

ISSUE REPORT

# F as in Fat:

## HOW OBESITY POLICIES ARE FAILING IN AMERICA

# 2007



 Trust for  
America's Health  
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## ACKNOWLEDEMENTS

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# Introduction

**O**besity has dominated media headlines over the past few years as the nation has begun to recognize it is a serious health crisis.

Two-thirds of American adults are obese or overweight, and in the past year, obesity rates have continued to rise in 31 states. Eighty-five percent of Americans believe that obesity is an epidemic, according to a new poll conducted by Trust for America's Health (TFAH).<sup>1</sup>

Poor nutrition and physical inactivity are increasing Americans' risk for developing major diseases, including type 2 diabetes, heart disease and stroke and some forms of cancer.<sup>2</sup>

But while the obesity epidemic has garnered increased attention, a comparable increase in action has yet to occur.

While many promising efforts are being initiated across the country, there is no national commitment to addressing the problem.

Researchers and practitioners know a lot about nutrition and exercise. There are well agreed upon standards for basic nutri-

tion and minimum levels of physical activity for sustaining good health.

However, much less is known about how to effectively encourage people to make healthy choices. Individuals are often told to take personal responsibility and lose weight. However, with two-thirds of American adults obese or overweight, many Americans are struggling with their weight. More than \$35 billion is spent annually on weight loss-related products and services.<sup>3</sup> Clearly, the strategy of focusing on personal responsibility alone is failing.

People do not make decisions in a vacuum. They are influenced by their relationships with family, friends, neighbors, and colleagues; their home, workplace, neighborhood, and school environments; their economic limitations; and their genetics, physiology, psychology, and life stages.

## OBESITY IS WEIGHING US DOWN: NATIONAL ACTION NEEDED

The country needs to develop a plan for combating obesity that is in proportion to the scope and depth of the problem. This will require focusing on strategies that will work on a wide scale.

The question is, is America willing to make the commitment needed to return to better health?

Today's children are likely to be the first generation to live shorter, less healthy lives than their parents. Approximately 25 million children are already obese or overweight.<sup>4</sup>

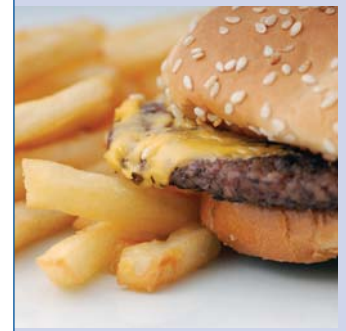
The crisis has an impact beyond individual health. U.S. economic competitiveness is hurting as our workforce becomes less

healthy and productive. Obesity related health care costs are draining dollars from the bottom line of businesses.

The future health of the country requires us to invest in changes that will make it easier to help people make healthier choices.

These include making changes to our schools, our workplaces, our homes, and our communities. The crisis requires everyone to engage: government at all levels, businesses -- big and small, health care providers, community groups, and families.

This fourth annual edition of the *F as in Fat: How Obesity Policies Are Failing in America* report explores both the current policy weak-



nesses and the new, grand scale changes that need to be considered to address the obesity crisis nationwide. While we need to make big changes to the places we live, work, and play to help improve our health, the good news is that research shows even small changes in individuals can have big health benefits.

Previous editions of the report have detailed how obesity and related disease rates have been climbing in the U.S. While it is a national problem, the Southern states experience higher rates than the rest of the nation, calling for increased attention on understanding the factors that contribute to these regional disparities.

The *F as in Fat* reports have examined a range of federal and state policies, including school nutrition and physical activity requirements, community approaches such as snack taxes, smart growth community design initiatives, and other public health programs. The reports have also reviewed intervention approaches to help inform the development of future strategies.

This year's report provides an update of trends in obesity rates and policies at the

federal and state level. It also offers an in depth examination of physical activity including a cost review, consensus-based recommendations and strategies to encourage activity, and a description of barriers that deter people from engaging in enough physical activity.

The report also includes findings about potential strategies for dealing with obesity from 2 surveys, one of on the ground experts and the other of average citizens. Chronic Disease Directors and Directors of Health Promotion and Education, who are on the ground experts, provide their assessment of different strategies for combating obesity, and Americans weigh in through a public opinion survey about the obesity epidemic and possible strategies for dealing with it.

The various policies and approaches discussed in the report help build a national evidence base for what efforts are effective as the country seeks improved strategies for addressing the obesity epidemic. These efforts provide information about ways to more effectively encourage people to make healthy choices.

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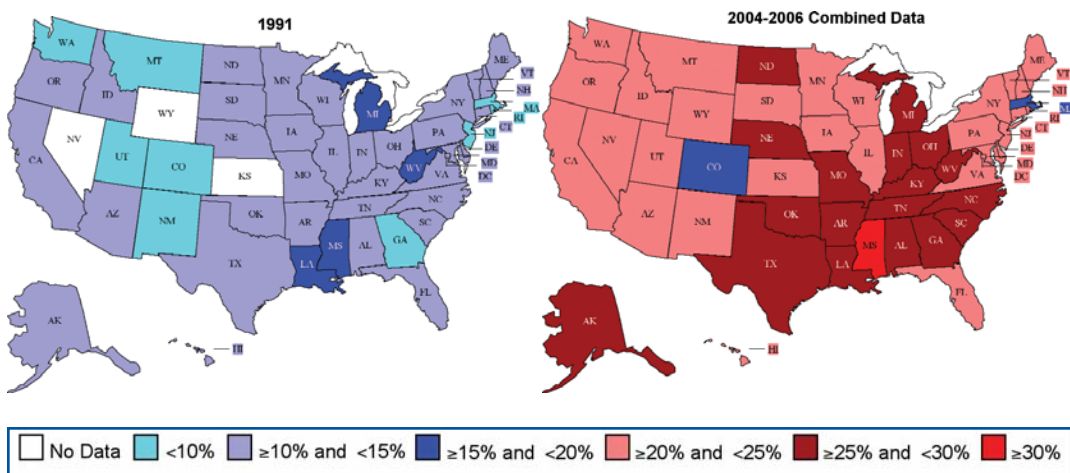
**Section 6: Public Opinion Survey: A public opinion survey about obesity and strategies for combating obesity; and**

**Section 7: Recommendations.**

# Obesity Rates and Related Trends

Two-thirds of American adults are either overweight or obese in America.<sup>5</sup> Adult obesity rates have grown from 15 percent in 1978-80 to 32 percent in 2003-04 based on a national survey.<sup>6</sup>

**OBESITY TRENDS\* AMONG U.S. ADULTS**  
**BRFSS, 1991 and 2004-2006 Combined Data**  
 (\*BMI >30, or about 30 lbs overweight for 5' 4" person)



\*Source: Behavioral Risk Factor Surveillance System, CDC.

## A. ADULT OBESITY AND OVERWEIGHT RATES

In the past year, obesity rates continued to rise in 31 states. Twenty-two of these states experienced an increase for the second year in a row. Obesity rates have not dropped in a single state.

Nearly one in 3 adults -- 30.6 percent -- are now reported to be obese in Mississippi, representing the first time adult obesity rates have exceeded 30 percent in a single state. Mississippi also has the highest adult hypertension rate, the highest rate of physical inactivity, the second highest rate of adult diabetes, and the highest rate of poverty (tied with D.C.).

Adult obesity rates currently exceed 25 percent in 19 states, an increase from 14 states last year.

Adult obesity rates exceed 20 percent in 47 states and D.C., an increase from 43 states and D.C. last year. In Colorado, the leanest state, adult obesity rates increased from 16.9 percent to 17.6 percent in the past year. The U.S. Department of Health and Human Services (HHS) set a national goal aiming to reduce adult obesity levels to 15 percent in every state by the year 2010.

# CHART ON OBESITY AND

## ADULTS

| States         | Obesity  |         |  | Overweight & Obesity                                | Diabetes  |         | Physical Inactivity                                 |         |
|----------------|--|---------|--|---|---|---------|---|---------|
|                | 2004-2006 3 Yr. Ave Percentage (95% Conf Interval) | Ranking | Percentage Point Change 2003-2005 to 2004-2006 | 2004-2006 3 Yr. Ave. Percentage (95% Conf Interval) | 2004-2006 3 Yr. Ave. Percentage (95% Conf Interval) | Ranking | 2004-2006 3 Yr. Ave. Percentage (95% Conf Interval) | Ranking |
| Alabama        | 29.4% (+/- 1.2)                                    | 3       | 0.7  | 64.7% (+/- 1.3)                                     | 9.3% (+/- 0.6)                                      | 5       | 29.5% (+/- 1.1)                                     | 5       |
| Alaska         | 25.8% (+/- 1.4)                                    | 16      | 0.9  | 63.7% (+/- 1.6)                                     | 4.8% (+/- 0.6)                                      | 50      | 21.1% (+/- 1.3)                                     | 39      |
| Arizona        | 21.7% (+/- 1.4)                                    | 43      | 0.9  | 57.3% (+/- 1.7)                                     | 7.6% (+/- 0.7)*                                     | 21      | 23.0% (+/- 1.4)                                     | 25      |
| Arkansas       | 27.0% (+/- 0.9)                                    | 8       | 0.6  | 63.7% (+/- 1.0)                                     | 7.8% (+/- 0.5)                                      | 16      | 28.6% (+/- 0.9)                                     | 7       |
| California     | 22.7% (+/- 0.9)                                    | 36      | 0.0  | 59.9% (+/- 1.0)                                     | 7.4% (+/- 0.5)                                      | 23      | 23.2% (+/- 0.9)                                     | 24      |
| Colorado       | 17.6% (+/- 0.7)*                                   | 51      | 0.8*   | 54.2% (+/- 0.9)*                                    | 4.8% (+/- 0.3)                                      | 50      | 17.8% (+/- 0.7)                                     | 48      |
| Connecticut    | 20.1% (+/- 0.7)*                                   | 47      | 0.5**  | 57.7% (+/- 1.0)*                                    | 6.3% (+/- 0.4)                                      | 42      | 20.0% (+/- 0.7)                                     | 42      |
| Delaware       | 23.6% (+/- 1.1)*                                   | 29      | 0.7**  | 62.2% (+/- 1.2)*                                    | 7.9% (+/- 0.6)                                      | 15      | 22.2% (+/- 1.0)^                                    | 31      |
| D.C.           | 22.2% (+/- 1.1)                                    | 40      | 0.7  | 55.0% (+/- 1.3)                                     | 7.8% (+/- 0.6)                                      | 16      | 22.3% (+/- 1.1)                                     | 30      |
| Florida        | 22.9% (+/- 0.8)*                                   | 34      | 1.1**  | 60.0% (+/- 0.9)                                     | 8.4% (+/- 0.5)                                      | 10      | 25.2% (+/- 0.8)^                                    | 15      |
| Georgia        | 26.1% (+/- 1.0)                                    | 14      | 0.6  | 61.4% (+/- 1.1)                                     | 8.3% (+/- 0.5)*                                     | 11      | 25.9% (+/- 0.9)                                     | 13      |
| Hawaii         | 20.1% (+/- 1.0)*                                   | 47      | 2.0*   | 54.5% (+/- 1.2)*                                    | 7.8% (+/- 0.6)                                      | 16      | 19.4% (+/- 0.9)                                     | 44      |
| Idaho          | 23.2% (+/- 0.8)                                    | 31      | 0.8  | 59.8% (+/- 1.0)                                     | 6.6% (+/- 0.4)                                      | 38      | 20.5% (+/- 0.8)*                                    | 40      |
| Illinois       | 24.4% (+/- 0.9)                                    | 25      | 0.5  | 60.7% (+/- 1.0)                                     | 7.4% (+/- 0.5)                                      | 23      | 24.3% (+/- 0.9)^                                    | 22      |
| Indiana        | 26.8% (+/- 0.8)                                    | 9       | 0.6  | 62.5% (+/- 0.9)                                     | 8.0% (+/- 0.4)                                      | 14      | 25.9% (+/- 0.7)                                     | 13      |
| Iowa           | 24.9% (+/- 0.8)                                    | 20      | 0.6  | 62.1% (+/- 1.0)                                     | 6.8% (+/- 0.4)                                      | 35      | 22.8% (+/- 0.8)                                     | 26      |
| Kansas         | 24.3% (+/- 0.6)*                                   | 27      | 1.1*   | 61.3% (+/- 0.8)                                     | 6.9% (+/- 0.3)*                                     | 34      | 23.4% (+/- 0.6)*                                    | 23      |
| Kentucky       | 27.5% (+/- 1.0)*                                   | 7       | 0.8**  | 64.9% (+/- 1.1)*                                    | 8.8% (+/- 0.5)*                                     | 8       | 30.6% (+/- 1.0)                                     | 3       |
| Louisiana      | 28.2% (+/- 0.9)                                    | 4       | 0.8  | 63.4% (+/- 1.0)                                     | 8.9% (+/- 0.5)                                      | 7       | 31.3% (+/- 0.9)                                     | 2       |
| Maine          | 23.0% (+/- 0.9)*                                   | 33      | 1.0*   | 60.1% (+/- 1.1)                                     | 7.3% (+/- 0.5)                                      | 27      | 21.6% (+/- 0.9)                                     | 36      |
| Maryland       | 24.4% (+/- 0.8)*                                   | 25      | 1.0**  | 60.1% (+/- 1.0)                                     | 7.4% (+/- 0.5)                                      | 23      | 22.6% (+/- 0.8)                                     | 27      |
| Massachusetts  | 19.8% (+/- 0.7)*                                   | 50      | 1.2**  | 55.3% (+/- 0.9)*                                    | 6.1% (+/- 0.3)                                      | 45      | 21.5% (+/- 0.7)                                     | 37      |
| Michigan       | 26.8% (+/- 0.8)*                                   | 9       | 1.2*   | 62.7% (+/- 0.9)*                                    | 8.3% (+/- 0.4)                                      | 11      | 22.5% (+/- 0.7)                                     | 28      |
| Minnesota      | 23.7% (+/- 1.0)                                    | 28      | 0.6  | 61.3% (+/- 1.1)                                     | 5.5% (+/- 0.4)                                      | 48      | 15.4% (+/- 0.8)                                     | 51      |
| Mississippi    | 30.6% (+/- 0.9)*                                   | 1       | 1.1**  | 66.5% (+/- 1.0)                                     | 10.1% (+/- 0.5)                                     | 2       | 31.6% (+/- 0.9)                                     | 1       |
| Missouri       | 26.3% (+/- 1.0)*                                   | 12      | 1.2**  | 62.8% (+/- 1.2)*                                    | 7.5% (+/- 0.5)                                      | 22      | 24.5% (+/- 1.0)                                     | 19      |
| Montana        | 20.7% (+/- 0.8)                                    | 45      | 0.8  | 58.0% (+/- 1.1)                                     | 6.0% (+/- 0.4)                                      | 46      | 20.2% (+/- 0.8)                                     | 41      |
| Nebraska       | 25.4% (+/- 0.8)*                                   | 18      | 1.0**  | 63.0% (+/- 0.9)*                                    | 7.0% (+/- 0.4)*                                     | 31      | 22.1% (+/- 0.7)                                     | 32      |
| Nevada         | 22.5% (+/- 1.3)*                                   | 37      | 1.5*   | 60.8% (+/- 1.5)*                                    | 7.0% (+/- 0.7)                                      | 31      | 26.1% (+/- 1.4)                                     | 12      |
| New Hampshire  | 22.4% (+/- 0.8)*                                   | 38      | 0.7**  | 59.5% (+/- 0.9)*                                    | 6.8% (+/- 0.4)*                                     | 35      | 19.9% (+/- 0.7)                                     | 43      |
| New Jersey     | 22.2% (+/- 0.6)*                                   | 40      | 0.8**  | 59.6% (+/- 0.7)*                                    | 7.3% (+/- 0.3)                                      | 27      | 27.3% (+/- 0.6)                                     | 9       |
| New Mexico     | 22.0% (+/- 0.8)*                                   | 42      | 0.8**  | 59.3% (+/- 1.0)*                                    | 7.1% (+/- 0.4)*                                     | 29      | 22.4% (+/- 0.8)                                     | 29      |
| New York       | 22.4% (+/- 0.8)                                    | 38      | 0.7  | 58.6% (+/- 0.9)                                     | 7.8% (+/- 0.5)                                      | 16      | 26.5% (+/- 0.8)                                     | 10      |
| North Carolina | 25.6% (+/- 0.5)*                                   | 17      | 0.9**  | 62.3% (+/- 0.6)                                     | 8.7% (+/- 0.3)*                                     | 9       | 24.7% (+/- 0.5)                                     | 18      |
| North Dakota   | 25.1% (+/- 1.0)                                    | 19      | 0.6  | 63.8% (+/- 1.1)                                     | 6.4% (+/- 0.5)                                      | 41      | 22.1% (+/- 0.9)                                     | 32      |
| Ohio           | 26.0% (+/- 1.2)*                                   | 15      | 1.1**  | 62.5% (+/- 1.3)                                     | 7.4% (+/- 0.6)^                                     | 23      | 24.4% (+/- 1.1)                                     | 20      |
| Oklahoma       | 26.8% (+/- 0.8)*                                   | 9       | 1.4**  | 62.9% (+/- 0.9)*                                    | 9.0% (+/- 0.4)*                                     | 6       | 29.4% (+/- 0.8)                                     | 6       |
| Oregon         | 23.3% (+/- 0.8)*                                   | 30      | 1.1**  | 59.8% (+/- 0.9)                                     | 6.7% (+/- 0.4)                                      | 37      | 17.4% (+/- 0.7)^                                    | 49      |
| Pennsylvania   | 24.5% (+/- 0.7)                                    | 23      | 0.1  | 61.4% (+/- 0.9)                                     | 8.2% (+/- 0.4)                                      | 13      | 24.4% (+/- 0.7)                                     | 20      |
| Rhode Island   | 20.5% (+/- 0.9)*                                   | 46      | 1.0**  | 58.8% (+/- 1.2)*                                    | 7.0% (+/- 0.5)                                      | 31      | 25.0% (+/- 1.0)                                     | 16      |
| South Carolina | 27.8% (+/- 0.7)*                                   | 5       | 1.6**  | 63.7% (+/- 0.8)*                                    | 9.4% (+/- 0.4)                                      | 3       | 24.8% (+/- 0.7)                                     | 17      |
| South Dakota   | 24.9% (+/- 0.8)*                                   | 20      | 0.9**  | 62.9% (+/- 1.0)*                                    | 6.5% (+/- 0.4)                                      | 40      | 21.8% (+/- 0.8)*                                    | 34      |
| Tennessee      | 27.8% (+/- 1.2)*                                   | 5       | 1.3*   | 63.9% (+/- 1.2)*                                    | 9.4% (+/- 0.6)                                      | 3       | 30.5% (+/- 1.1)                                     | 4       |
| Texas          | 26.3% (+/- 0.9)                                    | 12      | 0.5  | 63.1% (+/- 1.1)                                     | 7.8% (+/- 0.5)                                      | 16      | 27.4% (+/- 0.9)                                     | 8       |
| Utah           | 21.1% (+/- 0.8)                                    | 44      | 0.3  | 55.8% (+/- 1.1)                                     | 5.4% (+/- 0.4)                                      | 49      | 18.3% (+/- 0.8)                                     | 47      |
| Vermont        | 20.0% (+/- 0.6)                                    | 49      | 0.5  | 55.4% (+/- 0.8)                                     | 5.8% (+/- 0.3)                                      | 47      | 18.4% (+/- 0.6)                                     | 46      |
| Virginia       | 24.5% (+/- 1.0)*                                   | 23      | 1.1*   | 61.0% (+/- 1.2)*                                    | 7.1% (+/- 0.5)                                      | 29      | 21.7% (+/- 0.9)                                     | 35      |
| Washington     | 23.2% (+/- 0.5)*                                   | 31      | 0.8**  | 59.5% (+/- 0.5)*                                    | 6.6% (+/- 0.2)                                      | 38      | 17.3% (+/- 0.4)                                     | 50      |
| West Virginia  | 29.8% (+/- 1.0)*                                   | 2       | 1.1*   | 65.5% (+/- 1.1)*                                    | 11.1% (+/- 0.6)*                                    | 1       | 26.2% (+/- 1.0)^                                    | 11      |
| Wisconsin      | 24.8% (+/- 0.9)*                                   | 22      | 1.9**  | 61.8% (+/- 1.1)*                                    | 6.2% (+/- 0.4)                                      | 44      | 18.8% (+/- 0.8)                                     | 45      |
| Wyoming        | 22.8% (+/- 0.8)*                                   | 35      | 1.1**  | 60.2% (+/- 1.0)*                                    | 6.3% (+/- 0.4)                                      | 42      | 21.3% (+/- 0.8)                                     | 38      |

Source: Behavior Risk Factor Surveillance System (BRFSS), CDC. To stabilize BRFSS data in order to rank states, TFAH combined three years of data (See Appendix A for more information on the methodology used for the rankings.).

\* & Red indicates a statistically significant change (P < 0.05) from 2003-2005 to 2004-2006 (for Hypertension figures -- only collected every two years -- from 1999-2003 to 2001-2005).

\*\*State increased the past two years.

^ Statistically significant DECREASE.

Source: U.S. Census Bureau, Table 8 <<http://www.census.gov/hhes/www/poverty/poverty05/table8.html>>

