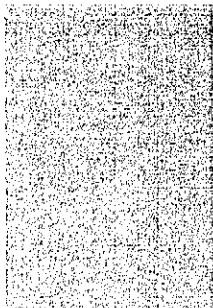
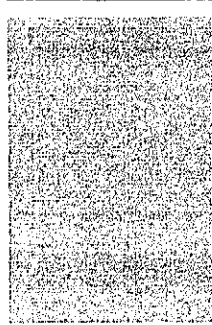
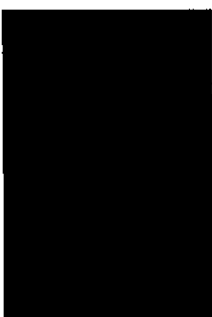


Mass In Motion: A Call to Action



Addressing the Public Health Crisis of Overweight and Obesity in Massachusetts

**Mass**  
**in Motion**  
Better health. It's your move.



Deval L. Patrick, Governor  
Timothy P. Murray, Lieutenant Governor  
JudyAnn Bigby, MD, Secretary of Health and Human Services  
John Auerbach, Commissioner of Public Health  
Massachusetts Department of Public Health | 2008

**Mass in Motion: A Call to Action**

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## **I. Executive Summary**

The Commonwealth of Massachusetts is in the midst of an obesity epidemic. Currently, more than half of Massachusetts adults and almost one-third of Massachusetts middle and high school students are either overweight or obese. Adult obesity has more than doubled in less than two decades. Excess weight contributes to the development of a number of major chronic illnesses such as type 2 diabetes, heart disease, and some cancers and it disrupts the quality of life for millions in the state. Unless the problem of overweight and obesity is addressed, it will soon surpass smoking as the leading cause of preventable death in the Commonwealth and in the nation. The consequences of obesity have major economic implications as well, costing the Commonwealth millions of health care dollars.

The health and economic impact of obesity is not borne equally by all Massachusetts residents. Race and ethnicity, gender, socioeconomic, disability and geography are all factors in obesity disparities. For example, according to data collected between 2003 and 2007, in Massachusetts, Black and Hispanic adults were respectively 60 and 50% more likely to be obese than their White counterparts. The racial and socioeconomic disparities of childhood overweight/obesity parallel those found in adults. In 2007, Black high school students in the state had the highest rates of obesity (22%) followed by Hispanic students (15%) students. This compared with a 9% rate of obesity for White students.

Massachusetts boasts the best health care in the nation, maybe even the world. So how did we end up in such a predicament? Whileresearchersdigfornew explanations for our growing girth, there is one cause with which most researchers agree: people are consuming more calories than they are burning. Massachusetts adults and children are falling far short of a diet balanced for nutrients and calories and of recommended physical activity standards. More than two thirds of Massachusetts adults

do not eat the recommended number of servings of fruits and vegetables daily, and only slightly more than half engage in regular moderate physical activity. Only about 15% of high school and middle school students report consuming the recommended five or more servings of fruits and vegetables daily, and only 41% of high school students engage in moderate to vigorous physical activity for the recommended duration and frequency.

The contributing factors to our unhealthy diets and inactivity are many. In low income and minority neighborhoods there is often an overabundance of inexpensive fast food restaurants with high calorie, high fat foods and a paucity of stores selling affordable fresh fruits and vegetables. Other factors include the lack of healthy foods in many of our schools, workplaces and city buildings, the absence of safe walking and bike paths in our towns and cities and the decline of physical education and recess options in our schools. Against this backdrop, Massachusetts is making progress. Our schools, workplaces, health care facilities, communities and state government are all engaged in activities to promote healthy living. Foundations, insurers and government agencies have provided funding to promote model programs. But we have a long way to go. To address overweight and obesity we need a coordinated, statewide strategy that encompasses all the places where we live, work, learn and play. This cannot be accomplished by any one agency. It requires that we all work together with common mission and purpose.

## **II. Introduction**

Recognizing the extent and impact of the obesity crisis, the Commissioner of the Massachusetts Department of Public Health (DPH) has identified obesity prevention as one of his top priorities. This priority is in line with Governor Deval Patrick's focus on wellness. To address this issue, the Commissioner has unveiled a comprehensive action initiative known as "Mass in Motion." This report, a component of Mass in Motion represents the work the DPH has done to evaluate the

scope of the problem and its implications. Part of this work has involved research to identify existing obesity prevention efforts throughout the state, noting which are effective, and where there is need and opportunity for new approaches. In 2007, the Commissioner convened a task force of leaders in health, business, academia and governance. The goal of the Commissioner's Obesity Task Force, as it became known, was to provide expertise and guidance to the DPH in its intensified efforts to develop an obesity state action plan that would be informed, current and feasible. These "Mass in Motion" action steps appear at the end of this document.

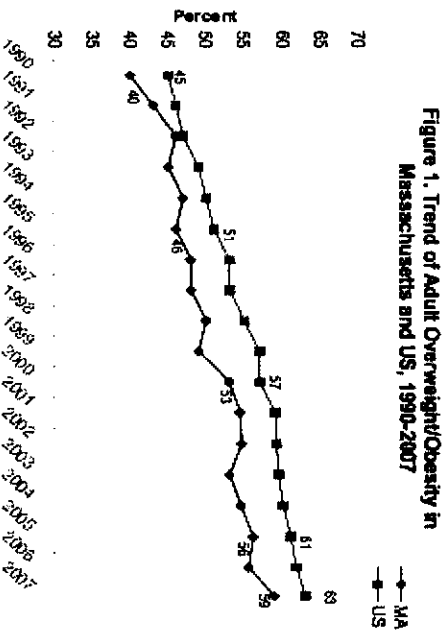
This Massachusetts Department of Public Health State Obesity Action Plan embraces the many programs, policies and practices already occurring to combat overweight and obesity in many sectors across the state. With this report and its related action steps, the Commissioner and the Massachusetts Department of Public Health hope to support those activities and foster the conditions that encourage, nurture and promote wellness – with particular focus on the importance of healthy eating and physical activity.

### III. Overview of the problem prevalence

Over the past twenty years, the United States has experienced a significant rise in obesity. In 1990, the prevalence of obesity in every state in the nation was

under 15%, and in 10 states, that rate was less than 10%.<sup>1</sup> By 2007, 49 states, including Massachusetts had a prevalence of obesity more than 20%.

In 2007, more than one of every five Massachusetts adults, or approximately one million people, was obese.<sup>2</sup> This number represented a doubling of the rate of adult obesity in less than two decades.<sup>3</sup> The situation is more dire for the state's combined rate of overweight and obesity. At least one of every two adults, or about three million Massachusetts adults, is above a healthy weight.<sup>4</sup> Massachusetts overweight/obesity rates are increasing more quickly than the nation as a whole. The Commonwealth has seen a 47% increase in the prevalence of overweight/obesity over the last two decades, compared with a national increase of 40% (Figure 1).<sup>5,6</sup>



Source: Massachusetts Behavioral Risk Factor Surveillance System (MABRFSS) 1990-2007  
 \*Overweight/obese status defined by BMI ≥ 25

#### Definition of Overweight and Obesity for Adults

For adults, overweight and obesity ranges are determined by using weight and height to calculate a number called the "body mass index" (BMI). BMI is used because, for most people, it correlates with their amount of body fat.

An adult who has a BMI between 25 and 29.9 is considered overweight.

An adult who has a BMI of 30 or higher is considered obese.

