

Healthy People / Healthy Economy

An Initiative to Make Massachusetts the National Leader in Health and Wellness

A Five-Year Review and Five Priorities for the Future

About the Boston Foundation

The Boston Foundation, Greater Boston's community foundation, is one of the largest community foundations in the nation, with net assets of some \$1 billion. In 2014, the Foundation and its donors made more than \$112 million in grants to nonprofit organizations and received gifts of nearly \$112 million. In celebration of its Centennial in 2015, the Boston Foundation has launched the Campaign for Boston to strengthen the Permanent Fund for Boston, the only endowment focused on the most pressing needs of Greater Boston. The Foundation is proud to be a partner in philanthropy, with more than 1,000 separate charitable funds established by donors either for the general benefit of the community or for special purposes. The Boston Foundation also serves as a major civic leader, think tank and advocacy organization, commissioning research into the most critical issues of our time and helping to shape public policy designed to advance opportunity for everyone in Greater Boston. The Philanthropic Initiative (TPI), an operating unit of the Foundation, designs and implements customized philanthropic strategies for families, foundations and corporations around the globe. For more information about the Boston Foundation and TPI, visit www.tbf.org, follow us on Twitter at @bostonfdn, like us on Facebook at thebostonfoundation, or call 617-338-1700.

About NEHI

NEHI (Network for Excellence in Health Innovation) is a national health policy institute focused on enabling innovation to improve health care quality and lower health care costs. In partnership with members from all across the health care system, NEHI conducts evidence-based research and stimulates policy change to improve the quality and the value of health care. Together with this unparalleled network of committed health care leaders, NEHI brings an objective, collaborative and fresh voice to health policy. For more information, visit www.nehi.net. Follow us on Twitter at @NEHI_News and like us on Facebook at NEHINews.

The Healthy People/Healthy Economy Initiative

In 2007 the Boston Foundation partnered with NEHI to release a comprehensive report, *The Boston Paradox: Lots of Health Care, Not Enough Health*. The report acknowledged that despite the city's reputation as a world-class medical community, it was not immune to the rising tide of preventable chronic diseases brought on by an epidemic of overweight and obesity.

Two years later, a second report, *Healthy People in a Healthy Economy*, set forth a plan to combat the problem, which required intense and coordinated action across multiple sectors including schools, communities and workplaces. In addition, it involved working in areas not typically associated with health, such as transportation, urban planning and smart growth.

In 2010, the Boston Foundation and NEHI launched an initiative called Healthy People/Healthy Economy, with the goal of shifting our state's focus from "health care" to "health" and making Massachusetts the national leader in health and wellness. In 2011, the organizations released the first annual report card tracking the policies, programs and practices designed to improve the health of Massachusetts residents. This report marks the five-year anniversary of these report cards.

Acknowledgments

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Preface

In 2007, The Boston Foundation partnered with NEHI to publish a comprehensive report on the health of Boston residents, highlighting the growing crisis of preventable chronic disease that was affecting not only our health, but our economy. Two years later, a second report called for a comprehensive policy approach to addressing this crisis. We established the Healthy People/Healthy Economy Report Card as a tool to both influence public policy and track progress on these issues.

As we come to this fifth year of our Healthy People/Healthy Economy work, we are taking some time to reflect on the progress the state has made in putting policies in place for systems change to support healthier choices. As result, this report doesn't issue new grades but instead summarizes our progress over the past five years and highlights a few areas of focus for the future. Interestingly, it is timed to coincide with the Centennial of The Boston Foundation itself. One of the lessons gleaned from the Foundation's 100-year history is that change takes time and concerted effort.

Shifting the culture around health and wellness is more than a five-year undertaking. Focusing on prevention by making the healthy choice the easier choice will eventually reduce costs and improve well-being, but this will be a gradual process. We are encouraged by early signs of success and are determined to stay with this work for the long haul. As we move forward, it is important to discern the key areas where concentrated effort can yield a culture shift. Common practices in 1915, when the Boston Foundation was founded, included widespread cigarette smoking, race-based discrimination, and cars without seat belts. But history has shown us that even well-entrenched practices can change over time with education and persistent advocacy.

We are confident that five priorities we identify in these pages—high-quality early childhood care and education, more physical activity for children and youth, better access to healthy food, transportation and smart-growth planning that considers health impacts, and a tax on sugar-sweetened beverages—deserve our best efforts in order to improve the health of all of our residents.

In these next five years, and the years to follow, we will continue to provide objective research and analysis to support our goal of making Massachusetts the preeminent state for health and wellness.

Executive Summary

This year's Healthy People/Healthy Economy Report reflects on past progress as we celebrate the fifth anniversary of our annual Report Card and the Centennial of The Boston Foundation. The report also looks forward at a time when Governor Charlie Baker and the Massachusetts Legislature are setting a new policy agenda for the Commonwealth. In these pages, we recommend an agenda for a healthier Massachusetts.

The first Report Card (2011) identified a dozen priorities for decisive action to improve health in Massachusetts. The need to act was summed up in the title of our first report, *The Boston Paradox*, published in 2007. As we saw it, Massachusetts had “plenty of health care, but not enough health.” The Commonwealth ranked high on many measures of health status and health care compared to the rest of the United States. But it was not immune to risks such as rising rates of overweight, obesity and diabetes that threatened to increase the burden of illness on many families, to drive up health-care costs that were already too high, and to sap the economic vitality of the state.

So how have we done? Clear signs have emerged that rates of growth in overweight and obesity in the Massachusetts population at large have stayed flat over the last two to three years. Similarly, overweight and obesity have leveled off among youth in several high-risk communities aided by the Commonwealth's Mass in Motion program. We have seen a widespread effort to promote a “culture of health.”

A real culture of health requires investment of real dollars in priorities that shape our lifelong health. Here there have been encouraging signs as well.

In 2011 we documented a “mismatch”: increased health care spending by the Commonwealth came at the expense of investment in crucial long-term determinants of health such as education and public health programs. Since then, the Commonwealth's spending on health care and other health-related priorities has come closer into balance. (See Chart page 12.)

But it is far too early to give ourselves good grades. First, it remains to be seen whether the unhealthy weight gain in Massachusetts has stopped for good. After all, America's obesity crisis has been more than 30 years in the making. In Massachusetts, rates of overweight, obesity and related conditions such as diabetes remain at historically high levels. Disparities in rates and resulting health risks among African-American and Latino residents remain stubbornly high. There is an especially urgent need for addressing what can be termed “ZIP-code disparities,” or huge differences in health between affluent communities and low-income, high-risk urban neighborhoods throughout the state.

And while Massachusetts adults are among the nation's healthiest, the state's youth consistently fall in the middle of the pack for risks such as overweight and obesity, with especially troubling numbers for the youngest children. These facts do not bode well for our economic future.

It likewise remains to be seen whether the Commonwealth's tentative steps toward a better balance can be sustained in state expenditures on both health care and the determinants of health. The growth in health-care spending in Massachusetts has slowed in the last two to

three years, but experts are divided on whether this trend will continue. Meanwhile, recent budget increases for public health and other health-related programs have not come close to making up for cuts in real inflation-adjusted spending suffered over the last 15 years.

And so as Governor Baker, the Legislature and community leaders reset the state's agenda, we offer one overarching goal and five specific recommendations for further action. The Commonwealth's overarching goal should be to make steady progress toward a culture of health. To make this a reality, Massachusetts officials need to fully embrace the "health in all policies" approach that many experts and health-care leaders see as essential if we are to improve health, avoid unnecessary spending, and sustain our economic vitality. Nearly every government action, from capital planning and construction to the design or reform of programs, represents an opportunity to contribute to better health for all residents.

Our five specific recommendations follow:

Early Childhood

Rigorous scientific evidence continues to show that high-quality care and early educational opportunity have an enormously powerful influence on human development. Children who receive quality care and early instruction perform better academically, are healthier and are more likely to become productive members of society. The Commonwealth has underinvested in these crucial areas and needs to make early childhood development a major public priority.

Youth Physical Activity

As noted previously, health rankings for the state's youth are comparatively mediocre. Yet the Commonwealth has not required public schools to implement evidence-based physical activity strategies that have been shown to improve students' health and academic performance.

Healthy Food Access

Massachusetts should fully enact and implement already-identified strategies for boosting local food production and expanding access to nutritious food and produce in low-income neighborhoods. Attention must be paid to funding and implementing the Food Trust Program and implementing a federal Food Insecurity Nutrition Incentive (FINI) grant.

Transportation and Smart Growth

The harsh winter of 2014-15, with record-breaking snowfall and frigid temperatures, revealed the weaknesses of the Boston-area mass transit system and inflicted great hardship on commuters and employees alike. As the Commonwealth considers new reforms for the Massachusetts Bay Transportation Authority (MBTA), it should ensure financing for infrastructure improvements and expansion. At the same time, the state should not backtrack from objectives now embedded in the transportation planning process such as the use of Health Impact Assessments of future projects, expansion of bikeable/walkable transportation routes and development of transit-friendly housing.

Sugar-Sweetened Beverage Tax

Many states now impose a specific sales tax on the sale of sugary beverages known to contribute to unhealthy weight and other health risks. In contrast, Massachusetts has exempted soft drinks and candy from its sales tax since the 1960s. This short-sighted and counterproductive tax break should be repealed.

In closing, Massachusetts residents should feel encouraged by the real signs of progress we see that point toward better health. Health risks that have seemed intractable, such as rising rates of overweight and obesity, may not be intractable after all. But the state's leaders have much work to do before we can declare victory.

Looking Back at the Healthy People/Healthy Economy Report Cards

Health in Massachusetts: A Paradox Then, a Paradox Now

In 2007, we published *The Boston Paradox: Lots of Health Care, Not Enough Health*. Released just as Massachusetts began its historic health-care reform, the report suggested that new and smart approaches to prevent chronic illness and strengthen key determinants of lifelong health would be essential for improved health and economic vitality in the Commonwealth.

Here's why. For many decades now, the state's population as a whole has ranked high on most measures of health. Several factors are likely responsible. Both income and educational attainment are strongly correlated with health status, and Massachusetts has long been one of the highest ranked states for wealth (per capita income) and for the size of its college-educated population. Access to health care is also certainly a factor. Even before the 2006 state health-care reform, a comparatively high percentage of residents were covered by health insurance. In addition, Massachusetts boasted then—as it does now—one of the highest concentrations of health-care providers in the country, including an extensive network of community health centers that primarily serve lower-income and immigrant residents.

Massachusetts residents not only enjoyed high life expectancy, by many measures they enjoyed better lifelong health. Consider what epidemiologists term “premature mortality,” a population-wide measure of years of life lost to death before the age of 75 that serves as a

proxy for the health of the entire population. By this measure, Massachusetts ranked high (Sixth among the 50 states in 2003).¹ There were many signs that pointed to the success of health care in saving or prolonging life: mortality rates for many cancers, for instance, were coming down, declining about 15 percent in Massachusetts over the previous decade.²

But there were several signs of trouble as well. Not every Massachusetts resident was in good health. In fact, African Americans as a group were significantly less healthy, by many measures, than the population as a whole. The growing Latino population suffered similar (and in some instances, worse) disparities in health status.³ As both groups were expected to play an increasingly important role in the state's economy over time, closing the gaps in minority health status loomed as a real issue for the productivity and competitiveness of the state's economy.