# OVERWEIGHT IN THE STATES

## CHILDREN

| Hypertension   |         | Poverty  | 2005 YRBSS   |  |   | 2005 PedNSS   | 2003-04 National Survey of Children's Health |         |  |
|--|---------|--|--|--|---|---|--|---------|--|
| 2001-2005<br>3 Yr. Ave.<br>Percentage<br>(95% Conf Interval) | Ranking | 2003-2005<br>3 Yr. Ave.<br>Percentage<br>(90% Conf Interval) | Percentage<br>Overweight<br>High School<br>Students (95%<br>Conf Interval) | Percentage<br>High School Students At<br>Risk of Overweight<br>(95% Conf Interval) | Percentage<br>High School Students<br>Not Meeting<br>Recommended<br>Physical Activity Level | Percentage<br>Overweight<br>Low-Income<br>Children Ages 2-5 | Percentage<br>Overweight<br>Ages 10-17       | Ranking | Percentage Participating<br>in Physical Activity<br>≥20 mins 3 Days a Week<br>or More Ages 10-17 |
| 32.0% (+/- 1.1)  | 3       | 16.2% (+/- 1.5)  | 14.8% (+/- 1.7)  | 16.7% (+/- 1.6)  | 68%   | 12.9%   | 16.7%  | 11      | 77.6%  |
| 21.4% (+/- 1.2)  | 48      | 9.6% (+/- 1.3)   | N/A  | N/A  | N/A   | N/A   | 11.1%  | 44      | 75.5%  |
| 22.9% (+/- 1.1)*   | 44      | 14.4% (+/- 1.4)  | 11.9% (+/- 2.0)  | N/A  | 68%   | 14.7%   | 12.2%  | 38      | 72.7%  |
| 29.8% (+/- 0.9)  | 5       | 15.6% (+/- 1.6)  | 15.4% (+/- 1.9)  | N/A  | 69%   | 11.2%   | 16.4%  | 12      | 71.9%  |
| 24.1% (+/- 0.8)*   | 33      | 13.2% (+/- 0.6)  | N/A  | N/A  | N/A   | 15.9%   | 13.2%  | 32      | 74.9%  |
| 20.5% (+/- 0.9)  | 50      | 10.4% (+/- 1.3)  | 9.8% (+/- 2.8)   | 10.3% (+/- 2.3)  | N/A   | 8.5%  | 9.9%   | 49      | 70.4%  |
| 24.0% (+/- 0.7)*   | 35      | 9.2% (+/- 1.2)   | 11.2% (+/- 2.4)  | 14.7% (+/- 1.8)  | N/A   | 12.7%   | 12.3%  | 37      | 68.5%  |
| 27.7% (+/- 1.0)  | 12      | 8.5% (+/- 1.2)   | 14.1% (+/- 1.4)  | 15.1% (+/- 1.6)  | N/A   | N/A   | 14.8%  | 19      | 65.7%  |
| 27.1% (+/- 1.3)  | 15      | 18.3% (+/- 1.9)  | 10.6% (+/- 1.5)  | N/A  | N/A   | 13.5%   | 22.8%  | 1       | 62.1%  |
| 28.0% (+/- 0.9)  | 11      | 11.8% (+/- 0.7)  | 10.9% (+/- 1.0)  | 14.4% (+/- 1.2)  | N/A   | 13.3%   | 14.4%  | 21      | 68.9%  |
| 27.1% (+/- 0.9)  | 15      | 13.1% (+/- 1.1)  | 12.4% (+/- 2.1)  | 14.9% (+/- 1.9)  | 66%   | 14.3%   | 16.4%  | 12      | 69.1%  |
| 23.8% (+/- 0.9)  | 37      | 8.8% (+/- 1.2)   | 13.5% (+/- 1.9)  | 14.2% (+/- 1.9)  | 70%   | N/A   | 13.3%  | 29      | 75.2%  |
| 23.8% (+/- 0.8)  | 37      | 10.0% (+/- 1.3)  | 7.2% (+/- 1.6)   | 13.7% (+/- 2.4)  | 61%   | 10.0%   | 10.1%  | 47      | 70.5%  |
| 24.8% (+/- 0.9)  | 27      | 12.1% (+/- 0.8)  | N/A  | N/A  | N/A   | 12.3%   | 15.8%  | 14      | 71.1%  |
| 26.3% (+/- 0.8)  | 20      | 11.4% (+/- 1.1)  | 15.0% (+/- 2.5)  | 14.3% (+/- 1.3)  | N/A   | 11.9%   | 15.6%  | 15      | 70.7%  |
| 25.0% (+/- 0.8)  | 26      | 10.4% (+/- 1.3)  | 12.2% (+/- 2.8)  | 14.8% (+/- 2.1)  | 66%   | 14.1%   | 12.5%  | 35      | 74.8%  |
| 23.8% (+/- 0.7)*   | 37      | 11.6% (+/- 1.4)  | 11.9% (+/- 2.0)  | 13.3% (+/- 1.8)  | N/A   | 14.0%   | 14.0%  | 24      | 76.6%  |
| 29.4% (+/- 0.9)  | 7       | 15.6% (+/- 1.6)  | 15.6% (+/- 1.5)  | 17.0% (+/- 1.7)  | N/A   | 17.1%   | 20.6%  | 3       | 68.4%  |
| 28.6% (+/- 0.9)*   | 9       | 17.4% (+/- 1.6)  | N/A  | N/A  | N/A   | N/A   | 17.2%  | 9       | 75.2%  |
| 25.6% (+/- 1.0)  | 24      | 11.9% (+/- 1.4)  | 10.9% (+/- 1.7)  | 14.4% (+/- 2.2)  | N/A   | N/A   | 12.7%  | 34      | 67.3%  |
| 25.8% (+/- 0.8)  | 21      | 9.4% (+/- 1.1)   | 12.6% (+/- 2.1)  | 16.1% (+/- 2.0)  | N/A   | 13.3%   | 13.3%  | 29      | 61.7%  |
| 23.8% (+/- 0.7)*   | 37      | 9.9% (+/- 1.0)   | 11.2% (+/- 2.0)  | 15.6% (+/- 1.5)  | N/A   | 14.9%   | 13.6%  | 27      | 67.6%  |
| 27.3% (+/- 0.8)*   | 13      | 12.2% (+/- 0.9)  | 12.1% (+/- 2.2)  | 13.5% (+/- 2.0)  | N/A   | 12.3%   | 14.5%  | 20      | 69.6%  |
| 22.1% (+/- 0.9)  | 47      | 7.5% (+/- 1.0)   | N/A  | N/A  | N/A   | 13.1%   | 10.1%  | 47      | 72.8%  |
| 32.7% (+/- 1.0)  | 1       | 18.3% (+/- 1.7)  | N/A  | N/A  | N/A   | N/A   | 17.8%  | 8       | 69.4%  |
| 27.1% (+/- 1.0)*   | 15      | 11.5% (+/- 1.2)  | 13.9% (+/- 2.4)  | 15.9% (+/- 1.8)  | 64%   | 11.8%   | 15.6%  | 15      | 72.1%  |
| 24.0% (+/- 1.0)  | 35      | 14.4% (+/- 1.6)  | 9.3% (+/- 1.3)   | 12.8% (+/- 1.2)  | 69%   | 12.8%   | 11.1%  | 44      | 76.4%  |
| 23.6% (+/- 0.8)*   | 42      | 9.6% (+/- 1.3)   | 11.0% (+/- 1.2)  | 13.8% (+/- 1.4)  | 64%   | 12.9%   | 11.9%  | 41      | 74.2%  |
| 24.6% (+/- 1.4) ^  | 30      | 10.8% (+/- 1.3)  | N/A  | N/A  | N/A   | 14.2%   | 12.4%  | 36      | 72.6%  |
| 22.9% (+/- 0.8)  | 44      | 5.6% (+/- 1.0)   | 11.4% (+/- 2.2)  | 13.2% (+/- 2.2)  | 57%   | 15.5%   | 12.9%  | 33      | 68.1%  |
| 25.7% (+/- 0.6)  | 22      | 7.8% (+/- 0.8)   | 11.4% (+/- 2.7)  | 15.4% (+/- 2.6)  | N/A   | 16.5%   | 13.7%  | 26      | 66.8%  |
| 21.4% (+/- 0.8)*   | 48      | 17.5% (+/- 1.8)  | 12.0% (+/- 2.2)  | 14.6% (+/- 1.9)  | N/A   | 10.8%   | 16.8%  | 10      | 69.9%  |
| 25.6% (+/- 0.8)*   | 24      | 14.6% (+/- 0.8)  | 10.5% (+/- 1.4)  | 17.1% (+/- 1.5)  | 70%   | 12.2%   | 15.3%  | 18      | 68.2%  |
| 28.4% (+/- 0.8)*   | 10      | 14.4% (+/- 1.1)  | 13.5% (+/- 2.5)  | 15.7% (+/- 1.7)  | 54%   | 14.7%   | 19.3%  | 5       | 74.4%  |
| 23.8% (+/- 0.9) ^  | 37      | 10.2% (+/- 1.3)  | 11.2% (+/- 2.4)  | 12.8% (+/- 1.6)  | N/A   | 13.6%   | 12.1%  | 39      | 75.4%  |
| 26.7% (+/- 1.0)  | 19      | 11.6% (+/- 0.9)  | 12.7% (+/- 2.7)  | 14.7% (+/- 2.3)  | N/A   | N/A   | 14.2%  | 22      | 69.9%  |
| 28.8% (+/- 0.8)*   | 8       | 13.1% (+/- 1.4)  | 15.2% (+/- 2.0)  | 15.9% (+/- 2.1)  | 62%   | N/A   | 15.4%  | 17      | 73.3%  |
| 24.2% (+/- 0.8)  | 32      | 12.1% (+/- 1.4)  | N/A  | N/A  | N/A   | N/A   | 14.1%  | 23      | 77.0%  |
| 27.3% (+/- 0.8)*   | 13      | 11.0% (+/- 0.8)  | N/A  | N/A  | N/A   | 11.0%   | 13.3%  | 29      | 67.9%  |
| 26.9% (+/- 0.9)*   | 18      | 11.7% (+/- 1.4)  | 12.9% (+/- 1.7)  | 15.2% (+/- 1.9)  | N/A   | N/A   | 11.9%  | 41      | 63.8%  |
| 29.7% (+/- 0.8)*   | 6       | 14.2% (+/- 1.5)  | 12.7% (+/- 2.9)  | 13.7% (+/- 2.9)  | 70%   | 13.0%   | 18.9%  | 7       | 67.5%  |
| 24.7% (+/- 0.7)  | 29      | 12.7% (+/- 1.3)  | 10.4% (+/- 2.1)  | 14.0% (+/- 1.6)  | N/A   | 13.6%   | 12.1%  | 39      | 73.2%  |
| 29.9% (+/- 1.1)  | 4       | 15.0% (+/- 1.4)  | 14.6% (+/- 2.6)  | 17.5% (+/- 2.4)  | 66%   | 11.4%   | 20.0%  | 4       | 65.1%  |
| 24.8% (+/- 0.7)  | 27      | 16.5% (+/- 0.8)  | 13.9% (+/- 1.6)  | 15.0% (+/- 1.8)  | 64%   | 15.2%   | 19.1%  | 6       | 73.9%  |
| 19.8% (+/- 0.9) ^  | 51      | 9.4% (+/- 1.2)   | 5.6% (+/- 1.7)   | 11.1% (+/- 2.2)  | 64%   | 7.6%  | 8.5%   | 51      | 71.7%  |
| 22.8% (+/- 0.7)*   | 46      | 8.0% (+/- 1.2)   | 9.5% (+/- 2.1)   | 13.8% (+/- 1.3)  | N/A   | 11.7%   | 11.3%  | 43      | 73.5%  |
| 25.7% (+/- 0.9)*   | 22      | 9.5% (+/- 1.0)   | N/A  | N/A  | N/A   | 21.5%   | 13.8%  | 25      | 72.5%  |
| 24.1% (+/- 0.6)  | 33      | 11.4% (+/- 1.2)  | N/A  | N/A  | N/A   | N/A   | 10.8%  | 46      | 72.9%  |
| 32.5% (+/- 1.0)  | 2       | 15.6% (+/- 1.4)  | 14.5% (+/- 2.2)  | 16.0% (+/- 2.6)  | N/A   | 10.9%   | 20.9%  | 2       | 77.1%  |
| 24.5% (+/- 0.9)  | 31      | 10.8% (+/- 1.2)  | 9.9% (+/- 1.6)   | 13.7% (+/- 1.6)  | 65%   | 12.3%   | 13.5%  | 28      | 75.1%  |
| 23.2% (+/- 0.8)  | 43      | 10.1% (+/- 1.4)  | 8.4% (+/- 1.1)   | 12.3% (+/- 1.4)  | N/A   | 8.0%  | 8.7%   | 50      | 76.8%  |

Source: Youth Risk Factor Surveillance System (YRBSS), CDC. YRBSS data are collected every two years. Percentages are as reported on the CDC website and can be found at <<http://www.cdc.gov/healthyyouth/yrbss.index>>. Note that CDC defines overweight among children as at or above the 95th percentile for Body Mass Index (BMI). At Risk for Overweight is defined as at or above the 85th percentile, but below the 95th, for BMI. Physical activity data can be found on state fact sheets at <<http://www.cdc.gov/healthyyouth/overweight/facts.htm>>.

Source: Current National PedNSS Tables, number 6D, available at: <[http://www.cdc.gov/pednss/pednss\\_tables/pdf/national\\_table6.pdf](http://www.cdc.gov/pednss/pednss_tables/pdf/national_table6.pdf)>.

Source: National Survey of Children's Health, 2003. Overweight and Physical Activity Among Children: A Portrait of States and the Nation 2005, Health Resources and Services Administration, Maternal and Child Health Bureau.

Southern states continue to dominate the top 15 most obese states. Mississippi remained the most obese in the nation, while West Virginia replaced Alabama as the second most obese state.

| States with Highest Obesity Rates |                |  |
|-----------------------------------|----------------|--|
| Ranking                           | State          | Percentage of Adult Obesity<br>(Based on 2004-2006 Combined Data,<br>Including Confidence Intervals) |
| 1                                 | Mississippi    | 30.6% (+/- 0.9)  |
| 2                                 | West Virginia  | 29.8% (+/- 1.0)  |
| 3                                 | Alabama        | 29.4% (+/- 1.2)  |
| 4                                 | Louisiana      | 28.2% (+/- 0.9)  |
| 5 (tie)                           | South Carolina | 27.8% (+/- 0.7)  |
| 5 (tie)                           | Tennessee      | 27.8% (+/- 1.2)  |
| 7                                 | Kentucky       | 27.5% (+/- 1.0)  |
| 8                                 | Arkansas       | 27.0% (+/- 0.9)  |
| 9 (tie)                           | Indiana        | 26.8% (+/- 0.8)  |
| 9 (tie)                           | Michigan       | 26.8% (+/- 0.8)  |
| 9 (tie)                           | Oklahoma       | 26.8% (+/- 0.8)  |
| 12 (tie)                          | Missouri       | 26.3% (+/- 1.0)  |
| 12 (tie)                          | Texas          | 26.3% (+/- 0.9)  |
| 14                                | Georgia        | 26.1% (+/- 1.0)  |
| 15                                | Ohio           | 26.0% (+/- 1.2)  |

Northeastern and Western states dominated those states with the lowest rates of obesity.

| States With the Lowest Obesity Rates |               |  |
|--------------------------------------|---------------|--|
| Rank                                 | State         | Percentage of Adult Obesity<br>(Based on 2004-2006 Combined Data,<br>Including Confidence Intervals) |
| 51                                   | Colorado      | 17.6% (+/- 0.7)  |
| 50                                   | Massachusetts | 19.8% (+/- 0.7)  |
| 49                                   | Vermont       | 20.0% (+/- 0.6)  |
| 47 (tie)                             | Connecticut   | 20.1% (+/- 0.7)  |
| 47 (tie)                             | Hawaii        | 20.1% (+/- 1.0)  |
| 46                                   | Rhode Island  | 20.5% (+/- 0.9)  |
| 45                                   | Montana       | 20.7% (+/- 0.8)  |
| 44                                   | Utah          | 21.1% (+/- 0.8)  |
| 43                                   | Arizona       | 21.7% (+/- 1.4)  |
| 42                                   | New Mexico    | 22.0% (+/- 0.8)  |

The rate of combined overweight and obese adults now exceeds 60 percent in 32 states. Mississippi has the highest rate of adults who are either overweight or obese at 66.5 percent. The other top 5 states include

West Virginia at 65.5 percent, Kentucky at 64.9 percent, Alabama at 64.7 percent, and North Dakota at 63.8 percent. Colorado has the lowest rate at 54.2 percent.

### Rates and Rankings Methodology

This study compares 2003-2005 to 2004-2006 data in order to stabilize the data by using large enough sample sizes for comparisons between states and over time based on the advice of officials from the U.S. Centers for Disease Control and Prevention (CDC). In order for a state rate to be considered an increase, the change must reach a level of what experts consider to be statistically significant ( $p < 0.05$ ) for the particular sample size of that state.

D.C. is included in the state rankings, since CDC funds D.C. to conduct a survey in an equivalent way to the states.

The data are based on telephone surveys conducted by state health departments with assistance from CDC where individuals self-report their weight and height. Researchers then use these stats to calculate body mass index (BMI) to determine obesity or overweight. Since the survey is based on self-reporting, experts feel the rates are likely to be slightly underreported, since individuals tend to underreport their weight and overreport their height.

More information about the methodology of the rankings is available in Appendix A.

### DEFINITIONS OF OBESITY AND OVERWEIGHT

Obesity is defined as an excessively high amount of body fat or adipose tissue in relation to lean body mass.<sup>7</sup> Overweight refers to increased body weight in relation to height, which is then compared to a standard of acceptable weight.<sup>8</sup> Body mass index, or BMI, is a common measure expressing the relationship (or ratio) of weight-to-height. It is a mathematical formula:

$$\text{BMI} = \frac{\text{(Weight in pounds)}}{\text{(Height in inches)} \times \text{(Height in inches)}} \times 703$$

Adults with a BMI of 25 to 29.9 are considered overweight, while individuals with a BMI of 30 or more are considered obese. The National Institutes of Health (NIH) adopted a lower optimal weight threshold in June 1998. Previously, the federal government defined overweight as a BMI of 28 for men and 27 for women.

For children and youth, overweight is defined as at or above the 95 percentile of BMI for a person's age. At risk for being overweight is at or above the 85th percentile, but below the 95th percentile. Overweight is typically used for assessing trends for children and youth rather than obesity. For instance, children and youth are categorized as overweight but not obese in the National Survey of Children's Health (NSCH), the Youth Risk Behavior Surveillance Survey (YRBSS), and the Pediatric Nutrition Surveillance Survey (PedNSS).

There are some issues and disputes surrounding the use of BMI as the primary measure for obesity.

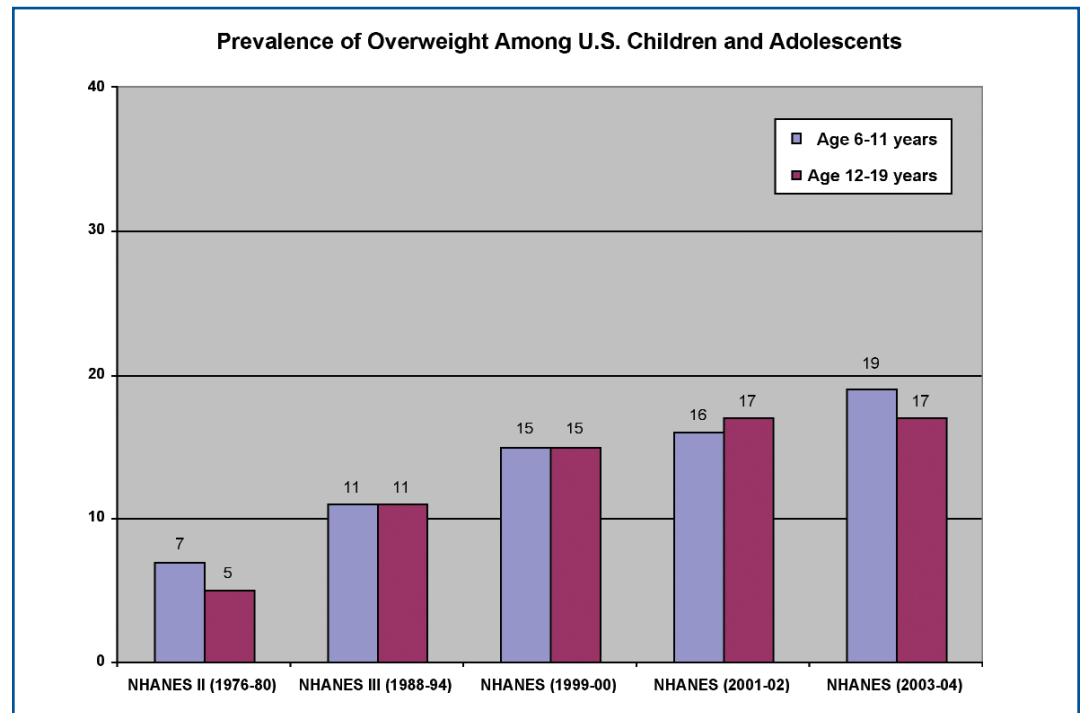
- For instance, it does not distinguish between fat and muscle, and individuals with a significant amount of lean muscle will have large BMIs, which do not indicate an unhealthy level of fat.
- Other research has shown that those of African and/or Polynesian ancestry may have less body fat and more lean muscle mass, suggesting higher baseline BMIs for overweight and obesity.<sup>9</sup>
- Research has also found that there may be race or ethnicity issues in BMI measurements. A June 2005 study found that current BMI thresholds "significantly underestimate health risks in many non-Europeans."<sup>10</sup> Asian and Aboriginal groups, despite "healthy" BMIs, had high risk of "weight related health problems."<sup>11</sup> Several years ago, it was suggested to the World Health Organization (WHO) that BMI levels be dropped to 23 and 25 for overweight and obesity, respectively, among Asian populations, but no such changes have occurred.

Examining BMI levels is considered useful by a number of researchers for examining trends and patterns of overweight and obesity. However, many experts recommend assessing an individual's health should include the consideration of other factors beyond BMI, such as waist size, waist-to-hip ratio, blood pressure, cholesterol level, and blood sugar.<sup>12</sup>

Recently, an expert panel consisting of 15 health organizations recommended that physicians and allied healthcare providers perform, at a minimum, a yearly assessment of weight status in all children, and that this assessment include calculation of height, weight, and BMI for age and plot of those measures on a standard growth chart.<sup>13</sup>

## B. CHILDHOOD AND YOUTH OVERWEIGHT RATES

The rate of childhood obesity more than tripled from 1980 to 2004. Approximately 25 million children are now either obese or overweight.<sup>14</sup>



### I. Study of 10 to 17 Year Olds

According to a 2003-2004 National Survey of Children's Health (NSCH), 14.8 percent of youth ages 10 to 17 are overweight. This study is based on a survey of parents in each

state. The rates ranged from a low of 8.5 percent in Utah to 22.8 percent in D.C. Eight of the 10 states with the highest rates of overweight children are in the South.

| States With Highest Rates of Overweight 10 to 17 Year Olds |                |   |
|--|----------------|---|
| Ranking  | States         | Percentage of Overweight 10 to 17 Year Olds |
| 1  | D.C.           | 22.8%                                       |
| 2  | West Virginia  | 20.9%                                       |
| 3  | Kentucky       | 20.6%                                       |
| 4  | Tennessee      | 20.0%                                       |
| 5  | North Carolina | 19.3%                                       |
| 6  | Texas          | 19.1%                                       |
| 7  | South Carolina | 18.9%                                       |
| 8  | Mississippi    | 17.8%                                       |
| 9  | Louisiana      | 17.2%                                       |
| 10   | New Mexico     | 16.8%                                       |

Six of the states with the lowest rates of overweight 10 to 17 year olds are in the West.

| States With Lowest Rates of Overweight 10 to 17 Year Olds |              |  |
|---|--------------|--|
| Ranking   | States       | Percentage of Overweight 10-17 Year Olds |
| 51  | Utah         | 8.5%                                     |
| 50  | Wyoming      | 8.7%                                     |
| 49  | Colorado     | 9.9%                                     |
| 47 (tie)  | Idaho        | 10.1%                                    |
| 47 (tie)  | Minnesota    | 10.1%                                    |
| 46  | Washington   | 10.8%                                    |
| 44 (tie)  | Alaska       | 11.1%                                    |
| 44 (tie)  | Montana      | 11.1%                                    |
| 43  | Vermont      | 11.3%                                    |
| 41 (tie)  | Nebraska     | 11.9%                                    |
| 41 (tie)  | Rhode Island | 11.9%                                    |

### *Methodology of the National Survey of Children's Health*

NSCH was fielded using the State and Local Area Integrated Telephone Survey (SLAITS) mechanism, conducted by the National Center for Health Statistics, using the same random digit dial sampling frame as the National Immunization Survey.<sup>15</sup> Data were collected from the parent or guardian “who was most knowledgeable about the health and health care of children under 18 years of age” in the household from January of 2003 to July of 2004.

Overall, 102,353 interviews were completed with a response rate ranging from near 50 percent to near 65 percent, depending on states. Data were weighted according to a variety of socio-economic measures to ensure an accurate picture of the population. State level estimates have a margin of error of up to 3 percent, and “small differences between survey estimates may be due to random survey error,” rather than actual differences in measurement.

## 2. Study of High School Students

According to the Youth Risk Behavior Surveillance – United States 2005 survey of high school students conducted every other year by states, 13.1 percent are overweight and 15.7 percent are at risk for becoming

overweight.<sup>16</sup> Overweight rates range from 5.6 percent in Utah to 15.6 percent in Kentucky, with a median rate of 12 percent. Thirty-nine states and D.C. participate in the survey.

| Overweight Rates of High School Students by Gender |       |
|--|-------|
| Male students                                      | 16.0% |
| Female students                                    | 10.0% |
| Total average                                      | 13.1% |

| Overweight Rates of High School Students by Race |       |
|--|-------|
| Hispanic students                                | 16.8% |
| Black students                                   | 16.0% |
| White students                                   | 11.8% |
| Total average                                    | 13.1% |

### Overweight Rates of High School Students By Gender and Race

|                          |       |                        |       |
|--------------------------|-------|------------------------|-------|
| Hispanic female students | 12.1% | Hispanic male students | 21.3% |
| Black female students    | 16.1% | Black male students    | 15.9% |
| White female students    | 8.2%  | White male students    | 15.2% |
| Total average            | 13.1% | Total average          | 13.1% |

#### *Methodology for the Youth Risk Behavior Surveillance System*

The Youth Risk Behavior Surveillance System (YRBSS) is similar to the BRFSS; it monitors the prevalence of youth behaviors that influence health. The YRBSS includes national, state, and local Youth Risk Behavior Surveys (YRBS) of high school students. The data in this report are from state and local YRBS that is reported to CDC. These surveys use a 2 stage cluster sample design to produce a representative sample of 9th through 12th grade students in each participating state. Results are not available from every state because

some do not conduct a YRBS (in 2005: CA, LA, MN, PA, VA, and WA), and some states that do conduct a YRBS did not achieve a high enough overall response rate (in 2005: AK, IL, MS, OR). In some cases, questions asked by states may vary. Data are collected every 2 years. TFAH reported percentage of high school overweight and 95 percent confidence intervals as listed on CDC's website <<http://www.cdc.gov/healthyyouth/yrbs.index.htm>>.

### 3. Study of Low-income Children Ages 2 to 5

A 2005 survey of low-income children ages 2 to 5 called the Pediatric Nutrition Surveillance Survey (PedNSS) found that 14.7 percent of

these children are overweight. Thirty-nine states and D.C. participated in the survey.

#### *Methodology for the Pediatric Nutrition Surveillance Survey*

TFAH used PedNSS data as a snapshot of overweight among low-income pre-school aged children. These data are collected at public health clinics across the country, are aggregated

by the state, territorial, and tribal governments, and then reported to and published by the CDC. Data are collected yearly and are available at <<http://www.cdc.gov/pednss>>.

## C. PHYSICAL INACTIVITY IN ADULTS

The CDC health survey of states includes the question, “During the past month, did you engage in any physical activities?” In 2006, more than 22 percent of Americans said they did not engage in any physical activity.<sup>17</sup>

The BRFSS survey also asks individuals whether they participate in either 30 minutes or more of moderate physical activity 5 or more days per week, or 20 minutes or more of vigorous physical activity 3 or more days per week. The minimum level is comparable to walking 2 miles at 3 to 4 miles per hour. The 2005 BRFSS survey found that more than half

of adults report they do not participate in either level of physical activity.<sup>18</sup>

Rates of physical inactivity and obesity have a strong statistical correlation, according to an analysis performed on behalf of TFAH by researchers from the Department of Health Management and Policy at the University of Michigan School of Public Health. For the 2004 to 2006 data, the correlation is 0.52 and the calculated p-value is 0.0001.<sup>19</sup>

Mississippi, the state with the highest obesity rate, also had the highest reported rate of physical inactivity in the country at 31.6 percent.

**States With the Highest Rates of Physical Inactivity**

| Ranking | State       | Percentage of Adult Physical Inactivity (Based on 2004-2006 Combined Data, Including Confidence Intervals) | Obesity Ranking |
|---------|-------------|--|-----------------|
| 1       | Mississippi | 31.6% (+/- 0.9)  | 1               |
| 2       | Louisiana   | 31.3% (+/- 0.9)  | 4               |
| 3       | Kentucky    | 30.6% (+/- 1.0)  | 7               |
| 4       | Tennessee   | 30.5% (+/- 1.1)  | 5               |
| 5       | Alabama     | 29.5% (+/- 1.1)  | 3               |
| 6       | Oklahoma    | 29.4% (+/- 0.8)  | 9               |
| 7       | Arkansas    | 28.6% (+/- 0.9)  | 8               |
| 8       | Texas       | 27.4% (+/- 0.9)  | 12              |
| 9       | New Jersey  | 27.3% (+/- 0.6)  | 40              |
| 10      | New York    | 26.5% (+/- 0.8)  | 38              |

Minnesota had the lowest rates of physical inactivity at 15.4 percent.

**States With the Lowest Rates of Physical Inactivity**

| Ranking | State         | Percentage of Adult Physical Inactivity (Based on 2004-2006 Combined Data, Including Confidence Intervals) | Obesity Ranking |
|---------|---------------|--|-----------------|
| 51      | Minnesota     | 15.4% (+/- 0.8)  | 28              |
| 50      | Washington    | 17.3% (+/- 0.4)  | 31              |
| 49      | Oregon        | 17.4% (+/- 0.7)  | 30              |
| 48      | Colorado      | 17.8% (+/- 0.7)  | 51              |
| 47      | Utah          | 18.3% (+/- 0.8)  | 44              |
| 46      | Vermont       | 18.4% (+/- 0.6)  | 49              |
| 45      | Wisconsin     | 18.8% (+/- 0.8)  | 22              |
| 44      | Hawaii        | 19.4% (+/- 0.9)  | 47              |
| 43      | New Hampshire | 19.9% (+/- 0.7)  | 38              |
| 42      | Connecticut   | 20.0% (+/- 0.7)  | 47              |

## D. DIABETES AND HYPERTENSION

Obesity and physical inactivity have been shown to be related to a range of health problems, including diabetes and hypertension. Eight of the 10 states with the highest rates of adult diabetes are also in the top 15

states with the highest obesity rates, and 9 of the 10 states with the highest rates of adult hypertension are also in the top 15 states with the highest rates of obesity.

### 1. Diabetes

West Virginia had the highest rate of adult diabetes (11.1 percent), while Alaska and Colorado had the lowest rates (4.8 percent).