Source: Centers for Disease Control and Prevention

The burden of overweight and obesity is not borne equally among all populations in Massachusetts. Race and ethnicity, gender, socioeconomic, disability and geography are all factors in obesity disparities. For example, according to data collected between 2003 and 2007, Black adults were 60 percent more likely to be obese, and Hispanic adults 50 percent more likely to be obese than their White counterparts. Among women, Black women (36.7%), and Hispanic women (30.9%), both exceeded the corresponding state estimate for all women (19.7%).<sup>7</sup> Other disparities in Massachusetts include:

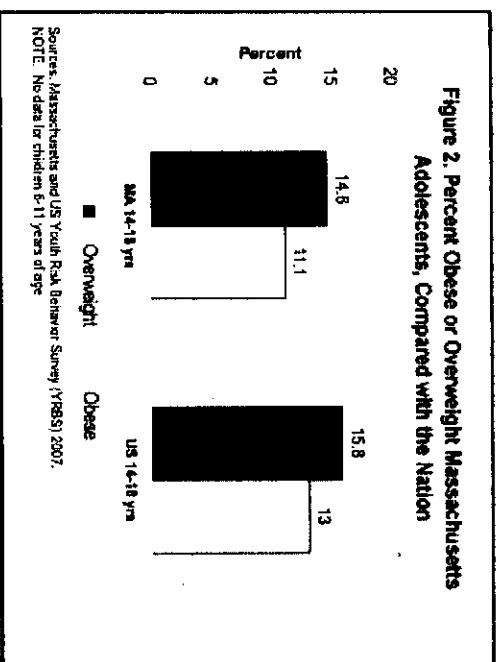
- Gender: Obesity is slightly more prevalent among men (23%) than women (20%).
- Education: The proportion of adults who are obese is inversely related to educational attainment, with a rate of 31 percent for adults without a high school diploma, and dropping to 14 percent for adults with at least a 4-year college degree.<sup>8</sup>
- Income: In general, obesity levels increase as income levels decrease.
- Disability: Adults with disabilities are more likely to be overweight when compared with those without disabilities.
- Age: Adults over the age of 75 and young adults between the ages of 18 and 24 have the lowest rates (15% and 13% respectively).<sup>9</sup>
- Geography: Obesity and overweight rates also differ by geography. Estimates from data collected between 2004-2007 show that four of the six Massachusetts geographic regions exceed the state average of 56.2 percent. These are the Western, Central, Northeast and Southeast regions. In the last few years three regions (the Western, Northeast, and

### Defining Childhood Overweight/Obesity

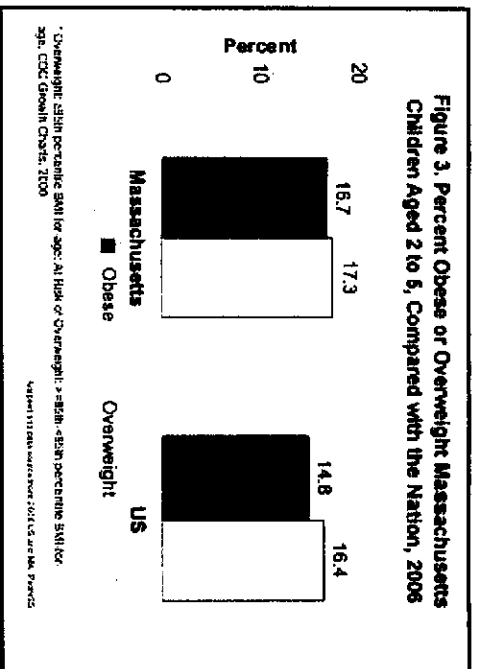
Until recently, the terms used to describe overweight and obesity in children were “at-risk-for overweight” for children whose body mass index fell between the 85th–94th percentile, and “overweight” for those falling at or above the 95 percentile. This terminology was used to avoid stigmatizing children. However in 2007, a panel of pediatric health experts recommended changing the terminology from “at-risk-for overweight” to overweight and “overweight” to obese. The panel believed that these terms would eliminate confusion and more accurately reflect the concept of excess body fat and its associated health risks. For this report, we use the expert panel terminology.

Metro Boston) showed a substantial increase in the prevalence of overweight/obesity while the other regions and the statewide estimate showed only a modest increase.<sup>10</sup>

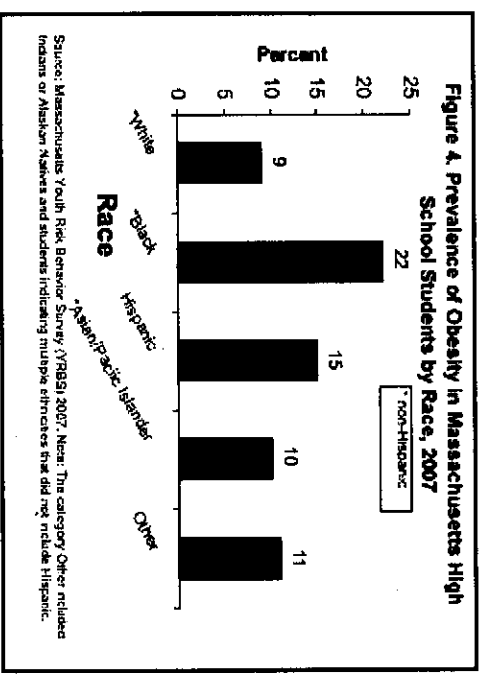
Unfortunately, our children are not faring any better. A report released by The Trust for America’s Health in August 2008 ranked Massachusetts 20th among all states in childhood overweight (children ages 10-17).<sup>11</sup> Almost one in three of Massachusetts high school and middle school students are either obese or overweight. When separated by age group, the numbers break down as follows: 11 percent of high school students were found to be obese and 15 percent were overweight. Male high school students were more than twice as likely to be overweight than female students (15% vs. 7% respectively).<sup>12</sup> Among middle school students, 11 percent were found to be obese, and 18 percent were overweight (Figure 2).



Source: American Academy of Pediatrics



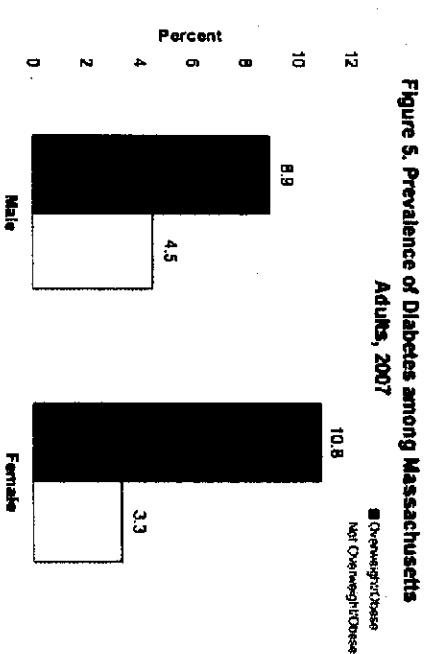
With rising trends of overweight being observed at much earlier ages than ever before, very young children are also at risk. Nationwide, the prevalence of overweight and obesity among two to five year-olds more than doubled between 1971 and 2000, from about 5 to 10%.<sup>14</sup> The rates are even higher for high-risk children in this age group. According to the Massachusetts Women, Infants, and Children Nutrition Program (commonly known as “WIC”), more than one third of two to five year olds in the program are either obese or overweight (Figure 3).<sup>15</sup>



In the Commonwealth, the racial and socioeconomic disparities of childhood overweight/obesity parallel those found in adults. In 2007, Black high school students had the highest rates of obesity (22%) followed by Hispanic students (15%) students. This compared with an obesity rate of 9 percent for White students (Figure 4).<sup>16</sup> As in adulthood, income is an indicator of overweight obesity prevalence in youth with a rate of more than 40 percent for Massachusetts children who are poor (less than 100% of the Federal Poverty Level.)<sup>17</sup>