Additionally, the state's workforce was already somewhat older than the U.S. average and destined to become even older as baby boomers approached their mid-sixties and the “baby bust” cohort of the late 1970s and early 1980s failed to replenish the ranks of boomers. Older workers are more prone to illness and have more need of medical care, which has implications for the productivity and competitiveness of the state's economy.⁴

Racial-ethnic health disparities and rapidly aging workers meant that the health-care spending and the cost of that care for families, employers, and state government could be expected to rise. In 2007, Massachusetts already

ranked at or near the top among the states for its per-capita health-care spending and for the average cost of health insurance to individuals and families.

Finally, despite its high (if uneven) health status, Massachusetts was not immune to growing risks that threatened to undermine the health of the entire population and possibly reverse some of the gains achieved in the last few decades. By 2007, Massachusetts and the other 49 states were nearly 30 years into an unprecedented rise in the rates of unhealthy weight gain. Residents of every income, educational attainment level, and racial-ethnic group suffered increasing rates of both overweight (defined by the U.S. Centers for Disease Control and Prevention as a Body Mass Index between 25 and 29.9) and obesity (a Body Mass Index over 30). Unhealthy weight is closely linked to the onset and progression of Type 2 diabetes, which in turn is linked to other conditions. These include ailments, such

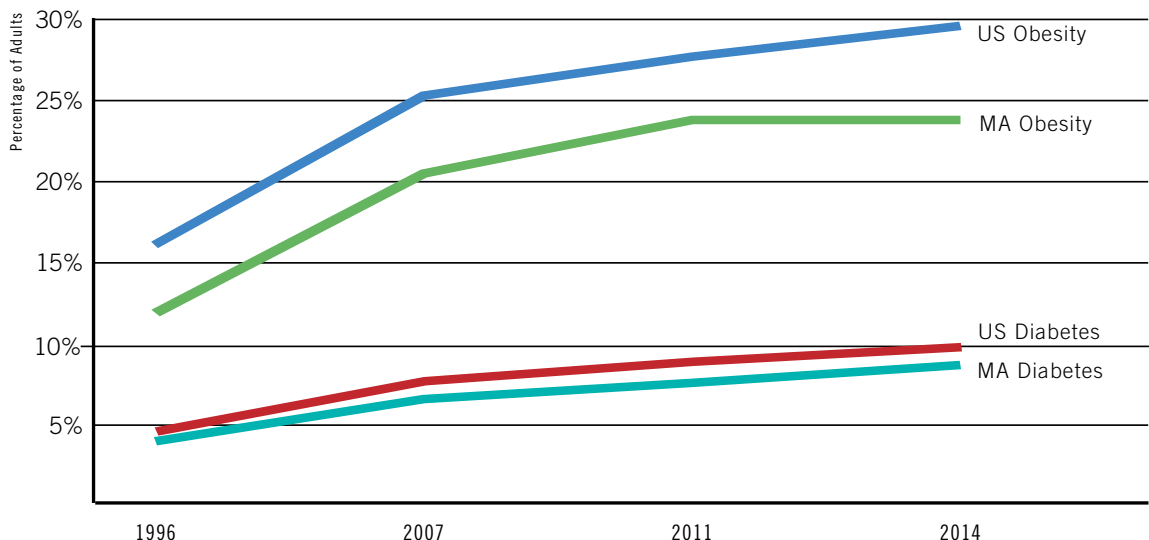
as cardiovascular disease, that were otherwise declining in severity. As diabetes rates rose, there were new and recurrent demands on the Massachusetts health-care system.

The health risks posed by unhealthy weight and diabetes threatened to exacerbate a vicious cycle in which rising health-care spending diminished the Commonwealth's ability to invest in other areas that were crucial determinants of its residents' health.

As noted above, educational attainment is strongly correlated with good health; many scholars believe that education may be the single most important influence on health, and thus on controlling health-care spending at reasonable levels over the long run.⁵ Extremely strong scientific evidence has demonstrated that good early childhood care and education has a profound influence on lifelong health and prosperity. Massachusetts' high-tech economy was rooted in the Commonwealth's college and university community, including its

A: Obesity and Diabetes in Massachusetts and the U.S. 1996-2014

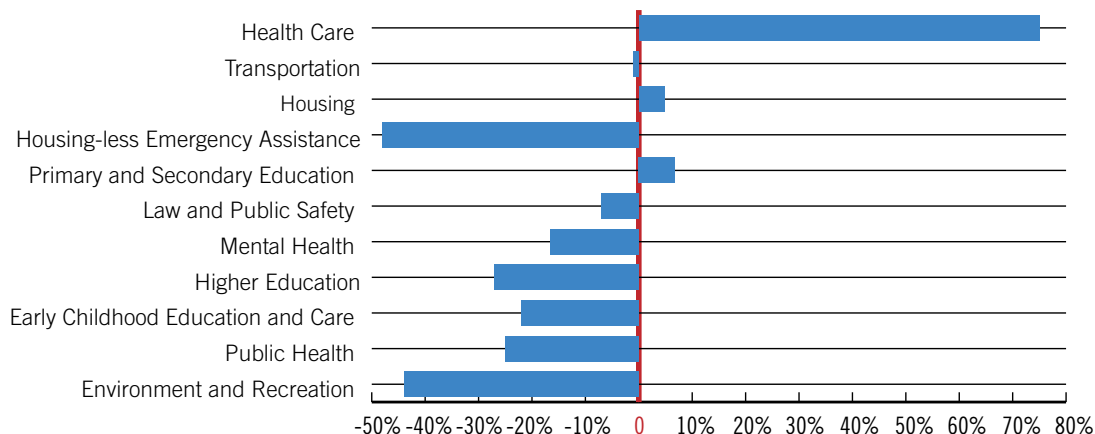
Three-year averages



Source: CDC National Vital Statistics data 1996-2014, as viewed at America's Health Rankings, www.americashealthrankings.org

Massachusetts State Spending – Health Care and Other Determinants of Health

B1: Percentage Spending Growth FY2001-2011



All data adjusted by CPI to 2015 dollars

Data from the Massachusetts Budget and Policy Center, State Budget Browser

public colleges and universities. But the state's investment in early childhood education and public higher education was steadily falling as health-care spending increased. (See *Chart B1*)

Other key determinants of health suffered as well, including investments in law enforcement and public safety, and in environmental protection and recreational facilities. Disinvestment in public health was particularly troubling, as aggressive programs in the 1990s had driven the Commonwealth's smoking rate down from nearly 21 percent in 1995 (#16 nationwide) to 17.8 percent in 2007 (#8). The smoking rate would eventually decline to 14.1 percent in 2011 (#5), before sliding back to 16.6 percent (#11) in 2014 as investments in tobacco control continued to fall.⁶

And so, Massachusetts had plenty of health care, but not enough health. Persistent disparities in health and health care, coupled with uncontrolled risks posed by unhealthy weight and diabetes, represented built-in drivers of increased need that would result in higher health-care spending over time, which in turn would worsen a vicious cycle in which

health-care spending came at the expense of fundamental determinants of health such as education and public health programs.

What could be done?

In 2009, we answered that question with a report, *Healthy People in a Healthy Economy: A Blueprint for Action in Massachusetts* that plotted a path forward for Massachusetts. It was informed by science and reflected the consensus of analysts in Massachusetts and throughout the United States.⁷ There was no one cause for the rise in health risks such as unhealthy weight and diabetes, and there would be no one solution. An illustrative point: when the U.S. Surgeon General convened a meeting of scholars in 1999 to create a schematic chart of the causes of obesity, they produced a model with dozens of interlocking factors. These ranged from fewer opportunities for recreation to increased time in front of computer and TV screens, to long commutes and much more. Lagging incomes and outright poverty were making cheap, highly processed food an attractive option.⁸

Any discussion of ways to control unhealthy weight inevitably brought up the issue of personal

responsibility: how much of the responsibility for rising rates of unhealthy weight could be laid at the feet of individuals? How much could government, nonprofit organizations, the business community or other sectors accomplish if personal choices were really the problem?

For us, the evidence clearly suggested that while it is always a good idea for people to try and take control of their health, many societal trends are effectively stacking the deck against their ability to sustain healthy living over the course of a lifetime. A considerable body of scientific analysis supports the idea that the personal choices you make depend upon the choices you have. For example, individuals with poor access to fresh food are far less likely to eat a healthy diet than those who can easily purchase fruits and vegetables.

Continuing advances in genomic research have underscored that people have varying genetic susceptibilities to unhealthy weight, to diabetes, and to other health risks that are ostensibly related to behavior. And not only that: research increasingly confirms that persons with genetic susceptibilities to health risks may find those genes “turned on or turned off” depending on the environment in which they grow up and live.^{9,10}

In many ways, expecting residents of Massachusetts, or anywhere, to take control of their health without healthy home, community and work environments is like asking a captain to stand upright on the deck of a rolling ship in the middle of a storm: maybe necessary, but not sufficient.

And so the *Blueprint* urged Massachusetts state government, the business community, the nonprofit sector and residents to support a multifaceted strategy that would create a statewide environment for healthy living. It recommended that Massachusetts adopt an approach that has since been called “health in all policies.” A health-in-all-policies approach is one that puts all facets of daily life into play: education, transportation, housing and

community development, workplace health and employee benefits, public health, and the design of health-care services as well.

With the *Blueprint* as a guide for action, the *Healthy People/Healthy Economy Report Card* was launched in 2011 as an annual report on progress toward achievement of a dozen policies and practices. These ranged from transportation policy to food policy, among others that would improve the state’s environment for health if adopted or implemented collectively. The policies and practices identified in that first Report Card were selected for their importance to public health and because in most cases they were already the focus of intensive advocacy and action by a wide range of organizations in Massachusetts, including the public health community, transportation planners, fresh food activists and others.

This year we celebrate the fifth anniversary of the Report Card. It is time to look back at progress made and business left to finish. First, how does our health look now? It’s still very good, comparatively speaking.

Measured by “premature mortality,” Massachusetts ranked sixth in the country in 2003; by 2014 it ranked first. America’s Health Rankings rate Massachusetts second only to Vermont for the strength of overall positive determinants of health (measured across indicators of health risk behaviors, community and environmental characteristics, clinical care, and public policy).¹¹

When compared to the rest of the country, preventable health risks for the Commonwealth’s population as a whole are positive. The state’s adult obesity rate is the country’s third-lowest, and the percentage of adults who are physically inactive is about the 12th-lowest.

Indeed, the obesity rate in Massachusetts has remained nearly unchanged over the last three to four years—an encouraging sign that a seemingly unstoppable annual rise in unhealthy weight can

be held in check. Yet rates of overweight, obesity, and diabetes remain at historically high levels, signaling that Massachusetts is not immune from the consequences of these health risks.

Access to health care, as measured by rates of insurance, have gone from very good to the best in the country as a result of the state's health-care reforms. At last count, the state's "uninsured" rate stood at 3.8 percent of the population.¹² The state's high rate of insurance coverage may be reflected in continuing progress against diseases that require intensive medical treatment. The cancer mortality rate in Massachusetts continues to decline; by 2011 the state's death rate from all cancers was about 166 per 100,000 of the population, slightly below the U.S. average despite the fact that the Commonwealth's incidence of cancer was still above the national rate, (480.5 cancers per 100,000 in Massachusetts, 450.6 in the United States as a whole).¹³

Even the diabetes mortality rate, the fifth-lowest in the country in 2001, dropped to the lowest by 2011, according to the CDC.¹⁴ By 2013, Massachusetts ranked tenth best among the states for the prevalence of self-reported diabetes in the population but enjoyed the lowest diabetes mortality rate of any state, (13.3 deaths per 100,000 population).¹⁵

Three recent trends are special signs of hope for progress in promoting health and restoring some balance in the state's investments in long-term determinants of health.