Nine of the 10 states with the highest rates of diabetes are in the South.

| States With the Highest Rates of Adult Diabetes |                |   |                 |
|---|----------------|---|-----------------|
| Ranking   | State          | Percentage of Adult Diabetes<br>(Based on 2004-2006 Combined<br>Data, Including Confidence Intervals) | Obesity Ranking |
| 1   | West Virginia  | 11.1% (+/- 1.0)   | 2               |
| 2   | Mississippi    | 10.1% (+/- 0.5)   | 1               |
| 3 (tie)   | South Carolina | 9.4% (+/- 0.4)  | 5 (tie)         |
| 3 (tie)   | Tennessee      | 9.4% (+/- 0.6)  | 5 (tie)         |
| 5   | Alabama        | 9.3% (+/- 0.6)  | 3               |
| 6   | Oklahoma       | 9.0% (+/- 0.4)  | 9               |
| 7   | Louisiana      | 8.9% (+/- 0.5)  | 4               |
| 8   | Kentucky       | 8.8% (+/- 0.5)  | 7               |
| 9   | North Carolina | 8.7% (+/- 0.3)  | 17              |
| 10  | Florida        | 8.4% (+/- 0.5)  | 34              |

### 2. Hypertension

Mississippi had the highest rate of adult hypertension at 32.7 percent, while Utah

had the lowest at 19.8 percent. Nine of the top 10 states are in the South.

| States with Highest Rates of Adult Hypertension |                |  |                 |
|---|----------------|--|-----------------|
| Ranking   | State          | Percentage of Adult Hypertension<br>(Based on 2001-2005 Combined<br>Data, Including Confidence Intervals)<br>Based on a Survey Conducted Every<br>Other Year | Obesity Ranking |
| 1   | Mississippi    | 32.7% (+/- 1.0)  | 1               |
| 2   | West Virginia  | 32.5% (+/- 1.0)  | 2               |
| 3   | Alabama        | 32.0% (+/- 1.1)  | 3               |
| 4   | Tennessee      | 29.9% (+/- 1.1)  | 5 (tie)         |
| 5   | Arkansas       | 29.8% (+/- 0.9)  | 8               |
| 6   | South Carolina | 29.7% (+/- 0.8)  | 5 (tie)         |
| 7   | Kentucky       | 29.4% (+/- 0.9)  | 7               |
| 8   | Oklahoma       | 28.8% (+/- 0.8)  | 9               |
| 9   | Louisiana      | 28.6% (+/- 0.9)  | 4               |
| 10  | North Carolina | 28.4% (+/- 0.8)  | 17              |

## E. OBESITY AND POVERTY

Obesity rates also appear to have some relationship with poverty rates in many states with some notable exceptions. Eight of the 10 states with the highest rates of poverty are in the South, where obesity rates are also

higher, many of the states with the lowest poverty rates are among the states with the lowest obesity rates. Eight of the states with the highest poverty rates are also in the top 15 states with the highest obesity rates.

**States with the Highest Poverty Rates**

| Poverty Ranking | State         | Percentage of Poverty (Based on 2004-2006 Combined Data with a 90 percent Confidence Interval) | Obesity Ranking |
|-----------------|---------------|--|-----------------|
| 1 (tie)         | D.C.          | 18.3%  | 40              |
| 1 (tie)         | Mississippi   | 18.3%  | 1               |
| 3               | New Mexico    | 17.5%  | 42              |
| 4               | Louisiana     | 17.4%  | 4               |
| 5               | Texas         | 16.5%  | 12              |
| 6               | Alabama       | 16.2%  | 3               |
| 7 (tie)         | Arkansas      | 15.6%  | 8               |
| 7 (tie)         | Kentucky      | 15.6%  | 7               |
| 7 (tie)         | West Virginia | 15.6%  | 2               |
| 10              | Tennessee     | 15.0%  | 5               |

**States with the Lowest Poverty Rates**

| Poverty Ranking | State         | Percentage of Poverty (Based on 2004-2006 Combined Data with a 90 percent Confidence Interval) | Obesity Ranking |
|-----------------|---------------|--|-----------------|
| 51              | New Hampshire | 5.6%   | 38              |
| 50              | Minnesota     | 7.5%   | 28              |
| 49              | New Jersey    | 7.8%   | 40              |
| 48              | Vermont       | 8.0%   | 49              |
| 47              | Delaware      | 8.5%   | 29              |
| 46              | Hawaii        | 8.8%   | 47 (tie)        |
| 45              | Connecticut   | 9.2%   | 47 (tie)        |
| 43 (tie)        | Maryland      | 9.4%   | 25              |
| 43 (tie)        | Utah          | 9.4%   | 44              |
| 42              | Virginia      | 9.5%   | 23              |

## WHY NATIONAL AND STATE DATA ARE DIFFERENT: 2 SURVEYS

The CDC conducts 2 separate information surveys about health statistics.

The **National Health and Nutrition Examination Survey (NHANES)** is designed to study national trends and data.

The **Behavior Risk Factor Surveillance Survey (BRFSS)** studies trends and data in each state.

The 2 studies collect information in different ways and, therefore, have different results. The BRFSS numbers are usually lower, because the survey design is based on self-reported information, whereas NHANES data are collected through in person interviews and physician examinations. The number typically cited for the national adult obesity rate is 32 percent using the NHANES data. This number is higher than the estimated percentage for many states, which use BRFSS.

NHANES is a nationally representative survey in which data are collected in in person interviews and examinations by physicians. Obesity is calculated using actual height and weight measurements, rather than self-reported data; because of this, the NHANES is often referred to as the 'gold standard.'

BRFSS is based on state rather than national representation and is a telephone survey where respondents self report their height, weight, and other health information. It is the only source for state level health information. According to CDC, BRFSS is the largest phone survey in the world. Because data show that women are more likely to report that they weigh less than they do while men are more likely to say that they are taller than they are, it is commonly believed that BRFSS underreports obesity.<sup>20</sup>

Despite its limitations, BRFSS is the best available source of data on health trends in states and local areas. This taxpayer supported CDC program is the only source that collects state-by-state health information on a regular basis.

CDC provides BRFSS information to policymakers, including Congress and state officials, and to the public. CDC presents this information routinely through charts, its Web site, and trend maps. These data provide the opportunity to review trends and patterns. As is done in this report, sometimes CDC presents this data without confidence intervals for the sake of clarity, however, additional information with more detail including sample sizes, confidence intervals, limitations, and data quality is available to the public on CDC's Web site at [www.cdc.gov/brfss/technical\\_infodata/2004Qualityreport.htm](http://www.cdc.gov/brfss/technical_infodata/2004Qualityreport.htm).

## WHY RANK STATES?

TFAH provides state rankings to better inform policymakers and the public about obesity trends in the U.S. The information allows people to gain a better understanding of patterns in rising obesity rates. State rankings also help demonstrate the varying levels of concern and action addressing obesity in different areas of the country. Due to annual variations in the data, and based on advice from CDC officials, TFAH stabilizes the data by combining 3 years. This is similar to how NHANES combines 3 years of data to stabilize any anomalies.

# State Responsibilities and Policies

In this section, TFAH examines trends in state legislative actions and policies aimed at obesity reduction. This overview is intended to help inform and begin to evaluate whether efforts are having a positive impact.

Each state identifies goals and strategies for improving the health of its citizens.

States are undertaking a wide range of efforts to try to address the obesity crisis. Since 2003, TFAH has been reviewing state policies to help inform and evaluate the impact of these efforts. For this year's report, TFAH produced a Supplement to *F as in Fat: Obesity-Related Legislation Action in States*, which provides greater detail about specific legislation in states. The sup-

plement is available on TFAH's Web site [www.healthyamericans.org](http://www.healthyamericans.org). This section provides an overview and update to previous years' analyses and examines:

- A. Example State and Community Efforts;
- B. School-Focused Obesity Legislation;
- C. Community-Focused Obesity Legislation and Federal Grants to States; and
- D. Examples of State Obesity Medicaid Health Care Benefits.

## A. EXAMPLES OF COMMUNITY EFFORTS IN STATES

State governments are supporting varied approaches to obesity, ranging from public education campaigns to issuing public challenges to get in better shape to increasing parks and recreation development. In addition, a number of state governments are leading by example by supporting healthy living initiatives for state government employees.<sup>21</sup> State governments are often both the largest employer and largest provider of health insurance in their states, and can help serve as examples to other employers within a state. Also, many states are developing public-private partnerships as a major component of obesity prevention initiatives.

To help support state efforts, the National Governors Association (NGA)

Center for Best Practices has launched a **Healthy States Grant Program** as part of its Healthy America Initiative. The program has provided 13 states with up to \$100,000 in funding for community or worksite wellness efforts.<sup>22</sup> NGA has also launched a **Healthy Kids, Healthy America Program** that will award up to \$110,000 for one year each to 10 states with programs focusing on preventing childhood obesity through policy and environmental change in the future.<sup>23</sup>

The types of efforts supported by the Healthy States Programs provide examples of the types of state obesity prevention and control activities.

## NATIONAL GOVERNORS ASSOCIATION (NGA) CENTER FOR BEST PRACTICES LAUNCHES HEALTHY STATES GRANT PROGRAM

**Colorado:** Colorado seeks to transform the Denver metro area into America's Healthiest Community, by building on existing programs, such as the Physical Activity and Nutrition Program and the Denver Metro Health and Wellness Commission, to encourage worksite wellness. The program will provide training and resources, as well as develop metrics for measuring the return on investment of worksite wellness. Colorado officials hope to pilot the program in at least 2 Denver area worksites.<sup>24</sup>

**Connecticut:** Connecticut's program focuses on state employees (the state's largest workforce), by creating an infrastructure for a State Employee Worksite Wellness Initiative. The program will include coordinated data management and an evaluation system that links chronic disease risk reduction data to health care expenditures and human resource data. They will also undertake the research and resource development projects necessary to broaden the program.<sup>25</sup>

**Georgia:** Georgia's grant will go toward the Live Healthy Georgia Learning Laboratory Project that is designed to promote active, hands-on learning, to motivate healthy lifestyle behaviors and attitudes. It will focus on the school worksite in order to promote school-based employees as healthy role models and develop a school community culture that supports health. The program is part of a public-private partnership with United Healthcare and will be piloted in 2 communities chosen from Live Healthy Georgia target areas that include Albany, Atlanta, Gainesville, Macon, Rome, and Savannah.<sup>26</sup>

**Iowa:** The NGA grant supports the Building Capacity for Healthier Communities project which seeks to expand current efforts in 3 target communities to create a community model that can be replicated for developing fresh food sources, improving walkability of communities and improving planning for community health. The project will create and implement walkability assessments and community action plans.<sup>27</sup>

**Maine:** Maine's grant will develop and implement a worksite wellness program specifically for small employers, which in Maine is often around 3 people per firm. The project will develop a toolkit and resources that may include health risk assessments, incentives for use of preventive care, and tobacco control. It will also recruit pilot companies, and then implement and assess employee health and the program itself.<sup>28</sup>

**Michigan:** This NGA grant will help Michigan engage private sector employers in implementing worksite wellness action plans. It builds on existing state programs, drawing 25 companies (with 50 employees or more) from Gov. Jennifer Granholm's (D-MI) Cities of Promise initiative and linking them with the Michigan Steps Up program. Participating companies will complete health risk assessments provided by the state, draft healthy workplace action plans, and make at least one designated improvement at their site. Mini-grants will be provided to companies and both the state and NGA will provide technical assistance. It is the state's hope that they will be able to demonstrate that healthy workplaces are cost effective, providing an incentive for the program to expand.<sup>29</sup>

**Minnesota:** Minnesota will create a Workplace Wellness Toolkit that will be piloted with groups of employees from the public and private sectors. Once this is completed, Gov. Tim Pawlenty (R-MN) will host a summit to promote the toolkit statewide. The tools will focus on healthy eating and active living strategies that are effective and already being used throughout the state.<sup>30</sup>

**Nebraska:** The Nebraska Employee Wellness (NEW) for Life will build on an ongoing wellness program to improve the health of state employees and reduce the cost of health insurance. New funding will allow the state to provide metabolic screenings for state employees and continue to have a personal trainer/nutritionist see employees in Lincoln. Additionally, work is under way to build walking paths around state buildings and food in employee cafeterias is being reworked with the goal of at least 60 percent of food defined as nutritious.<sup>31</sup>

**Oklahoma:** Oklahoma seeks to promote a culture change from unhealthy to healthier behaviors and lifestyles, as it is the only state where age adjusted death rates have increased over the past 15 years. NGA funding will support training curriculum for the Make It Your Business program, as well as a statewide outreach campaign about the curriculum.<sup>32</sup>

**South Dakota:** The NGA funding will support South Dakota's Healthy States project to allow the state Department of Health in partnership with the South Dakota State University Cooperative Extension Services (DOH/CES) to specifically target technical assistance to rural worksites in underserved and minority areas. Additionally, 10 new worksites will be chosen for wellness projects (including one pilot project with an American Indian Casino) and mini grants will be available to those companies already making changes. The state will develop a data collection system to gather data from individual sites and it will also create an online assessment tool for the sites to use.<sup>33</sup>

**Utah:** Utah's program seeks to increase opportunities for Utahns in low-income neighborhoods to participate in gardening to improve health. Education about the benefits of gardening, both as physical activity and as a source of nutritious food, will be provided to the public through community partnerships and the creation of a new policy team. Funding will also be provided to facilitate at least 10 new or expand existing community gardens. Finally, sustainability and long term accountability will also be a part of the gardens project.<sup>34</sup>

**Washington:** NGA funding will support the Washington Wellness Works program which aims to make state employees, dependents, and retirees healthier and more productive while thwarting rising health care costs and producing a positive return on investment. Goals for 2007 include communicating, engaging, and measuring the target audience to include the completion of health risk assessments and behavior change around physical activity, food selection, preventive health care, and tobacco. Much of this will be an online interface, and the state is also working on an evaluation tool with the Universities of Washington and Michigan.<sup>35</sup>

**Wisconsin:** The Healthier Wisconsin Worksite initiative seeks to create healthy work environments that support and promote healthy eating, daily physical activity and a healthy weight. Three key components to achieve this include (1) drafting an action plan to implement health risk assessments for state employees; (2) forming 10 community-business partnerships to implement worksite wellness plans; and (3) holding the Governor's Worksite Wellness Summit to increase awareness of the program.<sup>36</sup>

## NEW YORK CITY: POSTING CALORIES AND BANNING TRANS FATS IN RESTAURANTS

In addition to state and federal governments, local governments across the country are initiating obesity-related health promotion efforts.

New York City has taken strong measures by mandating restaurants to provide increased nutrition and calorie information to patrons and instituting a ban on trans fats.

In December of 2006, the New York City Board of Health mandated “prominent display” of calorie content in “all food service establishments that have standardized preparation and portion sizes and that make calorie information publicly available on or after March 1, 2007 (e.g., on Web sites, in brochures, or on posters, food wrappers or tray lines) ... on menus and menu boards.”<sup>37</sup>

The caloric labeling issue has been complex since the regulation only applies to establishments that already had caloric information publicly posted as of March 1, 2007. Several establishments, such as Wendy’s and Quiznos, actually stopped providing such information to avoid the mandate. Implementation of the regulation has been delayed for 3 months (from July to October) because of a court challenge.<sup>38</sup>

The Board of Health also passed a ban on all but trace amounts of trans fats used in city restaurants, making New York City the first municipality in the country to institute such a ban.

**“Beginning July 1, 2007,** you may not use partially hydrogenated vegetable oils, shortenings, or margarines for frying, pan-frying (sautéing), or grilling, or as a spread, unless you have product labels or other documents from a manufacturer showing that these ingredients contain less than 0.5 grams of trans fat per serving. You may continue to use trans fat-containing oils and shortenings for deep frying cake batter and yeast dough until July 1, 2008, when the regulation takes full effect.”

**“Beginning July 1, 2008,** if you store, use, or serve any food item containing partially hydrogenated vegetable oil, shortening or margarine, it must contain less than 0.5 grams of trans fat per serving. This rule applies even to oils or shortenings used to deep fry cake batter and yeast dough. The regulation does not apply to food served in the manufacturer’s original, sealed packaging, such as a package of crackers or a bag of potato chips.”

The Board of Health also launched a “Trans Fat Help Center,” which aims to “assist restaurants in switching from artificial trans fat to healthier oils while maintaining the same taste and texture of food.”<sup>39</sup> The Web site also defines the new guidelines for restaurateurs.<sup>40</sup>

## B. SCHOOL-FOCUSED OBESITY LEGISLATION

Since 2003, TFAH has tracked state legislation that impacts nutrition and physical education in schools. This section provides an updated summary of legislative activities. Additional detail about the legislation can be found in the Supplement to *F as in Fat* on TFAH’s Web site.

School-based programs have been shown to have the potential to yield positive results in preventing and reducing obesity.<sup>41</sup> Children spend large portions of time at school, and in before and afterschool programs, and often consume 2 meals and snacks in these settings.

The more than 14,000 school districts in the United States have primary jurisdiction for setting policies. States can establish policies

or pass legislation that affect schools, but the localities typically have discretion in deciding if they will follow them. States may try to create incentives for following policies, such as attaching compliance rules to state funding. However, school districts may choose to ignore state policies.

Emerging school-based efforts have focused on improving the quality of food sold in schools, limiting sales of less nutritious foods, improving physical education and health education, and encouraging increased physical activity either within the school day or through extracurricular pursuits. Some communities have also under-

taken more comprehensive programs, such as a statewide initiative in Arkansas measuring the BMIs of students throughout the

state and the Child and Adolescent Trial for Cardiovascular Health (CATCH) program involving 96 schools in 4 states.

| <b>OBESITY-RELATED STANDARDS IN SCHOOLS -- 2007</b> |  |   |                                     |                                 |                                     |                                     |                               |                                   |
|---|--|---|-------------------------------------|---------------------------------|-------------------------------------|-------------------------------------|-------------------------------|-----------------------------------|
|   | Nutritional Standards for School Meals | Nutritional Standards for Competitive Foods | Limited Access to Competitive Foods | Physical Education Requirements | BMI or Health Information Collected | Non-Invasive Screening for Diabetes | Health Education Requirements | Receives CDC School Health Grants |
| Alabama   | ✓                                      | ✓   | ✓                                   | ✓                               |                                     |                                     | ✓                             |                                   |
| Alaska  |  |   |                                     | ✓                               |                                     |                                     | ✓                             |                                   |
| Arizona   | ✓                                      | ✓   | ✓                                   | ✓                               |                                     |                                     | ✓                             |                                   |
| Arkansas  | ✓                                      | ✓   | ✓                                   | ✓                               | ✓                                   |                                     | ✓                             | ✓                                 |
| California  | ✓                                      | ✓   | ✓                                   | ✓                               | ✓                                   | ✓                                   | ✓                             | ✓                                 |
| Colorado  | ✓                                      |   | ✓                                   | ✓                               |                                     |                                     |                               | ✓                                 |
| Connecticut   | ✓                                      | ✓   | ✓                                   | ✓                               |                                     |                                     | ✓                             |                                   |
| Delaware  |  |   |                                     | ✓                               | ✓                                   |                                     | ✓                             |                                   |
| DC  |  |   |                                     | ✓                               |                                     |                                     | ✓                             |                                   |
| Florida   |  |   | ✓                                   | ✓                               | ✓                                   |                                     | ✓                             | ✓                                 |
| Georgia   |  |   | ✓                                   | ✓                               |                                     |                                     | ✓                             |                                   |
| Hawaii  |  | ✓   | ✓                                   | ✓                               |                                     |                                     | ✓                             | ✓                                 |
| Idaho   |  |   |                                     | ✓                               |                                     |                                     | ✓                             |                                   |
| Illinois  |  | ✓   | ✓                                   | ✓                               | ✓                                   | ✓                                   | ✓                             |                                   |
| Indiana   |  | ✓   | ✓                                   | ✓                               |                                     |                                     | ✓                             | ✓                                 |
| Iowa  |  |   |                                     | ✓                               | ✓                                   |                                     | ✓                             |                                   |
| Kansas  |  |   |                                     | ✓                               | ✓                                   |                                     | ✓                             | ✓                                 |
| Kentucky  | ✓                                      | ✓   | ✓                                   | ✓                               |                                     |                                     | ✓                             | ✓                                 |
| Louisiana   |  | ✓   | ✓                                   | ✓                               | ✓                                   |                                     | ✓                             |                                   |
| Maine   |  | ✓   | ✓                                   | ✓                               | ✓                                   |                                     | ✓                             | ✓                                 |
| Maryland  |  | ✓   | ✓                                   | ✓                               |                                     |                                     | ✓                             |                                   |
| Massachusetts                                       |  |   |                                     | ✓                               | ✓                                   |                                     | ✓                             | ✓                                 |
| Michigan  |  |   |                                     | ✓                               |                                     |                                     | ✓                             | ✓                                 |
| Minnesota   |  |   |                                     | ✓                               |                                     |                                     | ✓                             |                                   |
| Mississippi   |  |   | ✓                                   | ✓                               |                                     |                                     | ✓                             |                                   |
| Missouri  |  |   |                                     | ✓                               | ✓                                   |                                     | ✓                             |                                   |
| Montana   |  |   |                                     | ✓                               |                                     |                                     | ✓                             |                                   |
| Nebraska  |  |   | ✓                                   | ✓                               |                                     |                                     | ✓                             |                                   |
| Nevada  | ✓                                      | ✓   | ✓                                   | ✓                               |                                     |                                     | ✓                             |                                   |
| New Hampshire                                       |  |   |                                     | ✓                               |                                     |                                     | ✓                             |                                   |
| New Jersey  | ✓                                      | ✓   | ✓                                   | ✓                               |                                     |                                     | ✓                             |                                   |
| New Mexico  |  | ✓   | ✓                                   | ✓                               |                                     |                                     | ✓                             |                                   |
| New York  |  |   | ✓                                   | ✓                               | ✓                                   |                                     | ✓                             | ✓                                 |
| North Carolina                                      | ✓                                      | ✓   | ✓                                   | ✓                               |                                     |                                     | ✓                             | ✓                                 |
| North Dakota  |  |   |                                     | ✓                               |                                     |                                     | ✓                             | ✓                                 |
| Ohio  |  |   |                                     | ✓                               |                                     |                                     | ✓                             |                                   |
| Oklahoma  | ✓                                      | ✓   | ✓                                   | ✓                               |                                     |                                     |                               |                                   |
| Oregon  |  |   |                                     | ✓                               |                                     |                                     | ✓                             | ✓                                 |
| Pennsylvania  |  |   |                                     | ✓                               | ✓                                   |                                     | ✓                             |                                   |
| Rhode Island  | ✓                                      | ✓   |                                     | ✓                               |                                     |                                     | ✓                             | ✓                                 |
| South Carolina                                      | ✓                                      | ✓   | ✓                                   | ✓                               | ✓                                   |                                     | ✓                             | ✓                                 |
| South Dakota  | ✓                                      |   |                                     | ✓                               |                                     |                                     | ✓                             | ✓                                 |
| Tennessee   | ✓                                      | ✓   |                                     | ✓                               | ✓                                   |                                     | ✓                             | ✓                                 |
| Texas   | ✓                                      | ✓   | ✓                                   | ✓                               |                                     |                                     | ✓                             |                                   |
| Utah  |  |   |                                     | ✓                               |                                     |                                     | ✓                             |                                   |
| Vermont   | ✓                                      |   |                                     | ✓                               |                                     |                                     | ✓                             | ✓                                 |
| Virginia  |  |   |                                     | ✓                               |                                     |                                     | ✓                             |                                   |
| Washington  |  |   |                                     | ✓                               |                                     |                                     | ✓                             | ✓                                 |
| West Virginia                                       |  | ✓   | ✓                                   | ✓                               | ✓                                   |                                     | ✓                             | ✓                                 |
| Wisconsin   |  |   |                                     | ✓                               |                                     |                                     | ✓                             | ✓                                 |
| Wyoming   |  |   |                                     | ✓                               |                                     |                                     | ✓                             |                                   |
| <b># of States</b>                                  | <b>17</b>                              | <b>22</b>                                   | <b>26</b>                           | <b>50 + D.C.</b>                | <b>16</b>                           | <b>2</b>                            | <b>48 + D.C.</b>              | <b>23</b>                         |

Please Note: Checkmarks in chart above that are in red type represent new laws passed in 2006 or 2007.

## OBESITY RELATED STATE INITIATIVES -- 2007

|                | Has Snack Taxes | Has a CDC State-Based Nutrition & Physical Activity Program | Receives STEPS Grant | Has Limited Liability Laws |
|----------------|-----------------|---|----------------------|----------------------------|
| Alabama        |                 |   | ✓                    |                            |
| Alaska         |                 |   |                      |                            |
| Arizona        |                 | ✓   | ✓                    | ✓                          |
| Arkansas       | ✓               | ✓   |                      |                            |
| California     | ✓               |   |                      |                            |
| Colorado       |                 | ✓   | ✓                    | ✓                          |
| Connecticut    |                 |   |                      |                            |
| Delaware       |                 |   |                      |                            |
| DC             | ✓               |   |                      |                            |
| Florida        |                 | ✓   |                      | ✓                          |
| Georgia        |                 | ✓   |                      | ✓                          |
| Hawaii         |                 |   |                      |                            |
| Idaho          |                 |   |                      | ✓                          |
| Illinois       | ✓               | ✓   |                      | ✓                          |
| Indiana        | ✓               |   |                      | ✓                          |
| Iowa           |                 | ✓   |                      |                            |
| Kansas         |                 |   |                      | ✓                          |
| Kentucky       | ✓               | ✓   |                      | ✓                          |
| Louisiana      |                 |   |                      | ✓                          |
| Maine          | ✓               | ✓   |                      | ✓                          |
| Maryland       |                 | ✓   |                      |                            |
| Massachusetts  |                 | ✓   |                      |                            |
| Michigan       |                 | ✓   |                      | ✓                          |
| Minnesota      | ✓               |   | ✓                    |                            |
| Mississippi    |                 |   |                      |                            |
| Missouri       | ✓               | ✓   |                      | ✓                          |
| Montana        |                 | ✓   |                      |                            |
| Nebraska       |                 |   |                      |                            |
| Nevada         |                 |   |                      |                            |
| New Hampshire  |                 |   |                      | ✓                          |
| New Jersey     | ✓               |   |                      |                            |
| New Mexico     |                 | ✓   |                      |                            |
| New York       | ✓               | ✓   | ✓                    |                            |
| North Carolina |                 | ✓   |                      |                            |
| North Dakota   | ✓               |   |                      | ✓                          |
| Ohio           |                 |   |                      | ✓                          |
| Oklahoma       |                 | ✓   |                      |                            |
| Oregon         |                 | ✓   |                      | ✓                          |
| Pennsylvania   |                 | ✓   | ✓                    |                            |
| Rhode Island   | ✓               | ✓   |                      |                            |
| South Carolina |                 | ✓   |                      |                            |
| South Dakota   |                 | ✓   |                      | ✓                          |
| Tennessee      | ✓               |   |                      | ✓                          |
| Texas          | ✓               | ✓   |                      | ✓                          |
| Utah           |                 |   |                      | ✓                          |
| Vermont        |                 | ✓   |                      |                            |
| Virginia       | ✓               |   |                      |                            |
| Washington     | ✓               | ✓   | ✓                    | ✓                          |
| West Virginia  | ✓               | ✓   |                      |                            |
| Wisconsin      |                 | ✓   |                      | ✓                          |
| Wyoming        |                 |   |                      | ✓                          |
| # of States    | 17 + D.C.       | 28  | 7                    | 24                         |

■ **Seventeen states set nutritional standards for school lunches, breakfasts, and snacks that are stricter than existing U.S. Department of Agriculture (USDA) requirements.** The 17 states include: Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Kentucky, Nevada, New Jersey, North Carolina, Oklahoma, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, and Vermont.