### Health consequences of excess weight

Individuals who are overweight or obese are at increased risk for health conditions that can be disabling, and can interfere with daily living and quality of life. This includes chronic diseases such as type 2 diabetes, heart disease, stroke gallbladder disease and some forms of cancer;<sup>18</sup> psychological disorders such as depression; musculoskeletal disorders;<sup>19, 20</sup> and other disabling conditions such as age-related loss of vision due to cataract and age-related macular degeneration.<sup>21, 22, 23</sup>



In 2007, obese adults were more than three times as likely to have been diagnosed with diabetes or high blood pressure when compared with healthy weight adults. They were also more likely to have high cholesterol and asthma and twice as likely to have arthritis. In the same studies, with overweight added to the calculations, the prevalence of diabetes among overweight/obese women was found to be more than threefold that of their healthy weight peers. Among men, being overweight or obese doubled the likelihood of having diabetes (Figure 5).<sup>24</sup>

Overweight or obesity is rarely if ever listed as primary cause of death on death records, however, national research shows that one in five cancer-related deaths is related to overweight and obesity in women non-smokers over age 50, and one in seven cancer-related deaths is related to overweight and obesity in their male counterparts.<sup>25</sup> We also know that heart disease and stroke account for about one-third of deaths in Massachusetts, and both of these conditions are related to overweight and obesity.<sup>26</sup> Among adults 40 years and older in this state, overweight/obese women and men have respectively, 50 percent greater and 27 percent greater likelihood of having cardiovascular disease when compared with their healthy weight peers.<sup>27</sup>

Overweight and obesity pose particular health concerns for women before and during pregnancy. Studies show that even moderate pre-pregnancy overweight is associated with higher risks of pregnancy complications such as gestational diabetes and hypertensive disorders including high blood pressure and altered cardiac function.<sup>28</sup> Pre-pregnancy overweight has also been linked with increased risk of late fetal deaths.<sup>29</sup> Excess weight gained during pregnancy is more likely to produce high birth-weight babies and increase the risk of a child being overweight. Other risks associated with obesity during pregnancy include an increased incidence of labor and delivery complications, birth inductions and Caesarean sections, and increased risk of congenital malformations such as neural tube defects.<sup>30</sup>

Overweight and obese children are more likely to become overweight/obese adults, and suffer the associated health effects, but at earlier ages. An increase in the incidence of coronary heart disease (CHD) related to adolescent obesity is predicted to appear in young adulthood. It is calculated that by 2020, there will be 100,000 excess cases of CHD in the United States attributable to the increased obesity among children.<sup>31</sup> Currently, coronary heart disease is seen more prominently in later adulthood.

Researchers are also finding increased risk for chronic diseases related to overweight/obesity during childhood

and adolescence including an increased diagnosis of diabetes in children, with obese children having a greater than two-fold chance of having type 2 diabetes.<sup>32</sup> The consequences of excess body weight in youth are not only physical. Studies show overweight status among children impacts their school activities and performance as well. According to the 2003 Massachusetts Youth Risk Behavior Survey (MAYRBS), high school students who were overweight were less likely than their peers to report receiving mostly A's, B's or C's in school.<sup>33</sup> Emotional distress due to stigmatization and illness are suggested as possible reasons for lower academic performance. Both of these factors may contribute to the significantly increased absenteeism among obese and overweight children as compared with their healthy weight peers.<sup>34</sup>

### **Financial consequences of excess weight**

Quantifying the economic burden of obesity presents several challenges. Obesity is not generally recognized as a disease, was rarely listed as a diagnosis in hospital and medical claims forms until recently. However, utilizing national and state data, researchers have calculated cost estimates and predicted future spending related to this condition. They conclude that the rising obesity epidemic is contributing to increasing health care costs. These include direct medical expenses such as treatment for diabetes or hypertension, as well as less direct costs such as lost productivity, workers compensation and expenses related to reduced quality of life such as stress, depression and absenteeism. Health care spending for obese adults under age 65 has been calculated to be 36 percent higher than for adults at a healthy weight.<sup>35</sup> In 2002, the national bill for obesity reached an estimated \$117.1 billion of which \$56.3 billion reflected indirect costs.<sup>36</sup> In that same year in Massachusetts, the estimated costs were nearly \$15 billion.<sup>37</sup>

The growing prevalence of childhood overweight and obesity is also contributing to increasing health care expenses. While the medical conditions associated with obesity tend to appear later in life when the youth enter adulthood, this is changing, with many chronic

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\* Please see Appendix A for a description of surveys



conditions, such as type 2 diabetes, now being diagnosed in youth. According to one estimate, the annual cost of obesity-related hospitalization of children is \$127 million nationally.<sup>38</sup> The medical costs per overweight or obese child per year have been calculated to be about \$200 more than for a healthy weight child.<sup>39</sup>

We all bear the burden for the increased medical spending: consumers, medical insurers, and the public. But what if we could prevent obesity? According to health economists, we could save approximately 9 percent of our medical expenditures if there were no obesity among adults.<sup>40</sup> This should serve as one more motivation to thwart the upward trend of obesity. If we continue on this pathway, according to one study, by 2020 one-fifth of all health care expenditures will be devoted to treating the consequences of obesity.<sup>41</sup>

### **Causes: Modifiable Risk Factors**

Although family history, gender, age and race or ethnicity may predispose some people to weighing more than others, these risk factors alone cannot explain a 74% national increase in the prevalence of obesity in the last decade. While researchers dig deep for new explanations for our nation's growing girth, there is one basic cause with which most agree: people are consuming more calories than they are burning.

### **Eating Patterns/Nutrition**

The US Department of Agriculture (USDA) Dietary Guidelines promotes two strategies for good health and weight maintenance: a balanced diet that is low in saturated and trans fats and added sugars, but rich in fiber from fruits, vegetables, and whole grains plus a balanced intake and expenditure of energy.<sup>42</sup> The diets of American adults and children fall far short of the USDA recommendations for nutrients and calories. While researchers site different reasons for the nutritional deficit and energy imbalance, they agree on one thing: Americans are eating out more than ever before. According to research on childhood nutrition trends, from 1977 to 1996 the proportion of meals eaten outside of the home by children rose from 17 percent to 30 percent.<sup>43</sup> Foods prepared out of the home

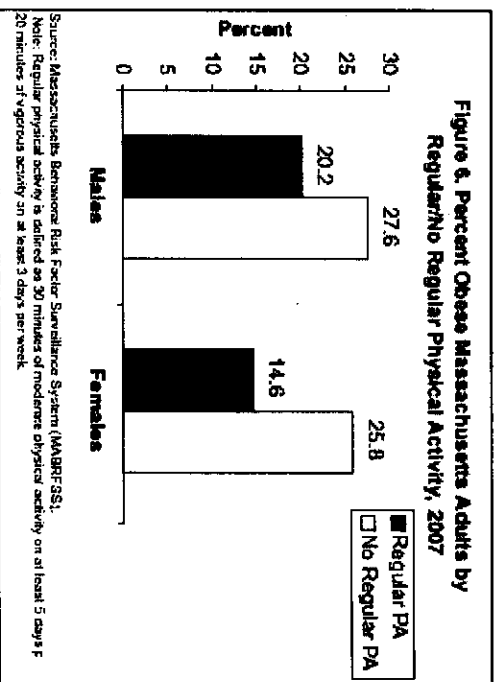
tend to be larger portion sizes contain more calories,<sup>44</sup> and have more saturated fat and fewer nutrients than foods prepared at home.<sup>45</sup> Another trend is an increase in consumption of soft drinks by children, especially those who are overweight. Overweight youths tend to consume larger portions of empty calories in the form of soft drinks than their normal weight peers. Soft drinks provide fewer nutrients compared with milk or 100% fruit juices.<sup>46</sup>