1. The emerging evidence that rates of increase in unhealthy weight may be slowing or even flattening.

Research published since 2011 suggests that rates of obesity among Eastern Massachusetts children under the age of six decreased by 21.4 percent from 2004 to 2008.¹⁶ Massachusetts was one of 18 states that experienced a decline in obesity rates among 2- to 4-year olds from low-income families between 2008 and 2011, according to the CDC.¹⁷ Four years of Body Mass Index measurements of children in Massachusetts public schools suggested a 5-year decline of nearly 4 points in the prevalence of overweight and obesity among students, falling from an average of 34.3 percent of students in 2009 to 30.6 in 2013.¹⁸

2. The recent slowdown in the rate of increase in health-care spending in Massachusetts.

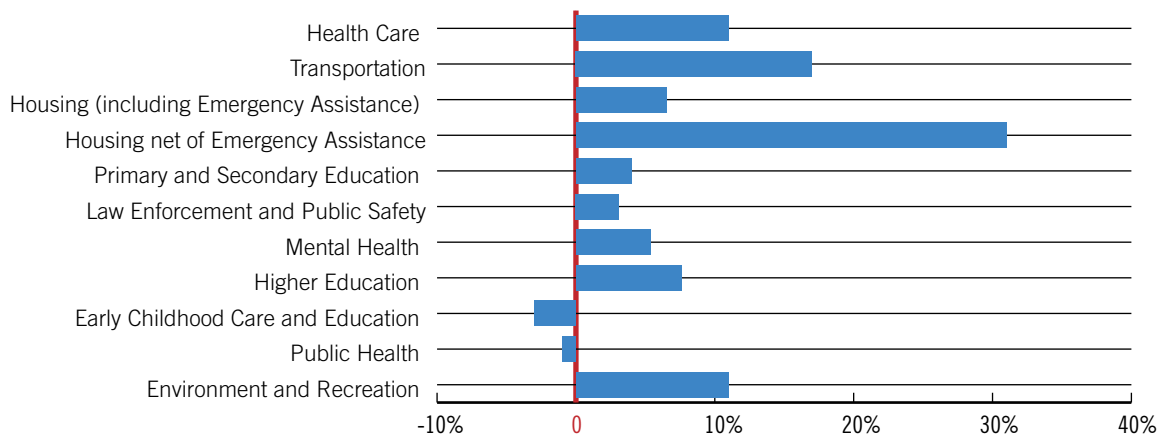
The Commonwealth's Center for Health Information and Analysis (CHIA) is now charged with calculating an annual estimate of Total Health Care Expenditure (THCE) in the state. CHIA estimates that this spending in Massachusetts grew by 2.3 percent from 2012 to 2013, a level slightly under the rate of growth in the state's economy, and well under a 3.6 percent target set by the Legislature in 2012. The apparent slowdown in health spending is also consistent with national trends.¹⁹

3. A modest return to balance in state spending.

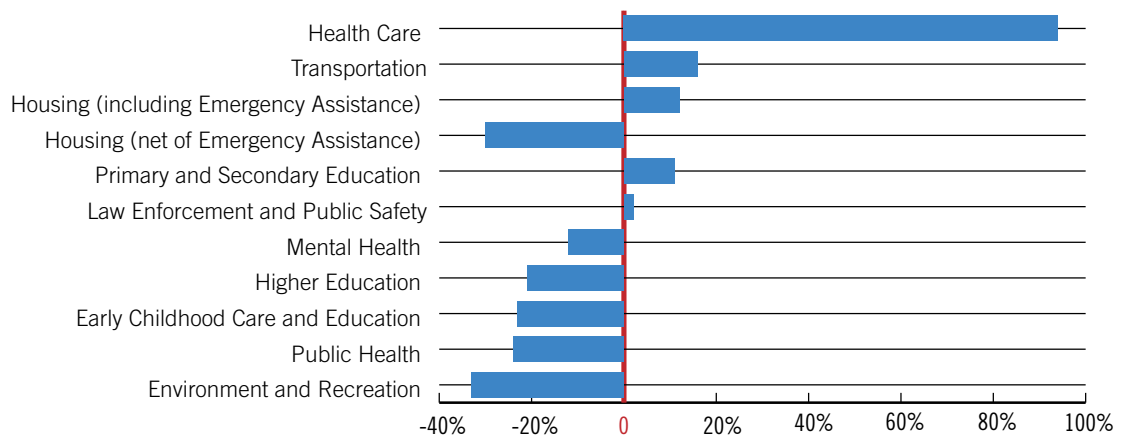
Over the last five years, the rate of increase in state spending on health care has been more nearly balanced by new investment in areas related to long-term determinants of health, including primary and secondary education, and higher education. (See Chart B2 next page.) The pattern is very uneven however: neither

Massachusetts State Spending – Health Care and Other Determinants of Health

B2: Percentage Spending Growth FY2011-2015



B3: Percentage Spending Growth FY2001-2015



All data adjusted by CPI to 2015 dollars

Data from the Massachusetts Budget and Policy Center, State Budget Browser

early childhood investments nor public health investments enjoyed a five-year increase in real (net of inflation) spending, although the state's 2012 health-care reform legislation did create a \$60 million, first-in-the-nation Prevention and Wellness Trust Fund financed by one-time charges on hospitals and health insurers. The Trust Fund is a limited experiment: under the 2012 law, the Trust Fund is designed as a four-year program, and it is due to expire by 2017. Meanwhile, few of the non-health-care

investments listed on Chart B3 have returned to the levels of 15 to 20 years ago after years of inflation are taken into account.

On the whole, state spending is still mismatched: direct spending on health care greatly outmatches investment in programs that support fundamental determinants of health.

INVESTMENT IN THE DETERMINANTS OF HEALTH: STILL CROWDED OUT, STILL MISMATCHED

In the last 20 years, studies have documented a mismatch between investments in health care and investments in the determinants of health – factors that help keep people from getting sick in the first place.

Personal behaviors such as smoking, poor diet or inactivity are perhaps the single most important influence on a person’s lifelong health.¹ While this is difficult to quantify, NEHI and its partners at the University of California, San Francisco, estimate that risky behaviors account for about 37 percent of mortality.

It is important to note that all determinants of health interact with each other, which further supports our belief that improving public health requires a strategy that spans a wide array of policies.

Determining a statistically precise balance between state expenditures on health care vs. determinants of health is also an imprecise and subjective process. Fairly small public outlays, such as health-code inspections and enforcement, can have disproportionately large impacts on public health.

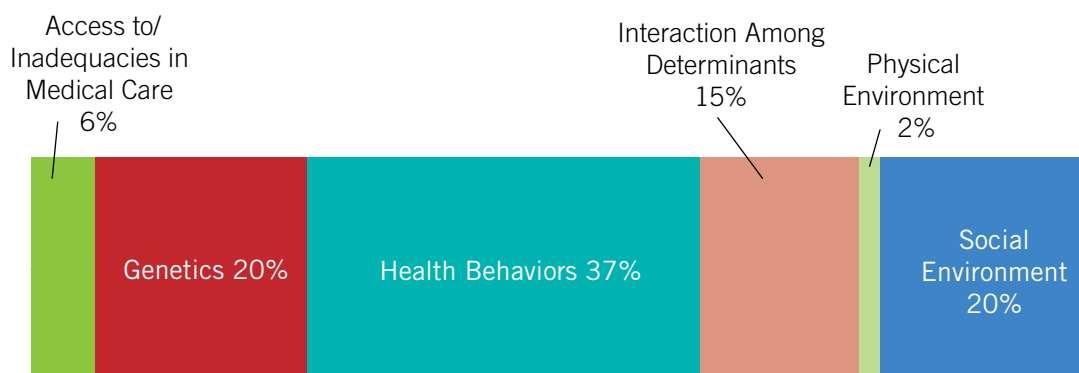
Previous assessments by NEHI in the *Boston Paradox* report suggested that 10 percent or

less of health-care-related spending in the United States is directed to interventions or activities that are aimed at preventing illness or curbing risky behaviors. This suggests that a higher proportion of spending within the health-care system could be reallocated over time to prevention and health promotion.² The Commonwealth’s 2012 law to control health-care costs (Chapter 224) actually directs the state Health Policy Commission to address determinants of health in payment-reform models.³

Americans are in poorer health than Europeans, despite much higher levels of health-care spending. Yale researcher Elizabeth Bradley’s work demonstrates that much of this gap can be explained by the generally higher ratio of social spending to health-care spending in Europe compared to the United States.⁴

Despite its achievements in health care, the Commonwealth’s lagging investment in determinants of health suggest our priorities are roughly in line with the rest of the country, and not in a good way. The crowd-out, and the mismatch, continue.

Determinants of Health and Their Impact on Mortality



Source: Analysis by NEHI and University of California-San Francisco

Five trends give us cause for concern.

1. The still-gaping disparities among racial and ethnic groups in the state.

One-third (33.6 percent) of adult African Americans in the state are obese compared to 22.4 percent of white adults. Compared to other states, the African American obesity rate is moderately good, but still at a historic high.

Among Latino adults, the obesity rate is 31 percent, also far higher than for whites. The obesity rate among Latinos in Massachusetts is not as good when compared to national averages as the rate among whites and African Americans. With its 31 percent Latino obesity rate, Massachusetts ranks 19th among the states, although no fewer than 13 states have Latino obesity rates bunched between 30 and 33 percent. Disparities in diabetes are also wide, with self-reported rates of diabetes reaching 12 percent among African Americans, 10 percent among Latinos and 8 percent among whites.²⁰

Good health in the state's racial and ethnic minorities is not only a concern for its own sake, it is an issue for the state's economic competitiveness. As the state's baby boomers age out of the workforce, growth among minority workers is expected to provide a "just in time" infusion of employees in Massachusetts and nationwide.²¹ Health disparities will not only inhibit the productivity of racial and ethnic minority workers, but will blunt the impact of health-care reforms as well. Recent research from Boston University and Harvard Medical School suggests that the state's expanded health insurance coverage has yet to reduce hospital admissions among minority residents who present with conditions that should have been treated with primary care and are in many instances highly preventable.²²

