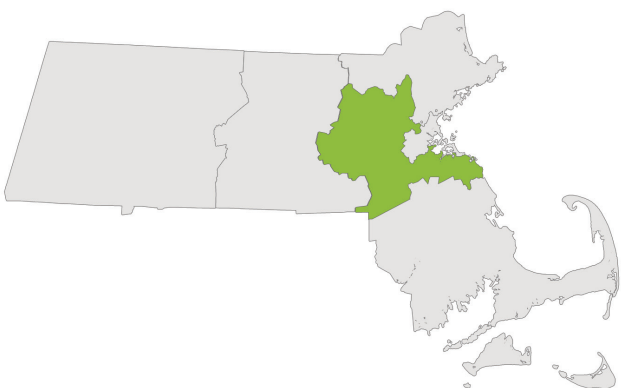


The urban core of this region is Worcester, the second-largest city in the state. Aside from the older cities of Fitchburg and Leominster, much of the remainder of this region is comprised of towns with low population density. The Central region has the highest rate of enrollment in Medicare managed care. There is no clear regional pattern and much variability within the region on indicators. Several communities in the Central region (Ashburnham,

Hardwick, New Braintree, and Oakham) have lower rates of hypertension than the state average. The northern part of the Central region has significantly higher rates of complete tooth loss compared to the state average.

Worcester has rates below the state average on 20 out of nearly 100 indicators. Worcester has higher rates of disability, age-adjusted mortality, depression, chronic disease (e.g., diabetes, hypertension, Alzheimer's disease, stroke, Chronic Obstructive Pulmonary Disease (COPD), heart disease, congestive heart failure (CHF), osteoarthritis, men with prostate cancer, osteoporosis) and tooth loss. It also has the highest rate in the state of falls severe enough to cause an injury. Thus, the largest city in the Central region (Worcester) seems an area for further assessment of indicators, convening of stakeholders, and discussion of community challenges to support healthy aging.

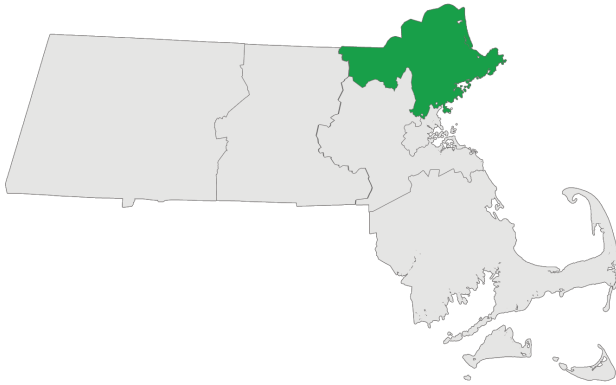
## The MetroWest Region



Most communities in the MetroWest region are characterized as higher income, suburban, and rural communities. Older residents in the MetroWest region are doing well on many indicators of healthy aging.

In addition to lower prevalence rates for many chronic conditions (e.g., diabetes, hypertension), older residents are doing better than state averages on health behavior indicators such as receiving emotional support, eating recommended daily servings of fruits and vegetables, and not smoking. However, for some indicators (e.g., osteoporosis, hip fracture, Alzheimer's disease and related dementias) rates exceed the state average.

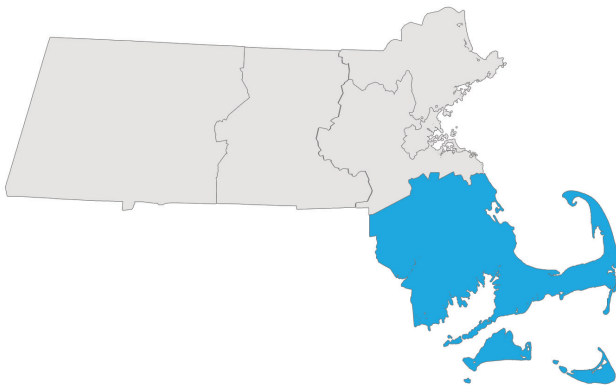
## The Northeast Region



The Northeast region has both older industrial cities and sparsely populated coastal towns with differing population health. The coastal Cape Ann communities (Gloucester, Manchester-by-the-Sea, Rockport) have better than average rates on several chronic disease and health behavior indicators.

Lowell and Lawrence are urban communities in the Northeast region, and both cities have challenges related to social determinants of health. Poverty, immigrant populations, and crime contribute to the challenges observed here. Lowell and Lawrence are higher than the state average for the percentage of older residents who are dually eligible for Medicare and Medicaid, an indicator of poverty. Lowell has a higher percentage of older persons reporting fair or poor health and more physically unhealthy days compared to the state average. High rates of diabetes are observed in communities along the New Hampshire border – from Haverhill to Tyngsborough.

## The Southeast Region



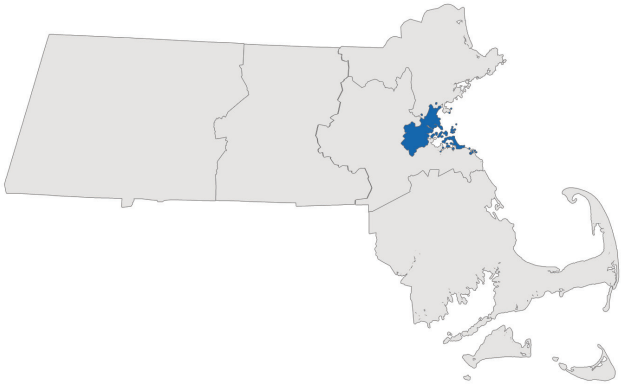
Similar to the Northeast region, the Southeast region is comprised of several older industrial towns and many smaller rural fringe and coastal towns. As a whole, the region has many challenges in terms of healthy aging. With numerous indicator scores worse than state averages, New Bedford and Fall River face

many challenges. Their prevalence rates exceed state averages for multiple chronic conditions, Alzheimer's disease and related dementias, diabetes, stroke, and cardiovascular indicators, among others.

There is also substantial within-regional variation in the Southeast region. The communities on Cape Cod are better than average on many indicators of healthy aging. For example, the older residents on the Cape are more likely to report good/very good or excellent health, have relatively low rates of disability, higher rates of life satisfaction, and higher rates of physical activity. However, the rate of glaucoma is higher than the state average in parts of the Cape.



## The Boston Region



The Boston region is the population hub of the state. The diversity within neighborhoods is immense and we direct readers to the individual Community Profiles we have prepared for: East Boston, Charlestown, Central Boston, Back Bay, South End, Fenway Kenmore, Allston Brighton, Jamaica Plain, Roxbury, North Dorchester, South Dorchester, Mattapan, Roslindale, West Roxbury, Hyde Park, and the city of Brookline.

The Boston region is characterized by the diverse mix of urbanized communities within its borders. While access to amenities and services that promote healthy aging is generally very good in most communities, the variation in health in later life is pronounced. For example, Brookline has better than state average rates on 20 out of nearly 100 healthy aging indicators. Some Boston neighborhoods like the South End and Mattapan have mixed patterns on indicators in comparison to state averages. At the other extreme, South Boston is worse than the state averages on 16 out of nearly 100 indicators including cardiovascular indicators, lung and colon cancer, and hospital readmissions.