The eating patterns of Massachusetts residents parallel national trends. The 2005 US Department of Agriculture (USDA) Dietary Guidelines recommends that the average diet contain at least two cups of fruit (equal to 4 servings) and 2.5 cups of vegetables (equal to 5 servings) daily.<sup>47</sup> Data from the Massachusetts BRFFSS suggest that more than two thirds of Massachusetts adults do not eat the recommended daily servings of fruits and vegetables.<sup>48</sup> The data also point to a link between fruit and vegetable consumption and obesity, with those eating four or fewer servings more likely to be overweight or obese compared with those eating five or more.<sup>49</sup> Furthermore, the percentage of obese adults decreases as the servings consumed daily increases. Twenty-seven percent of those who reported eating less than one serving of fruit/vegetables per day were obese, as compared with 14 percent of those who reported eating five or more daily.<sup>50</sup>

Data from middle and high school students suggests a majority also consume less than the recommended amount of fruit and vegetables a day. According to the Massachusetts Youth Risk Behavior Survey and the Youth Health Survey, among high school students only 15 percent reported consuming five or more servings of fruits and vegetables per day. Data for middle schools students was similar.<sup>51</sup> Only 35 percent of high school students reported eating breakfast daily and 14 percent reported never eating breakfast<sup>52</sup> despite research showing that children who eat breakfast have better quality diets.<sup>53</sup> In the 2006-2007 school year, only 69 percent of Massachusetts schools participated in the federal school breakfast program. This represents one of the lowest rates in the country.<sup>54</sup>

## Physical Activity

A healthy, balanced diet in conjunction with regular physical activity promotes weight stability. Regular physical activity brings many additional health benefits including reduced risk of illness from such chronic diseases as coronary heart disease, stroke, some cancers, type 2 diabetes, osteoporosis, and depression, as well as reduced risk of fall-related injuries and reduced occurrence of pre-mature death.<sup>55</sup> The reverse is also true. Physical inactivity increases risk of chronic illnesses. The association between inactivity and obesity is apparent in the Massachusetts data which shows that adult women who get no regular physical activity have almost twice the likelihood of being obese compared



with their counterparts who do participate in regular physical activity (Figure 6).<sup>56</sup> The positive effects of physical activity are also significant in youth. Compared to inactive young people, physically active children and youth have higher levels of cardiorespiratory endurance and muscular strength; health benefits include reduced body fatness, more favorable cardiovascular and metabolic disease risk profiles, enhanced bone health; and reduced symptoms of anxiety and depression.<sup>57</sup>

Despite the clear benefits, many Massachusetts adults, adolescents and children fall short of the physical activity recommendations from the Surgeon General,<sup>58</sup> and the US Department of Health and Human Services.<sup>59</sup> The

guidelines advise adults to regularly meet or exceed recommendations of 30 minutes or more of moderate-intensity physical activity most days of the week. Just slightly more than half of Massachusetts adults engaged in regular moderate physical activity. Physical activity guidelines for children and adolescents recommend that they participate in at least 60 minutes of moderate intensity physical activity most days of the week, preferably daily. Among Massachusetts high school students, only 41 percent report engaging in moderate to vigorous physical activity on 5 or more days per week for at least 60 minutes per time.<sup>60</sup> While this is higher than the national average, it still means that six out of ten Massachusetts high school students do not meet the recommended guidelines for physical activity.<sup>61</sup>

### How is moderate and vigorous physical activity defined?

**Moderate physical activity:** Activity that gets the muscles moving and which is at least equivalent to brisk walking. Other activities may include dancing, swimming, gardening, yoga, and various domestic and occupational activities.

**Vigorous physical activity:** Activity that makes you sweat or breathe hard. These activities can include competitive sports (soccer and basketball), jogging, lap swimming, cycling, wheeling a wheel chair, step aerobics, etc.

Sources: Centers for Disease Control and Prevention

Opportunities to engage in physical activity during the school day are diminishing. The same holds true for physical education. Participation in physical education classes is also declining. The number of Massachusetts high school students attending physical education classes at least once a week declined from 80 percent in 1993 to 61 percent in 2007.<sup>62</sup> In 1996, the mandate stipulating the amount of school time earmarked for physical education was eliminated.<sup>63</sup>

\* Please see Appendix A for a description of surveys

## TV Viewing

Television viewing is a major sedentary behavior in the United States, often substituting for more active pursuits. Nationwide studies have linked television viewing with an increased risk for obesity in children<sup>64,65</sup> and obesity and type 2 diabetes in adults. For women, each two hour per day increment in TV watching was associated with a 23 percent increase in obesity risk and a 14 percent increase in risk of type 2 diabetes.<sup>66</sup>

In Massachusetts, research has focused on television viewing habits of youth. Here there is a bit of encouraging news: In 2003, the percent of Massachusetts high school students who watched three or more hours of television a day was 31 percent, a decrease from 35 percent in 1999.<sup>67,68</sup> At first glance this appears to be a positive trend, but students may be substituting other sedentary activities for TV. Thirty percent of Massachusetts high school students (compared to 25 percent of US high school students) reported playing video or computer games or using the computer for something that was not school work for 3 or more hours on an average school day.<sup>69</sup>

In Massachusetts high school surveys, students who watched three or more hours of television per day were more likely than their peers to be overweight (14% vs. 8%).<sup>70</sup> Medical and public health experts connect television viewing and exposure to food marketing on television with increased caloric intake and decreased diet quality in children and adolescents.<sup>71</sup> Research indicates that for each hour of television viewed, there is a decreased intake of fruits and vegetables by children. Some research also shows a connection between children who watch more television with a greater preference for larger portion sizes.<sup>72</sup>

Television viewing habits differ by race and ethnicity. The 2007 Massachusetts YRBS showed that half of the Hispanic high school students and slightly less than half of Black high school students in the Commonwealth watched three or more hours of television on an average school day, followed by 35 percent of Asian students and 27 percent of White students.<sup>73</sup>

## Tobacco Smoking

The connection between smoking of tobacco and overweight/obesity is more complicated. Research suggests that adults and young people may smoke to lose or maintain weight, placing them at risk for many chronic diseases associated with tobacco smoke. There is also an association between smoking tobacco and other behaviors associated with overweight, such as physical inactivity and eating unhealthy foods. For example, according to research conducted in 2003, Massachusetts high school students who did not participate in regular physical activity were more likely than their physically active peers to report daily smoking (10% vs. 6%).<sup>74</sup>

## Breastfeeding

The Surgeon General recommends that mothers breastfeed their babies exclusively for more than six months to reduce their child's risk of becoming overweight.<sup>75</sup> One study of an ethnically diverse group of three- to five-year-olds found that those who were "ever" breastfed had a 37percent lower chance of being overweight than those who were never breastfed.<sup>76</sup> Similarly, a study of 15,000 nine- to fourteen-year-olds found a 22 percent lower risk of overweight among children who had been mostly or exclusively breastfed.<sup>77</sup> Unfortunately, breastfeeding rates are declining both nationally and in Massachusetts.<sup>78</sup> The Massachusetts figure on 'ever breastfeeding' exceeds that of the national average but it stills falls short of the Healthy People 2010 goal of achieving a rate of 75 percent.<sup>79</sup>

## IV. Current policies, environmental supports and programs

In Massachusetts, in the places where we work, live, play and learn, we are creating and implementing new strategies to improve the health of all of our residents. In this section, we review existing physical activity and nutrition programs, policies and supports in our state. We take note of what we are doing well in addition to where we fall short so we can optimize our strengths and identify new approaches to stop and reverse the rising overweight and obesity trends.