2. Health trends among children and youth in Massachusetts are a special cause for concern.

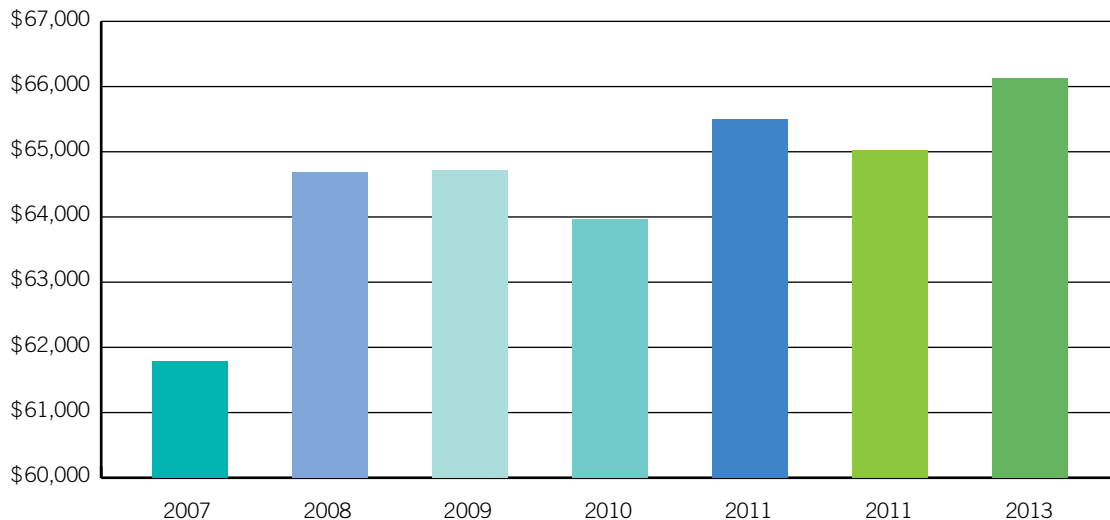
Despite encouraging signs that the growth in childhood obesity may have slowed, child and youth overweight and obesity rates in Massachusetts are at the high end of the range among the 50 states. In stark contrast to the Commonwealth's comparatively good rankings for adult overweight and obesity, Massachusetts ranks poorly for its rates of childhood and youth obesity: by one count, fourth-worst among reporting states for obesity among 2- to 4-year-olds in low-income households, 25th for obesity among 10- to 17-year-olds overall, and 38th (out of 43 reporting states) for obesity among high-school students.²³

These troubling signs among the state's young people are the reason our Healthy People/Healthy Economy initiative has targeted much of its advocacy on childhood and youth health over the last five years.

3. The continuing stagnation of family and household income.

Growth in real income (measured after inflation) has been flat for more than 15 years in Massachusetts and throughout the nation. (See Chart C). This means that growing health-care costs reduce income available to purchase other necessities even further. While overall health-care cost increases have recently been moderate, the share of insurance costs shouldered by families and individuals has increased over time: for example, employee contributions to employer-provided health insurance, measured against median income in Massachusetts, rose from about 5.6 percent to 7 percent from 2008 to 2012-13.²⁴ Out-of-pocket costs (co-pays and deductibles) rose from 6.9 percent to 7.7 percent between 2010 and 2012.²⁵ Estimates from the state Health Policy Commission suggest that people with two chronic conditions spent an average of \$576 out-of-pocket in 2012.²⁶

C: Stagnant Growth in Median Household Income in Massachusetts



Figures CPI-adjusted to 2013 dollars

Source: U.S. Census, American Community Survey, Median Household Income in the Past 12 Months, 3-Year Estimates

In Massachusetts, and in Greater Boston in particular, the toll is compounded by high costs of living: Massachusetts ranks as the seventh-most expensive state in the country.²⁷

On measures of income disparity, or the extent of income inequality in the state, Massachusetts also ranks among the most unequal states in the country: 6th-most unequal when measured by the Gini coefficient, a statistical measure of income inequality, and 3rd-most unequal when incomes at the 80th percentile of households are compared to incomes at the 20th percentile.²⁸ As we noted in the original *Boston Paradox*, epidemiologists have demonstrated a distinct correlation between the level of income inequality in a region and poor health outcomes among residents with the least wealth and resources.

4. ZIP-code disparities

Income, educational attainment and health disparities come together in neighborhoods with high concentrations of residents with few resources, and thus a fourth area of

concern is what might be called “ZIP-code disparities,” or neighborhoods at high risk for poor health outcomes. The Blue Cross Blue Shield of Massachusetts Foundation and the Urban Institute have plotted neighborhoods with comparatively high rates of health care ‘uninsurance’ throughout the state.²⁹ An analysis by the state’s Health Policy Commission in 2014 found that rates of preventable hospitalizations in low-income communities (measured by ZIP-code-based median household income) are markedly higher in lower-income communities. Disparities in preventable hospitalizations are more pronounced for chronic ailments than for acute illnesses—a potent reminder that building healthier environments in lower-income neighborhoods is essential for both improved health and for the long-term sustainability of the Massachusetts health-care system.

For example, rates of preventable hospitalizations in neighborhoods at the lowest income quartile, compared to neighborhoods at the highest income quartile, are:

- 70 percent higher for all types of preventable hospitalizations
- Twice as high for preventable hospitalizations due to chronic illnesses
- 160 percent higher for preventable hospitalizations due to asthma and chronic obstructive pulmonary disease (COPD)
- 183 percent higher for preventable hospitalizations due to diabetes.^{30,31}

Place-based disparities for children and youth may be even worse. Low-income Boston neighborhoods ranked sixth-worst in the country for African-American youth health, and last for Latino youth health, according to an index co-developed by the Heller School for Social Policy and Management at Brandeis University.³²

5. Finally, trends in the state's workforce remain a concern, as they were when we published the *Boston Paradox* in 2007.

Two trends stand out. First, growth in the state's workforce has been relatively slow. Demographers now project that growth rates will "slow to a halt" within this decade (See Chart D). Growth in the pool of college-educated workers in Massachusetts will shrink for the first time in history, further underscoring the need for investments in education, particularly for sectors of the workforce that will continue to grow, such as the Latino population.³³

As growth in the workforce slows to ever-lower rates, the Commonwealth will need to keep more of its workers ages 65 and older actively employed in jobs old and new. About one third of people in the "young-old" cohort ages 65 to 69 years are in the workforce now.³⁴ This cohort will grow by 30 percent between now and the year 2030: without their continued employment, the state's pool of college-educated workers is projected to start declining by the year 2018.

D: **Growth in the Massachusetts Labor Force: Projected to Stop by 2018**

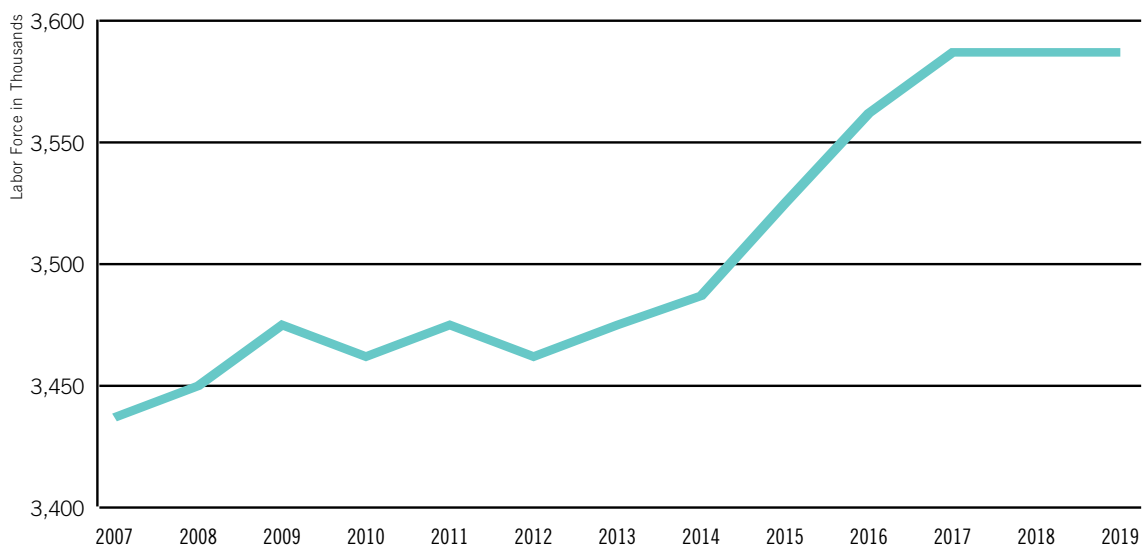
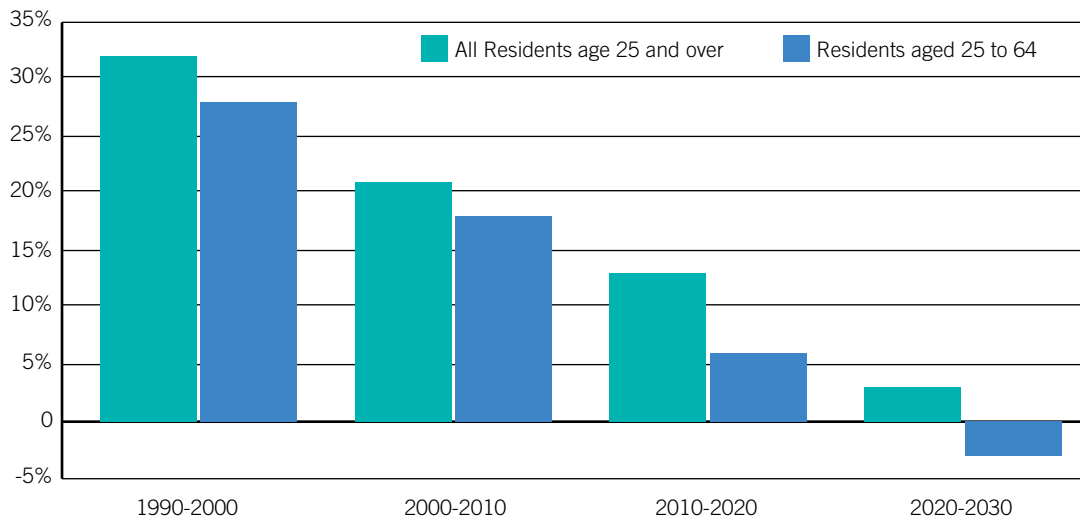


Chart based on Massachusetts labor force projection Fall 2014, Alan Clayton Matthews, Northeastern University for the New England Economic Project, by permission

E: The Growth Rate for the Massachusetts Population with a Bachelor's Degree or Higher: 1990-2030 (Historical and projected growth rates)



Source: Mark Melnik, Lindsay Koshgarian, Daniel Hodge, Hinlan Wong, Ryan Wallace, "At the Apex: The 2030 Educational Attainment Forecast and Implications for Bay State Policymakers," MassINC and the University of Massachusetts Donahue Institute, September 2014

Consequently, Massachusetts has an intense interest in the health and well-being of its older workers. (See Chart E)

Aging-friendly policy will support older workers who remain employed as well as older residents who reduce their work hours or retire. The World Health Organization (WHO) has demonstrated that "aging in place" is a proven strategy for improving the health of older residents (whether they work or not). In Massachusetts, aging-in-place policy may help temper what is expected to be a significant and increasing burden of long-term care on state spending.³⁵ Currently four Massachusetts communities (Brookline, Boston, Yarmouth and Salem) and Berkshire County are participating in a WHO global network of aging-friendly communities.³⁶ The Tufts Health Plan Foundation has raised the visibility of the state's agenda for aging-in-place policy and the creation of age-friendly communities and we have stressed the importance of an aggressive agenda

for aging-in-place policy here in the pages of the Healthy People/Healthy Economy Report Card.

A paradox then, a paradox now

Despite some encouraging signs of progress, we must conclude that the paradox of "plenty of health care, not enough health" is still with us, five years after we launched the Healthy People/Healthy Economy Report Card.