## HEALTHY AGING: BY INDICATOR

Looking at results by healthy aging indicator category, including chronic disease, depression, falls and behaviors, can highlight challenges and successes in all of these areas. Specific definitions of the indicators and how each indicator was measured can be found in the Appendix. For ease of understanding we use general terms below.

### Chronic Disease

*The State of Aging and Health in America 2013* report from the Centers for Disease Control and Prevention shows that two out of three older Americans have two or more chronic conditions such as obesity, diabetes, hypertension, heart disease, lung disease, stroke, and cancer. Multiple chronic conditions place older adults at greater risk for premature death, poor functional status, unnecessary hospitalizations, greater use of physician, emergency room and home health visits, adverse drug events, and nursing home placement. Chronic conditions also impact health care costs: 93 percent of Medicare expenditures are for beneficiaries with multiple chronic conditions.<sup>3</sup>

In Massachusetts, the state average for persons age 65 or older having four or more chronic conditions is 59 percent. The communities with the highest

percentage of people with four or more chronic diseases are: Fall River (70 percent), New Bedford (67 percent), Taunton (67 percent), and Holyoke (66 percent). While increased chronic conditions are associated with age, on average 8 percent of residents of Massachusetts age 65 or older do not report any chronic conditions. In fact, there are 23 communities where 13 to 16 percent of the residents age 65 or older are chronic disease free. These communities tend to be smaller rural areas within the Central and Western regions of the state such as Shelburne and Bolton.

Following is a summary of how communities fare on a number of chronic conditions:

**Obesity.** Obesity is defined as a body mass index of 30 or greater. A key to healthy aging is maintaining a healthy weight; however, in Massachusetts 23 percent of adults age 60 and older are obese. Obesity rates exceed 30 percent in Southeast Boston and other urban cities such as Springfield, New Bedford, Brockton, and Lowell. The Cape and Islands as well as towns in the western suburbs of Boston have the lowest rates of obesity among older residents in the state.

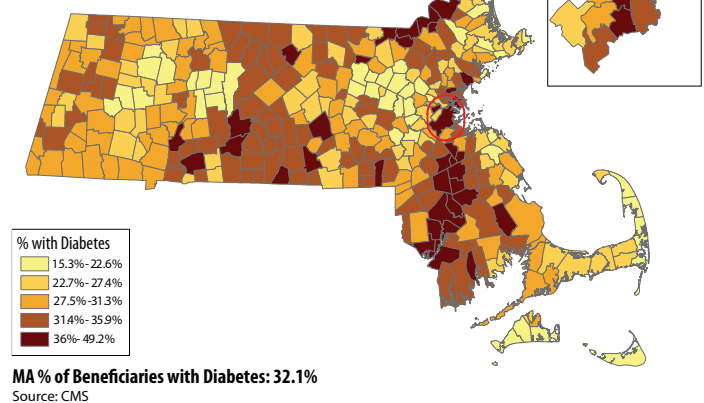
<sup>3</sup> Centers for Medicare and Medicaid Services. Chronic Conditions among Medicare Beneficiaries Chartbook, 2012 Edition, Baltimore, MD, 2012

**Diabetes.** Diabetes is a chronic disease that can be effectively managed with lifestyle changes, especially by losing weight and/or maintaining a healthy weight, exercising regularly, and eating healthy foods. The state average prevalence rate for ever having been diagnosed with diabetes is 32 percent for persons age 65 or older. Higher rates of diabetes are generally found in urban communities such as Mattapan (49 percent), Roxbury (46 percent), Hyde Park (44 percent), and Allston-Brighton (43 percent) within Boston as well as Lowell (44 percent), New Bedford (41 percent), Springfield (41 percent), and Worcester (38 percent). High rates of diabetes were found in many of the same communities that had higher than average rates of obesity, which is a critical risk factor for diabetes. The lowest prevalence rates of diabetes are generally found in towns in the western suburbs of Boston and smaller towns in western Massachusetts. See Map 3.

**Hypertension.** Hypertension is a risk factor for heart disease and stroke, and is one of the most common chronic diseases among older adults. The state average prevalence rate for ever having been diagnosed with hypertension is 78 percent for persons age 65 or older. Examples of communities with greater than state average rates are located across the state, including Savoy (83 percent) in the Western region, Yarmouth (82 percent) on Cape Cod in the Southeast region, Haverhill (81 percent) in the Northeast region and Worcester (81 percent) in the Central region. Towns with the lowest prevalence rates for hypertension were often in smaller towns in western Massachusetts. See Map 4.

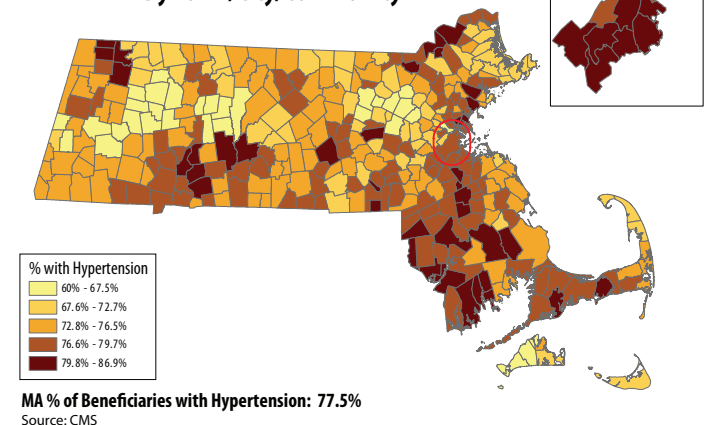
MAP 3

**Percentage of Medicare Beneficiaries Age 65+ Years with Diabetes By Town/City/Community**



MAP 4

**Percentage of Medicare Beneficiaries Age 65+ Years with Hypertension By Town/City/Community**



**Lung Disease.** Chronic Obstructive Pulmonary Disease (COPD) impacts on average 23 percent of Massachusetts older adults age 65 or older, ranging from 11 percent in Carlisle to 34 percent in West Bridgewater.

**Heart Disease.** The prevalence of diagnosed congestive heart failure (CHF) has a state average of 25 percent for persons age 65 or older, ranging from 9 percent in Carlisle to 36 percent in Chelsea.

**Stroke.** The state average for diagnosed stroke in persons age 65 or older is 13 percent and ranges from 8 percent in Douglas to 17 percent in Webster, both in the Central region area of Worcester county.

**Alzheimer's Disease.** The state average prevalence rate for Alzheimer's disease and related dementias in persons age 65 or older is 14 percent. Higher than state average rates are found in several communities including Wrentham (19 percent), Ashburnham (19 percent), Williamstown (18 percent), and Fall River (17 percent). The lowest prevalence rates tend to be found among smaller towns in western Massachusetts.

**Glaucoma.** The state average for glaucoma in persons age 65 or older in Massachusetts is 25 percent. Along with macular degeneration, glaucoma may impact critical driving skills and community mobility, increase social isolation, and reduce social engagement.