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\* Please see Appendix A for a description of surveys

## **Cities and Towns**

How can cities and towns safeguard the health of their residents? Regulations that prohibit smoking in restaurants, require well-lit sidewalks, or provide healthy food options in municipal cafeterias are just a few ways. In 2002, the Massachusetts Department of Public Health conducted a survey that inventoried resources and policies promoting active living and healthy eating in our cities and towns. The survey was repeated in 2007, and received responses from some 60 percent of the Commonwealth's municipalities.\*

How are Massachusetts cities and towns faring? More than three-fourths of the Commonwealth's cities and towns provide playgrounds, recreational fields, conservation land, outdoor courts and school-based gyms. In general, these resources were more common in towns with 5,000 or more residents. Most strive to make these areas and facilities safe with the most common measures being crosswalks, reduced speed zones, and street lighting. However, very few provide bicycle and pedestrian friendly features such as on- or off-road bikeways, or security patrols or lighting on sidewalks or bike paths. While "Walk to School" programs were offered in only 15 percent of our localities in 2007, this represented almost double the number of cities and towns that offered such programs in 2002.

Cities and towns have done little to encourage healthful eating. Few cities or towns in the Commonwealth have implemented healthy nutrition policies such as the listing of meal calories on menus, or the banning of trans fats in restaurant cooking. While increasing numbers of city vending machines are dispensing more water and less soda, most municipal vending machines still sell candy, chips and cookies.

Access to physical activity resources and healthy food for all residents is a problem for cities and towns. One-third of our communities do not have physical activity facilities that are accessible to individuals with disabilities and two-thirds have no facilities that are close to public transportation. Nationwide data indicates that people in rural and poor communities lack access to affordable supermarkets and farmers markets. In

Massachusetts, economic concerns have been cited as a major barrier to consuming more fruits and vegetables. According to recent research, 55 percent of Hispanics, 35 percent of Blacks, and 27 percent of Whites indicated that buying more fruits and vegetables would be difficult on their budgets.<sup>80</sup> In the Commonwealth, 8 percent of households in 2007, were considered "food insecure" meaning they did not have enough money or resources to provide enough food for the needs of their members.<sup>81</sup>

## **Worksites**

There is growing recognition that workplaces play an important role in support of healthy living for workers and their families. In Massachusetts 66 percent of adults, or 3,122,010 people are in the workforce and may spend more waking hours at work than any other place. Workplaces that have instituted wellness programs have improved individual health, reduced absenteeism and workers' compensation claims, and increased recruitment and retention efforts, validating the claim that a healthy workforce is a more productive workforce.

The Massachusetts Department of Public Health conducted two surveys to assess the availability of worksite features that promote health, and to identify strengths and opportunities for future development of worksite wellness programs. The first survey was conducted in 2001 with worksites employing 50 people or more. One-half of the jobs in Massachusetts are for businesses of that size. The second survey was conducted in 2008 with a random sample of 3,000 Massachusetts businesses with 11 or more employees. A total of eight hundred ninety businesses completed the 2008 survey.

The survey results are encouraging, showing that Massachusetts employers are doing many things that promote employee well-being. For example, an overwhelming majority of Massachusetts workplaces offer areas for people to walk where they can be safe from traffic and work machinery. Most offices have accessible stairways. The 2008 survey indicated that 10 percent of businesses have on-site exercise

\* Please see Appendix A for a description of surveys

facilities, and 46 percent subsidize membership to off-site physical activity facilities for some but not all employees. Even so, there is no data to indicate how well these opportunities are used.

Vending machines in worksites are common and while they offer healthier options than those found in municipal buildings, the food that employers offer or sell is not necessarily healthy. Just under half of the businesses surveyed in 2001 provide fresh fruit. Healthy choices such as salads or cooked vegetables are even less commonly available. In the 2008 Worksite Survey, almost 80 percent of businesses reported not having written policies to ensure that healthy food items are offered in vending machines, the cafeteria, or at meetings and catered events.

Employees can increase their level of physical activity by using alternative modes of transportation for at least part of their work commute, and worksites can support that effort by locating offices near public transportation. However, according to 2000 Census data provided by the *Massachusetts Highway Department*, only an estimated 9 percent of employed residents took public transportation, 4 percent walked, and less than 1 percent biked to work.<sup>82</sup> In 2008, there were reported increases in the use of public transportation mostly attributable to the rise in the price of gas.

Few employers provided onsite health screenings such as blood pressure, cholesterol or blood glucose, though some of these screenings are routinely covered by health insurance provided by employers. Public administration and manufacturing employers were the most likely to offer insurance benefits that cover preventive services for employees.

## Schools

Many leading medical and public health organizations are advocating for schools to take leadership roles in promoting physical activity for children. The National Association for Sport and Physical Education (NASPE) recommends that schools institute comprehensive school physical activity programs that include quality

physical education, school-based physical activity opportunities, school employee wellness programs, involvement in reinforcing healthy behaviors with their student populations, and family and community participation.<sup>83</sup> Parents are also calling for increased opportunities for physical activity for their children while at school. According to a 2008 survey of American parents conducted by Robert Wood Johnson, 91 percent believe that when students can take a recess break, they are more focused in the classroom. Their views are supported by research that shows the connection between recess and improved classroom performance.<sup>84</sup>

Are Massachusetts schools living up to expert and parental recommendations? Unfortunately, the answer is “no.” The Centers for Disease Control’s School Health Profiles and Youth Risk Behavior Survey (YRBS) quantify school participation in physical education policies and practices. According to the School Health Profiles Report of 2006, 79 percent of schools surveyed in Massachusetts said they require their students to take two or more physical education courses.<sup>85</sup> Since their definition of a “course” includes those lasting only one semester, it is quite possible for a student to take a physical education course in his or her freshman year, and then not again until his or her senior year, a prospect that most parents and activity proponents would find lacking. This paucity of physical education was confirmed in the 2007 Massachusetts YRBS, which found that the number of Massachusetts high school students attending physical education with classes at least once a week declined from 80 percent in 1993 to 61 percent in 2007. The erosion of school physical education was significantly influenced in 1996 by the state’s elimination of a mandate stipulating the amount of school time designated for physical education.

In another measure from the School Health Profiles, 87 percent of Massachusetts schools offered opportunities for students to participate in intramural activities or physical activity clubs. At first glance, it appears to be adequate. But in the same survey, less than half of schools said they provided students with transportation

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\* Please see Appendix A for a description of surveys

home after the activity. The availability of intramural activities does not necessarily lead to student participation.

Availability and duration of recess time, which allows younger students to get up and move, varies from school to school. Studies show that recess can play an important role in the learning, social development, and health of elementary school children.

Medical and public health experts also call for schools to take leadership roles in the promotion of healthy eating through the foods offered in their cafeterias and elsewhere in the school environment, as well as through classroom education. According to the Center for Disease Control and Prevention's School Health Profiles, 77 percent of the participating Massachusetts schools reported lunch breaks of 20 minutes or longer. This includes the time students have to wait in line to get their lunch, which could be significant depending on the size of the school or the capacity of the cafeteria. Only 35 percent of surveyed schools offered fresh fruits and vegetables.

In Massachusetts, as elsewhere, there is a financial barrier in providing fresh fruits and vegetables as part of school meals. School meal programs operate as businesses not nutrition programs and as such, must watch the bottom line. They often find it difficult to afford to purchase fresh fruits and vegetables. In other results from the 2006 School Health Profiles, 65 percent of participating Massachusetts schools offered 100% fruit or vegetable juice and an even higher percent offered water; 56 percent prohibited students from purchasing candy, beverages with added sweeteners, or snacks that were not low in fat, during school lunch periods. Policies mandating nutritional content of foods sold in schools and community programs such as "farm to school" programs all facilitate improved nutrition in school environments.