Massachusetts continues to make strides in ensuring that all citizens have access to health care. There are encouraging signs that the risks of unhealthy weight may be abating. But deep and troubling racial-ethnic disparities persist. Meanwhile the need to keep older residents—particularly older workers, healthy and productive—deepens with every year. The Commonwealth cannot afford to back off a persistent and multipronged effort to create a better environment for healthy living for all residents.

The Healthy People/Healthy Economy Report Card was launched to track a dozen or more policies and practices that are essential steps toward building a healthier environment for all. There has been notable progress, and notable failures as well, in realizing these goals. The “At-a-Glance” section of this report summarizes these developments.

Five priority issues stand out for their importance to a healthier future in the Commonwealth. In looking at these five issues we can see how Massachusetts has made progress toward a healthier future in some areas, moved forward and backward in others, and in some critical areas has barely made a start.

In the area of **EARLY CHILDHOOD**, evidence continues to mount that quality care for infants and toddlers, along with universal high-quality early childhood education, is among the most powerful investments that any state, region or country can make in long-term health, learning, and economic competitiveness. The Commonwealth’s investment in early childhood care and education has weakened over the decades, and a serious debate about moving toward universal or near-universal childhood services has yet to begin.

Massachusetts remains considerably behind in **YOUTH PHYSICAL ACTIVITY** as the Commonwealth has taken no action to require public school districts to provide more opportunities for their students to be more physically active during the school day, despite the mounting evidence that physical activity improves both health and learning.

In the area of **FOOD ACCESS**, Massachusetts has made encouraging strides. The state has encouraged the widespread growth of farmers’ markets and local food enterprises, while opening up access to farmers’ markets to users of SNAP (food stamps) benefits. The Commonwealth imposed some of the most progressive standards for “competitive” (not federally subsidized)

food available for sale in public schools. It has developed extensive recommendations for supporting entrepreneurs who provide locally-sourced food to Massachusetts residents. However, most of these recommendations remain to be enacted or implemented, while the state has made a promising start.

In the area of **TRANSPORTATION & SMART GROWTH**, Massachusetts has gone farther than nearly any state in making health objectives a priority for the capital planning of transportation projects. Bike lines are now a standard feature for the reconstruction of bridges throughout the state. Smart Growth principles that encourage the co-location of housing and mass transit are embedded in state planning, and state agencies have committed themselves to the use of Health Impact Assessments (HIAs) to evaluate state transportation projects. Recently Smart Growth America, a coalition of national organizations, named five Massachusetts communities to its Top Ten list for best complete street policies adopted in 2014.

Nevertheless, the disastrous winter of 2015 has once again revealed that the state’s mass transit system rests on shaky financial and operational foundations. Commuters remain exposed to a future of limited services and rising costs that will have a negative impact on the region’s health unless measures are taken to improve mass transit.

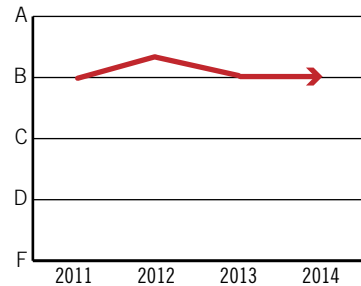
Massachusetts also remains a conspicuous failure in its tax policy with regard to **SUGAR-SWEETENED BEVERAGES** by remaining one of few states that maintains a tax preference for the sale of soft drinks and candy. The Massachusetts Legislature continues to exempt these items from the state sales tax by classifying them as essential food items. A majority of states now impose sales tax or a tax specific to soft drinks.

At-a-Glance: The Last Five Years

A summary of the state's performance on key indicators, as reported in Healthy People/Healthy Economy report cards.

Biking and Walking

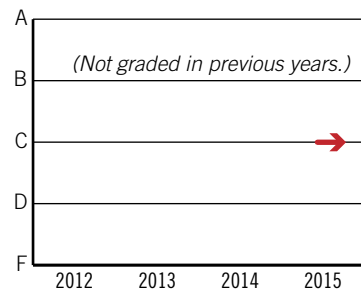
Policies to promote biking and walking in Massachusetts have grown stronger over the years, with initiatives emerging in both the public and private sectors to help support active lifestyles. Massachusetts has remained one of the leading states in the percentage of residents who commute by bike or foot; this is due to expanded bike lanes and paths and bike-share services like Hubway. Nevertheless, Massachusetts still ranks significantly lower than many other states in per-capita spending on biking and walking. The recent authorization of a transportation bond with aid for complete streets signals a possible change in the right direction.



Early Childhood

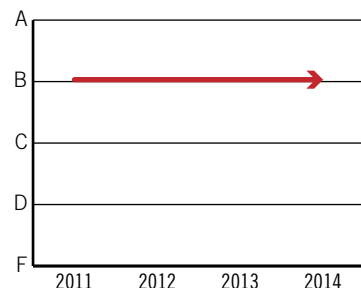
Research confirms that quality early childhood care and education are profoundly positive determinants of good health, educational achievement and good incomes. Massachusetts ranks in the middle of states for its commitment to early childhood care and education, and real investment in this area continues to lag.

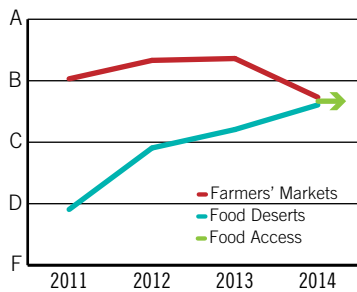
Over the last several years, early childhood policy initiatives in the state have focused on improving access to early education, along with the quality and ratio of care providers, while other environmental factors have been largely overlooked. For example, data (while limited) suggest that the nutritional quality in early childhood care settings is low due to a lack of standards and there remains no set model for physical activity in these settings. Additionally, opportunities to strengthen healthy behaviors in the home have been passed over, including the chance to strengthen prenatal and neonatal education.



Employee Health Promotion

In 2010, Massachusetts enacted wellness policies for state employees and retirees and laid the groundwork for subsidies to employers that offer approved wellness programs. These policies have since been supported by 2012 cost-control legislation and an endorsement by the Massachusetts Worksite Wellness Council.

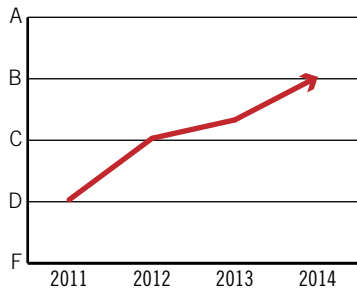




Food Access

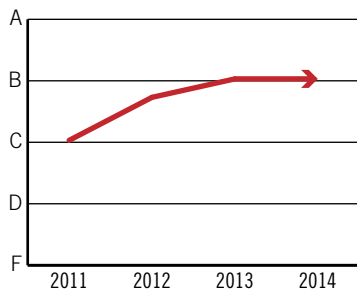
Farmers' markets have expanded significantly during the past several years, with the number of markets growing from 228 in 2010 to nearly 290 in 2014. Many markets now accept SNAP benefits, thus providing more healthy food options to low-income families.

Nevertheless, food deserts remain a problem. Legislation incorporating recommendations from the Grocery Task Force has passed but it remains to be seen if a strategic plan for the state's food system will be implemented as planned in 2015.



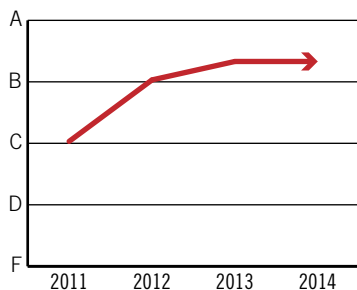
Health Impact Assessments

Over the last five years, Health Impact Assessments (HIAs) have been used increasingly, by both public agencies and public health advocates, to generate empirical evidence on the long-term impact of new policy or project proposals on public health. HIAs have played a significant role in transportation planning within the state, as demonstrated during discussions of the proposed MBTA fare increases and service cuts in the spring of 2012. Several public agencies are now using HIAs to help inform project planning.



Healthy School Meals

The 2010 Massachusetts School Nutrition Act went into effect in the 2012-13 school year, prohibiting high-calorie "competitive food" options in public schools and requiring schools to create health advisory committees. These are some of the most advanced requirements in the country, but the state still needs to demonstrate that they have measurable impact.

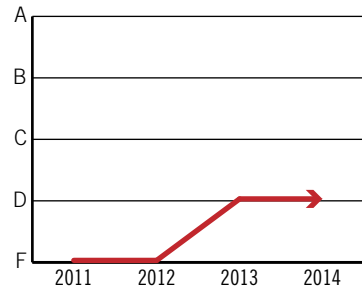


Primary Care

Primary care has become an increasingly important factor in Massachusetts health policy. In 2011, the state's Patient-Centered Medical Home (PCMH) Initiative began in 46 medical practices. This helped contribute to the state's overall goal of converting all primary-care practices to PCMH status by 2015. Now 214 practices are PCMHs and 135 more are in the process of being certified by the National Committee on Quality Assurance. The Massachusetts State Innovation Model (SIM) and the 2012 health-care reform law also build on the PCMH infrastructure and make primary care a central priority for the Commonwealth.

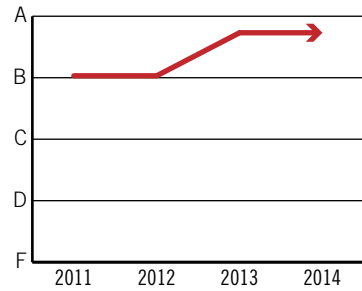
Public Health Funding

Although some innovative new programs such as Mass in Motion have been created, state funding for public health programs (after inflation) continues a long-term decline. A short-term boost from the 2009 federal stimulus bill and the 2010 Affordable Care Act has now largely run its course. The creation, in 2012, of the nation's first Prevention and Wellness Trust Fund signaled a possible change, with \$60 million allocated to community-based initiatives over four years. The Fund, which released its first round of grants in 2014, is scheduled to expire by 2017.



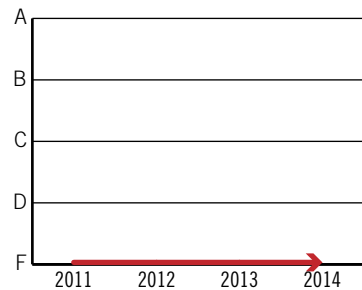
School-Based BMI Reporting

In 2009, the Massachusetts Public Health Council began requiring schools to measure and report students' Body Mass Index (BMI) to parents and state authorities. While the parental notification requirement was later eliminated, the BMI measurements have continued and the state has released several years of data. Early findings suggest that the BMI measurement program has contributed to declines in youth obesity in some school districts.



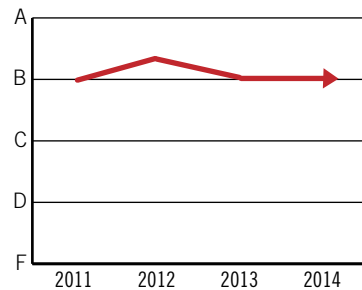
Sugar-Sweetened Beverages

Massachusetts remains one of only a few states that give a favorable tax status to sugar-sweetened beverages. Despite public support and proposed legislation to eliminate the sales-tax exemption for soda, no change has been adopted.