**Cancer.** At 15 percent, the prevalence rate of prostate cancer among men in the state is higher than the prevalence rates for all other cancers (breast, lung and colon) included in the Community Profiles, regardless of gender. The level of diagnosed

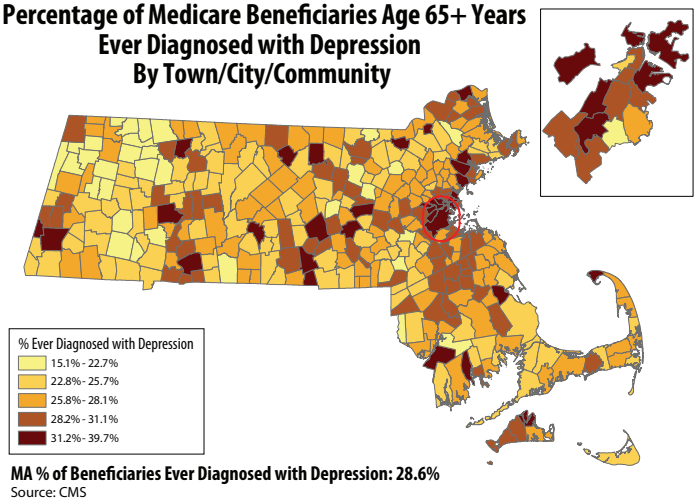
prostate cancer in men age 65 or older ranged from 6 percent in Huntington to 21 percent in both Wellfleet on the Cape and the Mattapan neighborhood of Boston.

## Depression

Twenty nine percent of Massachusetts residents age 65 or older have been diagnosed with depression. There are several communities with rates higher than the state average and these are in scattered locations across the Commonwealth including for example: South Boston (36 percent), East Boston (34 percent), Worcester (34 percent), and Great Barrington (31 percent). The rates of poor mental health days among persons age 60 or older are higher than the state average of 7 percent in the Roxbury, Mattapan, North Dorchester, and South Dorchester areas within Boston (13 percent). The lowest rates of poor mental health days were found in towns outside of Worcester (4 percent). See Map 5.

MAP 5

Percentage of Medicare Beneficiaries Age 65+ Years  
Ever Diagnosed with Depression  
By Town/City/Community



## Falls

Falls are typically more serious for older adults than for younger people due to the fragility of the older body. According to the Behavioral Risk Factor Surveillance Survey (BRFSS) data, the average state rate of persons age 60 years or older reporting to have fallen at least once in the past three months resulting in injury (defined as causing one to limit regular activities for at least a day or to go see a doctor) is 5 percent. Hip fracture can be a result of falls. From the CMS data, we learn that the state average for hip fracture in persons age 65 or older in Massachusetts is 4 percent and ranges from 2 percent in New Marlborough to 6 percent in Williamstown. Experts observe that this is a transformative time for falls prevention in Massachusetts in that (1) evidence-based low-cost low tech interventions are becoming more available; (2) fall-risk assessment tools for use by healthcare providers are newly available; and (3) changes in the structure of healthcare financing should encourage deployment of these innovations.<sup>4</sup>

## Healthy Aging Behaviors

**Diet.** The Centers for Disease Control and Prevention identify the areas of nutrition, physical activity, obesity, and food safety as public health priorities that are “winnable battles,” where with the cooperation of public health partners, significant progress can be made in improving health outcomes in a relatively short time frame – generally within one to four years. We agree and believe we can make a difference in Massachusetts. According to the BRFSS data, currently only a quarter of the residents in Massachusetts age 60 or older eat the recommended five

or more servings of fruits and vegetables per day. The highest rates (about 33 percent) are found in suburban towns west of Boston. Many factors go into maintaining a healthy diet, and clearly access to affordable and nutritious choices is paramount. In addition, shopping and meal preparation may become more difficult as we age, and the lack of socialization and support may reduce our desire to eat.

**Physical Activity.** Physical activity is essential to healthy aging. For older adults with Type 2 diabetes, physical activity reduces the risk of heart disease and stroke and helps to manage blood sugar levels. In addition, exercise can decrease depression and may even help to prevent it. In general, adults age 65 years or older are advised to get 150 minutes of physical activity a week, and according to the Centers for Disease Control and Prevention, only about one-third of older adults achieve the recommended level. The data presented in this report are based on the BRFSS where persons age 60 years or older were asked the question, “During the past month, (other than your regular job) did you participate in any physical activities such as running, calisthenics, golf, gardening, or walking for exercise?” It is difficult to know whether the respondents to that question achieved the equivalent of 600 minutes of physical activity per month, and thus the measure reported in the Community Profiles is one of “participation in physical activity” rather than “adequacy of physical activity.” Given that, we can state that residents on Cape Cod and the Islands were the greatest participants in any physical activity (72 percent) while the least likely to participate in physical activity were older adults in Fall River (52 percent).

<sup>4</sup> Personal communication, Jonathan Howland, PhD, MPH, MPA, Boston Medical Center Injury Center

**Drinking and Tobacco Use.** Older adults on average have lower rates of high risk behaviors like excessive drinking or smoking tobacco than other age groups. The state average rate of smoking among persons age 60 or older in Massachusetts is 9 percent, with the highest rates found in the Roxbury, Mattapan, North Dorchester, and South Dorchester areas within Boston (16 percent). Rates of smoking were less than 5 percent in the suburban towns west of Boston. The state average rate for excessive drinking among persons age 60 or older is also about 9 percent, with only modest variations throughout the Commonwealth.

## Annual Check-ups, Screenings, and Immunizations

**Oral Health.** The state average for complete tooth loss in persons age 65 or older is 36 percent and ranges from 24 percent to 54 percent with the highest tooth loss in parts of Worcester County. The state average for the number of dentists per 100,000 persons is 85. The lowest rates of dentists per 100,000 are in Hampshire and Bristol counties, in the Western and Southeast regions respectively. The state average rate for annual dental exams among persons age 60 or older is 76 percent, ranging from 53 percent in urban communities to 86 percent in the western suburbs of Boston.

**Physical Exams and Screenings.** Over 90 percent of Massachusetts residents age 60 or older report that they get annual physical exams. In fact, 88 percent see a doctor one or more times per year in physician office visits, for an average of 8.65 office visits per year with the lowest rate in Oak Bluffs (4.4 visits) and the highest rate in Hingham (9.3 visits). The great majority (96 percent) of Massachusetts

residents age 60 or older are screened for high cholesterol. While the state average rate for women age 60 or older who have had mammograms in the past two years is 85 percent, there are only modest variations among towns as reflected in the slightly lower rates in parts of Hampden county. A lower percentage of older adults age 60 or older are screened for colorectal cancer. The state average for colorectal cancer screening is 66 percent and ranges from 56 percent for the cities and towns in the Pioneer Valley in the Western region to 74 percent for the western suburbs of Boston.