States that implemented new regulations in 2006 and 2007 include:

- **Colorado** created the Fresh Fruits and Vegetables Pilot Program for the 2006-07 and 2007-08 school years (SB 127).
- **Connecticut** established a farm-to-school program which promotes the sale of Connecticut-grown farm products to schools (HB 5847).
- **New Jersey** established prepaid school lunch programs so parents can prepay for more nutritious lunches served in school cafeterias (AB 370).
- **Oklahoma** required the State Department of Education to make available to schools information and technical assistance in establishing healthy school nutrition environments (SB 1459). The state also created the Oklahoma Farm to School Program to provide schools with fresh and minimally processed farm commodities (HB 2655).
- **South Carolina's** State Board of Education implemented nutrition standards for school food service meals in elementary schools (R43-168). Effective, June 23, 2006, elementary schools must offer a low-fat meal choice (30 percent or less of calories from fat) at every meal; provide low-fat and nonfat salad dressings; provide information on calories, percentages of fat, and serving sizes of school meal items to help children select appropriate food portions; offer a minimum of 4 choices of fruits and vegetables daily, including fresh fruits and vegetables in season; and offer whole-grain foods in all programs in elementary schools, whenever possible, to meet bread and cereal requirements.
- **Vermont** created a local foods mini-grant program to encourage local school districts to serve food to Vermont students that is as fresh and nutritious as possible (HB 465).
- **Twenty-two states have nutritional standards for competitive foods sold a la carte, in vending machines, in school stores, or in bake sales in schools.** The 22 include: Alabama, Arizona, Arkansas, California, Connecticut, Hawaii, Illinois, Indiana, Kentucky, Louisiana, Maine, Maryland, Nevada, New Jersey, New Mexico, North Carolina, Oklahoma, Rhode Island, South Carolina, Tennessee, Texas, and West Virginia.

States that implemented new standards in 2006 and 2007 include:

- **Arizona's** Department of Education released the final Arizona Nutrition Standards in January 2006. They officially became effective on July 1, 2006 (ARS 15-242). Foods and beverages sold in vending machines, snack bars, a la carte, fundraisers, and at school events during the normal school day must meet the following standards:
  - **FOODS:** 35 percent or less of total calories from fat; 10 percent or less of total calories from saturated and trans fatty acids (combined); no more than 35 percent total sugar by weight; must contain at least 1 gram of fiber; maximum 400 calories per serving and 800 mg of sodium for entrée items sold as a la carte; and maximum 300 calories per serving and 600 mg of sodium for all other snack items. Finally, all deep-fat fried chips and crackers and deep-fat fried final preparation methods are prohibited.
  - **BEVERAGES:** water may contain natural or non-caloric sweeteners but cannot contain caffeine or caffeine derivative; juice must contain 100 percent fruit and/or vegetable juice for elementary schools and must contain no less than 50 percent fruit and/or vegetable juice, no sugar added, with nutrient values equal to 100 percent juice for middle and junior high schools; fruit smoothies (yogurt or ice based), which cannot exceed 400 calories, must contain 100 percent fruit juice for elementary schools and must contain no less than 50 percent fruit juice for middle and junior high schools; allowable milk and milk alternative products include fat free, low fat (1 percent milk fat), and reduced fat milk (2 percent fat milk), reduced fat enriched rice, nut or soy milk, and flavored milk that contains no more than 4 grams of sugar per ounce; and sports drinks and electrolyte-replacement drinks may only be served in middle and junior high schools.

- **Connecticut** restricted the types of beverages sold in schools to:
  - Milk (must contain no artificial sweeteners and no more than 4 grams of sugar per ounce);
  - Nondairy milks, such as soy or rice milk (must contain no artificial sweeteners, no more than 4 grams of sugar per ounce, no more than 35 percent of calories from fat per portion, and no more than 10 percent of calories from saturated fat per portion);
  - 100 percent fruit and vegetable juices (must contain no added sugars, sweeteners or artificial sweeteners); and
  - Water (must contain no added sugars, sweeteners, artificial sweeteners, or caffeine).
  - Portion sizes of the beverages (other than water) must not exceed 12 ounces (SB 373).
  
- **Illinois** restricted the types of beverages sold to students in 8th grade and below during the regular school day (23 Illinois Administrative Code Ch. 1, Section 305.15). Beverages shall include only (1) flavored, or plain whole, reduced fat (2 percent), low-fat (1 percent), or nonfat milk, (2) reduced fat and alternative dairy beverages (i.e., rice, nut or soy milk or any other USDA-approved alternative beverage), (3) fruit and vegetable drinks containing 50 percent or more juice, (4) non-flavored, non-carbonated water, (5) yogurt or ice based fruit smoothie that contains less than 400 calories and no added sugars and is made from fresh or frozen fruit or fruit drinks containing at least 50 percent fruit juice, and (6) any beverage exempted from USDA's list of Foods of Minimal Nutritional Value. Illinois also established guidelines for food sold to students outside of food service areas or within food service areas other than during meal periods. These foods can include only the following: (1) nuts, seeds, nut butters, eggs, cheese packaged for individual sale, fruits or non-fried vegetables, or low-fat yogurt products or (2) any food item whose total calories from fat do not exceed 35 percent, calories from saturated fat do not exceed 10 percent, total amount of sugar by weight does not exceed 35 percent and calories do not exceed 200 (23 Illinois Administrative Code Ch. 1, Section 305.15).
  
- **Indiana** Code (IC 20-26-9-19) requires that at least 50 percent of the food items available for sale at a school or on school grounds that are not part of the federal school lunch or breakfast program must qualify as better choice foods and beverages. Better choice beverages include: fruit or vegetable based drinks that contain at least 50 percent real fruit juice or vegetable juice and do not contain additional caloric sweeteners; water and seltzer water that do not contain additional caloric sweeteners; low fat and fat free milk, including chocolate milk, soy milk, rice milk, and other similar dairy and nondairy calcium fortified milks; and isotonic beverages. Soft drinks, punch, iced tea and coffee do not qualify as better choice beverages. Better choice food items must meet the following standards: not more than 30 percent of their total calories from fat; not more than 10 percent of their total calories from saturated and trans fat; and not more than 35 percent of their weight is from sugars that do not occur naturally in fruits, vegetables, or dairy products. A food item may not exceed the following portion limits if it contains more than 210 calories: 1.75 ounces for chips, crackers, popcorn, cereal, trail mixes, nuts, seeds, dried fruits, and jerky; cookies and cereal bars, 2 ounces; bakery items, 3 ounces; frozen desserts (including ice cream), 3 fluid ounces; and nonfrozen yogurt, 8 ounces. A beverage item may not exceed 20 ounces.

■ **Kentucky** administrative regulation (720 KAR 6:090) requires that during the period of time beginning 30 minutes after the last lunch period until the end of the last instructional period, food and beverages offered for sale through a vending machine, school store, canteen, or fundraiser on school property must meet the following nutritional standards (effective February 3, 2006):

- Beverages must be fluid unflavored or flavored milk that is no more than one percent milk fat; plain or flavored, noncaloric, noncarbonated water; 100 percent fruit or vegetable juice or any combination of both totaling 100 percent; and any other beverage that contains no more than 10 grams of sugar per serving (limit does not apply to juices containing 100 percent fruit and/or vegetable juice). Except for water, beverages shall not exceed 17 ounces in elementary schools and 20 ounces in middle or high schools.
- Food calories from fat shall not exceed 30 percent (excluding reduced fat cheese, nuts, seeds, and nut butters); calories from saturated fat shall not exceed 10 percent; calories from sugar shall not exceed 32 percent by weight; chips, cereals, crackers, baked goods and other snack items shall not contain more than 300 milligrams of sodium per serving; pastas, meats and soups shall not contain more than 450 milligrams of sodium per serving; and pizzas, sandwiches and main dishes shall not contain more than 600 milligrams of sodium per serving. Portion sizes for chips, crackers, popcorn, cereal, trail mix, nuts, seeds, or jerky shall not exceed two ounces; portion sizes for cookies shall not exceed one ounce; portion sizes for cereal bars, granola bars, and bakery-type items shall not exceed two ounces; portion sizes for nonfrozen yogurt shall not exceed eight ounces; and portion sizes for frozen dessert items shall not exceed four ounces.

■ **New Jersey** passed nutritional standards for snacks and beverages sold in schools. Snacks must contain no more than eight grams of total fat per serving (with the exception of nuts and seeds) and no more than 2 grams of saturated fat per serving. All beverages (except milk containing 2 percent or less fat or water) must not exceed 12 ounces and whole milk must not exceed 8 ounces. In elementary schools, beverages shall be limited to milk, water or 100 percent fruit or vegetable juices. In middle and high schools, at least 60 percent of all beverages offered (other than milk or water) must be 100 percent fruit or vegetable juice. In addition, no more than 40 percent of all ice cream and frozen desserts shall exceed the above standards for sugar, fat and saturated fat. All schools shall reduce the purchase of any products containing trans fats beginning September 1, 2007 (SB 1218).

■ **New Mexico** administrative code (6.12.5) establishes the following requirements for competitive foods and beverages sold in vending machines and a la carte to students in elementary, middle and high schools:

- **ELEMENTARY SCHOOLS:** Beverages shall only include milk with a fat content of 2 percent or less, soy milk, and water.
- **MIDDLE SCHOOLS:** Beverages shall only include milk with a fat content of 2 percent or less, soy milk, water, and 100 percent fruit juice that has no added sweeteners and no more than 125 calories per container and serving size not to exceed 20 ounces. Food products other than nuts, seeds, cheese, yogurt, and fruit sold in vending machines shall contain no more than 200 calories, no more than 8 grams of fat, no more than 2 grams of fat from saturated and trans-fats, and no more than 15 grams of sugar per package or serving.
- **HIGH SCHOOLS:** Beverages shall only include milk with a fat content of 2 percent or less, soy milk, water, and juice that is at least 50 percent fruit and that has no added sweeteners and a serving size not to exceed 20 ounces. Beverages sold in vending machines to high school students after the last lunch period is completed shall only include carbonated soft drinks that are both sugar free and caffeine free, non-carbonated flavored water with no added sweeteners, and sports drinks. Food products other than nuts, seeds, cheese, yogurt, and fruit sold in vending machines shall contain no more than 200 calories, no more than 8 grams of fat, no more than 2 grams of fat from saturated and trans-fats, and no more than 15 grams of sugar per package or serving.
- Food products other than nuts, seeds, cheese, yogurt, and fruit sold in a la carte offerings in elementary, middle and high schools shall contain no more than 400 calories, no more than 16 grams of fat (of which no more than 2 grams can come from saturated and trans fats combined), and no more than 30 grams of total sugar per package or serving.

- **Rhode Island** statute 16-21-29 requires all elementary, middle, and junior high schools to offer healthier beverages and snacks by January 1, 2007 and January 1, 2008, respectively. Healthier beverages are defined as: water, including carbonated water, flavored or sweetened with 100 percent fruit juice and containing no added sweetener; two percent fat milk, one percent fat milk, nonfat milk, and dairy alternatives, such as fortified soy beverages, plain or flavored, with a sugar content of not more than four grams per ounce; one hundred percent fruit juice or fruit based drinks that are composed of no less than 50 percent fruit juice and have no added sweetener; and vegetable-based drinks that are composed of no less than 50 percent vegetable juice and have no added sweetener. Healthier snacks are defined as: individually sold portions of nuts, nut butters, seeds, eggs, and cheese packaged for individual sale, fruit, vegetables that have not been deep fried, and legumes; individually sold portions of low fat yogurt with not more than four grams of total carbohydrates (including both naturally occurring and added sugars) per ounce and reduced fat or low fat cheese packaged for individual sale; and individually sold enriched or fortified grain or grain products or whole grain foods that contain no more than 30 percent calories from fat, no more than 10 percent total calories from saturated fat, and no more than seven grams of total sugar per ounce.
- **South Carolina's** State Board of Education implemented nutrition standards for competitive foods in elementary schools (R43-168). Effective June 23, 2006, elementary schools must ensure that one serving of snacks, sweets, and side dishes has no more than 30 percent of calories from fat, less than 10 percent of calories from saturated fat, no more than 1 percent of calories from trans fatty acids, and no more than 35 percent of added sugar by weight (nuts, seeds and some cheeses are exceptions). Single-serving food items must be limited to the following portion sizes: 1.25 ounces for snacks; 2 ounces for cookies or cereal bars; 3 ounces for other bakery items; 4 ounces for frozen desserts, including ice cream; 8 ounces for yogurt (non frozen); and 1/2 cup for fried potatoes or other fried vegetables. Beverages, except water or nonfat, low-fat, or reduced-fat milk, cannot exceed 12 ounces. Low-fat, nonfat, and 2 percent milk, water, and 100 percent juices that do not contain added sugars and sweeteners must be available to all students.
- **Twenty-six states limit when and where competitive foods may be sold beyond federal requirements.** The 26 states include: Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Florida, Georgia, Hawaii, Illinois, Indiana, Kentucky, Louisiana, Maine, Maryland, Mississippi, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, Oklahoma, South Carolina, Texas, and West Virginia.

States that implemented new restrictions in 2006 and 2007 include:

- **Illinois** Administrative Code (23 IAC Ch. 1, Section 305.15) requires all schools participating in the free lunch and breakfast programs in which grades five and below are operating to prohibit the sale of all confections, candy, and potato chips to students during meal periods (effective the first day of the 2006-2007 school year).
- **Indiana** Administrative Code (IC 20-26-9-19) states that a vending machine at an elementary school that dispenses food or beverage items may not be accessible to students.
- **Nebraska's** Department of Education clarified its Competitive Food Policy for schools participating in the National School Lunch Program in June 2006.<sup>42</sup> According to the clarification, no food or beverages can be sold to children anywhere on school premises beginning one half hour before breakfast and/or lunch service until one half hour after meal service unless all proceeds earned during these time periods go to the school nutrition program. No foods of minimal nutritional value (FMNV) can be sold in the food service areas beginning one half hour before breakfast and/or lunch service until one half hour after meal service under any circumstances.

- **New Jersey** recently passed new legislation restricting the timing and location of the sale of competitive foods in schools. The act declares that as of September 2007, the following items cannot be served, sold, or given away as a free promotion anywhere on school property at any time before the end of the school day (including items served in reimbursable After School Snack Program): foods of minimal nutritional value, as defined by the U.S. Department of Agriculture; all food and beverage items listing sugar, in any form, as the first ingredient; and all forms of candy as defined by the New Jersey Department of Agriculture. Food and beverages served during special school celebrations or during curriculum related activities are exempt from the provisions, with the exception of foods of minimal nutritional value (SB 1218).
- **New Mexico** administrative code (6.12.5) restricts carbonated beverages and competitive food products from being sold in vending machines to students in elementary schools. Carbonated beverages also shall not be sold in vending machines to students in middle schools. Food products other than nuts, seeds, cheese, yogurt, and fruit sold in vending machines in middle schools shall only be sold after the last lunch period is completed. Carbonated beverages or soft drinks, non-carbonated flavored water and sports drinks shall not be sold in a la carte offerings in elementary, middle and high schools.
- **South Carolina's** State Board of Education restricted access to competitive foods in elementary schools (R43-168). Effective June 23, 2006, elementary schools cannot sell or serve the following beverages to students until after the last regularly scheduled class: soda, soft drinks, sports drinks, punches, iced teas and coffees, and fruit-based drinks that contain less than 100 percent real fruit juice or that contain added sweeteners.
- **Every state has some form of requirements for physical education for students,** however, these requirements are often limited or not enforced and many of the programs are inadequate with respect to quality. See **Section 4: Promoting Physical Activity as a Strategy to Improve Health** for a more detailed discussion about physical education and activity in schools and in before and afterschool programs.
- **Only 2 states -- Colorado and Oklahoma, -- do not require schools to provide health education.**
- **Twelve states -- Arkansas, California, Delaware, Florida, Illinois, Kansas, Maine, Missouri, New York, Pennsylvania, Tennessee, and West Virginia -- have passed legislation enabling schools to test students' BMI levels as either part of health examinations or physical education activities.** In addition, **Iowa** requires the measurement, reporting and tracking of height and weight under an elementary school pilot program; **Louisiana** requires the assessment of changes in the weight status of students participating in a three-year nutrition and physical activity pilot program; **Massachusetts** mandates the annual measurement of each student's weight and height; and **South Carolina** requires fitness reports of students to be sent home to parents in the 5th and 8th grades and in high school. States that recently passed new BMI or obesity-related screening legislation, most including provisions regarding communicating with parents and guardians and maintaining privacy, include:
  - **Arkansas** passed legislation stating that every school district shall, beginning with kindergarten and then in even numbered grades, require schools to include as a part of a student health report to parents a BMI percentile by age for each student. Permits any parent to refuse to have their child's BMI assessed and reported. Students in grades eleven through twelve are exempt from any policy or requirement of a public school or the state for measuring or reporting BMI (HB 1173).
  - **California** code requires individual student BMI to be reported to parents via confidential letter as part of a non-invasive diabetes screening pilot program for 7th and 8th graders.

- **Delaware** passed legislation requiring the Department of Education to develop a regulation for schools to assess the physical fitness of each student at least once at the elementary, middle and high school level. The assessment results are to be provided to parents or guardians. Includes measuring BMI as part of the testing in some local school districts. This is currently a pilot program (HB 372).
- **Florida** statute requires school health services programs to administer growth and development screening for students. BMI is encouraged as part of these screenings for all students in 1st, 3rd, 6th and, optionally, 9th grades.
- **Iowa** legislation (SB 2124) establishes a pilot grant program (in six communities) to increase the physical activity and fruit and vegetable consumption of targeted youth of elementary school age. Grant requirements include the measurement, reporting, and tracking of the height and weight of students in participating elementary schools.
- **Missouri** law requires the department of elementary and secondary education to establish a "Model School Wellness Program," which will create school-based pilot programs (for grades K-5) that will promote healthy eating and physical activity. Following completion of the 2005-06 school year, the law requires the department to evaluate the effectiveness of the program through various measures, including changes in student BMI (Chapter 167, Section 167.229).
- **South Carolina** passed new legislation (HB 3499) that requires all K-12 schools in the state to participate in the South Carolina Physical Education Assessment and requires that an individual's fitness status must be reported to his parent or guardian during a student's fifth grade, eighth grade, and high school physical education courses.
- **West Virginia** passed new legislation that changes the state's previous BMI measurement policy. The new law requires BMI testing for only a scientifically drawn sample of students. Requires the data to be collected and reported in a manner that protects student confidentiality (SB 785).
- **Two states have enacted legislation requiring screening students for risk of type 2 diabetes -- California and Illinois.**
- **Only 23 states received funds from the CDC to support school-based, obesity-reduction initiatives in 2006.**

## SCHOOL HEALTH PROFILES

States and local education and/or health departments conduct a bi-annual survey to monitor school health education requirements and content; physical education requirements; asthma management activities; food service; competitive foods practices and policies; family and community involvement in school health programs; school health policies related to human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) prevention, tobacco-use prevention, violence prevention, and physical activity.<sup>43</sup>

The information about the survey and statistics from CDC's YRBS can be found in School Health Profiles available on CDC's Web site: <http://www.cdc.gov/healthyyouth/profiles/index.htm>.

The 2006 profiles were not yet available as of July 2007. In 2004, 8 states did not administer the survey (Florida, Georgia, Mississippi, New Mexico, New Jersey, Nevada, Rhode Island, and Vermont), but in an additional 14 states, the responding sample size was not large enough to draw statewide conclusions, so profiles are available for 28 states.

## FOOD IN SCHOOLS

Food is usually available for sale in schools either through meal programs or through vending machines, snack shops, school stores, or bake sales.

**Meal programs:** School lunch, breakfast, and afterschool snack programs are offered by state school systems in coordination with the U.S. Department of Agriculture's (USDA) Food and Nutrition Service (FNS). The USDA subsidizes states if their meal programs meet national nutrition guidelines and offer "free or reduced cost" meals to children from low-income households.

■ **Seventeen states set nutritional standards for school lunches, breakfasts, and snacks that are more strict than existing U.S. Department of Agriculture (USDA) requirements.** Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Kentucky, Nevada, New Jersey, North Carolina, Oklahoma, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, and Vermont.

The 2004 Child Nutrition and Women, Infant, and Children (WIC) Reauthorization Act requires all local education agencies receiving federal dollars for school meals to establish local wellness policies.

**"Competitive" foods:** Food sold from snack shops, school stores, vending machines and through à la carte lines in cafeterias are considered "competitive" foods. The term denotes that the sale of these foods is in "competition" with the standard meal programs. Moreover, the sale of most competitive foods is not required to meet the USDA nutrition guidelines. The standards for these sales are set by states or local school systems.<sup>44</sup> States and localities can make decisions both about the nutritional requirements as well as limits on when and where competitive foods may be sold.

According to a March 2004 Government Accountability Office (GAO) report, federal regulations restrict only a small subset of competitive foods from being sold during meal times in cafeterias.<sup>45</sup> These include "foods of minimal nutritional value (FMNV)," such as candy, water ices, chewing gum, and soft drinks. Other competitive foods which are not regulated by the federal government include fruit, vegetables, hamburgers, potato chips, French fries, pizza, and pretzels. However, these federal regulations do not prohibit selling these minimally nutritional value foods outside of the cafeteria areas at any time during the day.

■ **Twenty-two states have nutritional standards for competitive foods in schools.** Alabama, Arizona, Arkansas, California, Connecticut, Hawaii, Illinois, Indiana, Kentucky, Louisiana, Maine, Maryland, Nevada, New Jersey, New Mexico, North Carolina, Oklahoma, Rhode Island, South Carolina, Tennessee, Texas, and West Virginia.

■ **Twenty-six states limit when and where competitive foods may be sold beyond federal requirements.** Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Florida, Georgia, Hawaii, Illinois, Indiana, Kentucky, Louisiana, Maine, Maryland, Mississippi, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, Oklahoma, South Carolina, Texas, and West Virginia.

### KEY CONCERNS ABOUT FOOD IN SCHOOLS

■ **Substandard Nutrition Requirements for Meals:** USDA meal requirements are focused on states and localities meeting minimum nutrition guidelines. Reports by USDA, GAO and independent researchers have all found the nutrition in school lunches to be "substandard."<sup>46</sup>

■ **Unmonitored Contracting for School Lunches:** In December 2004 the Food and Nutrition Service (FNS), via new proposed regulations, advised "school food personnel to be more careful about how they contract for the food that will be served to children."<sup>47</sup>

■ **Competitive Food Polices Do Not Always Balance Revenue and Health:** Many schools receive revenue from the sale of competitive foods. Money from food sales are often used to pay for special activities or items not covered by the school's budget.<sup>48</sup>

## IOM NUTRITIONAL GUIDELINES FOR COMPETITIVE FOODS IN SCHOOLS

Congress commissioned the Institute of Medicine (IOM) to develop “the first set of recommended guidelines for the sale” of competitive foods, which were released in April 2007.<sup>49</sup>

The IOM concluded that “federally-reimbursable school nutrition programs should be the main source of nutrition at school, and opportunities for competitive foods should be limited. However, if competitive foods are available, they should consist of nutritious fruits, vegetables, whole grains, and nonfat or low-fat milk and dairy products, consistent with the *Dietary Guidelines for Americans, 2005*, to help children and adolescents develop healthful eating patterns.”<sup>50</sup>

The IOM guidelines divide competitive food into 2 tiers. Tier 1 foods and beverages are recommended for all students (children and teens) during the school day or during after-school programs. Tier 2 foods, on the other hand, are only recommended for high school students after school.

Tier 1 foods are fruits, vegetables, whole grains, and related combination products [combination products must contain a total of one or more servings as packaged of fruit, vegetables, or whole grain products per portion] and nonfat and low-fat dairy that are limited to 200 calories or less per portion as packaged and:

- No more than 35 percent of total calories from fat
- Less than 10 percent of total calories from saturated fats
- Trans fat-free (less than or equal to 0.5 g per serving)
- 35 percent or less of calories from total sugars, except for yogurt with no more than 30 g of total sugars, per 8-oz. portion as packaged
- Sodium content of 200 mg or less per portion as packaged
- A la carte entrée items meet fat and sugar limits as listed above and:\*\*
  - Are National School Lunch Program (NSLP) menu items
  - Have a sodium content of 480 mg or less

*\*\*200-calorie limit does not apply; items cannot exceed calorie content of comparable entrée items*

Examples of snacks that qualify as Tier 1 foods: apple pieces, carrot sticks, applesauce, dried fruit, whole-grain chips, nonfat and low-fat yogurt (provided they contain no more than 30 grams of total sugars per 8 oz. serving), sunflower seeds, and almonds.<sup>51</sup>

Tier 1 beverages are:

- Water without flavoring, additives, or carbonation
- Low-fat [i.e., one percent milk fat] and nonfat milk:
  - Lactose-free and soy beverages are included
  - Flavored milk with no more than 22 g of total sugars per 8 oz. serving
- 100 percent fruit juice in 4 oz. portion as packaged for elementary/middle school and 8 oz. (2 portions) for high school
- Caffeine-free, with the exception of trace amounts of naturally occurring caffeine substances

Tier 2 snack foods are those that do not exceed 200 calories per portion as packaged and:

- No more than 35 percent of total calories from fat
- Less than 10 percent of total calories from saturated fats
- Trans fat-free (less than or equal to 0.5 g per portion)
- 35 percent or less of calories from total sugars
- Sodium content of 200 mg or less per portion as packaged

Tier 2 beverages are:

- Nonnutritive-sweetened, non-caffeinated, non-fortified beverages with less than 5 calories per portion as packaged.

Examples of snacks and beverages that qualify as Tier 2 include: baked potato chips, whole wheat pretzels, seltzer water, or caffeine free diet soda.<sup>52</sup>

The IOM recommends that schools ban sports drinks, which contain high amounts of sugar or other sweeteners, or “at the discretion of coaches, they be available to students engaged in vigorous activity lasting an hour or more.”<sup>53</sup>

## THE ALLIANCE FOR A HEALTHIER GENERATION NUTRITIONAL GUIDELINES FOR BEVERAGES AND COMPETITIVE FOODS IN SCHOOLS

The Alliance for a Healthier Generation is a partnership between the American Heart Association and the William J. Clinton Foundation to fight childhood obesity. The goal of the Alliance is to stop the nationwide increase in childhood obesity by 2010 and to empower kids nationwide to make healthy lifestyle choices. The Alliance will positively affect the places that can make a difference to a child’s health: homes, schools, restaurants, doctor’s offices, and the community.<sup>54</sup>

As part of this initiative, their Healthy Schools Program is a criteria-based national recognition program. These criteria serve as a guide to schools that want to build healthier school environments. They are aligned with USDA guidelines and the CDC School Health Index and the Alliance will evaluate the program to inform an increased evidence base for school policy change. The criteria emphasize:

- Foods offered as part of the National School Breakfast and Lunch Programs;
- Food and beverages offered to children through competitive food programs in schools;
- Quality physical and health education programs;
- Physical activity programs;
- After school programs that incorporate physical activity and offer children healthy snacks; and
- Staff wellness programs

In an effort to help schools improve the foods and beverages in vending machines and cafeterias, the Alliance also collaborated with leading food and beverage companies to establish beverage and competitive food guidelines.