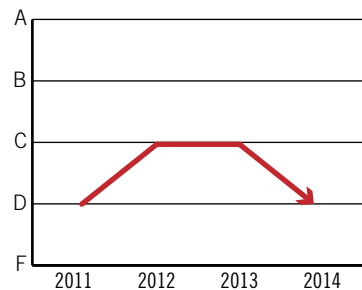
Transportation and Smart Growth

While Massachusetts has established itself as a national leader in adopting a statewide healthy transportation plan, investments in infrastructure continue to lag. While some success was seen in 2013 and 2014 with long-term funding for complete streets, new uncertainty over the future of the MBTA and the rollback of an indexed gas tax in 2014 signal an uncertain future for investment in transportation that supports healthy living.



Youth Physical Activity

Policy for increasing youth physical activity has been stagnant over the last five years. Legislation to require daily physical-activity programming in Massachusetts public schools has languished. Voluntary programs developed by Playworks, BOKS and others have been adopted by some local schools. These have made more of an impact and have expanded significantly across the state.



Looking Forward

A young girl with curly hair, wearing a red and blue striped cardigan and denim shorts, is sitting on a yellow toy car. She is looking off to the side with a thoughtful expression. In the background, other children are playing, including one in a blue patterned dress and another in a blue jacket. The setting appears to be an outdoor play area.

Creating a culture of health will require honing in on key issues to collectively move forward.

We have identified five priority areas that have the potential to significantly improve the public-health landscape: early childhood, youth physical activity, food access, transportation and smart growth and sugar-sweetened beverages. We believe focusing on these five areas will bring us closer to making Massachusetts the preeminent state for health and wellness.

Early Childhood

Health in the earliest years, which actually begins with a woman's health before she becomes pregnant, lays the groundwork for a lifetime of well-being. When developing biological systems are strengthened by positive early experiences at home, in child-care settings and in preschool, healthy children are more likely to grow into healthy adults.¹

Even the youngest children in the United States are at risk of becoming obese. More than half of obese children are overweight by age 2, and approximately one in five is overweight or obese by age 6.² Rates are even higher for low-income, African-American and Latino children. Early childhood obesity tracks into adulthood; therefore, efforts to prevent obesity should begin long before a child enters school.³ Across the country, parents, child-care providers, and health-care professionals are tackling this crisis head-on, determined to help solve the problem of childhood obesity in a generation.

Massachusetts has the nation's fourth-highest obesity rate among low-income preschoolers (2- to 5-year-olds).⁴ There is a great need to improve the health of our youngest children, newborns to 3-year-olds, and to reduce obesity risk among vulnerable families starting in early pregnancy. Addressing early childhood obesity begins with the mother's pre-pregnancy and pregnancy weight,⁵ and continues into the very early need for infants to get at least 12 hours of sleep.⁶ The years between infancy and kindergarten are also critical. If unhealthy behaviors, such as drinking too many sugary drinks or being too sedentary, take hold, these early years can set the stage for obesity and its related health problems. Obese children as young as 3 may exhibit signs



© filipow | iStock

of inflammation, which has been linked to heart disease in adults.⁷

Obesity is not the only risk faced by our youngest residents. There are approximately 422,592 children age 5 and under in Massachusetts; 13.8 percent of children under 6 live below the poverty line. As many as 135,000 children, ages birth to age 5, face one or more risk factors each day that could lead to toxic stress. Some of these risk factors include physical abuse, living in a household where someone is abusing drugs or alcohol, and being separated from one or both parents. Each day, as many as 20,000 children age 5 and under experience three or more of these risk factors, which, without intervention, are likely to lead to developmental delays.⁸ These toxic stressors are as much to blame for the later development of obesity as poor diet and activity levels. New interventions to reduce significant stress in early childhood may be a more appropriate strategy for preventing adult heart disease.⁹

Early childhood health clearly begins with the family and the home, but there is a need for strong programs and policies to be in place for children cared for outside of the home as well. It is estimated that 75 percent of American children spend an average of 35 hours per week in child-care settings.¹⁰ Programs that promote early education and health have a positive effect on children's health and behaviors later in life.

With that in mind, in 2011 the Institute of Medicine (IOM) released a report titled *Early Childhood Obesity Prevention Policies*. The report recommends actions that should be pursued by health-care providers, child-care providers, federal programs, and other institutions that affect children's lives, arguing that "the policies that influence young children's environments inside and outside their homes should make the healthy choices the easy choices for adults who care for them."¹¹

Early childhood education programs can have significant impacts on the health of participants beginning in early childhood and persisting through adulthood. There are multiple pathways, both direct and indirect, through which this happens. Children attending high-quality early education programs make cognitive and social-emotional gains that are associated with improved adult health. Children who go to preschool are also more likely to go to a doctor, receive appropriate screenings and immunizations, and receive dental care, laying an early foundation for better health. Additionally, preschoolers and their parents often learn about health and nutrition through the school, which can result in lifestyle changes that address issues such as obesity and malnutrition.¹²

Recent studies indicate that intensive and high-quality early childhood education can positively affect disadvantaged children's health outcomes later in life. Researchers from the University College London, the University of

Chicago and the University of North Carolina studied more than 30 years of data from children who participated in the Carolina-based Abecedarian Project, which was created to study the potential benefits of early childhood education for poor children. They found the combination of education, health screenings, and nutrition gave those children a much lower risk of cardiovascular disease and metabolic diseases, such as stroke and diabetes, in their mid-30s.¹³

IN OUR COMMUNITY

Boston Healthy Child Care Initiative

The Boston Healthy Child Care Initiative (BHCCI) is helping programs implement best approaches to support healthy eating and physical activity for young children using evidence-based practices. Since 2012, this program of the Boston Public Health Commission has offered providers training and funding to improve their practices around the Let's Move! Child Care goals. Caretakers from centers and child-care homes are invited to attend free two-part workshops that cover nutrition and physical activity. Participants can earn continuing education units through the Massachusetts Department of Early Education and Care. Then, using the Let's Move! Child Care Checklist Quiz, they can create an action plan and set their own goals for improvement for the next three to six months. At the S.M.I.L.E. Preschool in Roxbury, the staff has reduced the amount of sugar kids are consuming by serving 100 percent juice only twice a week and providing fruit on the other days. Chocolate milk has been replaced with low-fat white milk, and fresh fruits, yogurt, and whole-grain products are now provided instead of sweetened snacks. Water is now available and visible to children throughout the day, thanks to a staffer who found extra pitchers in a storage closet, and an underutilized room was turned into a space for breast-feeding mothers.

LOOKING FORWARD

Recognizing that a focus on the first five years of a child's life holds great potential, there needs to be a dedicated effort to ramp up and replicate promising solutions for infants, toddlers, and preschoolers. Parenting education beginning early in pregnancy should provide a degree of support based on risk of poor health and developmental outcomes. The standard course of practice for prenatal and neonatal care should include support and information for healthy eating and nutrition, movement and exercise, and limitations on screen time. Home visiting programs and trauma interventions can help ensure a healthy start for Massachusetts children from an obesity perspective as well as prevent other negative health outcomes. High-quality preschool programs should be made universally accessible and be required to provide health, nutrition, and exercise education. Moreover, screening for and addressing social-services needs during pediatric and adult health-care visits can also help low-income patients.

SPOTLIGHT

Let's Move Child Care

The Nemours Foundation's Let's Move Child Care (LMCC) is part of First Lady Michelle Obama's Let's Move! Initiative to prevent childhood obesity. LMCC encourages and supports child-care providers and early education teachers to make positive changes in their programs in order to work toward a healthier future for children. LMCC is voluntary and appropriate for all types of programs: child-care centers, family daycares, Early Head Start and Head Start programs, preschool, tribal programs, and faith-based programs.

LMCC offers childhood obesity prevention resources and tools to assist child-care and preschool providers. Best practices are outlined in five goals: nurturing healthy eaters, providing healthy beverages, increasing physical activity, limiting screen time and supporting breastfeeding. Providers who fully meet these best practices are rewarded with a certificate of completion and featured on a map of recognized providers.

These preschoolers get exercise while exploring the outdoors.



© Anke Van Wyk | dreamstime

Youth Physical Activity

There is strong evidence in support of the benefits of regular physical activity for children and adolescents. This includes improved cardiorespiratory function, muscular fitness, bone health and body composition, as well as biomarkers for good cardiovascular and metabolic health. Importantly, physical inactivity is a modifiable risk factor for lifestyle-related chronic diseases and conditions.¹ Because the patterns of physical activity established early in life are likely to extend into adulthood, establishing an active lifestyle in childhood is essential to ward off obesity and chronic diseases later in life. Exercise also has positive influences on behavior and cognitive functioning that may improve students' academic achievement.²

Because of the potential benefits and modifiable nature of exercise, the U.S. Department of Health and Human Services recommends that children and youth spend an hour or more engaging in moderate-to-vigorous physical activity each day. This should also include activities that strengthen muscle and bones. In its 2008 Physical Activity Guidelines for Americans, the Department described the major research findings about the benefits of exercise and the ways in which being active can reduce the risk of many adverse health outcomes. Studies show that physical activity confers health benefits on people of all ages and in every racial and ethnic group that has been studied. Likewise, these health benefits are also attainable for people with disabilities. Reassuringly, the benefits of being active far outweigh the risks of injury and heart attack.³

We all want healthy children, but in the United States, many have grown accustomed to being

sedentary. Currently, fewer than half of American youth are getting the recommended 60 minutes of daily exercise, which can jeopardize their well-being as they age. Physical activity is also critical to cognitive development and academic success.

More than 95 percent of children and youth attend public schools, and since a typical school day lasts six to seven hours, schools are an ideal setting in which to provide opportunities for students to be physically active.⁴

Absent opportunities during school hours, it can be very difficult for children and teens to achieve the recommended hour of exercise each day. While there have been advancements in physical activity access in schools, only 23.0 percent of adolescents in Massachusetts meet the federal aerobic activity guidelines, compared to 27.1 percent nationally.⁵ Similarly, only 16.7 percent of youth in Massachusetts engage in daily physical education at school, compared to 29.4 percent nationally.⁶

As the school environment is so key in encouraging and providing opportunities for kids to be active, the Institute of Medicine (IOM) examined the status of physical activity and physical education efforts in schools, how physical activity and fitness affect health outcomes, and what can be done to help schools get students to become more active and, ultimately, healthier. It recommended that schools be creative in integrating activity into all parts of the day, and strengthen and improve programs and policies for physical activity and education before, during and after school.⁷

Traditionally, schools have been central in supporting the health of their students. Often they provide nutritious school breakfasts and lunches,





offer immunizations, health examinations and screenings, along with opportunities for physical activity. They also have acted as socioeconomic equalizers, offering all students the same opportunities for improved health through these services and programs.

IN OUR COMMUNITY

Massachusetts Schools Get Creative

Many public schools throughout the state have partnered with community-based organizations to boost the opportunities for physical activity before, during and after school. In Boston, these include Playworks, which serves 10,644 students; BOKS, which reaches more than 1,600; the 100 Mile Club, serving 2,420; and

Community Rowing, Inc., which offers rowing programs to 2,197. These programs are typically funded by private philanthropy rather than tax dollars or fees.