Schools face considerable challenges to the allocation of resources for overweight and obesity prevention. Preparing students for the MCAS (Massachusetts Comprehensive Assessment System) tests requires significant time and resources and takes precedence

over all other issues. In addition, increasing restrictive school budgets impact school' programs and services, sometimes forcing schools to lay off teachers of health and physical education.

National policies also effect local schools. As of 2006, schools participating in the national school lunch program were required by the United States Department of Agriculture to implement school wellness policies, and to set goals for nutrition education, physical activity, campus food provision as well as for other activities to promote student wellness. School districts were also directed to involve a broad range of individuals to guide policy development and to plan and evaluate policy implementation. However, the mandate did not require state agencies to monitor implementation or to provide resources to support such an activity. Currently, there is no standard system for monitoring the quality of the policies or their implementation in Massachusetts school districts

### **Health Care Sites**

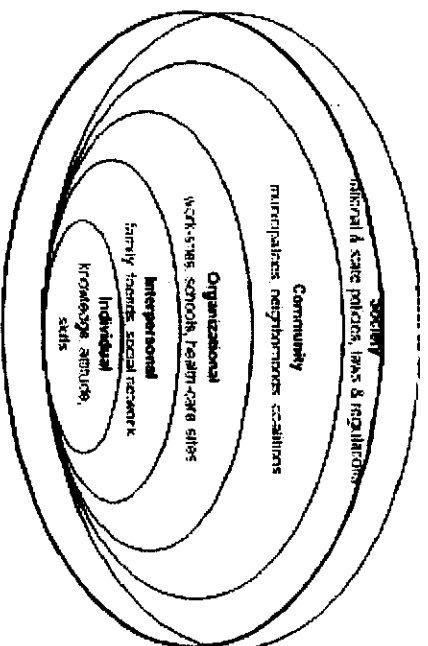
We commonly entrust our medical providers to guide us in preventing and treating health conditions. However, the time demands of caring for patients' illnesses and the lack of financial reimbursement for patient education are barriers to prevention. Also, according to recent research, many providers do not have sufficient knowledge or professional training to address overweight and obesity with their patients. A survey administered in 2002 to pediatric clinicians in the Commonwealth revealed that an overwhelming majority lacked awareness of expert guidelines for evaluating and treating childhood overweight, and did not consistently calculate Body Mass Index (BMI), the process recommended by the Centers for Disease Control and Prevention and the American Academy of Pediatrics.

In addition, clinicians say that they recommend that their patients eat more fruits and vegetables, cut down on fatty foods, become more active, and watch less television, but they feel their advice is not effectively communicated to patients or is altogether unheeded.

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\* Please see Appendix A for a description of surveys

They name their patients' frequent visits to fast food restaurants as the number one barrier to successful treatment. They also indicate additional barriers such as lack of patient and family motivation, lack of recognition that overweight is a health risk, lack of effective treatments, the quality of school meals, and the price and availability of healthy foods. Health practitioners working in inner-city communities also noted cultural barriers and safety issues as impeding their efforts to treat overweight children.



**Figure 7. Spheres of Influence**

Source: Adapted from McLeroy KR, et al. An ecological perspective on health promotion programs. *Health Education Quarterly*. 1988; 15:351-77.

## V. Framework for Action

For years public health professionals have urged people to choose healthy foods and be more active without addressing the social forces that can derail even the most motivated individual. Today we recognize the many influences affecting individual behaviors in every aspect of our lives, home, community, school, and work environment. Cities and towns that provide safe bike paths and ball parks, schools that offer daily physical education, state government that implements no-smoking regulations and families that eat together are all examples of social forces that contribute to healthy living. The social-ecological model pictured below captures the many influences on individual behaviors, and is the conceptual basis for the Department of Public Health's plan for action.

## VI. Action Plan

The following key action steps were developed by the Massachusetts Department of Public Health (DPH) as a component of the HealthyMass Compact established by Health and Human Services Secretary Judy Ann Bigby in collaboration with the Commissioner Auerbach's Task Force on Obesity. They represent initial strategies that will be part of a comprehensive approach by the state of Massachusetts to address the risk behaviors associated with overweight and obesity. These action steps take advantage of the unique opportunities, connections and partnerships available to the state.

The DPH has set the following overarching goals for this plan of action:

- Decrease the number and percentage of both adults and children who are overweight and obese
- Decrease the prevalence of chronic disease associated with unhealthy eating and lack of physical activity

The following action steps are organized according to "sphere of influence:

### State

*Goal:* Heighten awareness and make it easier to achieve wellness.

- Craft and support passage of key nutrition/physical activity related laws and regulations
- Initiate coordinated statewide campaigns to promote prevention, raise awareness of childhood obesity, physical activity and healthy eating practices
- Identify opportunities for collaboration across state agencies to maximize wellness efforts

### Action Steps

1. Implement a statewide "Mass in Motion" public information campaign to raise awareness about the importance of a healthy balanced diet and physical activity and direct individuals and policy makers to a state website for additional information and links to resources that can support their efforts to make changes.

2. Create a “*Mass in Motion*” interactive website to complement the information campaign. The website will include information on nutrition and physical activity, links to local resources and events, and interactive tools to help individuals set and achieve goals.
3. Establish a state policy requiring food contractors that supply state-run facilities to adhere to nutrition standards developed by the DPH.
4. Coordinate with MassHealth (the state’s Medicaid program), and other state agencies to develop consistent wellness messages and programs that support their goals and objectives.
5. Collaborate with the Massachusetts Medical Society and the Massachusetts Chapter of the Academy of Pediatrics on the development of educational materials and a cable program on obesity prevention and wellness.
6. Develop menu-labeling regulations requiring chain restaurants such as McDonalds to disclose nutritional information and calorie content on menus. The goal of these regulations is to inform diners about their nutritional choices.
7. Support an obesity prevention and wellness legislative agenda. Numerous bills have already been introduced to the state legislature to address obesity and its related risk factors. Under the leadership of Governor Deval Patrick and Judy Ann Bigby, the Secretary of Health and Human Services, The Massachusetts Department of Public Health is reviewing these proposed laws and working with state legislators to move the health promotion agenda forward.

Examples of important bills already introduced include:

- “An Act to Improve Quality Physical Education”: This bill seeks to increase student physical activity in schools by requiring adherence to physical education standards. This includes setting a minimum amount of time necessary for adequate physical education.
- “Act to Promote Proper School Nutrition”: This bill seeks to increase student awareness of food content and encourage students to make healthy food choices. It also establishes nutrition standards for the foods sold in schools.

## **Cities and Towns**

*Goal:* Create social and environmental conditions in cities and towns that promote wellness and prevent obesity.

- Support and strengthen local initiatives
- Engage diverse organizations and agencies such as businesses and academia to contribute to planning and implementing change at the local level.

### **Action Step:**

1. Create a public-private partnership that will fund municipalities to develop and implement a plan to become “Mass in Motion Active Living/Healthy Eating by Design” communities. Examples of initiatives that could be part of a plan include: zoning changes to make communities more walkable, and after-school transportation to enable students to participate in extracurricular sports.

### **Worksites**

*Goal:* Increase the number of employers promoting physical activity and healthy eating in the workplace.

### **Action Step:**

1. Expand the Department of Public Health’s Working on Wellness Initiative. Working on Wellness provides employers with training, education, technical assistance, and resources to help them improve their employees’ health. The MPDH plans to double the number of participating business from 11 to 22 in 2009.