**Immunizations.** By preventing the flu and its complications, older adults can also reduce the risk of having a heart attack or stroke, particularly for those who already have cardiovascular disease. The state average for persons age 60 or older who get annual flu shots is about 68 percent and ranges from about 59 percent in towns in Essex county in the Northeast region as well as the Roxbury, Mattapan, North Dorchester, and South Dorchester areas of Boston to 77 percent in towns within Worcester and Middlesex counties. The state average rate for people age 60 or older who are immunized for pneumonia is slightly less at 61 percent with only modest variations in rates among towns, except for the lowest rate of 55 percent in the southeast communities within Boston. A challenge is found in the low percentage of older adults age 60 or older who are immunized for shingles. The state average for taking the shingles vaccine is only 15 percent and ranges from a low of 5 percent in Springfield to a high of only 26 percent in Cambridge and Somerville. Shingles is a painful, debilitating condition and studies have shown that having shingles may increase the risk of heart attacks.



## DATA SOURCES

Three primary data sources were used to develop the Community Profiles: Census, Behavioral Risk Factor Surveillance Survey (BRFSS), and Centers for Medicare and Medicaid Services (CMS) data.

While the BRFSS data represent community-residing respondents, the CMS Medicare Master Beneficiary Summary File contains both community-residing and older adults who are institutionalized. About 5 percent of aged Medicare beneficiaries in the state are institutionalized. Available data did not permit all indicators to be reported for individual cities and towns. Since annual service utilization and chronic condition prevalence data were available for more than 600,000 individual Medicare beneficiaries 65 years or older in Massachusetts who received care from fee-for-service medical providers in 2011, it was possible to report CMS indicators for all but the least populated individual towns in the state, as well as subareas within Boston. This was not possible with BRFSS indicators because fewer than 9,000 respondents age 60 years or older are surveyed by the BRFSS in Massachusetts each year.

These data limitations led us to stratify indicators into three geographic tiers related hierarchically. At the lowest tier, indicators derived from CMS data are reported for 310 communities, the great majority of which were individual cities or towns. The second tier of indicators derived from Massachusetts BRFSS data are computed for 33 larger

areas defined by aggregating communities served by Massachusetts Aging Service Access Points (ASAPs). The same BRFSS indicator values are reported for each city and town within these aggregated service areas. The third tier is comprised of a few healthy aging indicators where data were only available for counties. The same county-level indicator values are reported for all cities and towns within the same county. While these geographic tiers help to partially address small sample size problems, this limitation cannot be overcome with existing data sources. A large-scale primary survey data collection effort would be needed to compute reliable estimates for all healthy aging indicators for all individual cities and towns.

We are not aware of any other public source where healthy aging indicators are reported for geographic areas smaller than counties as they are here. We believe that our pragmatic approach achieved a balance between competing goals of geographic specificity, timeliness, and the breadth of healthy aging indicators.

Information about data sources and the definitions of the healthy aging indicators is compiled in the Appendix of this Highlights Report. We also encourage you to visit the Massachusetts Healthy Aging Collaborative website to read the full technical report. ([www.mahealthyagingcollaborative.org](http://www.mahealthyagingcollaborative.org))

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## COMMUNITY VARIABLES

A variety of factors contribute to making communities relatively better places to age well. This Highlights Report does not summarize the community variable data in each Community Profile. However, for each Community Profile we report a wide range of variables including cost of living, safety, walkability, and resources that contribute to healthy aging. The community's "walkability score" is derived from a measure of access to restaurants, shops, grocery stores, parks, and other community locations. See [www.walkscore.com](http://www.walkscore.com).

Each Community Profile also includes some preliminary data on older adults' access to transportation, such as the MBTA's The Ride, ITN Greater Boston, and other supplemental transportation options. According to the National Highway Traffic Safety Administration (2013), adults age 65 or older comprise 16 percent of all licensed drivers in the U.S. today. More and more older adults will need to limit or stop driving due to medical conditions that impact critical driving skills. It is likely that the impairments that cause an individual to stop driving are the same impairments that may make it difficult to navigate public transportation. Rather than a "curb-to-curb" alternative, many will need "door-through-door" transportation. Communities in Massachusetts are beginning to recognize the need for supplemental

transportation programs and some strategies are emerging utilizing both paid and volunteer drivers as well as public and private transit. We need to build on these strategies to assure that older adults in Massachusetts can get to where they need or want to go, when they want to go there.

As other indicators of mobility, the Community Profiles further note if the community is a Department of Public Health (DPH) *Mass in Motion* Community or if the community has a *Keep Moving Walking Club*. We also include county-level data from the Elder Economic Security Index on income needed for older individuals or couples in good health who own or rent to be able to maintain a modest standard of living. Finally, we note if the community has a Council on Aging, Senior Center, or other opportunities for lifelong learning. All of these community variables can be found online at [www.mahealthyagingcollaborative.org](http://www.mahealthyagingcollaborative.org).

## CONCLUSION

The **Massachusetts Healthy Aging Data Report: Community Profiles** provides local data on nearly 100 indicators to 367 cities and towns within Massachusetts including all of the neighborhoods of Boston. Each Community Profile provides a summary narrative and descriptive data on healthy aging indicators to help community residents, agencies, providers, and governments understand the older adults who live in their cities and towns – their ages, living arrangements, health status, strengths, and vulnerabilities.

Every community is different and the data will help each community to develop responses with more confidence, better targeting and coordination, and the capacity to track results over time. Opportunities to create and expand partnerships and collaboration among stakeholders should also result – and each community will have support from the Massachusetts Healthy Aging Collaborative to learn from what others are doing around the Commonwealth.

There are several areas – family caregiving, disability, asthma and social issues like housing and volunteerism – that we did not address in this first **Massachusetts Healthy Aging Data Report**, which we plan to consider for future iterations of this report. We welcome your ideas and input, and invite you to offer suggestion for both using and improving

upon this data in the discussion forums available through the Massachusetts Healthy Aging Collaborative website. For example, DPH has developed a report on asthma among older adults that indicates that this population had the second highest asthma hospitalization rate and the highest mortality rate of any age group in the Commonwealth. DPH recently convened a task force to make recommendations to address this important public health problem and more information will be available on the Massachusetts Healthy Aging Collaborative website in the future.

Also available on the Massachusetts Healthy Aging Collaborative website is a directory of more than 150 evidence-based and other healthy aging programs in Massachusetts, which can be searched by community or topic area. This is a dynamic list to which we encourage you to add new programs as they are offered. We need your program entries if this information is to be comprehensive, up-to-date and useful. We also invite you to look at the programs in surrounding communities and consider replicating or regionalizing healthy aging efforts.

Please visit [www.mahealthyagingcollaborative.org](http://www.mahealthyagingcollaborative.org) for an online tutorial on how to most effectively use the **Massachusetts Healthy Aging Data Report: Community Profiles**. We look forward to working with you to help make Massachusetts a model for healthy aging.



## ACKNOWLEDGMENTS

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#### Researchers from the Gerontology Institute of the John W. McCormack Graduate School of Policy and Global Studies, University of Massachusetts Boston

Elizabeth Dugan, PhD  
Frank Porell, PhD  
Nina M. Silverstein, PhD  
Chae Man Lee, MS, ABD  
Kristina Turk, MS  
Brittany Gaines, MS  
Joo Suk Chae, MS  
Amanda Cox, MS

#### Tufts Health Plan Foundation

Anne Marie Boursiquot King  
Stacey Mann  
Ruth Palombo  
Kayla Romanelli  
James Roosevelt Jr.