In May 2006, the American Beverage Association and representatives of the 3 largest beverage distributors, Coca-Cola, Pepsi, and Cadbury Schweppes, agreed to meet the following guidelines.<sup>55</sup>

### Elementary School

- Water
- Up to 8 ounce servings of milk and 100 percent juice
  - Fat free or low fat regular and flavored milk with up to 150 calories / 8 ounces\*
  - 100 percent juice with no added sweeteners, up to 120 calories / 8 ounces, and with at least 10 percent of the recommended daily value for 3 or more vitamins and minerals

### Middle School

- Water
- Up to 10 ounce servings of milk and 100 percent juice
  - Fat free or low fat regular or flavored milk with up to 150 calories / 8 ounces\*
  - 100 percent juice with no added sweeteners, up to 120 calories / 8 ounces, and with at least 10 percent of the recommended daily value for 3 or more vitamins and minerals
- As a practical matter, if middle school and high school students have shared access to areas on a common campus or in common buildings, then the school community has the option to adopt the high school standard.

### High School

- Water
- No or low calorie beverages with up to 10 calories / 8 oz.
- Up to 12 oz. servings of milk, 100 percent juice, and certain other drinks
  - ▲ Fat free or low fat regular and flavored milk with up to 150 calories / 8 oz.\*
  - ▲ 100 percent juice with no added sweeteners, up to 120 calories / 8 oz., and with at least 10 percent of the recommended daily value for 3 or more vitamins and minerals
  - ▲ Other drinks with no more than 66 calories / 8 oz.
- At least 50 percent of non-milk beverages must be water and no or low calorie options

The Guidelines apply to all beverages (outside of the formal school meal program) sold to students on school grounds during the regular and extended school day. The extended school day includes before and afterschool activities like clubs, yearbook, band, student government, drama, and childcare programs.<sup>56</sup> The program is expected to be implemented in 75 percent of schools by summer 2008, with the goal of implementation in all schools by the summer of 2009.<sup>57</sup> Compliance in state, school district, and school-specific compliance with the guidelines is on a voluntary basis.

### Competitive Food Guidelines<sup>58</sup>

In October 2006, Campbell Soup Company, Dannon, Kraft Foods, Mars, and PepsiCo collaborated with the Alliance for a Healthier Generation to establish nutrition guidelines for competitive foods sold in schools, such as snacks, side items, treats, and desserts offered for sale.

The guidelines do not apply to school sponsored or school related bona fide fundraising activities that take place off of school grounds and not in transit to and from school. They also do not apply to booster sales at school related events where parents and other adults are a significant part of an audience or are selling food as boosters either during intermission or immediately before or after such events.<sup>59</sup>

The guidelines require competitive foods to meet one of the following numbered criteria:

1. Any fruit with no added sweeteners or vegetables that are non-fried. Since fresh fruits and vegetables vary in size and calories naturally, they have no calorie limit. However, calories for packaged fruits and vegetables are easily ascertained according to package nutrition labeling. As such, calorie limits for these fruits and vegetables are specified as follows:

|                       | Elementary | Middle   | High     |
|-----------------------|------------|----------|----------|
| Fresh                 | no limit   | no limit | no limit |
| Packaged in own juice | 150        | 180      | 200      |
| Dried                 | 150        | 180      | 200      |

2. Any reduced-fat or part-skim cheese  $\leq$  1.5 oz.

3. Any one egg with no added fat or equal amount of egg equivalent with no added fat.
4. Any other food that meets all of the following criteria:
  - a.  $\leq 35$  percent of total calories from fat
    - i. Nuts, nut butters, and seeds are exempt from above limitation and are permitted.
  - b.  $\leq 10$  percent of calories from saturated fat -OR-  $\leq 1$ g saturated fat
  - c. 0 g trans fat
  - d.  $\leq 35$  percent sugar by weight
  - e.  $\leq 230$  mg sodium
    - i. Lowfat and fat free dairy products can have  $\leq 480$ mg sodium
    - ii. Vegetables with sauce, and soups can have  $\leq 480$ mg sodium if they contain one or more of the following:  $\geq 2$ g fiber; or  $\geq 5$ g protein; or  $\geq 10$  percent DV of Vitamin A, C, E, folate, calcium, magnesium, potassium, or iron; or  $\geq \frac{1}{2}$  serving ( $\frac{1}{4}$  cup) of fruit or vegetables.
    - iii. Soups described in Addendum 2 are exempt and are permitted until August 31, 2008.
  - f. If products are dairy, they must be non-fat or low fat dairy.
  - g. Meet 1 of the following calorie requirements:
    - i.  $\leq 100$  calories
    - ii. Vegetables with sauce and soups meeting 3.e above can have 150 calories if they contain 2 or more of the following:  $\geq 2$ g fiber; or  $\geq 5$ g protein; or  $\geq 10$  percent DV of Vitamin A, C, E, folate, calcium, magnesium, potassium, or iron; or  $\geq \frac{1}{2}$  serving ( $\frac{1}{4}$  cup) of fruit or vegetables.
    - iii. Other foods can have calorie limits per below if they contain one or more of the following:  $\geq 2$ g fiber; or  $\geq 5$ g protein; or  $\geq 10$  percent DV of Vitamin A, C, E, folate, calcium, magnesium, potassium, or iron; or  $\geq \frac{1}{2}$  serving ( $\frac{1}{4}$  cup) of fruit or vegetables:
      - $\leq 150$  calories for elementary schools
      - $\leq 180$  calories for middle school
      - $\leq 200$  calories for high school.

#### **Addendum 1 - Total and Saturated Fats**

Products with  $\leq 7$  percent of calories from saturated fat will be allowed to have  $\leq 40$  percent of calories from total fat until August 31, 2008. By this date, products with  $\leq 7$  percent of calories from saturated fat must provide  $\leq 35$  percent of calories from total fat.<sup>60</sup>

#### **Addendum 2 - Sodium**

A variety of commercially available soup products available in bulk through food service channels to schools can meet all the requirements specified in the Guidelines except for an upper limit of 480 mg for sodium. In recognition of this market availability, soups that meet the sodium requirement specified in this Addendum will be considered to meet the Guidelines until August 31, 2008. This transition period will provide manufacturers time for product reformulation, as well as the ability to meet manufacturing and food service distribution requirements.

For individual serving packages, these nutritional guidelines are defined for a whole package as labeled on the package's nutrition facts panel. In the event that the food is bought in bulk but served individually, such as on an à la carte line, then the criteria apply to the serving size actually offered to students.

## HEALTH AND NUTRITION EDUCATION IN SCHOOLS

Healthy People 2010 states that health education should include information about the consequences of unhealthy diets and inadequate physical activity. Health education seeks to teach students about maintaining good health, including the proper nutrition and the value of physical activity, which are key to controlling obesity. CDC notes that health education can effectively promote students' health-related knowledge, attitudes, and behaviors.<sup>61</sup> These education programs are intended to help students set a foundation for maintaining good nutritional habits and a physically active lifestyle.

- **Only 2 states -- Colorado and Oklahoma -- do not require schools to provide health education.**

### **BMI and Obesity-Related Health Screening Initiatives in Schools**

A number of states have undertaken initiatives to screen BMI or other obesity-related measures in schools. The results overall are intended to help the states identify schools, school districts, and student populations that may need interventions to help reduce the rates of overweight children and youth.

- **Twelve states -- Arkansas, California, Delaware, Florida, Illinois, Kansas, Maine, Missouri, New York, Pennsylvania, Tennessee, and West Virginia -- have passed legislation enabling schools to test students' BMI levels as either part of health examinations or physical education activities.** In addition, **Iowa** requires the measurement, reporting and tracking of height and weight under an elementary school pilot program; **Louisiana** requires the assessment of changes in the weight status of students participating in a three-year nutrition and physical activity pilot program; **Massachusetts** mandates the annual measurement of each student's weight and height; and **South Carolina** requires fitness reports of students to be sent home to parents in the 5th and 8th grades and in high school.

In addition, in 2003, California and Illinois enacted legislation requiring risk analysis and non-invasive screening of students for diabetes. In 2005, California also enacted a ballot initiative that encourages additional diabetes awareness and prevention efforts. Two other states, Pennsylvania and Texas, considered legislation to screen students for their potential at risk status for type 2 diabetes, but the initiatives were not enacted.

- **Two states have enacted legislation requiring screening students for risk of type 2 diabetes -- California and Illinois.**

## CDC'S SCHOOL HEALTH PROGRAM GRANTS

■ Only 23 states received funds to support CDC's school health program that encourages behaviors to help reduce students' risk of obesity in 2006, including Arkansas, California, Colorado, Florida, Hawaii, Indiana, Kansas, Kentucky, Maine, Massachusetts, Michigan, New York, North Carolina, North Dakota, Oregon, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Washington, West Virginia, Wisconsin. The average grant award was \$416,000.

CDC's Division of Adolescent and School Health (DASH) awarded cooperative agreement grants to 23 states to improve school health programs and policies designed to help young people avoid behaviors that increase risk for obesity and chronic disease.

Each state department of education is the lead agency for these grants and works in partnership with the state department of health to strengthen school-based policies and programs that address obesity and chronic disease. The DASH grants support:

- The planning and coordination of school-based programs that address all aspects of health in a school, including physical education and other physical activities, nutritional services, health education, school employee wellness, counseling, psychological, and social services, health services, family and community involvement, and healthy school environment;
- The implementation of the school health guidelines that address physical activity and healthy eating;
- Statewide assessments of critical health behaviors that contribute to obesity and overweight in youth;
- Local level assessment of school health programs;
- The building of effective partnerships among state-level government and non-governmental agencies in support of school health programs and policies; and
- The establishment of a state technical assistance and resource plan for school districts and schools.

## C. COMMUNITY-FOCUSED OBESITY LEGISLATION AND FEDERAL GRANTS TO STATES

TFAH has also examined a number of state obesity-related policies and actions that are aimed at the general population. These include tax policies, litigation restrictions, and

grants from CDC for obesity-related programs. Additional detail about the snack tax and obesity liability laws is available in the Supplement to *F as in Fat* on TFAH's Web site.

### SNACK TAXES

One way many states have tried to impact the obesity epidemic is by taxing junk foods in an attempt to reduce people's consumption of these products. The National Governors Association's Center for Best Practices and the World Health Organization (WHO) have noted that taxes on junk foods are possible tools governments can use to influence consumer choices.<sup>62,63</sup>

**Seventeen states and D.C. currently have laws that tax foods of low nutritional value:<sup>64</sup> Arkansas, California, D.C., Illinois, Indiana, Kentucky, Maine, Minnesota, Missouri, New Jersey, New York, North Dakota, Rhode Island, Tennessee, Texas, Virginia, Washington, and West Virginia.**

These taxes are very controversial. Proponents of the taxes argue that a tax on junk food could be used to fund a healthy eating and nutritional information campaign.<sup>65</sup> Opponents argue that junk food taxes are regressive and unlikely to encourage people to substitute healthier foods for junk food.<sup>66</sup> Some public health officials view the positive impact on taxing tobacco products in reducing smoking as a model for taxing snack foods and sodas to promote healthier behavior.

## LEGISLATION FOR LIMITING OBESITY LIABILITY

Many states have responded to the obesity epidemic by passing laws that prevent individuals from suing restaurants, manufacturers, and marketers for contributing to unhealthy weight and related health problems. These laws that limit liability are fairly controversial, and have been prompted by fears of obesity lawsuits similar to tobacco lawsuits. However, they are one of the most visible sets of obesity-related policies to emerge in recent years.

**Twenty-four states have passed obesity liability laws: Arizona, Colorado, Florida, Georgia, Idaho, Illinois, Indiana, Louisiana, Kansas, Kentucky, Maine, Michigan, Missouri, New Hampshire, North Dakota, Ohio, Oregon, South Dakota, Texas, Tennessee, Utah, Washington, Wisconsin and Wyoming.**

Proponents of these bills argue that the central issue is “common sense and personal responsibility.”<sup>67</sup> Passage of the bill indicates a level of support for the view that obesity is an individual health issue. Supporters also endorse a statement from the White House that “food manufacturers and sellers should not be held liable for injury because of a person’s consumption of legal, unadulterated food and a person’s weight gain or obesity.”<sup>68</sup>

Opponents of limited liability laws support the position that “it’s impossible for consumers to exercise personal responsibility when businesses are concealing important information about their products,” such as the number of calories in restaurant food or lack of consistency in food labeling.<sup>69</sup>

## CDC GRANTS FOR STATE-BASED NUTRITION AND PHYSICAL ACTIVITY PROGRAMS

■ **Only 28 states receive funds from the CDC for state-based nutrition and physical activity programs aimed at reducing the rates of obesity and other chronic diseases.**

CDC’s Division of Nutrition, Physical Activity, and Obesity (DNPAO) awarded cooperative agreement grants to 28 states to help improve their efforts to prevent obesity and other chronic diseases.

Basic implementation grants help support states to:

- Conduct and evaluate nutrition and physical activity interventions;
- Train health care providers and public health professionals;
- Provide grants to communities for local obesity prevention initiatives;
- Make environmental changes to encourage access to healthful foods and places to be active; and
- Strengthen obesity prevention programs in community setting such as preschools, childcare centers, work sites, and health care settings.

**Seven states received basic implementation grants in 2006, with an average award of \$1,022,114: Colorado, Massachusetts, New York, North Carolina, Oregon, Pennsylvania, and Washington.**

Capacity building grants help states to:

- Hire staff with expertise in public health nutrition and physical activity;
- Build broad-based coalitions;
- Develop state nutrition and physical activity plans;
- Identify community resources and gaps;
- Implement small scale interventions; and
- Work to raise public awareness of systemic changes needed to help state residents achieve and maintain a healthy weight.

**Twenty-one states received “capacity building” grants in 2006, with an average award of \$420,186: Arizona, Arkansas, Florida, Georgia, Illinois, Iowa, Kentucky, Maine, Maryland, Michigan, Missouri, Montana, New Mexico, Oklahoma, Rhode Island, South Carolina, South Dakota, Texas, Vermont, West Virginia, and Wisconsin.**

## D. EXAMPLES OF STATE OBESITY MEDICAID HEALTH CARE BENEFITS

This section examines examples of how some state Medicaid programs are offering obesity-related benefits, particularly to

improve preventive care and treatment. It also reviews state policies for reimbursing obesity surgery and obesity drugs.

### EXAMPLES OF STATE MEDICAID AND STATE CHILDREN'S HEALTH INSURANCE PROGRAM (SCHIP) EFFORTS

#### WEST VIRGINIA

At more than \$2.1 billion, West Virginia's Medicaid and SCHIP program is the largest item in the state budget. It is estimated that the state spent nearly \$140 million on "medical and pharmacy costs related to obesity" in 2002 alone.<sup>70</sup> Given the high budgetary strain of obesity on the state, West Virginia is implementing initiatives within its Medicaid program to encourage enrollees to adopt healthier lifestyles.

- West Virginia is offering enrollees an optional, extended benefits package in an effort to promote healthier living among the state's Medicaid population.<sup>71</sup> The extended benefits package includes coverage for nutrition education, diabetes care, and cardiac rehabilitation.<sup>72</sup> In addition, it gives enrollees the opportunity to earn credits toward health services in a Healthy Rewards Account.<sup>73</sup>
- In January 2007, West Virginia began offering obese Medicaid recipients enrolled in UniCare, the largest provider of Medicaid in the state, 16 weeks of free Weight Watchers courses.<sup>74</sup>

If the Weight Watchers program proves successful in West Virginia, Wellpoint Inc., the parent company of UniCare, may look into expanding the program to the following 14 states where the company also provides healthcare coverage: California, Colorado, Connecticut, Georgia, Indiana, Kentucky, Maine, Missouri, Nevada, New Hampshire, New York, Ohio, Virginia, and Wisconsin.<sup>75</sup>

West Virginia's extended benefits program requires individuals to sign a "personal responsibility" member agreement. "Individuals who do not meet their responsibilities" are moved out of the program, whether or not they still have obesity-related health problems.<sup>76</sup> Some public health experts question the effectiveness of removing people who do not meet specific program requirements but are at risk for a range of obesity-related health conditions.

#### TENNESSEE

TennCare, Tennessee's Medicaid agency, also has begun covering \$120 for 12 weeks of Weight Watchers meetings for each Medicaid enrollee who wants to participate in the program. To remain enrolled in the program, participants must pay a \$1 co-pay at each meeting, attend 10 of the 12 weekly meetings, and achieve their targeted weight loss for the 12 week period.<sup>77</sup> In 2006, TennCare completed a pilot run of the program, which included 1,400 Medicaid beneficiaries who lost a combined total of more than 8,000 pounds over a six month period.<sup>78</sup>

#### COLORADO AND IOWA

In 2005, 2 pieces of legislation were enacted to combat obesity among state Medicaid populations.

- Colorado passed a law calling for the development and implementation of an obesity treatment pilot program for obese Medicaid enrollees. In order to be eligible for the program, patients must have a BMI equal to or greater than 30 and an obesity-related disease, such as diabetes, hypertension, and coronary heart disease. The program is designed to treat a recipient through the use of behavioral modification, self-management training, and medication when medication is medically necessary.<sup>79</sup>
- In Iowa, legislation requires "the state's Medicaid program to develop a strategy for providing dietary counseling to child and adult Medicaid enrollees by July 1, 2006."<sup>80</sup>

## NEBRASKA'S HEALTH CHECK PROGRAM

Nebraska's program, known as HEALTH CHECK, is available to all Medicaid-eligible individuals age 20 and younger and covers:

- **Nutrition Counseling:** Eligible children and adolescents can receive short term one-on-one nutritional counseling sessions. Under HEALTH CHECK rules, "nutritional problems or conditions that are considered appropriate for nutritional counseling" include obesity and "excessive weight gain."<sup>81</sup>
- **Weight Management Clinics:** Weight management services are only covered "when the child is documented to be clinically overweight." The program must include: (1) a moderate calorie diet well balanced in macronutrients; (2) an exercise program; (3) family involvement; (4) behavior modification; and (5) a developmentally-appropriate approach for the child's age group.<sup>82</sup>

## ARIZONA'S CHILDHOOD OBESITY PREVENTION PROGRAM

The Arizona Health Care Cost Containment System (AHCCCS), Arizona's Medicaid system, has begun implementing its Childhood Obesity Prevention Program. The program includes 4 tiers of education and intervention for nutrition/healthy eating, physical activity, behavior management and support for children who are, or are at risk of, becoming overweight and their families.<sup>83</sup>

- **TIER 1:** focuses on obesity prevention. Risk factors (e.g., family history, birth weight, socioeconomic factors, etc.) for obesity are assessed for each patient (3 to 20 years old) and BMI is calculated. The primary care physician is advised to focus on educating both the parent and child about "healthy family eating patterns" and limiting t.v./video to 2 hours per day. The physician is also advised to promote "family physical activity."<sup>84</sup>
- **TIER 2:** If tier 1 prevention techniques have failed, the primary care physician is advised to continue to educate the family and child about healthy eating and physical activity habits. The guidelines advise the primary care physician to recommend medical nutritionist/dietician consultation and motivational/behavioral therapy consultation. Two visits per year to a dietician for medical nutrition therapy and 2 visits per year for motivational/behavioral therapy are covered.<sup>85</sup>
- **TIER 3:** If tier 2 recommendations have failed and there are health complications (e.g., elevated blood pressure), the primary care physician is advised to recommend family exercise physiologist consultation. In addition, the primary care physician is advised to increase family nutritionist/dietician consultations and family motivational behavioral therapy consultations. Finally, the primary care physician is advised to conduct an indepth medical assessment, including lab work up, of the child.<sup>86</sup>
- **TIER 4:** If tier 3 recommendations have failed and a "willingness to change/desire to change" has been identified within the patient, the guidelines recommend that the patient enroll in a Center of Excellence for Obesity Management program. Both parent and child must agree to participate in and complete the program. The program must have a family approach and incorporate an individualized curriculum.

If depression is identified within the patient at tiers 2, 3, or 4, depression management services are covered.<sup>87</sup>

### 1. More Than 40 States Offer Medicaid Reimbursement for Weight-Loss Surgeries

As of 2004, 42 state Medicaid programs offered coverage for gastric bypass surgery: Alabama, Alaska, Arkansas, California, Colorado, Connecticut, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota,

Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Utah, Virginia, Washington, West Virginia, Wisconsin, and Wyoming.<sup>88</sup>

Note: The Medicaid programs in Arizona and Tennessee are managed care. Therefore, obesity-related coverage decisions are made by the individual managed care organizations and not the state.<sup>89</sup>

## PRIVATE COVERAGE OF WEIGHT-LOSS SURGERIES

Many within the health care sector believed that after Medicare began covering a range of weight-loss surgeries, private insurers and employers would do the same. However, that has not necessarily been the case due to insurers' and employers' concerns over the cost of the procedures and the risk of health complications and death associated with the surgeries. Each operation costs between \$15,000 and \$20,000 (and when the cost of evaluations, follow-up care and counseling are added in, the process can run from \$35,000 and \$50,000).<sup>90, 91</sup>

In fact, some private insurers are scaling back their coverage of bariatric surgeries due to cost concerns. In 2005, Blue Cross and Blue Shield of Florida (BCBSFL) announced that it would no longer pay for weight-loss surgeries. Barry Schwartz, vice president of care and network management for BCBSFL said this was largely because of the procedure's more than 20 percent complication rate. In addition, BCBSFL has spent nearly \$200 million on weight-loss surgeries over the past 3 years. "People need to know what a proper diet is and have good access to a doctor who will work with them and monitor them," said Dr. Schwartz. "Beyond that, there is really remarkably little that has proven to be effective."<sup>92</sup>

Some private insurers do cover weight-loss surgeries, but with caveats.

- Humana of Texas and Blue Cross and Blue Shield of Texas are excluding coverage of weight-loss surgeries for their members but will coordinate coverage "for large employers that choose to add coverage under a rider to their benefit policies."<sup>93</sup> However, due to concerns over complications and risks associated with the surgeries, the insurers will only grant coverage to these large employers if the weight-loss surgeries are performed in Centers of Excellence, similar to the requirements of Medicare.<sup>94</sup>
- Blue Cross and Blue Shield of Massachusetts (BCBSMA) will only reimburse hospitals for weight-loss surgeries if the hospitals have been "certified as outstanding providers of weight-loss surgery" by the American College of Surgeons (ACS) or the Surgical Review Corp (SRC), "a nonprofit set up by groups and organizations interested in improving bariatric surgery outcomes."<sup>95</sup> BCBSMA implemented the requirement in hopes that it will "improve outcomes for patients undergoing" weight-loss surgeries. BCBSMA was "the first BCBS insurer in the country to require hospital certification for weight-loss" surgeries. The Blue Cross and Blue Shield Association and Blue Cross and Blue Shield of North Carolina (BCBSNC) have since established similar standards.<sup>96</sup>
- Tufts Health Plan will only cover weight-loss surgeries performed by "center of excellence" providers.<sup>97</sup> However, in March 2007, Tufts made its requirements for coverage more stringent by "requiring obese patients to participate in a yearlong lifestyle modification program before being eligible for" weight-loss surgeries.<sup>98</sup>

## 2. States Medicaid Reimbursements for Major Weight-Loss Drugs

According to a review of state Medicaid programs that offer coverage of weight-loss drugs, based on the State Pharmacy lists as of 2006-07, 17 states offer coverage of weight-loss drugs if a patient meets criteria for being diagnosed with a health condition such as type 2 diabetes, hyperlipidemia, or

morbid obesity. These states include: Alabama, Arizona, Colorado, Georgia (only for Fee For Service plans), Hawaii, Iowa, Idaho, Kansas, Louisiana, Montana, Nebraska, New Hampshire, Rhode Island, Texas, Vermont, Virginia, and Wisconsin.<sup>99</sup>



# Federal Responsibilities and Policies

The federal government has developed a variety of initiatives to combat obesity and related health concerns.

In the 2004 and 2005 editions of the *F as in Fat* report, TFAH outlined obesity responsibilities and policies at a range of federal agencies. TFAH found that these efforts largely fall into 3 categories:

- Public education campaigns targeted at individual behaviors;
- Treatment of obesity-related diseases; and
- Initial steps toward developing community active living incentives.

Obstacles TFAH found that hinder a more strategic, coordinated obesity policy include:

- Lack of designated leadership and a frequent silo approach that result in a lack of coordinated effort among related agencies;

- Difficulties in balancing the competing interests and priorities of industry and the public health community; and
- An emphasis on the traditional development of construction rather than building public transportation or the development of community spaces that encourage people to be active.

While many departments and agencies work on obesity-related issues, there is no federal government wide approach or coordination of these efforts. While obesity is primarily a health issue, almost every other aspect of government has programs and policies that impact nutrition and activity, ranging from community and highway development to agriculture policy to business incentives for locating supermarkets in low-income neighborhoods.

## EXAMPLE OF GOVERNMENT-WIDE APPROACH TO A PUBLIC HEALTH PROBLEM

In 2005, the Administration released a national strategy and a federal government wide plan with detailed steps and benchmarks for each agency for pandemic flu preparedness. That comprehensive approach to dealing with a wide reaching public health problem serves as an example for policymakers focused on obesity.

## OVERVIEW OF SOME KEY FEDERAL AGENCIES' INVOLVEMENT IN OBESITY POLICY

More details on these programs are available in the 2004 and 2005 editions of *F as in Fat*.

**Dietary Guidelines for Americans -- A Joint U.S. Department of Health and Human Services (HHS) and USDA Initiative** -- released in 2005 and aimed at providing people with advice about good dietary habits.

**HHS** is involved in more than 300 obesity-related programs nationwide. Most of the agencies within HHS are involved in obesity-related programs, including:

**CDC** which oversees the National Center for Chronic Disease Prevention and Health Promotion, including grant programs for states such as the Division of Adolescent and School Health (DASH), Division of Nutrition, Physical Activity, and Obesity (DNPAO), and the Steps to a HealthierUS program. The National Center for Environmental Studies also studies the relationship between the built environment (land use, urban planning, and transportation) and health issues including obesity.

The DNPAO is nearing completion of a strategic planning and reorganization process which aims to:

- Enhance CDC's capacity to lead public health efforts related to nutrition, physical activity, and obesity prevention and control;
- Strengthen the link between scientific research and program activities;
- Highlight and expand relationships with states, communities, and other partners in promoting nutrition, physical activity, and obesity prevention and control; and
- Increase translation and dissemination activities in support of programs.

**Centers for Medicare and Medicaid Services (CMS)** where Medicare and Medicaid are estimated to pay over half of the nation's obesity-related health care costs.