### **Schools**

*Goal:* Help children and families achieve wellness by increasing awareness of individual health status, and by promoting healthful foods, opportunities for physical activity and educational experiences by:

- Implementing successful school nutrition/physical activity wellness policies
- Establishing a Body Mass Index (BMI) data collection and reporting system

### **Action Steps:**

1. Develop regulations to promote BMI screening in schools with a stipulation that includes the communication of results and provision of



accompanying educational materials to parents.

2. Utilize MDPH school-based contracts to support wellness policies and new laws and regulations. Currently 42 school districts are funded for nursing services. Contracts require school nurses to participate in the school's efforts to develop and implement policies promoting student health.

3. Promote Safe Routes to School programs. Collaborate with public and private partners to implement a Community Safe Routes to School Project in a maximum of six communities.

The following are just a few examples of the many innovative physical activity and nutrition initiatives taking place across the Commonwealth. They represent the many sectors of society working to make healthy living the easier choice for their children, families, employees and neighbors and for all Massachusetts residents.

## **VII. Models in Massachusetts: Physical Activity and Healthy Eating initiatives**

### **Community**

#### *Groundwork Lawrence*

Groundwork Lawrence (GWL), a Lawrence-based non-profit organization, fostered the development of three community gardens with the goal of simultaneously maintaining the physical environment and the physical condition of local residents, while bringing neighbors together in common activities. GWL promotes organic gardening by limiting the use of pesticides, and by providing workshops on pest management and composting. One garden comprised of 17 raised beds, is in a city-owned, collaboratively designed park that had been an industrial facility. Another is set in an alley, and the third is built in the yard of a middle school. The schoolyard garden has become an integral part of the school's nutrition and exercise program with students planning, planting and maintaining the garden.

Groundwork Lawrence also facilitated a park renovation. It began with a teen vision for a skate park, and ended up three years later, as a complete park renovation with garden beds, grassy areas, and other spaces for sports,

not the least of which is a state-of-the-art skate park.

Local teens, who called themselves "Sk8," played an active role in selecting the park site, and working on its design and development. Groundwork staff convened a partnership that included a community development organization and an architectural firm, and they worked with "Sk8" to see the project to completion. The school adjacent to the park also became involved, with students contributing to the concept and design. Community support, and a state grant enabled the final construction and completion of what is now a new Misserville Park.

#### *ACCENT*

The City of Chelsea Senior Center implemented a 12-week program to promote healthy eating and physical activity. The program, known as ACCENT (Action for Community-Centered Elder Nutrition Training) is a collaborative effort of the DPH, the Executive Office of Elder Affairs and Action for Boston Community Development. ACCENT is being implemented in eight councils on aging across the Commonwealth. It provides information and skill building that address nutrition, behavior change, physical activity, injury prevention and home safety, medication and doctor/patient relationships, and barriers to a healthy lifestyle. In the nutrition section, for example, participants learn strategies to eat more healthfully, cooking techniques that are culturally appropriate, and tips for economical, healthy food shopping.

#### *KidsStrong*

The Metro West Foundation has provided three years of funding for the Youth Wellness Director at the YMCA to create KidsStrong, a program designed to increase levels of physical activity and provide nutrition education in existing YMCA after-school programs. KidsStrong is training after school program staff to ensure successful program implementation. After the second year, the program reported a number of successes including:

- 204 participants in 8 elementary schools
- 63% increase in the number of steps walked by participants during after school hours
- 12% of participants showed improvement
- 12% of participants showed improvement in knowledge about physical activity and nutrition

- 10 training workshops for program staff about physical activity, wellness and leading group activities.
- 75 families attended KidsStrong Family Night to increase their understanding of childhood obesity and to sign up for the WalkStrong Family Challenge.

#### *Boston and Holyoke Food and Fitness Grants*

Two communities in Massachusetts were awarded the WJ Kellogg Foundation “Healthy Eating and Active Living” planning grant in 2007. The Holyoke Food and Fitness Collaborative and the Boston Collaborative were each awarded \$500,000 for two years to develop plans for engaging their communities in promotion of healthy eating and physical activity for children and families. The grant will support a variety of projects including those that address physical activity in schools, safety in public spaces, creation of community gardens, markets for affordable local and regionally grown foods, and safe paths for walkers and bicyclists. After successfully completing the planning process, each group will be eligible for implementation funding for up to an additional eight years.

#### *Community Wellness & Disparities Grants*

In 2007, the Massachusetts Department of Public Health awarded over 2 million dollars in grants to organizations across the Commonwealth to improve wellness and to reduce racial and ethnic disparities in health. The 21 community organizations that were awarded wellness grants were encouraged to develop and implement evidence-based and innovative interventions in one of three settings: school, workplace or community. Key activities centered on physical activity, healthy eating and oral health. The 42 recipients of disparities grants addressed a number of key issues, including racial and ethnic disparities related to nutrition and physical activity.

Examples of initiatives developed by grantees have included thus far: the development of community walking paths with appropriate signage, an after-school educational program on healthy eating and active living, improvements in school meals, in-home educational sessions and screenings for adults with diabetes or at

risk for diabetes, a health education and physical activity program for low income adults, expansion of a farmer’s market in a rural community, and implementation of a community-wide walking program.

#### **Schools**

##### *Healthy Choices*

*Healthy Choices* is a nutrition and physical activity program for middle schools developed by the Massachusetts Department of Public Health and implemented with the support of Blue Cross and Blue Shield of Massachusetts. The program engages parents, community and teachers to involve students in lifelong healthy eating and physical activity behaviors by:

1. Integrating an evidence-based nutrition and physical activity curriculum (Planet Health) into core subjects,
2. Improving the nutrition and physical activity environment and
3. Offering before/after school programs that give students opportunities to be physically active, that provide nutrition education and that promote the “5-2-1-0” message (Eat five or more fruits and vegetables a day, limit yourself to no more than two hours of screen time per day, do at least an hour of physical activity every day, and use no tobacco.)

*Healthy Choices* has been implemented in over 100 Massachusetts public middle schools where it has reached approximately 75,000 students. Students participating in *Healthy Choices* schools reported eating more fruits and vegetables, participating in more physical activity and watching less television than comparison schools.

##### *Waltham Wellness Project*

The Regional Center for Healthy Communities at Mount Auburn Hospital has partnered with the Waltham Public Schools to create The Waltham Wellness Project, an initiative to increase the consumption of fruits and vegetables by students and their families. The Waltham Wellness Project activities included the hiring of a chef to teach school food service staff how to prepare healthy meals using fresh fruits and vegetables. The Project also partnered with local farmers to introduce students

to fresh fruits and vegetables and brought students on field trips to local grocery stores to teach them how to purchase fruits and vegetables. In addition, students participated in the development and maintenance of a school garden and learned how to harvest, and then prepare and cook the vegetables. Parents received fliers with information on local farmers.

#### *Brockton Public Schools*

Brockton Public Schools is implementing a program at the B.B. Russell Alternative High School to increase student access to and use of locations for increased physical activity, promote overall wellness habits and establish collaboration between community organizations and agencies to encourage and support healthy behavior. A wellness team was established with representatives from the Wellness Department, Guidance, Nursing, Parent Outreach, Facilities and Food Services. After conducting an assessment of the school environment and policies, and students' needs and interests, the team:

- Created an indoor fitness room and a landscaped outdoor area for student use.
- Enrolled 22 students in a personal fitness program at the local YMCA.
- Conducted a quality assessment of the health curriculum and revised it to fit a skill-based model.
- Implemented an after-school wellness program and an in-house substance abuse intervention program.