#### Healthy Aging Collaborative Executive Committee

Milagros Abreu  
Cheryl Bartlett  
Michael Doonan  
Mike Festa  
Ruth Gabel  
Vicki Halal  
Joan Hatem-Roy  
Ana Karchmer  
Walter Leutz  
Kelly Love  
Jennifer Raymond  
Amy Schechtman  
Rob Schreiber  
Emily Shea  
David Stevens  
Sue Thomson

#### John Snow, Inc.

Elizabeth Costello  
Stewart Landers  
Michelle Samplin-Salgado  
Josiah Altschuler  
Courtney Winger

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## Appendix

**Table 1: Years and Data Sources for Community Profile Indicators**

INDICATOR	SOURCE AND YEARS
<b>POPULATION COMPOSITION</b>	
Total population all ages	United States Census Bureau / American FactFinder. "P12 : SEX BY AGE." <i>2010 Census</i> . U.S. Census Bureau, 2010. Web. 2013. < <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a> >
Population 65 years or older as a % of total population, Total population 65 years or older, % female	United States Census Bureau / American FactFinder. "B01001 : SEX BY AGE." <i>2007 – 2011 American Community Survey</i> . U.S. Census Bureau's American Community Survey Office, 2011. Web. 2013. < <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a> >.
65 yrs+ age composition: % 65-74 years, 75-84 years, 85 years or older	United States Census Bureau / American FactFinder. "B01001 : SEX BY AGE." <i>2007 – 2011 American Community Survey</i> . U.S. Census Bureau's American Community Survey Office, 2011. Web. 2013. < <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a> >.
% living alone	United States Census Bureau / American FactFinder. "B09017: RELATIONSHIP BY HOUSEHOLD TYPE (INCLUDING LIVING ALONE) FOR THE POPULATION 65 YEARS AND OVER." <i>2007 – 2011 American Community Survey</i> . U.S. Census Bureau's American Community Survey Office, 2011. Web. 2013. < <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a> >.
Race/Ethnicity: % White, % African American, % Asian, % Other race, % Hispanic/Latino	United States Census Bureau / American FactFinder. "B010001A-B01001I." <i>2007 – 2011 American Community Survey</i> . U.S. Census Bureau's American Community Survey Office, 2011. Web. 2013. < <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a> >.
Marital status: % married, divorced/separated, widowed, never married	United States Census Bureau / American FactFinder. "B12002 : SEX BY MARITAL STATUS BY AGE FOR THE POPULATION 15 YEARS AND OVER." <i>2007 – 2011 American Community Survey</i> . U.S. Census Bureau's American Community Survey Office, 2011. Web. 2013 < <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a> >.
Education: % with less than a high school education, high school education or some college, with college degree	United States Census Bureau / American FactFinder. "B15001 : SEX BY AGE BY EDUCATIONAL ATTAINMENT FOR THE POPULATION 18 YEARS AND OVER." <i>2007 – 2011 American Community Survey</i> . U.S. Census Bureau's American Community Survey Office, 2011. Web. 2013 < <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a> >.
% Medicare managed care enrollees	2011 Master Beneficiary Summary File –A/B/D from the CMS Chronic Condition Data Warehouse < <a href="http://www.ccwdata.org">www.ccwdata.org</a> >.
% dually eligible for Medicare/Medicaid	2011 Master Beneficiary Summary File –A/B/D from the CMS Chronic Condition Data Warehouse < <a href="http://www.ccwdata.org">www.ccwdata.org</a> >.
<b>PHYSICAL/MENTAL HEALTH</b>	
% with self-reported fair/poor health status, 15+ unhealthy days last month, 15+ days with poor mental health last month,	2009-2011 Behavioral Risk Factor Surveillance Survey from the Massachusetts Department of Public Health. < <a href="http://www.mass.gov/eohhs/gov/departments/dph/programs/health-stats/health-survey/brfss/">http://www.mass.gov/eohhs/gov/departments/dph/programs/health-stats/health-survey/brfss/</a> >.
% injured with a fall in last 3 months	2007-2011 Behavioral Risk Factor Surveillance Survey from the Massachusetts Department of Public Health. < <a href="http://www.mass.gov/eohhs/gov/departments/dph/programs/health-stats/health-survey/brfss/">http://www.mass.gov/eohhs/gov/departments/dph/programs/health-stats/health-survey/brfss/</a> >.
% disabled for a year or more	2008-2011 Behavioral Risk Factor Surveillance Survey from the Massachusetts Department of Public Health. < <a href="http://www.mass.gov/eohhs/gov/departments/dph/programs/health-stats/health-survey/brfss/">http://www.mass.gov/eohhs/gov/departments/dph/programs/health-stats/health-survey/brfss/</a> >.
Age-sex adjusted 1-year mortality rate	2010 & 2011 Master Beneficiary Summary File –A/B/D from the CMS Chronic Condition Data Warehouse < <a href="http://www.ccwdata.org">www.ccwdata.org</a> >.
% satisfied with life, receiving adequate emotional support	2008-2010 Behavioral Risk Factor Surveillance Survey from the Massachusetts Department of Public Health. < <a href="http://www.mass.gov/eohhs/gov/departments/dph/programs/health-stats/health-survey/brfss/">http://www.mass.gov/eohhs/gov/departments/dph/programs/health-stats/health-survey/brfss/</a> >.
% ever diagnosed with depression	2011 Master Beneficiary Summary File –A/B/D; 2011 Master Beneficiary Summary File- Chronic conditions from the CMS Chronic Condition Data Warehouse < <a href="http://www.ccwdata.org">www.ccwdata.org</a> >.
<b>CHRONIC DISEASE</b>	
% with stroke, chronic obstructive pulmonary disease, hypertension, heart attack, hip fracture, glaucoma, breast cancer, colon cancer, prostate cancer, lung cancer, osteoporosis	2011 Master Beneficiary Summary File –A/B/D; 2011 Master Beneficiary Summary File- Chronic conditions from the CMS Chronic Condition Data Warehouse < <a href="http://www.ccwdata.org">www.ccwdata.org</a> >.
% with Alzheimer's disease or related dementias, diabetes, ischemic heart disease, congestive heart failure, osteoarthritis/ rheumatoid arthritis, 4+ chronic conditions, no chronic conditions	2010, 2011 Master Beneficiary Summary File –A/B/D; 2010, 2011 Master Beneficiary Summary File- Chronic conditions from the CMS Chronic Condition Data Warehouse < <a href="http://www.ccwdata.org">www.ccwdata.org</a> >.
% with complete tooth loss	2008-2011 Behavioral Risk Factor Surveillance Survey from the Massachusetts Department of Public Health. < <a href="http://www.mass.gov/eohhs/gov/departments/dph/programs/health-stats/health-survey/brfss/">http://www.mass.gov/eohhs/gov/departments/dph/programs/health-stats/health-survey/brfss/</a> >.