A recent analysis of Massachusetts obesity-prevention efforts by the Northeastern University Institute on Urban Health Research and Practice cited increasing physical activity in schools as one of the most effective strategies for preventing obesity and reducing the likelihood of ill health. Another study, by Jennifer Sacheck at Tufts University's Friedman School of Nutrition Science

Brighton-based Community Rowing offers recreational rowing programs for youth ages 12-18.

and Policy, also demonstrated the benefits of being active. Sackeck's study of 3rd- through 6th-graders in Lawrence, MA, public schools showed that children in schools with "positive physical activity environments" (recess, physical-education classes, classroom breaks and more) scored higher on the state's MCAS exams in 2013 and 2014.⁸

LOOKING FORWARD

Massachusetts should continue working to increase physical activity in its young residents, focusing on schools as the means to do so. It should embrace the Institute of Medicine's recommendations and take a whole-school approach to physical activity, encouraging districts around the state to provide in-school opportunities for at least 30 minutes of vigorous or moderate-intensity physical activity during the school day and an additional 30 minutes before or after. In addition to high-quality physical education, students should have physical activity throughout the day including recess, as well as additional opportunities for physical activity before and after school hours, including walking to and from school, before- and after-school programming, and intramural and extramural sports. Statewide policy requiring physical activity in the schools is a necessary first step.

Public schools in Miami-Dade County offer a range of exercise options to students, including stationary bikes linked to PlayStation virtual trainers.

SPOTLIGHT

Miami-Dade County Public Schools

Miami-Dade County Public Schools, the fourth-largest district to participate in Michelle Obama's Let's Move! Active Schools Initiative, is at the leading edge when it comes to keeping its students moving. All 350 of its schools are committed to incorporating physical activity before, during and after school for at least 60 minutes a day. And because many of the schools lack a gymnasium or any dedicated space for exercise, the district has embraced technology and physiology science to compensate.

Miami-Dade administrators repurposed many junior- and high-school classrooms into student wellness labs and outfitted them with an array of current equipment and technology. There are "exergaming" opportunities via popular platforms such as Wii and Dance Dance Revolution, stationary bikes linked to PlayStation virtual trainers, and equipment for yoga, pilates, and cardio activities. As a result, Miami-Dade students of all abilities have a wide range of opportunities to get moving. With the support of community groups, nonprofits, and the private sector, Miami-Dade is rapidly introducing its model to more school buildings and is expanding it to elementary schools as well.⁹



Photo courtesy of Miami-Dade County Public Schools

Healthy Food Access

Consuming nutritious food is essential for the prevention of chronic disease, and having the ability to obtain these foods is just as important. Children who don't have enough food to eat have twice the odds of poor or fair health compared to those who do.¹ Disparities in food access also have significant health implications: for every additional supermarket in a census tract, produce consumption increases 32 percent for African Americans and 11 percent for whites.² Equitable access to healthy, affordable, culturally appropriate foods is a critical component of healthy communities.

Massachusetts has made significant

progress in healthy food access, but there is still much room for improvement. According to the Robert Wood Johnson Foundation's County Health Rankings, Massachusetts is in the 90th percentile of its food environment index, a measure of healthy food access and food insecurity.³ However, in 2012, 11.9 percent of Massachusetts residents were food insecure, meaning that they did not have access to enough food, with 16.6 percent of children falling into that category.⁴ Moreover, in 2011, 31.4 percent of the Commonwealth's census tracts did not have a healthy food retailer within a half-mile and 81.2 percent of adults did not meet the recommended five daily servings of fruits and vegetables.⁵

The federal Healthy Food Finance Initiative (HFFI) and Healthy Incentives Pilot (HIP) are both promising ways to minimize these disparities in access to nutritious food. HFFI provides financing and other incentives that encourage the development of healthy food businesses. In Pennsylvania, where the HFFI program began in 2004 with \$30 million in state seed money, more than 88 supermarkets and other fresh food retail projects totaling \$190 million were developed.⁶ HFFI has gained national momentum in the past few years. In February 2014, Congress formally established HFFI at the U.S. Department of Agriculture and authorized up to \$125 million in funding for it.⁷ To date, eight states (California, Colorado, Illinois, Massachusetts, Maryland, New York, Pennsylvania and New Jersey) have implemented their own healthy food financing policies. This is a drastic increase in HFFI activity from 2010, when only four states had such policies.

Cities—including New Orleans and Detroit—



© Jodi Jacobson | iStock



have utilized the HFFI model to improve healthy food access in low-income areas. Meanwhile, there are various advocacy efforts under way at the federal, state and local levels on behalf of healthy food financing policies.⁸ In July 2014, Massachusetts Governor Deval L. Patrick signed into law a measure that established the Massachusetts Food Trust Program (Senate Bill 380/House Bill 168). This provides at least \$2 million to establish a statewide financing infrastructure to increase access to healthy food options and improve economic opportunities for nutritionally underserved communities. However, more work needs to be done to ensure that this bill is fully implemented and the funds are released from the Massachusetts Office of Business Development.⁹

More vendors alone won't solve the problem of access to healthy food. More people need to purchase it, too. This can be achieved through programs such as HIP, which was implemented in Hampden County by the Massachusetts Department of Transitional Assistance in 2011. HIP enabled people receiving Supplemental Nutrition Assistance Program (SNAP) benefits to earn 30 cents for every SNAP dollar spent on certain fruits and vegetables—up to \$60 a month. People who participated in this program consumed 26 percent more of the specified fruits and vegetables than non-HIP participants, demonstrating the potential for financial incentives to improve nutrition and health in low-income households.¹⁰ In April 2015, Massachusetts was awarded a Food Insecurity Nutrition Incentive (FINI) Grant by the USDA. Through this program, the Commonwealth will have the resources to expand HIP into a program benefiting more individuals statewide.

IN OUR COMMUNITY

State & City Food System Planning

Massachusetts has engaged in several initiatives to map the state's food resources, including the Massachusetts Food System and Boston Urban Agriculture Visioning processes. These will help ensure optimal use of Healthy Food Financing Initiative (HFFI) and Healthy Incentive Pilot (HIP) funds.

In 2013, the Massachusetts Food Policy Council embarked on a project to develop a comprehensive statewide food-system plan, the first since 1974. It had an ambitious set of goals: increase production, sales and consumption of Massachusetts-grown foods; create jobs and economic opportunity in food and farming; protect the land and water needed to produce food; reduce hunger and food insecurity; increase the availability of healthy food to all residents; and reduce food waste. This planning process is being facilitated by the Metropolitan Area Planning Council (MAPC) with assistance from the Franklin Regional Council of Governments, Pioneer Valley Planning Commission, and the Massachusetts Workforce Alliance. Several working groups and stakeholder engagements, along with research, analysis and mapping exercises, have been implemented across the state to inform policy recommendations. The food-system plan is to be completed by the end of 2015.

Meanwhile, on a municipal level, Boston began its Urban Agriculture Visioning Process in January 2015 as a result of Article 89, a 2013 addition to the city's zoning code that allows for urban agriculture. Boston's visioning process brings together stakeholders—including community gardeners, traditional and rooftop farmers, and farmers' market representatives—to create a plan for Boston around agricultural food production and distribution. This process will help farmers, provide multiple access points for food, and determine how to make healthy

foods available to more low-income constituents. By surveying the current food landscape and establishing proactive strategies, these food system plans will be invaluable in understanding how to provide equitable healthy food access for all the Commonwealth's residents.

LOOKING FORWARD

If the Commonwealth is to advance its efforts to increase equitable healthy food access, attention must be paid to funding and implementing the Food Trust Program. Stakeholders should also focus on the FINI program implementation, as this is a promising strategy to increase healthy food consumption by low-income families. As these two programs unfold, evaluation should be incorporated throughout program implementation, rather than as an afterthought. Collaboration and coordination between programs and researchers will be required to establish shared metrics. Measuring changes in healthy food distribution, healthy food purchases, eating behaviors, health outcomes, job creation, and more will be critical to measuring the success of these efforts.

SPOTLIGHT

ReFresh Project, New Orleans

Though Louisiana does not participate in the Healthy Food Finance Initiative (HFFI), New Orleans has created a similar model. To revitalize a development in New Orleans left vacant after Hurricane Katrina, several partners joined together to create the ReFresh Project¹¹, a food hub that opened in October 2014.

Developed by the nonprofit Broad Community Connections—and financed by foundations, state and city agencies and others—the project's goal was not just to improve access to healthy food but to revitalize a Mid-City neighborhood.

ReFresh is anchored by a small-format Whole Foods Market that offers healthy foods at lower prices, as well as facilities for community organizations. These include a rooftop farm, a culinary training and work-readiness program for at-risk youth called Liberty's Kitchen, Tulane University's Goldring Center for Culinary Medicine, the offices of FirstLine Schools, a center for children and families, and more.

Broad Community Connections knew a fresh-food retailer was necessary to tackle the community's hunger and nutrition-related health issues, but the organization was also intentional about incorporating economic and community development resources. These would equip residents with the support and capital needed to take advantage of the healthy food options available. By bolstering healthy food access from both the vendor and purchaser perspectives, ReFresh represents a sustainable approach to increasing healthy food access and consumption. As a healthy food access hub with vital education and economic development partners, the ReFresh Project demonstrates a promising approach to creating healthier communities.

Photo courtesy of the ReFresh Project





Photo courtesy of MAFPC

Transportation and Smart Growth

In a healthy community, physical activity is a normal part of everyday life and not something that is only done at the gym. Commuting by bike, on foot or via public transport (active travel) is a form of everyday physical activity that can bolster health. In a study of all 50 U.S. states, active travel was associated with lower rates of obesity and diabetes.¹ Moreover, the risk of obesity falls by 5 percent with every kilometer walked, but rises 6 percent with every hour spent commuting by car.²

More broadly, transportation is a pivotal element of “Smart Growth,” a set of community development principles that promote safe walking and biking, mixed land use, the local economy, and environmental sustainability.³ As the link between several community resources, transportation provides access to economic opportunity, but it can also contribute to economic and health inequities. For instance, black commuters in Boston spend an extra 66 hours a year waiting for, riding in and transferring between buses compared to white bus riders.⁴ In a survey of Latino residents in low-income Boston neighborhoods, nearly 40 percent of respondents reported having sacrificed a basic necessity to afford transportation.⁵

Massachusetts has progressive transportation policies that promote healthy environments. Landmark 2009 transportation-reform legislation created the Healthy Transportation Compact, an interagency initiative designed to balance the needs of all transportation users, expand mobility, improve public health, support a cleaner environment and create stronger communities. The legislation also mandated Health Impact Assessments (HIAs) during the planning process

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for all state-funded transportation projects. HIAs assess the possible impact of the projects on public health and vulnerable populations, and so far, Massachusetts and Vermont are the only two states to require them.⁶

To date, 20 HIAs have been conducted in Massachusetts, three of which have been transportation-related.⁷ Moreover, the Massachusetts Department of Transportation launched a \$5 million Complete Streets Pilot Project in August 2014.⁸ This will fund projects that make streets safer and more inviting for walking, running and biking. Examples of complete streets measures are bike lanes, safe street crossings, curb extensions and bike lanes.