**Food and Drug Administration (FDA)** which oversees food labeling requirements and a "Calories Count" initiative. FDA also "encourages" restaurants to make nutritional information available to consumers. FDA also oversees the approvals of weight-loss drugs.

**National Institutes of Health (NIH)** conducts research and education programs. In 2003, NIH created a *Strategic Plan for NIH Obesity Research* focusing on research into lifestyle modifications, medical approaches, linkages between obesity and health, and studying health disparities related to obesity. A number of Institutes at NIH also manage obesity and obesity-related disease management public education campaigns. The National Institute of Environmental Health Sciences is also examining how the built environment impacts obesity.

**Health Resources and Services Administration (HRSA)** which aims to expand health care coverage for all Americans manages a range of programs such as the Maternal and Child Health Bureau and the Bright Futures Initiative that focus on promoting healthy behaviors.

Other HHS offices, including the **Surgeon General's Office**, the **Office of Women's Health**, the **Indian Health Service**, and the **Administration on Aging** manage obesity-related public education campaigns.

**President's Council on Physical Fitness and Sports** encourages Americans to be more active and manages the President's Challenge awards program through schools.

**USDA** is responsible for a range of food and nutrition programs that impact obesity, including nutritional advice and guidance; food and obesity education campaigns; distribution of food products to schools; oversight and protection of the nation's agricultural and dairy markets. USDA's Food and Nutrition Service (FNS) oversees the Food Stamp Program; the Women, Infants, and Children Program (WIC); the National School Lunch Program; and the Child and Adult Care Food Program.

**Federal Trade Commission (FTC)** regulates advertising of food and diets. It has focused on attempts to limit marketing “junk food” to children. FTC also monitors possible false advertising about diets products and healthiness of foods.

A number of companies have undertaken self-regulation efforts over the past year, including Kraft Co., Kellogg Co., and Walt Disney Co. In addition a number of companies announced new self-restriction policies for marketing to children under age 12 in July 2007, including Coca-Cola Co., McDonalds Corp., PepsiCo, General Mills Inc., Campbell Soup Co., Hershey Co., Unilever, Masterfoods USA, Kraft Foods Inc., and Cadbury Adams.<sup>100</sup> Decisions about voluntary restrictions vary on a company by company basis. For example, General Mills announced it will limit advertising of Trix cereal to children under age 12, but will not limit marketing of Cocoa Puffs, which has less than one gram of sugar per serving. As another example, PepsiCo, which owns Frito-Lay, Quaker Foods, Pepsi and Gatorade, will only advertise 2 of its products to children under 12, Baked Cheetos Cheese Flavored Snacks and Gatorade drinks.<sup>101</sup>

**Department of Defense (DOD)** oversees the health of the military. DOD has developed a number of programs to combat obesity in the armed services. An estimated 16 percent of active duty military are currently obese and 18.9 percent of active duty soldiers under the age of 21 are obese.<sup>102</sup> Almost one-third of 18 year olds who applied for service in all branches of the military in 2005 were overweight, according to a recent report by the Army.<sup>103</sup> DOD also partners with the FNS on the DOD Fresh Fruit and Vegetable Program to supply fresh fruit and vegetables to schools.

**Department of Veterans Affairs (VA)** serves over 6 million veterans. Nearly 70 percent of these veterans are overweight and approximately 30 percent are obese.<sup>104</sup>

**Office of Personnel Management (OPM)**, in an effort to reduce the demands on the health care system and associated costs for federal employees, has launched initiatives to educate the federal civilian workforce and retirees about healthy living and best health care strategies.

**HHS, USDA, DOD, and the Department of the Interior (DOI)** created a Memorandum of Understanding to Promote Public Health and Recreation to support the use of public lands and water resources for physical activity and recreation. The memorandum particularly cites outdoor recreation as integral to a healthy and physically active lifestyle.<sup>105</sup> The DOI’s National Park Service provides funding for the Land and Water Conservation Fund, a matching federal grant program that assists states and localities in acquiring and developing public outdoor recreation areas and facilities.

**The Federal Highway Administration and Environmental Protection Agency (EPA)** have undertaken some efforts to work with states to redesign large highway and roadway projects.<sup>106</sup>

**EPA** has a brownfields initiative devoted to clean up assistance and redevelopment of former commercial and industrial sites which are abandoned or contaminated with hazardous substances or pollutants. Many of these brownfields are redeveloped into public space which can provide increased venues for recreation.

**Department of Education** administers the Carol M. White Physical Education Program, which offers competitive grants for the initiation, expansion, and improvement of physical education programs for K-12 students.

**Department of Transportation (DOT)** offers grants through the Federal Safe Routes to School Program. The grants provide funding for infrastructure improvements and educational programs, such as building safe street crossings and establishing programs to encourage children to walk and bike to school.

## MEDICARE REIMBURSEMENT OF OBESITY TREATMENTS

In July 2004, HHS “eliminated the long-held Medicare policy statement that obesity was not a disease” from the Medicare Coverage Issues Manual.<sup>107,108</sup> Some experts believe this may lead to increased federal health insurance coverage of obesity treatments.<sup>109</sup>

Up until February 2006, gastric bypass surgery (known as Roux-en-Y bypass) was the only weight-loss surgery covered by Medicare.<sup>110</sup> The federal agency now also covers laparoscopic adjustable gastric banding (involves using a band to “pinch off a small portion of the stomach”) and open and laparoscopic biliopancreatic divisions (involves “surgically bypassing most of the small intestine and pancreas”).<sup>111, 112, 113</sup>

To qualify for weight-loss surgery under the new policy, Medicare recipients “must have unsuccessfully tried other treatments, have a BMI of more than 35 and also suffer from weight-related problems, such as diabetes, heart disease or sleep apnea,” and the surgery must be performed at a certified facility.<sup>114</sup>

See below for more discussion of covering childhood obesity and the **State Children’s Health Insurance Program Reauthorization Act of 2007**.

Below are 5 major federal obesity-related issues that have been under consideration this past year:

**A.** Reauthorization of the Farm Bill;

**B.** Reauthorization of No Child Left Behind;

**C.** Reauthorization of the State Children’s Health Insurance Program (SCHIP) Act;

**D.** Funding for CDC Obesity Grants; and

**E.** Acceleration of the Obesity Prevention Research Agenda.

### A. REAUTHORIZATION OF THE FARM BILL

The Farm Bill will be reauthorized in 2007. The legislation can be an important vehicle to improve federal nutrition programs and help combat the obesity epidemic.

A number of dietary factors are contributing to increased levels of obesity in America, ranging from higher caloric density of foods to limited access to nutritious fresh foods in many areas to outdated nutrition standards for foods sold in schools. Currently, the typical American diet does not include enough fruits and vegetables.

■ Only one in 5 Americans consumes the recommended amount of fruit each day.<sup>115</sup>

■ Children under the age of 18 generally consume 50 percent or less of the recommended levels of fruits and vegetables.<sup>116</sup>

Consumer and industry economics also contribute to the country’s obesity problem.

■ Low-income families consume fewer fruits and vegetables than higher-income families.<sup>117</sup>

■ People in low-income areas often pay more for nutritious foods such as fresh fruits and vegetables.<sup>118</sup>

■ The costs of fruits and vegetables have increased 40 percent since 1985, while the costs of fats and sugars have declined.<sup>119</sup>

The Administration’s Farm Bill proposal would increase mandatory funding for the purchase of fruits and vegetables for nutrition programs, make some reforms to the Food Stamp Program, support school efforts to provide meals based on the *Dietary Guidelines for Americans, 2005*, and launch a USDA Initiative to Address Obesity Among Low-Income Americans.

## FRUIT AND VEGETABLES: PRODUCTION IMPACTS CONSUMPTION

- To meet the *2005 Dietary Guidelines for Americans* for fruit, Americans on a 2,000 calorie per day diet would need to increase fruit consumption by 132 percent. In order for this increase to occur, U.S. production of fruit would need to increase 117 percent and U.S. agriculture would need to harvest 4.1 million more acres of fruit over 1999-2003 production levels.<sup>120</sup>
- To meet the guidelines for vegetables, Americans on a 2,000 calorie per day diet would need to increase daily consumption of vegetables by 31 percent. However, when you take into account the five vegetable subgroups in the Guidelines, Americans would have to increase their consumption of legumes, orange vegetables, and dark-green vegetables by 431 percent, 183 percent, and 175 percent respectively. Overall, U.S. farmers would “need to harvest 15.3 million acres of vegetables per year for Americans to meet” the Guidelines vegetable recommendations, “an increase of 137 percent (8.9 million harvested acres) over 1999-2003 levels.”<sup>121</sup>

While the *Dietary Guidelines for Americans* were updated in 2005, the National School Lunch Program (NSLP) and the Food Stamp Program have yet to be updated to meet the recommended nutrition standards. In FY 2005, an average of 29.6 million children participated in NSLP each school day, representing around 60 percent of all children attending a school or institution participating in NSLP. That same fiscal year, an average of 25.7 million individuals per month participated in the Food Stamp Program, an 8 percent increase over FY 2004.<sup>122</sup>

According to USDA's FY 2007 Farm Bill proposal, the agency “is in the process of developing a proposed regulation to better align school meal requirements with the *2005 Dietary Guidelines for Americans*.”<sup>123</sup>

The Administration proposal also contains USDA plans to increase funding for fresh fruits and vegetables to help schools meet the 2005 guidelines.

The Farm Bill could impact a wide range of other policies related to schools, the Food

Stamp Program, farmers' markets, and farm subsidies for fruits and vegetables, including:

### For Schools

- Expanding USDA's Fresh Fruit and Vegetable Snack Program to every state, and increase funding for the program. In FY 2006, only approximately 400 schools in 14 states and 3 Indian reservations received support for this program.
- Restricting the sale of foods of poor nutritional value in schools.
- Increasing funding for the Department of Defense Fresh Program, which offers schools a wider variety of fresh produce than would normally be available in the School Lunch Program through USDA purchases.

### For the Food Stamp Program

- Updating the Food Stamp Program to meet the *Dietary Guidelines for Americans, 2005*.
- Increasing the minimum food stamp benefit so recipients can more easily afford fruits and vegetables and purchase foods that meet the *Dietary Guidelines for Americans, 2005*.
- Authorizing a pilot program to provide a monetary incentive on the program's Electronic Benefits Transfer card for purchasing fruits, vegetables, and whole grain foods.
- Strengthening the Food Stamp Nutrition Education Program to include more comprehensive public health approaches and include a broader definition of nutrition education.

## For Farmers' Markets

- Providing subsidies to farmers' markets to accept Electronic Benefits Transfer cards from the Food Stamp Program.
- Providing grants as incentives for creating more farmers' markets, especially in underserved communities.
- Increasing research in ways to increase access to fresh fruits and vegetables in low-income communities including transportation options to make it easier for people to get to farmers' markets.
- Expanding the Seniors Farmers' Market Nutrition Program.

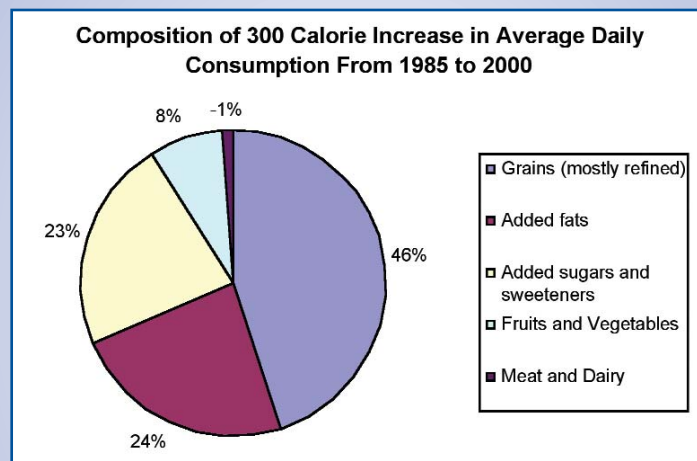
## For Farm Fruit and Vegetable Subsidies

- Examining subsidies for growing fruits and vegetables. Currently, federal farm programs that provide income to support field crop producers do not apply to the fruit and vegetable industries other than corn.<sup>124</sup> Corn, wheat, soybeans, rice, and cotton are "program crops" that receive government subsidies ranging from \$10 billion to \$25 billion a year.<sup>125, 126</sup>

## CROP SUBSIDIES AND EATING HABITS

Americans' dietary habits are likely influenced by which crops are subsidized. Currently corn, wheat, soybeans, rice, and cotton are the crops that are most heavily subsidized by the government.

- One analysis of eating patterns in 2002 found that Americans consume an average of 300 more calories a day than in 1985. Of this 300 calorie increase, 46 percent are grains (primarily less healthy refined grains); 24 percent are added fats; 23 percent are added sugars and sweeteners; 8 percent are fruits and vegetables; and meat and dairy declined by one percent.<sup>127</sup>



Source: Economic Research Service, USDA, 2002

- Wheat constitutes 71 percent of U.S. grain consumption.<sup>128</sup> On average, Americans eat 10 servings of grains a day, 9 of which are refined grains with limited fiber content, and only one serving is a whole grain food. The 2005 Dietary Guidelines for Americans recommend at least a 3 ounce servings of whole grain foods per day.<sup>129</sup>
- Soybean oil "accounts for 75 percent of the fat in processed foods and is commonly hydrogenated to create trans fats."<sup>130</sup> Soybean oil also accounts for approximately "two-thirds of all the vegetable oils and animal fats consumed in the United States."<sup>131</sup>
- High-fructose corn syrup, which is processed from corn, "is the most widely used caloric sweetener in the United States."<sup>132</sup> Average per capita annual consumption of high fructose corn syrup grew by 129 percent between 1980-84 and 2000.<sup>133</sup>

## B. REAUTHORIZATION OF NO CHILD LEFT BEHIND

The Elementary and Secondary Education Act, often called the No Child Left Behind Act, is up for reauthorization in 2007. Parts of the legislation could influence how physical education and physical activity are included within school.

According to the National Coalition for Promoting Physical Activity (NCPA), studies demonstrate that physical education and physical activity programs have positive effects

on students' academic achievement, including increased concentration, improved mathematics, reading, and writing test scores, and also reduced disruptive behavior.<sup>134, 135</sup>

A list of recommendations from the NCPA for ways to increase physical education and activity in school and around schools is included in the **Section 4: Promoting Physical Activity as a Strategy to Improve Health** of this report.

## C. REAUTHORIZATION OF THE STATE CHILDREN'S HEALTH INSURANCE PROGRAM (SCHIP) ACT

The State Children's Health Insurance Program (SCHIP) is designed to help states insure more children. The program is up for reauthorization in 2007 and could take steps to further address the childhood obesity crisis by including a health insurance style benefit for obesity-related services to children enrolled in the program.

Most private insurance plans do not provide coverage for obesity-related services, thus these benefits may not be part of the "benchmark" plans from which SCHIP coverage is developed. In order to more effectively address rising childhood obesity rates, basic anti-obesity benefits could be covered to SCHIP beneficiaries. There is precedent for this sort of coverage as Medicare covers medical nutrition therapy for beneficiaries with diabetes or renal disease. But the Medicare benefit, which is aimed at adults used to dealing with medical advice, counseling, and treatment, may not be adequate for children covered by SCHIP.

The childhood obesity-related benefits Blue Cross Blue Shield of North Carolina (BCBSNC) offers can serve as a model for what could be included in such a benefit.

In the BCBSNC model, all beneficiaries are screened for obesity and overweight as part of routine visits to physicians. This screening is covered by BCBSNC and beneficiaries are not expected to pay any further cost sharing.

Beneficiaries found to be overweight or obese are eligible for additional benefits including:

- Up to 6 visits to licensed and credentialed nutritionists for nutrition counseling.
- Access by phone to a nurse health coach.
- Up to 4 physician visits a year for the evaluation and treatment of obesity.
- No cost sharing shall be expected of the beneficiary for these benefits.

Nutrition counseling is defined based on a 1997 recommendation from a committee at the HRSA Maternal and Child Health Bureau:

- The Committee suggests that a clinical dietician or nutritionist can work with the child and his family members to achieve a health approach to eating. The Committee believes that "changes in diet are more likely to be achieved if the clinician involves the entire family; recommends one or 2 small changes at a time (e.g. the elimination of one or 2 high calorie foods from the family's diet); teaches problem-solving, especially how to handle eating outside the home and saboteurs (i.e. people who interfere with the family's changes in eating habits or physical activity level); and follows the family closely."<sup>136</sup>

## D. FUNDING FOR CDC OBESITY GRANTS

The proposed budget from the Administration for FY 2008 calls for cuts to a number of cooperative agreement grant programs that focus on obesity prevention and health promotion at CDC, including the Division of Nutrition, Physical Activity, and Obesity; Division of Adolescent School Health; and Steps to a Healthier U.S. grant programs.<sup>137</sup>

■ **Division of Nutrition, Physical Activity, and Obesity (DNPAO):** Through its Nutrition and Physical Activity Program to Prevent Obesity and Other Chronic Diseases (NPAO), DNPAO funds programs that use various nutrition and physical activity intervention strategies to address obesity and other chronic diseases.<sup>138</sup> The program is currently available to only 28 states due to limited funds.

■ **Division of Adolescent School Health (DASH):** As part of its mission to prevent the most serious health risk behaviors among children, adolescents and young adults, DASH currently provides funds to establish and run a statewide coordinated school health program.<sup>139</sup> School health programs encompass health and physical education, school meals, health services, and healthy school environments. These school programs tackle a range of health issues, including “reducing chronic disease risk factors including tobacco use, poor nutrition, and physical activity.”<sup>140</sup> The program is currently available to only 23 states due to limited funds.

■ **Steps to a Healthier U.S.:** The Steps to a Healthier U.S. program funds communities

across the country to show how local initiatives can reduce the burden of chronic diseases such as obesity, diabetes, and asthma by encouraging people to be more physically active, eat a healthy diet, and not use tobacco.<sup>141</sup> Through a 5-year cooperative agreement, Steps has provided grants to 25 small cities/rural communities, 12 large cities/urban communities, and 3 tribal entities. In all, Steps is active in 17 states in some capacity. Steps programs have demonstrated progress in reducing obesity in community-based interventions; reducing chronic disease risk factors and health care costs in workplaces; creating healthier school environments including provision of nutritious foods and physical activity enhancements; and reducing A1c levels among diabetes patients. The Administration has proposed cutting the Steps program by nearly 40 percent (\$17.3 million).

The budget is calling for a new Adolescent Health Promotion Initiative as the Steps to a Healthier U.S. is being eliminated and past programs like VERB have been discontinued.

■ **Adolescent Health Promotion Initiative:** The Administration has proposed new funding -- \$17.3 million -- to establish a program that aims to help schools encourage regular physical activity, healthy eating, and injury prevention. Under the program, schools would have access to the HHS School Health Index to make self-assessments, develop action plans, and apply for one of CDC’s approximately 3,600 School Culture Wellness Grants to help implement action plans.

| FY 2008 Presidential Appropriations Request for CDC Programs & Divisions                         |              |                            |                                   |
|--|--------------|----------------------------|-----------------------------------|
| Division/Program   | FY 2007      | President FY 2008 Proposal | Difference in Funding (FY08-FY07) |
| Division of Nutrition, Physical Activity, and Obesity (DNPAO)                                    | \$41,351,000 | \$41,309,000               | (\$42,000)                        |
| Division of Adolescent School Health (Note: this includes funds for HIV programs) <sup>142</sup> | \$55,949,000 | \$55,893,000               | (\$56,000)                        |
| Steps to a Healthier U.S.  | \$43,685,000 | \$26,386,000               | (\$17,299,000)                    |
| Adolescent Health Promotion Initiative   | \$0          | \$17,300,000               | \$17,300,000                      |

## E. ACCELERATING RESEARCH ON EFFECTIVE OBESITY REDUCTION AND CONTROL

While there is a lot of scientific evidence about the benefits of nutrition and physical activity on health, there are few studies that have found effective, long term, community-based strategies for obesity prevention. Evaluations of the current body of research call for additional resources for “translational” research to help inform and improve long term, community-based approaches.

NIH, CDC, HRSA, and other HHS agencies have research efforts underway to try to inform improved obesity prevention and control efforts, particularly through finding more effective ways to encourage behavior change.

Given the epidemic proportion of the obesity crisis, research into evidence-based strate-

gies for preventing and controlling weight gain should be greatly accelerated.

In past editions of *F as in Fat*, TFAH has identified research questions that should be prioritized to enhance the ability of public health officials to respond to the crisis. These questions are included in the **Recommendations** section of this report.

While this “translational” research is critical to success in the long term, the nation cannot wait for the outcomes of this research to ramp up efforts to combat obesity. The impact of obesity on the current population and the continuing rise of obesity rates, particularly in children, requires the nation to take action now, based on the best evidence and practices currently known, while more research is conducted.

### OVERVIEW OF NIH OBESITY RESEARCH

In 2004, NIH released a Strategic Plan for NIH Obesity Research, “a multi-dimensional research agenda to enhance both the development of new research in areas of greatest scientific opportunity and the coordination of obesity research across NIH.”<sup>143</sup>

In FY 2006, the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), which is the lead institute dealing with obesity at NIH, awarded \$305,102,358 in funding for obesity-related research projects. That same fiscal year, the National Heart, Lung, and Blood Institute (NHLBI) of NIH awarded \$102,188,764 in funding for obesity-related research projects.<sup>144</sup>

There is concern that the Administration’s FY 2008 budget proposal calls for a \$328 million reduction in funding for the NIH, which would lead to a reduction in research grants for obesity and physical activity related topics in the near future.

Some of NIH’s Calls for Research have included studies focusing on:

- Preventing and treating childhood obesity in primary care settings;<sup>145</sup>
- The relationship between obesity and the built environment; and<sup>146</sup>
- Ways of improving workplaces to promote health and reduce obesity.<sup>147</sup>

Below are a few examples of research projects NIH has funded recently under the 4 major scientific themes of its strategic plan for obesity research.

- **HEALTHY -- A Middle School-Based Study To Reduce Risk Factors for Type 2 Diabetes in Children**, a study to determine whether changes in school food services and physical education classes, along with activities that encourage healthy behaviors, lower risk factors for type 2 diabetes in youth.<sup>148</sup>
- **Look AHEAD (Action for Health in Diabetes)**, a clinical trial about the health effects of an intensive lifestyle intervention designed to achieve and maintain weight loss over the long term, through decreased caloric intake and increased physical activity.<sup>149</sup>
- **Trial of Activity in Adolescent Girls (TAAG)**, a group randomized trial of a school- and community-based physical activity intervention to prevent the decline in physical activity of adolescent girls.<sup>150</sup>
- **Girls Health Enrichment Multi-Site Studies (GEMS)**, a program of 4 studies to develop and test interventions to prevent obesity by decreasing weight gain in high-risk, African American, pre-adolescent girls.<sup>151</sup>



# Promoting Physical Activity as a Strategy to Improve Health

Obesity reduction and prevention efforts often focus on encouraging people to eat healthier and take part in more physical activity.

Experts agree that a more nutritious diet and taking part in physical activity are good for everyone, regardless of their current weight.

The challenge is *how* to make it easier for people to make healthy choices, and what specific actions to recommend when the majority of Americans are not doing what the experts recommend, despite warnings it could hasten disease and death.

A recent review of strategies to prevent, control, and treat obesity, funded in part by NIH, found that adult weight-loss centered strategies often yield limited results, and successes are “typically small and tend to be transitory.”<sup>152</sup> Another review found that “a focus on weight loss is often counterproductive and unsuccessful, and sometimes may even be unnecessary,” compared to focusing on encouraging people

to engage in healthier behaviors whether or not they are overweight.<sup>153</sup>

While there is little support for effective, long term approaches to successful weight loss, there is significant scientific consensus around the health benefits of physical activity for everyone, no matter their weight. According to studies, for individuals who are overweight or obese, any amount of weight that might be lost through this increased activity is also beneficial to a person’s health, even if it is in smaller amounts.

Encouraging increased physical activity is not about expecting people to become major athletes or strive for unrealistic fitness goals, but about getting everyone to become active to achieve health benefits, no matter what their fitness level may be.



## TRENDS IN PHYSICAL ACTIVITY

### Adults:

- Currently, more than 22 percent of adult Americans say they do not engage in any physical activity.<sup>154</sup>
- More than half of adults report they do not participate in CDC's recommended level of physical activity, which includes either 30 minutes or more of moderate physical activity 5 or more days per week, or 20 minutes or more of vigorous physical activity for 3 or more days per week.<sup>155</sup> The minimum level of recommended activity is equivalent to walking 2 miles at a pace of 3 to 4 miles per hour.<sup>156</sup>
- Sixty percent of adults are not sufficiently active to achieve health benefits.
- Participating in leisure time physical activity declines as age increases.
- Women are less likely to engage in moderate or vigorous physical activity.
- African American and Hispanic adults are less likely to be physically active than white adults.<sup>157</sup>

### Youth:

- Nearly 10 percent of high school students do not regularly participate in vigorous or moderate physical activity, and only 54 percent of high school students had physical education class at least once a week and only 33 percent had daily physical education.<sup>158</sup>
- More than 35 percent of high school students participated in vigorous activity for more than 60 minutes 5 days during a week.<sup>159</sup>
- Nearly 70 percent of high school students participated in CDC's recommended minimum level of activity for youth, which includes at least 20 minutes of vigorous activity or 30 minutes of moderate activity for 3 or more days during a week.
- More than 20 percent of high school students played video or computer games or used a computer for something other than school work for 3 or more hours on an average school day.
- More than 35 percent of high school students watched 3 or more hours on an average school day.

This section focuses on physical activity as a key strategy for helping improve the health of Americans. It examines:

- A. Physical Activity and Health;
- B. Economic Costs of Physical Inactivity and Obesity;
- C. Current Recommendations for Physical Activity;
- D. Barriers to People Engaging in Enough Physical Activity; and
- E. Public Health Strategies for Encouraging Increased Physical Activity

Physical activity and weight are obviously closely related. In many of the studies, it is hard to

separate the 2 issues or isolate findings, and, therefore, they are discussed together within this section. Recently, more research is beginning to examine physical activity independently to be able to provide more robust information about the health impact of and ways to better encourage increased physical activity.

Developing strategies for encouraging increased physical activity requires the involvement of a range of sectors, such as schools, community developers, and workplaces. Effective approaches will require public health officials to reach out beyond the traditional health community to involve a wide range of stakeholders.

## NUTRITION: THE OTHER SIDE OF THE ENERGY BALANCE

There is obviously a lot of evidence about what constitutes good nutrition. Both physical activity and nutrition influence a person's weight. TFAH chose to concentrate on physical activity for this report.

However, just like with physical activity, research has also found that improved nutrition has a positive effect on people's health no matter how much they weigh. According to an article published by the National Institute for Health Care Management, "for most Americans, a healthy diet means: smaller portions (fewer calories, minimal saturated and 'trans' fats, few sweets) and low fiber carbohydrates (think desserts and sodas), and more fruits and vegetables."<sup>160</sup>

Efforts to encourage people to change eating habits are as complex as trying to motivate people to be more physically active.