#### **Worksite**

##### *Family Service Association of Fall River*

*Family Service Association of Fall River* (FSA), a social service agency, is partnering with local health, medical and fitness organizations to offer health improvement services to its employees. With the help of a grant from MDPH, FSA has been focusing its health improvement activities on four topics: nutrition, tobacco avoidance, exercise, and early detection and comprehensive health management. FSA has noted a number of successes. For example, their nutrition/weight loss program, a 12-week, lunch hour program succeeded in helping participating employees lose significant weight (a combined 160 pounds over 12 weeks). It also was effective in encouraging participants to focus on overall

health and fitness not just weight loss. The recognition and awards given to those who had lost weight may have contributed to the success. FSA also provided "Fitness Dollars" to those interested in fitness classes. Another success was the smoking cessation program. Despite low attendance, there was 100% success rate; all seven participants stopped smoking and remained smoke free for three months.

##### *Massachusetts Diabetes Prevention and Control Program* (at DPH)

*The Massachusetts Diabetes Prevention and Control Program* (MDPCP) partnered with several local organizations and employers in the Fall River/New Bedford area, a community known for high diabetes prevalence, to offer a worksite-based diabetes prevention lifestyle curriculum and to encourage policy and systems changes to promote employee health. The lifestyle curriculum was aimed at achieving a 5-7% weight loss through healthy eating and 150 minutes of physical activity weekly, which studies have shown can prevent or delay the onset of type 2 diabetes in people with prediabetes. The program also included on-site health risk assessments with lab screening, opportunities for employees to participate in a 9-week lifestyle intervention focused on healthy eating and physical activity, and promotion of a weekly physical activity such as brisk walking.

The participating businesses have continued to make a commitment to employee health by offering and highlighting healthier food selections in cafeterias, working with the local farmer's market to deliver fresh fruits and vegetables to employees, and sponsoring worksite-based weight loss programs. Following the initial worksite pilot, the lead partner, Diabetes Association, Inc., succeeded in bringing together key community stakeholders to expand the initiative region-wide. Currently, 13 employers from Bristol County have formed the SouthCoast Worksite Health Improvement Initiative, joining together to combine resources and learn from one another by sharing best practices on all aspects of employee health.

##### *Living Fitchburg*

The community action agency, Montachusett Opportunity Council Inc. (MOC), is teaming up with the city of

Fitchburg to implement *Living Fitchburg*, a worksite wellness program for MOC and city employees. MOC began the program with an assessment of employee nutrition and physical activity habits and concluded that employees needed more physical activity opportunities. So, MOC initiated a walking initiative. City officials mapped out a two-mile long walking route and joined MOC in kicking off a 12-week walking event called *Fun and Fit in Fitchburg*. Teams of employees were fitted with pedometers and encouraged to walk 10,000 steps daily with the goal of covering the mileage from Fitchburg to San Francisco over the 12-week period. MOC is exploring implementation of other healthy lifestyle strategies including increased insurance coverage for wellness activities and implementation of a healthy food/physical activity program developed by the Centers for Disease Control and Prevention.

## **Conclusion**

The health and economic implications of obesity are enormous. A concerted statewide effort to implement policy and systems changes at the state and local level is essential to successfully address overweight and obesity and related chronic conditions. Our schools, workplaces, health care facilities, communities and state government all need to be engaged in promoting healthy living for Massachusetts residents. “Mass in Motion” provides an opportunity to initiate a coordinated statewide approach to obesity prevention. Our residents deserve nothing less.

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## Appendix A: Description of Data Sources

### *Behavioral Risk Factor Surveillance System (BRFSS)*

The BRFSS survey is a cross-sectional, random digit-dial telephone survey of adults ages 18 years and older, administered annually. The survey is conducted nationally (including the District of Columbia and Puerto Rico) in collaboration with the Centers for Disease Control and Prevention and State Departments of Public Health. Conducted in Massachusetts since 1986, the BRFSS collects information on a variety of health characteristics, risk factors for chronic conditions and health-related behaviors.

### *Youth Health Survey (MA YHS)*

The Youth Health Survey is administered every other year by the Bureau of Substance Abuse Services of the Massachusetts Department of Public Health. The survey has primarily focused on drug, alcohol and tobacco use among sixth through twelfth grade students. In 2004 the survey was expanded in its scope to include questions on general health issues (physical and mental) and associated risk behaviors. The purpose of the survey is to produce an accurate picture of the entire spectrum of health related issues among Massachusetts public school children.

### *Massachusetts Youth Risk Behavior Survey (MAYRBS)*

The YRBS is a biannual survey of public high school students grades nine-twelve conducted nationally with funding from the Centers for Disease Control and Prevention (CDC). It monitors behaviors that can positively and negatively affect the health, well-being and safety of adolescents and young adults. The Massachusetts Department of Education administers the Massachusetts version (MAYRBS) statewide.

### *Ambulatory Management of Childhood Overweight Survey*

The Massachusetts Partnership for Healthy Weight, a statewide collaborative, in conjunction with the Overweight/Obesity Prevention and Control Initiative of the Massachusetts Department of Public Health, developed and conducted this survey. The goal was to identify pediatric overweight/obesity screening, diagnosis, and treatment practices and perceived barriers among Massachusetts-based clinicians. Baseline data collected could inform the development of interventions that target Massachusetts-specific clinical practice issues and behaviors.

### *Division of Community Health Promotion Inventories of Policies, Systems and Programs*

Between 2001 and 2002, the Division of Community Health Promotion of the Massachusetts Department of Public Health conducted three statewide assessments of existing health policies and programs within samples of Massachusetts healthcare sites, work sites, and cities/towns in conjunction with a research consultant, Ulrich Research Services, Inc.

### *Health Site/Managed Care Survey for Cardiovascular Disease Prevention and Care (Health Site Survey)*

The Massachusetts Cardiovascular Health Initiative of the Massachusetts Department of Public Health conducted an inventory of Massachusetts healthcare delivery sites between March and June of 2002. This mail survey was administered to physicians from multi-physician group practices, solo practices, community health centers, and hospital-based ambulatory clinics. Survey results provided baseline data on policies and systems that healthcare sites have in place to promote the prevention, treatment and control of cardiovascular disease, diabetes, and other related conditions. Additionally, current practices related to risk factors (physical inactivity, poor nutrition, tobacco use, high blood pressure and high cholesterol) were evaluated.

*Survey of Policies and Programs Related to Cardiovascular Health (Work Site Survey)*

Between October and November of 2001, the Massachusetts Cardiovascular Health Initiative of the Massachusetts Department of Public Health conducted a survey among Massachusetts business and non-profit organizations. The purpose of the survey was to obtain information on wellness-related policies and programs that promote good cardiovascular health in a variety of Massachusetts work settings. The survey sample was derived from Imarket's July-September 2001 Dun & Bradstreet Market Place database of 7,071 Massachusetts organizations with 50 or more employees. Organizations of this size constitute only about three percent of the total number of Massachusetts organizations, yet 50 percent of its employees. All major industry groups with a Standard Industrial Classification were represented in the database.

*Inventory of Policies and Programs Related to Health for Cities and Towns in Massachusetts (Cities and Towns Survey)*

Between June and August of 2002, the Division of Community Health Promotion conducted a baseline inventory of municipal policies and programs that promote healthy eating and active living. The study sample was selected using the 2001-2002 Massachusetts Municipal Association's Directory.

*School Health Profiles*

School Health Profiles was created by the Centers for Disease Control and prevention (CDC), in collaboration with the state and local education and health agencies. It helps state and local education and health agencies monitor and assess characteristics of and trends in a number of school health programs and policies related to a variety of topics including physical education, physical activity and competitive foods. Profiles includes state and local surveys of principals and lead health education teachers in middle and high schools.