Notwithstanding its progressive track record in transportation planning, our state suffers from an urgent need to invest in infrastructure. Massachusetts ranks as low as 48th among the states in rankings of infrastructure strength.⁹ The stability of long-term funding for our roads, bridges and mass transit is in question once again after voters in 2014 repealed a 2013 law



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indexing the state's gas tax to inflation. The vital importance of good infrastructure was on dramatic display during the record-breaking winter of 2014-15, when the Massachusetts Bay Transportation Authority (MBTA) all but came to a standstill because of disabled trains, ice-coated rails, stranded buses, switch problems, and other issues.¹⁰ This took a toll not only on riders, but also on the economy. A 2011 report from the American Highway Users Alliance and IHS Global Insight concluded that wages lost by hourly workers account for almost two-thirds of the direct economic losses from snowstorms, or roughly \$200 million in wages and salaries.¹¹ Hourly workers are among the most dependent on public transit to get to work, so they are the hardest-hit when transit systems shut down or run on reduced schedules. When transportation systems suffer, economic well-being and physical health do too.

IN OUR COMMUNITY

Somerville and the Green Line Extension Project

The Green Line Extension (GLX) Project will extend the MBTA Green Line from East Cambridge's Lechmere Station to Somerville and Medford. With nearly a billion dollars in federal funding, this project has great promise as a transportation resource that can improve local mobility. To ensure that growth occurs in an equitable fashion, the affected neighborhoods have been an active part of the discussions in advancing this project. Organizations such as Somerville Community Corporation and the Somerville Transportation Equity Partnership have engaged the community to make sure residents' voices are heard. By participating in planning processes such as the Metropolitan Area Planning Council (MAPC)'s "Dimensions of Displacement" report on the effects of the GLX Project on the neighborhood and the Massachusetts Smart Growth Alliance's Great Neighborhoods Initiative, Somerville has demonstrated a commitment to the ideals of smart growth for its community. And developers were

receptive: this dialogue contributed to successes such as a joint project with the MBTA to create the Massachusetts Workforce Initiative Now (MassWIN), a workforce development program that will benefit residents affected by the GLX project. As the GLX Project continues to progress, it will be important for all stakeholders to continue their conversations about how to achieve the most equitable growth possible.

LOOKING FORWARD

Public transportation is important for health and well-being, as a medium for physical activity and as an essential component of smart growth. The Commonwealth can build neighborhoods that promote walking and biking through continued implementation of the transportation bond bill. While \$5 million has been released for the Complete Streets Pilot Project, stakeholders should ensure that the rest of the \$50 million allotment is appropriated and awarded to cities. Changing 40-year old zoning policies that favor sprawl over sustainable development is another potential route to building healthy communities.¹² Also, as our urban centers continue to grow, measures should be put in place to ensure financing for both MBTA infrastructure improvement and expansion. The health of the MBTA is important for the health and economic advancement of our residents.

Bike lanes like these on Washington Avenue in Prospect Heights, Brooklyn, encourage physical activity.

Photo courtesy of Brooklyn Active Transportation Community Planning Initiative.



SPOTLIGHT

Active Design in an Active City

In New York City, several municipal departments partnered to create a set of design guidelines for community spaces that encourage walking, biking and other forms of active transportation. In 2013, the departments of Design and Construction, Health and Mental Hygiene, Transportation, City Planning and the Office of Management and Budget came together with architectural and planning experts to develop and evaluate best practices for creating buildings, streets, and spaces that promote physical activity.¹³

In one case, these principles were used to create more opportunities for active transport in the Brownsville neighborhood of Brooklyn. A group of residents known as the Brooklyn Active Transportation Community Planning Initiative, predominantly made up of people of color, worked with the Public Health and Transportation departments to conduct street audits with the goal of increasing active transit in the neighborhood. As a result of this active design initiative and collaboration among government departments and community-based organizations, 9.1 miles of bike lanes were created, 600 bike racks were installed, and way-finding signs were mounted. Through transportation-related efforts such as this, New York City has experienced significant improvements in active transit: since 2008, year-round cycling increased by 58%, transit ridership increased by 11.3%, and vehicular traffic decreased by 6.5%.¹⁴ Moreover, some major intersections witnessed a reduction in traffic accidents and related injuries. Incorporating design elements in neighborhood growth and improvement projects can create more everyday physical activity opportunities and improve resident health.

Sugar-Sweetened Beverage Tax

Roughly 20 percent of the weight gain in the United States between 1977 and 2007 can be attributed to the consumption of sugary drinks and sodas.¹ A tax on sugar-sweetened beverages (SSBs) is one method that has been proposed to counteract this phenomenon. Economic simulations point to a SSB tax as one of the most effective policies to reduce childhood and adolescent obesity.²

Across the nation, there have been several advancements in implementing SSB tax policies. In November 2014, Berkeley approved the nation's first soda tax, at 1 cent per ounce.³ Several states have also introduced or reintroduced bills for such a tax, including Illinois, and nearby Vermont and Connecticut.⁴ At the federal level, the SWEET Act was introduced in July 2014, which would implement a soda tax nationwide. There have also been other legislative strategies proposed to reduce SSB consumption. Measures requiring warning labels on SSBs have been introduced in California and New York.⁵

Corporations have also started to move toward healthier policies. For instance, Wendy's, a major fast food chain, has voluntarily removed SSBs from children's meals.⁶ Soda companies such as Coca-Cola and PepsiCo have also agreed to reduce calories in beverages.⁷ At the same time, there is a movement to enforce stricter standards in marketing unhealthy foods, including SSBs, to children and youth. The Children's Food and Beverage Advertising Initiative of the Council of Better Business Bureaus, embraced by many large food and beverage companies, is meant to ensure that foods advertised to young children meet a set of nutritional standards. In January 2015, the Robert Wood Johnson

Foundation released its own recommendations for responsible food marketing to children. Meanwhile, soda consumption has declined slowly over the past 10 years.⁸

Currently, more than 34 states tax SSBs sold in food stores or vending machines.⁹ While the nation seems to be advancing towards healthier SSB policies, Massachusetts lags behind. SSBs in Massachusetts are not even subject to the normal sales tax on non-food items, but are instead considered food and exempt from the state's 6.25 percent sales tax. If sugary drinks and candy were taxed, the state would have an additional \$51 million a year that could be used to fund public health programs.¹⁰ Every year, a bill is filed at the State House proposing a tax on SSBs and candy with the subsequent revenue earmarked for the Prevention and Wellness Trust Fund. It has yet to advance.

IN OUR COMMUNITY

New Bedford Mass in Motion

While Massachusetts lacks a SSB tax policy, there have been various efforts to reduce consumption of sugary sodas, juices and energy drinks, particularly among children. Mass in Motion, a statewide anti-obesity campaign by the Massachusetts Department of Public Health, has been a leader in this arena.

New Bedford's Mass in Motion has undertaken a number of promising initiatives. For example, it educated day-care providers about childhood obesity and those caregivers started serving fewer sugary snacks and beverages to their young charges.¹¹ At Little People's College, teachers encouraged students to drink water





instead of soda and became very intentional about offering water throughout the day. The New Bedford YMCA added a nutrition policy to its handbook, and as a result, began serving only water to children. New Bedford also staged a “Summer Beverage Challenge” in 2014, asking

community members to pledge to reduce their intake of sugary beverages, not drink sugary beverages, or increase their water intake.¹² These types of efforts have been successful. Some 89 percent of participants who finished the Summer Beverage Challenge changed their behavior.¹³

SPOTLIGHT

While a comprehensive analysis of Mass in Motion programs is still underway, initial results are promising, with Mass in Motion communities demonstrating a 2.4 percent reduction in rates of obesity and overweight compared to a 0.4 percent decrease in non-Mass in Motion communities. Moreover, the 2013 Boston Youth Risk Behavior Survey found that fewer high school students are drinking soda on a daily basis (17 percent in 2013 vs. 24 percent in 2011). It is encouraging to see these healthy behavior changes made possible partly through community efforts. A statewide SSB tax policy would further bolster this movement and promote such improvement across all communities.

LOOKING FORWARD

Massachusetts should continue to advocate for a SSB tax and—more important—eliminate the tax exemption that gives SSBs preferential treatment. Tax revenue that is earmarked for the Prevention Wellness Trust Fund would further safeguard a healthy future for our state. A SSB tax would enable Massachusetts to advance its status as a leader in the health field and improve the health of everyone who lives in the Commonwealth. More broadly, partnering with corporations and soda companies to support healthier beverage choices or limit marketing to children may be another effective way to reduce SSB consumption and obesity.

A Tale of Two Cities

The city of Berkeley, CA, made history on November 4, 2014 by passing Measure D, the nation's first soda tax. However, voters in nearby San Francisco rejected a similar measure that same day. What were the factors that created this difference in outcomes¹⁴, and what does this mean for a major city like Boston?

One major element to consider is Berkeley's track record of approving pioneering public health policies. The city was the first to establish nonsmoking sections in restaurants and implement food policies for public schools. And while a majority of San Francisco residents voted to tax sugary drinks, the measure failed to achieve the required two-thirds majority.

Given the fact that San Francisco is one of the largest cities to tackle this issue and with the precedent in Berkeley, it is not unrealistic to foresee a soda tax in Boston in the future. Like the two California cities, Boston has a highly educated population and was cited by one of the leaders of the Berkeley campaign as a potential next city to have such a policy. With a similar history of progressive policies, Boston certainly has the potential to be a change maker in advancing health for future generations.

Factor	Berkeley	San Francisco
<i>Tax rate</i>	1 cent per ounce	2 cents per ounce
<i>Tax revenue</i>	Goes to city's general fund	Earmarked for nutritional and physical activity programs
<i>Needed for passage</i>	Simple majority	Two-thirds majority
<i>Result</i>	75 percent approval	54.5 percent approval

Conclusion

As we look back over five years of the Healthy People/Healthy Economy Initiative, we see many signs of hope for the years ahead. Not all that long ago, the problem of unhealthy rates of overweight and obesity seemed to many people to be a nearly unsolvable problem, and one that was up to individuals to address on their own. Now, emerging signs that rates of overweight and obesity may be leveling off suggest that this serious health risk can be turned around. Moreover, we believe there is wider acknowledgment that people cannot improve their health all by themselves, but instead must find support in home, school, neighborhood and work environments. We have seen this through improved state budgets that are directing more funds to the social determinants of health— influenced, we hope, by a promising cultural shift toward healthier choices and behaviors.

But make no mistake: The impressive health rankings that Massachusetts enjoys, along with significant improvements in previous years, mask deeper issues that have been continually raised in our annual Report Cards and precursor reports, including *The Boston Paradox*. People of color still have significantly higher rates of diabetes, obesity, and other adverse health conditions than whites. So-called ZIP code disparities also persist: health status is worse in neighborhoods with a high percentage of low-income, poorly educated residents. Additionally, the age of Massachusetts workers is increasing, placing more demand on an already overburdened health-care system, and health trends among our children and youth are some of the worst in the country. These could all be problems for generations to come if left unaddressed.

And so it is no surprise that there is much work left to be done.

The solution is multifaceted, and a “health in all policies” approach—which includes strategies across the continuum of life and living—is the only answer. This year’s report focused on five key indicators that hold the greatest promise for a healthier Massachusetts. Strategies that can bring us closer to that goal include: providing quality early childhood care and education, supporting school-based physical activity, advocating for policies that give people incentives to buy and eat nutritious food, expanding transportation through a smart growth lens, and taxing sugar-sweetened beverages to discourage consumption.

As a new generation of state leaders plots a course for the Commonwealth in 2015, we look forward to a continued steady commitment to a healthier people in a healthier Massachusetts economy.

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