Some changes to the eating habits of Americans over the past few decades include:<sup>161</sup>

### ■ More calories

- ▲ Adults consumed approximately 300 more calories daily in 2002 than they did in 1985.<sup>162</sup>
- ▲ Women ages 20-74 consumed nearly 22 percent more calories in 1999-2000 than they did in 1971-74; men consumed nearly 7 percent more calories.<sup>163</sup>
- ▲ Adolescent females ages 12-15 consumed approximately 4 percent more calories in 1999-2000 than they did in 1971-74; 16-19 year olds consumed approximately 15 percent more.<sup>164</sup>

### ■ Bigger portion sizes

- ▲ A study in the Journal of the American Medical Association examined the rise in portion sizes and found that from 1977-1998, portion sizes for selected popular food items and overall energy intake have increased for foods purchased in restaurants or fast food establishments and for foods prepared in the home, with an increase of between 49 and 133 calories for all selected popular food items except for pizza, such as salty snacks, hamburgers, soft drinks, french fries, and Mexican food.<sup>165</sup>

### ■ Fewer fruits, vegetables, and whole grains

- ▲ A 2003 USDA report examining Americans food consumption patterns called America's per capita fruit consumption "woefully low" and is limited to a small range of fruit options, and that vegetable consumption "tells the same story."<sup>166</sup>
- ▲ Per capita grain consumption has risen nearly 50 percent since the early 1970s, but whole grain consumption has dropped.<sup>167</sup>

### ■ More sugar

- ▲ "Added sugar" consumption is nearly 3 times the USDA recommended intake.<sup>168</sup>
- ▲ Average consumption of added sugars increased 22 percent from the early 1980s to 2000.<sup>169</sup>

### ■ More dietary fat

- ▲ Americans consumed an average of 600 calories worth of added fats per person per day in 2000.<sup>170</sup>

### ■ A drop in drinking milk and a large increase in drinking soda and fruit juice

- ▲ Milk consumption dropped 39 percent from 1977 to 2001 for children ages 6-11 while consumption of soda rose 137 percent, fruit juice rose 54 percent, and fruit drinks rose 69 percent.<sup>171</sup>

### ■ A major increase in eating out

- ▲ In 1975, approximately 25 percent of food spending was in restaurants; by 1995, this had risen to 40 percent.
- ▲ Spending in fast food restaurants grew 18 times (from \$6 billion to \$110 billion) in the past 3 decades.
- ▲ In 1970, there were approximately 30,000 fast food restaurants in the U.S.; in 2001, there were approximately 222,000.
- ▲ Children ate out at fast food and other restaurants nearly 3 times more in 1996 than they did in 1977.

## A. PHYSICAL ACTIVITY, HEALTH, AND LONGEVITY

“Regular physical activity that is performed on most days of the week reduces the risk of developing or dying from some of the leading causes of illness and death in the United States,” according to the Office of the Surgeon General.<sup>172</sup>

Experts have found that:

- Physical activity helps control and prevent a range of health problems, including diabetes, heart disease, and stroke; and
- Even small amounts of physical activity can improve health, no matter how much a person weighs or whether a person loses weight.

### 1. Physical Activity and Preventing and Controlling Health Problems

Physical activity has been found to reduce the risk of dying prematurely, dying prematurely from heart disease, developing diabetes, developing high blood pressure, and reduces already high blood pressure and the risk of developing colon cancer. It also helps control weight; build and maintain healthy bones, muscles, and joints; helps older adults become stronger and better able to move about without falling; and promotes psychological wellbeing.<sup>173, 174, 175, 176, 177, 178, 179, 180, 181</sup>

A 2004 article in *Critical Pathways in Cardiology* concluded that “of all U.S. deaths from major chronic disease, 23 percent are linked to sedentary lifestyles,” and that generally “sedentary lifestyles increase all-cause mortal-

ity and double the risk of cardiovascular disease, obesity, and type 2 diabetes.”<sup>182</sup>

Physical activity can also help people better manage diseases they already have, such as type 2 diabetes.<sup>183</sup> Individuals with type 2 diabetes have an increased risk for heart disease and stroke. In fact, 75 percent of all deaths in type 2 diabetic patients are attributable to heart disease and stroke.<sup>184</sup> However, a 2005 study in *Diabetes Care* found that active adults with type 2 diabetes had 40 percent less risk of death from heart disease and stroke compared to sedentary adults with type 2 diabetes.<sup>185</sup> Currently, it is estimated that only 28.2 percent of non-disabled adults with diabetes participate in the recommended level of physical activity.<sup>186</sup>

### CHILDREN AND PHYSICAL ACTIVITY AND PREVENTING AND CONTROLLING HEALTH PROBLEMS

Recent studies have demonstrated that physical inactivity can also lead to poorer health outcomes in children and adolescents.<sup>187, 188, 189, 190, 191</sup>

Physical inactivity is tied to heart disease and stroke risk factors in children and adolescents.<sup>192</sup> And according to studies by NIH and CDC, physical inactivity can lead to increased risk of insulin resistance and the eventual development of diabetes and heart disease in children and adolescents.<sup>193, 194</sup>

### 2. All Forms and Amounts of Physical Activity Are Beneficial to Health

Studies have found that even small amounts of physical activity help to reduce the risk of death and disease in adults.<sup>195</sup>

In addition, studies find that both vigorous and non-vigorous (e.g., walking) physical activities can lead to similar positive health outcomes in adults, such as a reduction in risk of heart dis-

ease or type 2 diabetes.<sup>196,197</sup> For instance, a 1999 study found that women who either walked briskly for 1.5 hours per week or swam laps for 45 minutes per week reduced their risk of a non-fatal heart attack or death due to coronary disease by around 90 percent.<sup>198</sup> Walking is a widely accessible physical activity, can be

readily adopted, and is rarely associated with physical activity related injury.<sup>199</sup>

Accumulating physical activity in short periods is also found to be as beneficial to health, as accumulating physical activity in one con-

tinuous period.<sup>200,201</sup> For example, a 2002 study found that “three short bouts (10 minutes) of brisk walking accumulated throughout the day are at least as effective as one continuous bout of equal duration in reducing cardiovascular risk” in previously sedentary adults.<sup>202</sup>

## HEALTH IMPACT OF OBESITY AND PHYSICAL INACTIVITY

Below are some key findings based on a range of research into the health impact of obesity. Physical activity has been shown to have a role in reversing or preventing many of these health problems.

### ■ Type 2 Diabetes

- ▲ More than 80 percent of people with type 2 diabetes are overweight.<sup>203</sup>
- ▲ More than 20 million adult Americans have diabetes.<sup>204</sup>
- ▲ Another 54 million Americans are pre-diabetic, which means they have prolonged or uncontrolled elevated blood sugar levels that can contribute to the development of diabetes.<sup>205</sup>
- ▲ Diabetes is the sixth leading cause of death in the U.S. and accounts for 11 percent of all U.S. health care costs.<sup>206</sup>
- ▲ CDC projects that 48.3 million Americans will have diabetes by 2050.<sup>207</sup>
- ▲ Approximately 176,500 individuals under the age of 20 have diabetes.<sup>208</sup>
- ▲ Two million adolescents (or 1 in 6 overweight adolescents) aged 12-19 have pre-diabetes.<sup>209</sup>

### ■ Heart Disease and Stroke

- ▲ People who are overweight are more likely to suffer from high blood pressure, high levels of blood fats, and LDL (“bad”) cholesterol -- all risk factors for heart disease and stroke.<sup>210</sup>
- ▲ Heart disease is the leading cause of death in the United States, and stroke is the third leading cause.<sup>211</sup>
- ▲ One in 4 Americans has some form of cardiovascular disease.<sup>212</sup>
- ▲ Heart disease can lead to a heart attack, congestive heart failure, sudden cardiac death, angina (chest pain), or abnormal heart rhythm.<sup>213</sup>
- ▲ A stroke limits blood and oxygen to the brain and can cause paralysis or death.<sup>214</sup>
- ▲ More than 75 percent of hypertension cases are reported to be directly attributed to obesity.<sup>215</sup>

### ■ Cancer

- ▲ People who are overweight “may increase the risk of developing several types of cancer, including cancers of the colon, esophagus, and kidney. Overweight is also linked with uterine and postmenopausal breast cancer in women.”<sup>216</sup>
- ▲ Approximately 20 percent of cancer in women and 15 percent of cancer in men is attributable to obesity.<sup>217</sup>
- ▲ Cancer is the second leading cause of death in the United States.<sup>218</sup>
- ▲ It is unknown why being overweight can increase cancer risk. One theory is that fat cells may affect overall cell growth in a person’s body.<sup>219</sup>

### ■ Unhealthier Earlier in Life

- ▲ Research has found younger adults who are obese may face greater health risks earlier in life. For instance, a 2005 study found that women who were obese at age 30 were more likely to die at a younger age and significantly more likely to develop cancer.<sup>220</sup>
- ▲ Some research suggests obesity in middle age may put individuals at higher risk for developing dementia later in life.<sup>221</sup>

## PSYCHOSOCIAL AND HEALTH CONSEQUENCES OF OBESITY IN CHILDHOOD AND ADOLESCENCE

A number of studies have documented how children who are obese typically remain obese as adults. This research stresses how obesity increases a child's risk for a number of health problems, including the **emerging onset of type 2 diabetes, increased cholesterol and hypertension among children, and the danger of eating disorders among obese adolescents.**<sup>222</sup> Research suggests that individuals diagnosed with diabetes before age 20 have a life span 15 to 27 years shorter than non-diabetic Americans, and that the earlier the onset of diabetes, the higher the incidence of nephropathy, retinopathy, neuropathy, and coronary and peripheral vascular disease.<sup>223</sup> Youth overweight may also lead to orthopedic ailments and premature onset of menstruation.<sup>224</sup>

Some studies show that obesity and overweight in children also negatively impacts children's **mental health and school performance.**<sup>225</sup> Overweight children have been found to engage in other unhealthy behaviors and tend to show loneliness and nervousness.<sup>226</sup>

The studies also emphasize that obesity and overweight in childhood and adolescence are often a pathway toward increased risk and further development of a range of obesity-related diseases as they enter adulthood, leading to a lifetime of health problems.

## MATERNAL OBESITY AND BIRTH DEFECTS

Research has found that a woman's weight impacts both the health of the mother and child.<sup>227</sup> <sup>228</sup> Twenty-six percent of non-pregnant women 20-39 years old are overweight and 29 percent are obese, according to estimates.<sup>229</sup>

Compared with normal-weight women, obese women are found to be 50 percent more likely to have post-delivery bleeding; twice as likely to deliver prematurely; and are more likely to need an emergency C-section or to have labor induced.<sup>230</sup>

Women who are overweight or obese prior to pregnancy are at an increased risk of having a child with birth defects.<sup>231</sup>

- Obese women are more likely to have an infant with spina bifida or other neural tube defects compared to normal weight women.<sup>232</sup> In infants with spina bifida, the neural tube (which develops into the brain and spinal cord) does not close completely and, as a result, defects in the spinal cord and in the vertebrae of the spine can occur.<sup>233</sup>
- Obese women are more likely to have an infant with omphalocele compared to normal weight women.<sup>234</sup> Omphalocele is a birth defect "in which the infant's intestine or other abdominal organs stick out of the belly button."<sup>235</sup>
- Both obese and overweight women are more likely to have an infant with heart defects compared to normal weight women.<sup>236</sup>

While the reasons for birth defects in infants of obese mothers are largely unknown, some researchers speculate that: 1) obese mothers may have elevated insulin or estrogen levels that increase their risk for birth defects;<sup>237</sup> 2) obese mothers are more likely to have diabetes, which is a known risk factor for birth defects;<sup>238</sup> or 3) obese women may "have nutritional deficits, resulting from dieting behaviors or poor-quality diets," which increase their risk for birth defects.<sup>239</sup>

Regardless of what factors are involved, experts recommend that obesity intervention and prevention efforts focus on increasing "the number of women who are of healthy weight before pregnancy."<sup>240</sup>

## OBESITY AS A POSSIBLE RISK FACTOR FOR DEMENTIA AND ALZHEIMER'S DISEASE

There is growing evidence that obesity and diabetes are associated with certain neurological diseases.<sup>241, 242, 243</sup> Additionally, physical activity is now recommended for both primary and secondary prevention of some conditions.

A number of studies have examined the link of obesity with Alzheimer's disease.<sup>244</sup> Researchers have long believed that Alzheimer's disease is correlated with diabetes. Recently, however, scientists have begun to establish that obesity is also a high risk factor, even before an individual may get diabetes. An obese individual produces more and more insulin to try and lower blood sugar levels. High insulin levels lead to the inflammation of blood vessels, including those in the brain. The inflammation can cause the body to send off chemical warning signals, which may damage tissues. For example, insulin-induced brain inflammation may lead to increased brain levels of the protein beta-amyloid.<sup>245</sup> Beta-amyloid is an important part of the sticky plaques that clog the brains of people, and can lead to dementia and Alzheimer's disease.

- In a 2007 review of previous studies looking at a potential link between dementia and obesity, researchers concluded that increased excessive weight (measured as BMI) "is independently associated with increased risk of dementia."<sup>246</sup>
- A 2005 study in *BMJ* found that obese adults had a 74 percent greater risk of dementia compared to normal weight adults, while overweight adults had a 35 percent greater risk of dementia.<sup>247</sup>
- A 2005 study in the *Archives of Neurology* concluded that "obesity at midlife is associated with an increased risk of dementia and AD [Alzheimer's Disease] later in life."<sup>248</sup>

Controlling obesity and focusing on exercise and healthy eating are now recommended preventive measures for Alzheimer's disease, similar to activities to control heart disease and cancer. According to Dr. Samuel Gandy, Chairman of the Alzheimer's Association's medical and scientific advisory committee and director of the Farber Neuroscience Institute at Thomas Jefferson University, Philadelphia: "Controlling blood sugar and body weight -- all those things we know are good for your heart health are also really good at preventing Alzheimer's disease. So there are more and more reasons not to be slouchy about getting these things under control."<sup>249</sup>

Some experts express concern that increasing rates of obesity could lead to a continued rise in Alzheimer's in the future, and that the rise in obesity at younger ages could contribute to increased cases of early-onset Alzheimer's.

### ALZHEIMER'S RATES EXPECTED TO GROW EXPONENTIALLY

Dementia is when brain cells are gradually destroyed, leading to a decline in mental function. Alzheimer's disease, mostly found in older adults, is the most common form of dementia.<sup>250</sup>

According to the Alzheimer's Association, more than 5 million people in the U.S. currently have Alzheimer's disease, including:<sup>251</sup>

- 4.9 million people over the age of 65; and
- Between 200,000 and 500,000 people under the age of 65 who have developed early-onset Alzheimer's and other dementias.

These rates are expected to rise dramatically in the future.<sup>252</sup>

- It is estimated that the number of people ages 65 and over suffering from Alzheimer's will increase to 7.7 million by 2030, a greater than 50 percent increase over the current number of individuals affected by the disease.
- And "unless science finds a way to prevent or effectively treat" Alzheimer's, it is estimated that the number of individuals over the age of 65 who are afflicted with the disease could range between 11 million and 16 million by 2050.<sup>253</sup>

## B. THE HIGH ECONOMIC COSTS OF PHYSICAL INACTIVITY AND OBESITY

Economists and health experts have examined how much physical inactivity and obesity are adding costs to the nation's health care system. According to HHS, obese and overweight adults cost the U.S. anywhere from \$69 billion to \$117 billion per year.<sup>254</sup>

- More than a quarter of U.S. health care costs are related to physical inactivity, overweight, and obesity.<sup>255</sup>
- A 2004 study in Health Affairs found that 27 percent of the increase in health care spending between 1987 and 2001 was related to the rise in obesity rates and higher relative cost of health care spending for people with obesity.<sup>256</sup>
- Between 1979 and 1999, obesity-associated hospital costs for children (ages 6 to 17 years) more than tripled, from \$35 million to \$127 million.<sup>257</sup>
- Obese individuals 55 and older had higher annual expenses for medical care as compared with normal weight and overweight individuals, according to a 2002 study by the Agency for Healthcare Research and Quality. The breakdown was \$7,235 for obese, \$5,478 for overweight, and \$5,390 for normal weight persons.<sup>258</sup>

Other studies have tried to isolate the costs of physical inactivity. A 1999 study found

physical inactivity costs \$128 per person in the U.S. annually.<sup>259</sup> A 2004 study found there were 9.2 million cases of cardiovascular disease resulting in \$23.7 billion in direct medical expenditures associated with physical inactivity in 2001.<sup>260</sup>

Studies have also estimated that health care costs could be reduced with increased physical activity. For instance, one study found:

- If one tenth of Americans began a regular walking program, \$5.6 billion in heart disease costs could be saved;
- Sedentary Americans spend \$330 more in direct healthcare costs than active Americans (1987 dollars);<sup>261</sup>

A Canadian study found that if 10 percent fewer British Columbians were physically inactive (i.e. if the rate of physical inactivity dropped from 38 percent to 34.2 percent), the province could save an estimated \$18.3 million every year in avoided hospital, drug, physician, and other direct costs.<sup>262</sup>

Studies have found that obese and physically inactive workers are not just associated with **higher costs for individual care but also higher health care costs for businesses; lower worker productivity and increased absenteeism; and higher workers' compensation claims.**

## HIGHER HEALTH CARE COSTS FOR BUSINESSES

- On average, obese workers have up to 21 percent higher health care costs compared to normal weight employees. It is estimated that in 1994, obesity cost U.S. businesses \$12.7 billion, of which physical inactivity accounted for \$7.7 billion.<sup>263</sup>
- In 2000 alone, physically inactive members cost Blue Cross and Blue Shield of Minnesota (BCBSMN) a total of \$83.6 billion (or \$56 for every member) per year. In addition, “almost one third (31 percent) of costs related to heart disease, stroke, colon cancer, and osteoporosis” in the BCBSMN population were attributable to physical inactivity.<sup>264</sup>
- Higher health care costs for obese and sedentary workers signal poorer overall health among these individuals. And given poorer health, lower worker productivity and increased absenteeism are more likely among obese and physically inactive employees.

### Lower Worker Productivity and Increased Absenteeism

- Researchers found that obese workers had 183.63 lost workdays per 100 full time employees, compared to normal weight workers who had 14.19 lost workdays per 100 full time employees.<sup>265</sup>
- A 2004 study concluded that excessive weight and physical inactivity negatively impact the quality of work performed, the quantity of work performed, and overall job performance among obese, sedentary individuals.<sup>266</sup>

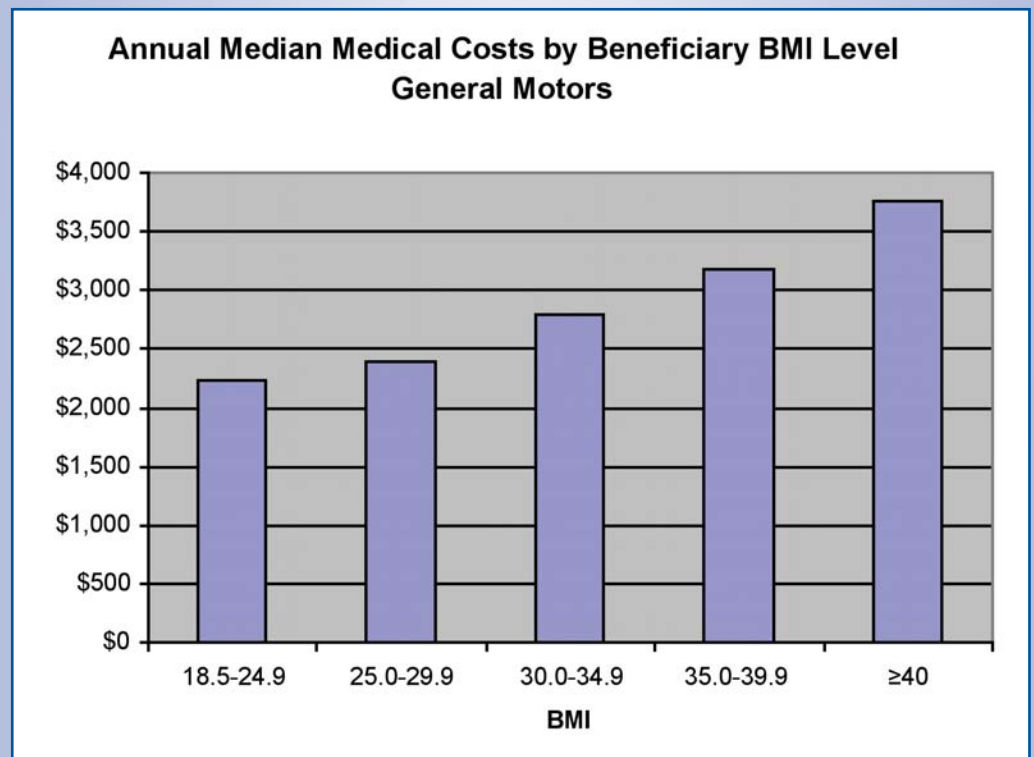
### Higher Workers' Compensation Claims

- A number of studies have shown obese workers have higher workers' compensation claims.<sup>267, 268, 269, 270, 271, 272</sup>
- A 2007 study found that excessive weight gain among employees is related to higher amounts of workers' compensation claims.<sup>273</sup> Obese workers had on average 11.65 claims per 100 full time employees, compared to normal weight employees who had 5.80 claims per 100 full time employees.<sup>274</sup>
- The cost of claims for obese employee workers' compensation claims were also significantly higher. Obese employees had \$51,091 in medical claims costs per 100 full time employees, compared to only \$7,503 in medical claims costs for normal weight workers. And obese workers had \$59,178 in indemnity claims costs per 100 full time employees, compared to only \$5,396 in indemnity claims costs for normal weight employees.<sup>275</sup>

## GENERAL MOTORS: WAISTLINE IMPACTING BOTTOM LINE

General Motors (GM) provides an example of the major burden obesity and physical inactivity can exact on companies and their bottom line. GM is one of many auto companies that finds health costs of workers and retirees is a top issue in union negotiations.

- Twenty-six percent of GM's 1.1 million union beneficiaries are obese.<sup>276</sup>
- Obesity cost the company \$286 million in 2004 alone.<sup>277</sup>
- Of the \$5.3 billion GM spent on medical costs in 2005, an estimated 25 percent was due to unhealthy habits such as overeating, lack of exercise, cigarettes, and alcohol.<sup>278</sup>
- A 2003 study found that among GM beneficiaries (employees, retirees, and their adult dependents), extremely obese (BMI  $\geq 40$ ) individuals had annual median medical costs of \$3,753, compared to normal weight individuals ( $18.5 \leq \text{BMI} \leq 24.9$ ) who had annual median medical costs of \$2,225 (a striking difference of \$1,528).<sup>279</sup> Overall, annual median medical costs increased as BMI level of beneficiaries grew (see graph below).



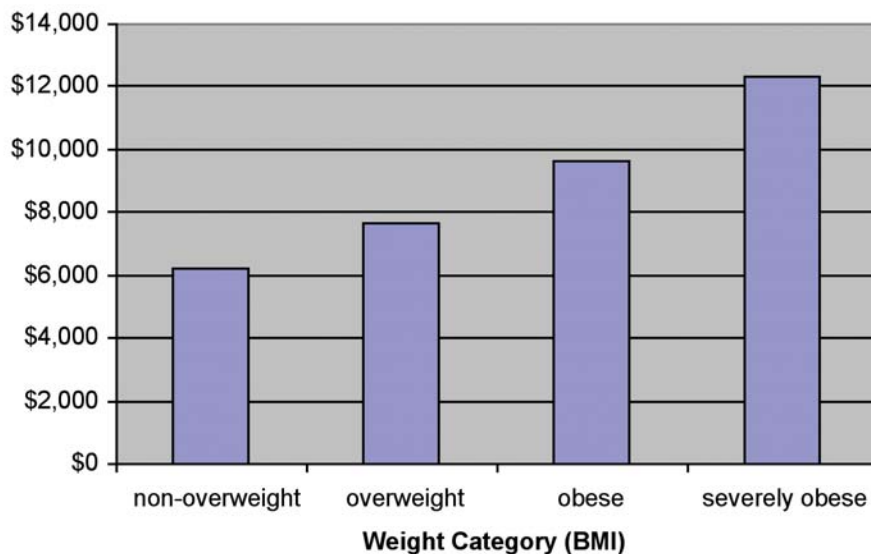
In response to the economic burden obesity and physical inactivity exacts on the company, GM created LifeSteps, “the nation’s largest employer-sponsored wellness program.” The program includes employee access to online health information, free health screenings, and other prevention-oriented benefits. The LifeSteps program has lowered GM’s medical costs by \$27 million.<sup>280</sup> But given that obesity alone cost the company \$286 million in 2004, health costs of its employees remains a major factor in the company’s bottom line and its ability to remain competitive with other automakers, particularly foreign automakers.

## ECONOMIC BURDEN OF OBESITY AND PHYSICAL INACTIVITY ON MEDICARE AND MEDICAID

A study found obese Medicare patients annual expenditures were 15 percent higher than normal or overweight patients.<sup>281</sup> A 2003 article in *Health Affairs* estimated that Medicare and Medicaid alone financed approximately half of the nation's overweight- and obesity-related costs.<sup>282</sup>

A 2004 study found that individuals who were severely obese earlier in life had total average annual Medicare expenditures of \$12,342 later in life, compared to individuals who were normal weight earlier in life who had annual average Medicare expenditures of \$6,224, a difference of \$6,118.<sup>283</sup>

**Relation of BMI Earlier in Life with Medicare Expenditures Later in Life**



The weight categories in the chart above refer to the following BMI levels: 18.5-24.9 (non-overweight); 25.0-29.9 (overweight); 30.0-34.9 (obese); and  $\geq 35.0$  (severely obese).

## OBESITY COSTS IN KAISER PERMANENTE PATIENTS

Two studies examining patient populations within the Kaiser Permanente Colorado health care system found that the difference in health care costs between obese and non-obese patients was substantial for adults, children and adolescents.

- For adults, the median annual expenditure of obese patients was \$585.44, compared to \$333.24 for non-obese patients (a difference of \$252.20).<sup>284</sup>
- Annual health expenditures for an overweight child were \$72 higher than for a healthy-weight child. With approximately 6,500 child members of Kaiser Colorado who are overweight, this per child increase translates into “almost half a million dollars” more per year for the insurer.<sup>285</sup> These costs are expected to increase as the children age and develop increased health problems.