**NUTRITION/DIET**

% with 5 or more servings of fruit or vegetables per day	2008-2011 Behavioral Risk Factor Surveillance Survey from the Massachusetts Department of Public Health. < <a href="http://www.mass.gov/eohhs/gov/departments/dph/programs/health-stats/health-survey/brfss/">http://www.mass.gov/eohhs/gov/departments/dph/programs/health-stats/health-survey/brfss/</a> >.
% obese, smokers, excessive drinkers	2009-2011 Behavioral Risk Factor Surveillance Survey from the Massachusetts Department of Public Health. < <a href="http://www.mass.gov/eohhs/gov/departments/dph/programs/health-stats/health-survey/brfss/">http://www.mass.gov/eohhs/gov/departments/dph/programs/health-stats/health-survey/brfss/</a> >.

**ACCESS TO CARE**

% with a regular doctor, did not see doctor due to cost	2009-2011 Behavioral Risk Factor Surveillance Survey from the Massachusetts Department of Public Health. < <a href="http://www.mass.gov/eohhs/gov/departments/dph/programs/health-stats/health-survey/brfss/">http://www.mass.gov/eohhs/gov/departments/dph/programs/health-stats/health-survey/brfss/</a> >.
# dentists per 100,000 persons	<i>Area Health Resources Files (AHRF)</i> . 2012-2013. US Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions, Rockville, MD. Downloaded October, 2013 Health Indicators Warehouse < <a href="http://healthindicators.gov/">http://healthindicators.gov/</a> >.

**SERVICE UTILIZATION**

Inpatient hospital stays, skilled nursing facility stays, emergency room visits /1000 persons 65+ years per year	2011 Master Beneficiary Summary File –A/B/D; 2011 Master Beneficiary Summary File- Cost and Use from the CMS Chronic Condition Data Warehouse < <a href="http://www.ccwdata.org">www.ccwdata.org</a> >.
Inpatient hospital readmissions (as % of admissions)	2011 Master Beneficiary Summary File –A/B/D; 2011 Master Beneficiary Summary File- Cost and Use from the CMS Chronic Condition Data Warehouse < <a href="http://www.ccwdata.org">www.ccwdata.org</a> >.
Home health visits, physician visits, durable medical equipment claims, Part D monthly prescription fills per year	2011 Master Beneficiary Summary File –A/B/D; 2011 Master Beneficiary Summary File- Cost and Use from the CMS Chronic Condition Data Warehouse < <a href="http://www.ccwdata.org">www.ccwdata.org</a> >.

**WELLNESS and PREVENTION**

% any physical activity last month	2009-2011 Behavioral Risk Factor Surveillance Survey from the Massachusetts Department of Public Health. < <a href="http://www.mass.gov/eohhs/gov/departments/dph/programs/health-stats/health-survey/brfss/">http://www.mass.gov/eohhs/gov/departments/dph/programs/health-stats/health-survey/brfss/</a> >.
% with colorectal cancer screening, cholesterol screening, flu shot, pneumonia vaccine, shingles vaccine, physical exam in past year	2009-2011 Behavioral Risk Factor Surveillance Survey from the Massachusetts Department of Public Health. < <a href="http://www.mass.gov/eohhs/gov/departments/dph/programs/health-stats/health-survey/brfss/">http://www.mass.gov/eohhs/gov/departments/dph/programs/health-stats/health-survey/brfss/</a> >.
% mammogram within last 2 years (women), with annual dental exam	2008-2010 Behavioral Risk Factor Surveillance Survey from the Massachusetts Department of Public Health. < <a href="http://www.mass.gov/eohhs/gov/departments/dph/programs/health-stats/health-survey/brfss/">http://www.mass.gov/eohhs/gov/departments/dph/programs/health-stats/health-survey/brfss/</a> >.

**COMMUNITY VARIABLES**

Walkability score, Access scores for groceries, restaurants, shopping, coffee shops, schools, parks, bookstores, entertainment, banking; Block length, Density of intersections	Walkability scores downloaded from < <a href="http://www.walkscore.com/">http://www.walkscore.com/</a> > in July-August, 2013 using the finder term “city/town name, Massachusetts.” The access scores, block length, and intersection measures from Street Smart Walk Score  < <a href="http://www.walkscore.com/professional/street-smart.php">http://www.walkscore.com/professional/street-smart.php</a> (Beta version)> in July-August 2013 using the finder term “city/town name + MA”.
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**SAFETY**

Violent and property crime rates per 100,000 persons	United States Department of Justice, Federal Bureau of Investigation. <i>Crime in the United States, 2011</i> . Web. October 2013. < <a href="http://www.fbi.gov/stats-services/crimestats">http://www.fbi.gov/stats-services/crimestats</a> >. Data for years 2008-2011 used for reporting of rates.
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**ECONOMIC VARIABLES**

% households with annual income < \$20,000 (65+ householder)	United States Census Bureau / American FactFinder. “B19037” 2007 – 2011 <i>American Community Survey</i> . U.S. Census Bureau’s American Community Survey Office, 2011. Web. 2013. < <a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a> >.
<i>Elder Economic Security Standard Index</i> (4 household types)	Gerontology Institute, University of Massachusetts Boston, “The National Economic Security Standard Index” (2012). <i>Gerontology Institute Publications</i> . Paper 75. < <a href="http://scholarworks.umb.edu/gerontologyinstitute_pubs/75">http://scholarworks.umb.edu/gerontologyinstitute_pubs/75</a> >. Data downloaded from website September 2013. < <a href="http://www.basiceconomicsecurity.org/EI/">http://www.basiceconomicsecurity.org/EI/</a> >.

**Table 2: Healthy Aging Indicator Definitions**

HEALTHY AGING INDICATORS	Definition
<b>PHYSICAL/MENTAL HEALTH</b>	
% with self-reported fair or poor health status	The percentage of persons 60 years or older reporting fair or poor to question: Would you say that in general your health is: excellent, very good, fair, poor?
% injured with a fall in last 3 months	The percentage of persons 60 years or older reporting to have fallen at least once in the past 3 months resulting in injury (defined as causing one to limit regular activities for at least a day or to go see a doctor).
% with 15+ physically unhealthy days last month	The percentage of persons 60 years or older reporting at least 15 days to the question- "Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?"
% disabled for a year or more	The percentage of persons 60 years or older who are "disabled", defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.
Age-sex adjusted 1-year mortality rate	The percentage of Medicare beneficiaries 65 years or older on January 1 <sup>st</sup> , 2010 who lived in the same community for both 2010 and 2011 and who died in 2011 (beneficiary population is weighted to match state age-sex distribution of aged Medicare beneficiaries.
% with 15+ days poor mental health last month	The percentage of persons 60 years or older reporting at least 15 days to the question- "Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?"
% satisfied with life	The percentage of persons 60 years or older responding very satisfied or satisfied to the question- "In general, how satisfied are you with your life?"
% receiving adequate emotional support	The percentage of persons 60 years or older responding always or usually to the question- "How often do you get the emotional support you need?"
% ever diagnosed with depression	The percentage of Medicare beneficiaries 65 years or older in 2011 who ever met the claims-based criteria indicating depression since 1999. These criteria are having at least one inpatient, skilled nursing facility, home health, outpatient or Part B Medicare claim with appropriate diagnosis codes during a 1-year period.
<b>CHRONIC DISEASE</b>	
% with Alzheimer's disease or related dementias	The percentage of Medicare beneficiaries 66 years or older in 2011 who ever met the claims-based criteria indicating Alzheimer's disease or related dementia since 1999. These criteria are having at least one inpatient, skilled nursing facility, home health, hospital outpatient or Part B Medicare claim with appropriate diagnosis codes during a 3-year period.
% with diabetes	The percentage of Medicare beneficiaries 66 years or older in 2011 who ever met the claims-based criteria indicating diabetes since 1999. These criteria are having at least one inpatient, skilled nursing facility, home health Medicare claims, or at least two hospital outpatient or Part B Medicare claims with the appropriate diagnosis codes during a 2-year period.
% with stroke	The percentage of Medicare beneficiaries 65 years or older in 2011 who ever met the claims-based criteria indicating a transient ischemic attack (stroke) since 1999. These criteria are having at least one inpatient Medicare claim or at least 2 hospital outpatient or Part B Medicare claim with appropriate diagnosis codes during a 1-year period.
% with chronic obstructive pulmonary disease (COPD)	The percentage of Medicare beneficiaries 65 years or older in 2011 who ever met the claims-based criteria indicating chronic obstructive pulmonary disease since 1999. These criteria are having at least one inpatient, skilled nursing facility, or home health Medicare claim or at least 2 hospital outpatient or Part B Medicare claims with appropriate diagnosis codes during a 1-year period.
% with hypertension	The percentage of Medicare beneficiaries 65 years or older in 2011 who ever met the claims-based criteria indicating hypertension since 1999. These criteria are having at least one inpatient, skilled nursing facility, or home health Medicare claim or at least 2 hospital outpatient or Part B Medicare claims with appropriate diagnosis codes during a 1-year period.
% ever had a heart attack	The percentage of Medicare beneficiaries 65 years or older in 2011 who ever met the claims-based criteria indicating an acute myocardial infarction (heart attack) since 1999. These criteria are having at least one inpatient, skilled nursing facility, or home health Medicare claim or at least 2 hospital outpatient or Part B Medicare claims with appropriate diagnosis codes during a 1-year period.
% with ischemic heart disease	The percentage of Medicare beneficiaries 66 years or older in 2011 who ever met the claims-based criteria indicating ischemic heart disease since 1999. These criteria are having at least one inpatient, skilled nursing facility, or home health, hospital outpatient or Part B Medicare claim with appropriate diagnosis codes during a 2-year period.
% with congestive heart failure	The percentage of Medicare beneficiaries 66 years or older in 2011 who ever met the claims-based criteria indicating congestive heart failure since 1999. These criteria are having at least one inpatient, hospital outpatient or Part B Medicare claim with appropriate diagnosis codes during a 2-year period.
% with osteoarthritis/rheumatoid arthritis	The percentage of Medicare beneficiaries 65 years or older in 2011 who ever met the claims-based criteria indicating osteoarthritis/rheumatoid arthritis since 1999. These criteria are having at least 2 inpatient, skilled nursing facility, home-health, hospital outpatient, or Part B Medicare claims (or any combination of claim types at least one day apart) with appropriate diagnosis codes during a 1-year period.
% ever had hip fracture	The percentage of Medicare beneficiaries 65 years or older in 2011 who ever met the claims-based criteria indicating a hip/pelvic fracture since 1999. These criteria are having at least 1 inpatient or skilled nursing facility Medicare claim with appropriate diagnosis codes during a 1-year period.
% with glaucoma	The percentage of Medicare beneficiaries 65 years or older in 2011 who ever met the claims-based criteria indicating glaucoma since 1999. These criteria are having at least one Part B Medicare claims with appropriate diagnosis codes during a 1-year period.

% women with breast cancer	The percentage of female Medicare beneficiaries 65 years or older in 2011 who ever met the claims-based criteria indicating breast cancer since 1999. These criteria are having at least one inpatient or skilled nursing facility Medicare claims or at least 2 hospital outpatient or Part B Medicare claims (or any combination of outpatient or Part B claims at least a day apart) with appropriate diagnosis codes during a 1-year period.
% with colon cancer	The percentage of Medicare beneficiaries 65 years or older in 2011 who ever met the claims-based criteria indicating colon cancer since 1999. These criteria are having at least one inpatient or skilled nursing facility Medicare claims or at least 2 hospital outpatient or Part B Medicare claims (or any combination of outpatient or Part B claims at least a day apart) with appropriate diagnosis codes during a 1-year period.
% men with prostate cancer	The percentage of male Medicare beneficiaries 65 years or older in 2011 who ever met the claims-based criteria indicating prostate cancer since 1999. These criteria are having at least one inpatient or skilled nursing facility Medicare claims or at least 2 hospital outpatient or Part B Medicare claims (or any combination of outpatient or Part B claims at least a day apart) with appropriate diagnosis codes during a 1-year period.
% with lung cancer	The percentage of Medicare beneficiaries 65 years or older in 2011 who ever met the claims-based criteria indicating lung cancer since 1999. These criteria are having at least one inpatient or skilled nursing facility Medicare claims or at least 2 hospital outpatient or Part B Medicare claims (or any combination of outpatient or Part B claims at least a day apart) with appropriate diagnosis codes during a 1-year period.
% with osteoporosis	The percentage of Medicare beneficiaries 65 years or older in 2011 who ever met the claims-based criteria indicating osteoporosis since 1999. These criteria are having at least one inpatient, skilled nursing facility, home health Medicare claims or at least 2 hospital outpatient or Part B Medicare claims with appropriate diagnosis codes during a 1-year period.
% with 4+ chronic conditions (of 14)	The percentage of Medicare beneficiaries 66 years or older in 2011 who ever met the claims-based criteria indicating at least 4 of 14 chronic conditions since 1999. The 14 chronic conditions include Alzheimer's disease or related dementia, asthma, atrial fibrillation, cancer (breast, colorectal, lung, and prostate), chronic kidney disease, chronic obstructive pulmonary disease (COPD), depression, diabetes, congestive heart failure, hypertension, hyperlipidemia (cholesterol) ischemic heart disease, osteoporosis, and stroke.
% with no chronic conditions (of 14)	The percentage of Medicare beneficiaries 66 years or older in 2011 who never ever met the claims-based criteria indicating any of 14 chronic conditions since 1999.
% with complete tooth loss	The percentage of persons 60 years or older reporting to have had 6 or more teeth removed because of tooth decay or gum disease.
<b>NUTRITION/DIET</b>	
% with 5 or more servings of fruit or vegetables per day	The percentage of persons 60 years or older reporting to have eaten five or more servings of fruit or vegetables per day in the last month.
% obese	The percentage of persons 60 years or older with a body mass index of 30 or higher
% current smokers	The percentage of persons 60 years or older reporting to have ever smoked at least 100 cigarettes and who now smoke on some or all days
% excessive drinking	The percentage of persons 60 years or older reporting excessive alcoholic drinking during the past month. For men excessive drinking is defined as consuming 60 or more alcoholic drinks in the past month or consuming 5 or more alcoholic drinks on at least one occasion during the past month. For women excessive drinking is defined as consuming 30 or more alcoholic drinks in the past month or consuming 4 or more alcoholic drinks on at least one occasion during the past month. One drink is equivalent to a 12-ounce beer, a 5-ounce glass of wine, or a drink with one shot of liquor.
<b>ACCESS TO CARE</b>	
% with a regular doctor	The percentage of persons 60 years or older reporting to have a personal doctor or health care provider
% did not see doctor when needed due to cost	The percentage of persons 60 years or older responding yes to the question-"Was there a time during the last 12 months when you needed to see a doctor but could not due to the cost?"
# dentists per 100,000 persons (all ages)	The number of professionally active dentists per 100,000 persons in the county
<b>SERVICE UTILIZATION</b>	
Inpatient hospital stays/1000 persons 65+ years per year	A count of inpatient hospital discharges in 2011 per 1,000 Medicare beneficiaries 65 years or older
Inpatient hospital readmissions (as % of admissions)	The percentage of inpatient hospital discharges for Medicare beneficiaries 65 years or older which were followed by an admission to an acute care hospital for any cause within 30 days
Skilled nursing facility stays/1000 persons 65+ years per year	A count of skilled nursing facility discharges in 2011 per 1,000 Medicare beneficiaries 65 years or older
Home health visits per year	Average home health visits in 2011 per Medicare beneficiary 65 years or older
Physician visits per year	Average Part B physician office visit evaluation and management services received in 2011 by Medicare beneficiaries 65 years or older
Durable medical equipment claims per year	Average Part B durable medical equipment services received in 2011 by Medicare beneficiaries 65 years or older



Emergency room visits/1000 persons 65+ years per year	Average number of emergency department visits (where beneficiaries were released or admitted to a hospital) in 2011 per 1,000 Medicare beneficiaries 65 years or older
Part D monthly prescription fills per person per year	Average number of standard 30 days supplies of a filled Part D prescriptions in 2011 by Medicare beneficiaries 65 years or older
<b>WELLNESS and PREVENTION</b>	
% any physical activity last month	The % of persons 60 years or older who answered yes to the question- "During the past month, (other than your regular job) did you participate in any physical activities such as running, calisthenics, golf, gardening or walking for exercise?"
% mammogram within last 2 years (women)	The % of women 60 years or older whose last mammogram was two years ago or less
% colorectal cancer screening	The % of persons age 60 years or older whose last proctoscopic exam was five years ago or less
% cholesterol screening	The % of persons age 60 years or older who had their cholesterol checked within past 5 years
% flu shot past year	The % of persons age 60 years or older who answered yes to the question- "During the past 12 months, have you had a seasonal flu shot (or seasonal flu vaccine that was sprayed in your nose [added in 2010])?"
% pneumonia vaccine	The % of persons age 60 years or older who reported ever having a pneumonia vaccination
% shingles vaccine	The % of persons age 60 years or older who answered yes to the question- "A vaccine for shingles has been available since May 2006, it is called Zostavax®, the zoster vaccine, or the shingles vaccine. Have you had this vaccine?"
% with physical exam in past year	The % of persons age 60 years or older who reporting seeing a doctor for a regular check up within the past year
% with annual dental exam	The % of persons age 60 years or older who reporting visiting a dentist or dental clinic within the past year
<b>POPULATION COMPOSITION</b>	
% Medicare managed care enrollees	The % of Medicare beneficiaries age 65 years or older enrolled in a Medicare managed care plan (Medicare Advantage) for at least 1 month in 2011
% dually eligible for Medicare and Medicaid	The percentage of Medicare beneficiaries age 65 years or older with at least one month of full or restricted Medicaid entitlement in 2011. (Beneficiaries with restricted Medicaid entitlement are only entitled to some Medicaid benefits (e.g., drug coverage only, and/or premium/copayments for services).
<b>COMMUNITY VARIABLES</b>	
Walkability score (0-100)	Walkability score categories: 90-100 "Walker's Paradise" Daily errands do not require a car; 70-89 "Very Walkable" Most errands can be accomplished on foot; 50-69 "Somewhat Walkable" Some errands can be accomplished on foot; 25-49 "Somewhat Car-Dependent" Most errands require a car; 0-25 "Car-Dependent" Almost all errands require a car
Access to groceries (0-20)	Accessibility score (places with greater accessibility have a higher score)
Access to restaurants (0-20)	Accessibility score (places with greater accessibility have a higher score)
Access to shopping (0-15)	Accessibility score (places with greater accessibility have a higher score)
Access to coffee shops (0-15)	Accessibility score (places with greater accessibility have a higher score)
Access to schools (0-6)	Accessibility score (places with greater accessibility have a higher score)
Access to parks (0-6)	Accessibility score (places with greater accessibility have a higher score)
Access to bookstores (0-6)	Accessibility score (places with greater accessibility have a higher score)
Access to entertainment (0-6)	Accessibility score (places with greater accessibility have a higher score)
Access to banking (0-6)	Accessibility score (places with greater accessibility have a higher score)
Average block length in feet	Shorter block lengths are thought to be better for shorter walks to a destination. Good : average block length less than 490 feet; Fair: average block length 490- 525 feet; Poor: average block length greater than 525 ft
# of intersections per square mile	More intersections are thought to be better for shorter walks to a destination. Good : 150 or more intersections per square mile; Fair: between 120-149 intersections per square mile; Poor: fewer than 120 intersections per square mile
<b>SAFETY</b>	
Violent crimes / 100,000 persons	The number of violent crimes (murder and non-negligent manslaughter, forcible rape, robbery, and aggravated assault) in 2011 (or earlier year 2007-2010) known to law enforcement per 100,000 persons
Property crimes / 100,000 persons	The number of property crimes (burglary, larceny-theft, motor vehicle theft, and arson) in 2011 (or earlier year 2007-2010 for some towns) known to law enforcement per 100,000 persons
<b>ECONOMIC VARIABLES</b>	
% households with annual income < \$20,000	The % of households with a householder (i.e., the person (or one of the people) in whose name the housing unit is owned or rented (maintained) age 65 years or older with an annual income in 2010 less than \$20,000.
<i>Elder Economic Security Standard Index</i>	
Single, homeowner without mortgage, good health	Annual income needed for a single homeowner with no mortgage in good health to attain a modest standard of living in the county
Single, renter, good health	Annual income needed for a single renter in good health to attain a modest standard of living in the county
Couple, homeowner without mortgage, good health	Annual income needed for a couple who are homeowners with no mortgage in good health to attain a modest standard of living in the county
Couple, renter, good health	Annual income needed for a couple who are renters in good health to attain a modest standard of living in the county



“Never doubt that a small group of thoughtful,  
committed people can change the world.  
Indeed, it is the only thing that ever has.”

– MARGARET MEAD