## C. CURRENT RECOMMENDATIONS FOR PHYSICAL ACTIVITY

### CURRENT RECOMMENDED LEVELS OF PHYSICAL ACTIVITY FOR ADULTS

According to the *Dietary Guidelines for Americans, 2005*, adults should:<sup>286</sup>

- Engage in regular physical activity and reduce sedentary activities to promote health, psychological well-being, and a healthy body weight.
  - ▲ To reduce the risk of chronic disease in adulthood: Engage in at least 30 minutes of moderate-intensity physical activity, above usual activity, at work or home on most days of the week.
  - ▲ For most people, greater health benefits can be obtained by engaging in physical activity of more vigorous intensity or longer duration.
  - ▲ To help manage body weight and prevent gradual, unhealthy body weight gain in adulthood: Engage in approximately 60 minutes of moderate- to vigorous-intensity activity on most days of the week while not exceeding caloric intake requirements.
  - ▲ To sustain weight loss in adulthood: Participate in at least 60 to 90 minutes of daily moderate-intensity physical activity while not exceeding caloric intake requirements. Some people may need to consult with a healthcare provider before participating in this level of activity.
- Achieve physical fitness by including cardiovascular conditioning, stretching exercises for flexibility, and resistance exercises or calisthenics for muscle strength and endurance.

According to August 2007 recommendations from the American Heart Association and American College of Sports Medicine, healthy adults should:<sup>287</sup>

- Engage in moderate-intensity aerobic physical activity for at least 30 minutes 5 days each week, or vigorous-intensity aerobic exercise for at least 20 minutes 3 days a week.
  - ▲ Moderate-intensity aerobic activities can include a brisk walk, light jogging or other exercise that accelerates the heart rate. Vigorous-intensity exercise like jogging causes rapid breathing and a substantial increase in heart rate.
- Engage in weightlifting exercise to work on muscular strength and endurance, with 8 to 10 different exercises on 2 nonconsecutive days a week.

The guidelines state that exercise above the minimum amounts can provide even greater health benefits. People 65 and older are urged to consider lifting weights to improve their strength to prevent falls, and working on flexibility exercises and balance training.

### CURRENT RECOMMENDED AMOUNT OF PHYSICAL ACTIVITY FOR CHILDREN AND YOUTH

Sixty minutes, according to the *Dietary Guidelines for Americans, 2005*, published jointly by HHS and USDA. Specifically, “it is recommended that children and adolescents participate in at least 60 minutes of moderate intensity physical activity most days of the week, preferably daily.”<sup>288</sup>

### NEW FEDERAL PHYSICAL ACTIVITY GUIDELINES TO BE RELEASED IN 2008

In October 2006, HHS announced that it will develop science-based physical activity guidelines for Americans. The guidelines will be released in late 2008 and will target specific sub-populations, such as children, the elderly, and the disabled.

According to HHS, a major goal of the guidelines is to help instigate a cultural shift in American society from one that focuses on treatment to one that values prevention of disease through healthy choices and behaviors, such as increased physical activity.

“Changing the culture from one of treating sickness to staying healthy calls for small steps and good choices to be made each and every day,” HHS Secretary Mike Leavitt said. “These physical activity guidelines will encourage the creation of a culture of wellness across America.”<sup>289</sup>

## D. BARRIERS TO PEOPLE ENGAGING IN ENOUGH PHYSICAL ACTIVITY

A wide range of factors influence how physically active individuals are. Some additional barriers that deter people engaging in physical activity include:

### ■ Limited Time

- ▲ Long work and school hours
- ▲ Long commuting time and time spent in cars

### ■ Family and Home Influences

- ▲ Influence of other family members habits and priorities
- ▲ “Electronic culture” options for entertainment and free time, including TV, video games, and the Internet

### ■ Children and Schools

- ▲ Reduction in the amount of physical education, recess, and recreation time
- ▲ Lack of quality measures for physical education classes
- ▲ Lack of non-competitive intramural and physical activity clubs accessible to all students

### ■ Workplaces Not Conducive to Health

- ▲ Many workplaces do not offer workplace wellness programs
- ▲ Many desk jobs where activity is limited or not encouraged
- ▲ Worksites typically are not designed to foster movement
- ▲ Limited opportunities for physical activity or recreation during the day

### ■ Communities Not Designed for Physical Activity

- ▲ Communities development paves the way for driving more often than walking or biking
- ▲ Lacking or limited public transportation
- ▲ Poor upkeep of sidewalk infrastructure
- ▲ Walking areas are often unsafe or inconvenient
- ▲ Limited parks and recreation space, including indoor facilities
- ▲ Poor upkeep and security in local parks
- ▲ Weather conditions limit outdoor physical activity options and lack of affordable indoor physical options

### ■ Economic Constraints

- ▲ Health insurance coverage to encourage physical activity, such as subsidized gym memberships is often limited or not available
- ▲ People without health insurance often do not receive appropriate preventive services or post-condition treatments
- ▲ Costs of gym memberships, exercise classes, equipment, facility use, and sports league fees

### ■ Psychology

- ▲ Fears and frustrations can deter some people from physical activity
- ▲ Lack of support from family and friends
- ▲ Self consciousness about working out in front of others

### ■ Lack of Awareness or Knowledge

- ▲ Limited information about how to engage in beneficial amounts of physical activity

## E. PUBLIC HEALTH STRATEGIES FOR ENCOURAGING INCREASED PHYSICAL ACTIVITY

Public health experts have determined a number of promising intervention strategies for trying to help make it easier for people to decide to increase the amount of physical activity they take part in. A combination of all of these efforts is considered important for promoting increased physical activity and preventing obesity. This section examines a range of current trends and approaches, including:

1. Family-based Approaches;
2. School- and Before and Afterschool-Based Approaches;
3. Community-Based Approaches;
4. Health Care Provider-Based Approaches;
5. Workplace and Insurance-Based Approaches; and
6. Improving the Built Environment.

### I. Family-based Approaches

A review of a range of studies found that family-based strategies that target working with parents and children together are some of the most effective ways to encourage behavior change and can “produce significant long-term results.”<sup>290</sup> Parental influence is shown to be strong, particularly on younger children. Experts believe family-based approaches are most effective when children are young, “before obesity-promoting behaviors have become well ingrained.”<sup>291</sup> Parents can provide positive behavior to model, work to ensure the family has time and places to engage in physical activity, and encourage children to engage in physical activity with their peers.

Family members may find interventions at key moments can be most effective. A 2004 article by Bernard E. Bulwer, MD, MSc, outlined “trigger factors” that can lead to life changes in behavior:<sup>292</sup> Trigger factors he identified include, development of a new illness; doctor’s orders; failed medical check-up or abnormal laboratory report; illness or

loss of a loved one or relative; encouragement or advice from family or friend; new illness or death of a high-profile “celebrity” or public figure; health education messages.

A wide range of policies can impact decisions individuals make. For instance, policies related to maternity and paternity leave, flexible work hours, income, sick and leave time, and availability of work-site daycare all impact the amount of time people have to engage in physical activity and for parents to spend with their children and can supervise or be supportive of healthy living patterns. In addition, the cost, availability, and safety of recreational space and gyms impact decisions people make about physical activity.

Individuals and families can impact decisions that businesses and policymakers make about these policies. People have leverage as voters and consumers. They can directly communicate with policymakers about policies, with employers about benefits, and with the food and beverage industry by supporting healthier products.

### 2. School-based and Before- and After School-Based Approaches

Child care, schools, and before and after school programs provide strong environments for reaching children.

School-based approaches were identified as key to addressing overweight, obesity, and physical activity in children and youth in a

“Call to Action” issued by the U.S. Surgeon General. And, a study by the Government Accountability Office found that experts rank “increasing physical activity” as the most important strategy for preventing or reducing childhood obesity.<sup>293</sup>

Experts emphasize that both formal physical education classes and scheduled recess or other free time to engage in physical activity during the day are important components of the strategy to increase regular movement by schoolchildren and youth. Before and after-school programs provide additional venues for encouraging physical activity.

Every state requires some physical education for students. However, physical education requirements do not extend to all grade levels and are often not enforced. And of the programs that do exist, many of them are inadequate with respect to quality.

Many states are considering ways to improve and better implement physical education requirements.

However, there are more than 14,000 school districts in the U.S. and the primary jurisdiction for most school policies is the school district. While the federal government and states set policies or recommendations, local jurisdictions may have discretion to decide whether or not to follow federal or state directed guidelines.

This allows for different school districts to try a range of different approaches, but it also makes establishing uniform standards or guidelines and measuring change a serious challenge. In addition, many policies and recommendations are set without financial support to implement them.

Also, many education agencies argue that physical education policies are often not enforced because there are already too many other mandated curriculum requirements. Some education experts point out that the Elementary and Secondary Education Act (ESEA), known as the “No Child Left Behind Act,” which emphasizes student achievement on standardized tests, is forcing school districts to divert limited resources away from programs that are not tested, like physical education and extracurricular sports.<sup>294</sup>

Only 54 percent of high school students had physical education class at least once a week and only 33 percent had daily physical education in 2005.<sup>295</sup> Fifty-six percent of high school students played on one or more sports teams, either through school or community groups.<sup>296</sup>

## RECOMMENDATIONS FOR PHYSICAL EDUCATION AND PHYSICAL ACTIVITY FOR CHILDREN

- The CDC considers children “meeting recommended levels of physical activity” as 60 minutes or more of activity per day on five or more days per week in the survey of youth behavior.<sup>297</sup>
- The National Association for Sports and Physical Education recommends that schools provide 150 minutes of instruction physical education for elementary school children, and 225 minutes for middle and high school students per week for the entire school year.<sup>298</sup>
- The American Heart Association recommends creating requirements for all students in grades K-8 (including students with disabling conditions and in alternative education programs) to participate in daily physical education for the entire school year. They recommend a minimum standard of at least 150 minutes during each school week for elementary students and at least 225 minutes per week for middle school students.<sup>299</sup>

## FEDERAL GUIDELINES TO HELP PROMOTE PHYSICAL ACTIVITY

Schools and communities have the potential to improve the lifelong health of the next generation by providing instruction and programs in physical education. To guide the effort, the CDC, together with partners in other federal agencies and health organizations, developed “Guidelines for School and Community Programs to Promote Lifelong Physical Activity Among Young People.” The guidelines recommend comprehensive, daily physical education for students beginning in kindergarten through grade 12.<sup>300</sup>

## CAROL M. WHITE PHYSICAL EDUCATION PROGRAM (PEP) GRANTS

The Carol M. White Physical Education Program (PEP) is a federal program that awards grants to local educational agencies and community-based organizations (including faith-based organizations) to initiate, expand, and improve physical education programs (including after school programs) for students in one or more grades from kindergarten through 12 in order to make progress toward meeting State standards for physical education.<sup>301</sup>

PEP was created in 2001 through the reauthorization of the No Child Left Behind Act and is administered by the U.S. Department of Education. PEP grants can be used for equipment, support, and the training and education of teachers and staff.<sup>302</sup>

PEP has grown in overall funding and the number of grants it awards to local educational agencies and organizations. During its initial year, \$5 million dollars was awarded to 18 school districts. Fifty million dollars in funding was awarded to 176 recipients in 2002 and \$60 million dollars was allocated to 256 grant winners in 2003. Seventy million dollars was awarded to 237 grantees in 2004 and \$74 million was distributed to 104 recipients in 2005. Overall funding for the program was at \$72.6 million in 2006.<sup>303</sup>

A number of PEP grants have been awarded to physical education (P.E.) programs established by PE4Life, a non-profit organization dedicated to inspiring active and healthy lifestyles in all children, not just those that are athletically inclined. PE4Life believes in a new model of P.E. in which students are evaluated on whether they have achieved personal physical activity and fitness goals, rather than being judged on overall sports skills (e.g., how well a student plays a specific sport such as softball or soccer) and athletic performance (e.g., whether a student can run an eight-minute mile).<sup>304</sup>

For example, one PE4Life program located at Naperville Central High School in Naperville, Illinois, offers students an array of opportunities to meet their daily physical activity requirement, including square dancing, scaling a climbing wall, or using exercise bikes that simulate raceways and ski slopes. They wear heart monitors to assess their physical activity effort and learn about nutrition and measure their BMI to ensure their height is in proportion to their weight.<sup>305</sup>

In addition to in-school activity, studies find declining rates of physical activity in children and youth before and after school. Thirty years ago, two-thirds of American children walked to school each day. Today, less than one-in-five either walk or bike to school.<sup>306</sup>

A 2007 study found that while approximately 35 percent of children lived within one mile of their school, less than half routinely walked or biked to school. Children living in southern U.S. states or rural areas were among the groups least likely to walk or bike to school. In addition, children of college-educated parents were less likely to walk or bike to school compared to children whose parents have

only a high school degree, and children age 9 were less likely than those between the ages of 11 and 13 to bike or walk.<sup>307</sup>

A range of research continues to show a decline in physical activity as children enter adolescence and further ties “sedentary behaviors,” such as watching television and playing video or computer games, with increased risk for obesity and increased snacking behavior.<sup>308, 309, 310, 311, 312</sup>

The National Coalition for Promoting Physical Activity (NCPA) has put together a series of recommendations for ways to increase physical education and activity in schools.

## NATIONAL COALITION FOR PROMOTING PHYSICAL ACTIVITY RECOMMENDATIONS

### Actions That Could Increase Physical Education and Activity in Schools

- Give equal standing to physical education as with other subjects in school, and foster opportunities for greater physical activity throughout the school day.
- Provide adequate financial resources at both the state and national level to support quality physical education and health education including adequate classroom and activity facilities.
- Allow adequate time in elementary and middle schools for daily recess that provides unstructured physical activity during the school day.
- Schools should regularly evaluate the physical fitness of their students and their physical activity programs, and make the findings public, so that parents can be assured that their children are participating in and benefiting from physical education, sports, and recreational opportunities offered by the school.
- Federal agencies and national organizations should disseminate tools to help schools improve their physical education programs and foster opportunities for greater physical activity.

### Items That Could Increase Physical Activity in the Before and After School Settings

- Modifications to the built environment surrounding schools to increase safety for physical activity
- Low- or no-cost intramural and physical activity programs for all students
- Crossing guards at major intersections
- Safe, accessible bike racks and storage areas
- Open gyms and all purpose rooms for play and organized sports with supervision
- Readily available basic medical and emergency care
- Service learning that involves physical activity, such as cleaning and painting

## EXAMPLES OF SUCCESSES IN SCHOOL-BASED APPROACHES

- The Child and Adolescent Trial for Cardiovascular Health (CATCH) elementary-school program encompassing 3,714 students in 96 schools in 4 states focused on providing education for students, modifications for improvements in school lunches and physical education, and increased education for staff and teachers.<sup>313,314</sup> The program showed positive results with students consuming healthier diets and engaging in more physical activity. The findings suggest that a program that encompasses a school-based approach can yield improvements. Activity levels for students at the older age ranges of the study began to dissipate toward the end of the study, demonstrating an increased need to continue with middle and high school interventions.
- A 2001 research study found that supervision and access to recreational facilities increased activity levels of students.<sup>315</sup> Also, studies have shown that programs aimed at improving student participation in physical activity generally have positive results.<sup>316</sup> For example, one study provided 24 high schools with a physical activity intervention that was delivered through coordinated school health program components (the Lifestyle Education and Activity Program (LEAP)), which resulted in increased activity among girls.<sup>317</sup>

## FEDERAL INITIATIVES TO SUPPORT SCHOOL-BASED APPROACHES

CDC has supported school-based obesity initiatives by:

- Establishing a **Coordinated School Health Program** as a model for how to integrate a range of school and community efforts. These include: physical education; health education; health services; nutrition services; counseling, psychology, and social services; encouraging healthier school environments; providing health promotion for school staff; and family and community involvement;
- Creating a **School Health Index** self-assessment and planning guide for schools, which is available online at <http://apps.nccd.cdc.gov/shi/NewUser.aspx>;
- Developing a **Physical Education Curriculum Analysis Tool** in partnership with physical education experts across the country, which is available online at <http://www.cdc.gov/HealthyYouth/PECAT/index.htm>;
- Administering the **School Health Policies and Programs Study** and **School Health Profiles** survey related to children's health in schools; and
- **Division of Adolescent and School Health (DASH)** cooperative agreement funds are awarded by the U.S. Department of Education to state departments of education in 23 states in FY 2006. The state education departments work with state health departments to strengthen school-based policies and programs that address obesity and chronic disease.
- **Steps to a Healthier US** includes a school health goal in every Steps community.

### LEARNING IN MOTION: STEPS TO A HEALTHIER U.S. INITIATIVE

In Rockland County New York, 140 teachers have participated in the Steps to a HealthierNY's Learning in Motion: Physical Activity, the Brain and Achievement course reaching more than 19,800 students in 41 school buildings. This course is a 3-credit graduate course for classroom teachers that encompasses the concepts of brain development, the relationship between movement and learning, and strategies for using movement to teach core academic concepts. Classroom teachers learn: why children need to move (the relationship between brain functioning and movement); and how to incorporate movement and multi-sensory experiences into differentiated learning. They learn how using movement to teach academic subjects enhances their overall understanding of subject matter content.. In addition, they understand how including movement into classroom learning experiences improves brain function, academic success, and healthy lifestyles. As a result, students experience increases in fitness, body awareness, and attention to focus and decreases in stress. A one-credit in-service course is also offered and covers the same material in less depth. Based on a survey of teachers who attended the program, 95 percent use physical activity in their classroom at least several times a week and 85 percent use it daily or several times per day.

## COMMUNITY PLAY INDEX

In February 2007, Stanford University's School of Medicine released *Building "Generation Play": Addressing the Crisis of Inactivity Among America's Children*, which examines the current childhood obesity epidemic and factors contributing to physical inactivity in youth. The report provides recommendations for how to increase physical activity in children at various intervention points, including at the community level. The report recommended that communities design evaluation tools, such as a "Community Play Index," to assess the availability of opportunities for physical activity in the area and, if needed, to improve upon these opportunities.<sup>318</sup>

That same month, Senator Tom Harkin (D-IA) introduced legislation, known as the Promoting Lifelong Active Youth (PLAY) Every Day Act, which calls for the development of a Community Play Index to measure the policy, program, and environmental barriers in communities to youth participating in physical activity.<sup>319</sup> The legislation also calls for awarding grants to state health departments to:

- Train communities on how to use the Community Play Index.
- Fund community coalitions to design and implement model communities of play by (1) increasing the amount of space available for physical activity; (2) expanding opportunities available for children and families to be physically active and to participate in physical education programs; and (3) increasing community members' awareness and knowledge about the importance of youth achieving 60 minutes of physical activity every day.<sup>320</sup>

### 3. Community-Based Approaches

From coast-to-coast, communities are undertaking a wide range of efforts in an attempt to encourage increased physical activity.

In 1999, CDC issued *Promoting Physical Activity: A Guide for Community Action* to help community leaders, business leaders, and public health officials develop strategies to motivate increased physical activity. The guide is intended to help communities promote physical activity in settings ranging from work-

places, school settings, health care facilities, organizations, or faith-based institutions.<sup>321</sup> It stresses targeting efforts based on different groups' levels of receptivity to change, life stages, and settings. It also emphasizes balancing expectations for individual change within the context of the communities where people live. For instance, factors like access to recreational facilities influence decisions people make about physical activity.



## EXAMPLES OF STATE AND COMMUNITY INITIATIVES

### **INShape Indiana: Healthier Workers Mean a Healthier Economy**

In July 2005, Governor Mitch Daniels launched INShape Indiana to help “Hoosiers to make healthy choices by linking them to valuable resources and offering a fun challenge to improve their health and well-being. INShape Indiana is not another program; it is an initiative to coordinate the many efforts taking place across the state to combat obesity and smoking.”<sup>322</sup>

Governor Daniels argued that for his state to be economically competitive, his constituents needed to be healthier. He did not want to lose business development to other states with healthier workforces and urged “Millions of Hoosiers” to “help our economic comeback gain momentum by participating in INShape Indiana.”<sup>323</sup>

INShape Indiana was launched at a statewide health summit that brought together leaders from health, business, and education from all around the state. Following that event, 47 county coalitions formed in collaboration with the Purdue Cooperative Extension Service to address obesity prevention at the local level. The summit has become an annual event. The upcoming October 2007 summit will focus on worksite wellness, which is a term that applies to facilities as well as employee physical and mental health issues that lead to business costs such as medical and disability claims.

The program is anchored by a website that provides an information clearinghouse for programs and activities around the state pertaining to nutrition, exercise, and smoking cessation. It also links to dozens of health-related sites. In its first year, the Web site received 6.1 million hits from individuals seeking information on living healthier.

There were 14,000 participants in INShape Indiana in its first year, and with the launch of the 10 in 10 campaign this year, a statewide challenge to lose 10 pounds in 10 weeks, the number of participants rose to 42,000 participants from all of Indiana’s 92 counties.

Over the past 2 years, INShape Indiana has also partnered with the Department of Natural Resources to hold walks in state parks and has created an INSight Youth Corps, training high school students in peer education on healthy lifestyle choices.

### **North Carolina Wellness Initiative**

The Department of Health and Human Services (DHHS) Wellness Initiative was launched in 2004 as a 3-year partnership with the State Health Plan’s North Carolina (NC) HealthSmart Initiative and the North Carolina DHHS.<sup>324</sup> The program focuses on the department’s 18,000 employees. A full-time Wellness Director position was created to work with the department’s 21 agencies and 17 facilities to establish wellness committees and wellness programs focused on policy and environmental change that will address the major behavior risk factors for chronic disease. Wellness representatives from each agency and facility serve as members of a new department level Wellness Council to advise the Department on the needed changes to improve workplace support for employees to become more active, eat smart, avoid tobacco, and manage stress.

After one year, committees were established in all 38 agencies and reported significant improvements in workplace support for physical activity and healthy eating, including:

- Indoor fitness areas increased from 14 to 22 worksites;
- The availability of healthy vending/meal options increased from 10 to 24 sites;
- 17 agencies developed healthy food policies for agency events; and
- 27 agencies created policies supporting employees being more physically active in the workplace.

Of 4,788 employees responding to a survey about the initiative, 61 percent participated in sponsored worksite wellness activities; 45 percent reported walking and/or exercising more often in the past year; 46 percent reported choosing healthier snacks/meals more often; 43 percent said they were eating more fruits and vegetables and 33% were eating fewer high fat foods; and 23 percent reported moving closer to a healthy weight.

The Secretary made several policy changes based on recommendations from the Wellness Council to increase support for employee wellness, including authorizing employee access to existing patient fitness facilities, creation of a central employee fitness center with gym, a requirement of at least five percent healthy selections in vending contracts, and top management supporting flex-time work schedules to allow employees to participate in wellness activities.

### Healthy Communities Moses Lake in Washington State

Through funding from CDC's Division of Nutrition and Physical Activity, the Moses Lake community of Washington state initiated a Healthy Communities Moses Lake project, which "encourages good nutrition and physical activity through environmental and policy change." The project aims to implement various smart growth policies, such as widening sidewalks and creating additional paths for pedestrians and cyclists, to increase physical activity among community members and tourists. The project also hopes to improve the nutrition of local residents through a community garden project.<sup>325</sup>

As of 2006:

- The City of Moses Lake, which attracts tourists for its significant sand dunes, initiated a plan to replace a railroad track that runs through the downtown area with a path for biking and walking.
- Grant County adopted a plan to create walking and biking trails alongside irrigation canals.
- "New zoning ordinances in both the city and county require wider sidewalks that will increase accessibility for pedestrians and cyclists."<sup>326</sup>
- The community garden project has established links with "local school groups and chefs to make the garden both a food source and educational tool for the community."<sup>327</sup>

### Shape Up Somerville in Massachusetts

Over the past five years, Somerville, a town of 78,000 located outside of Boston, has made changes throughout its community in an attempt to curtail rising childhood obesity rates. Before the effort began, 44 percent of the town's first-, second-, and third-graders were considered overweight or at risk of becoming overweight. The program, called Shape Up Somerville, is believed to be the first controlled experiment evaluating the effectiveness of a community-based environmental change intervention in preventing weight gain in children.<sup>328</sup> Designed by researchers at the Tufts Friedman School of Nutrition, Shape Up Somerville led to the following environmental changes in the community:

- Various Somerville restaurants now serve low-fat milk and smaller portion sizes. Those that do are designated as Shape Up partners.
- The school district has nearly doubled the amount of fresh fruit at lunch and now uses whole-grain bread products to boost students' fiber intake. Schools also obtained food processors and fruit juicers to make serving fresh fruits and vegetables easier for the kitchen staff.
- Crosswalks around town have been repainted to encourage more people to walk to work and school.
- Somerville targeted crossing guard placement on areas where children are most likely to walk to school and distributed maps of the newly staffed routes to parents. This change led to a 5 percent increase in the number of children who walk to school.
- With help from a grant from the Robert Wood Johnson Foundation, the town expanded a local bike path that will eventually go all the way to Boston.
- The city council started to offer reimbursements for gym memberships for city employees and put in dozens of new bike racks for schools and streets.
- Tufts researchers held parent meetings in various languages to explain the importance of the program. They also held health fairs, gave away pedometers, and organized a community fun run.<sup>329</sup>

In a 2007 study published in *Obesity*, Tufts researchers evaluated the first year of the program and found that children in Somerville gained less weight than children in surrounding communities.<sup>330</sup>

## YMCA ACTIVATE AMERICA

The mission of YMCA Activate America is to help kids, adults, families, and communities lead healthier lifestyles.

More than 80 percent of the 2,617 YMCAs across the country are engaged in YMCA of the USA's Activate America initiative. More than 100 YMCAs are making organizational changes to better serve those individuals wanting to lead healthier lifestyles. These local YMCAs are also transforming their child care sites into environments that encourage healthy eating and physical activity.<sup>331</sup>

As part of the YMCA Activate America initiative, each spring more than 1,400 local YMCAs host an activity-filled YMCA Healthy Kids® Day, which uses activities to encourage “children and families to adopt behaviors that support a healthy lifestyle.”<sup>332</sup>

### Pioneering Healthier Communities

In July 2004, with funding from CDC, YMCA of the USA launched the Pioneering Healthier Communities (PHC) project as part of its overall Activate America initiative.<sup>333</sup> The mission of PHC is “to (1) raise the visibility of lifestyle health issues in the national policy debate, and (2) encourage and support local communities in developing more effective strategies to promote healthy lifestyles.”<sup>334</sup>

As of 2006, 46 communities across the country have become active PHC sites.<sup>335</sup> Examples of what PHC sites have done to promote healthier lifestyles among their residents include:

- Offering fresh fruits and vegetables and encouraging physical activity during after school programs.
- Influencing policy leaders to “put physical education back in schools and include physical activity in after school programs.”
- Building new or enhancing old walking and biking trails and sidewalks to encourage physical activity among residents.
- Increasing residents’ access to fresh fruits and vegetables “through community-gardens, farmers markets, and other activities.”<sup>336</sup>

### A Community Health Living Index

YMCA of the USA plans to develop and test a community assessment tool that will provide communities with an instrument to measure qualitative information about physical activity and healthy eating resources; policies and programs and quantitative data about physical activity; and health eating assets and needs. The Community Health Living Index (CHLI) will be used by YMCAs in communities across the country next year as part of YMCA Activate America, and will be made available to other community-based organizations to measure the availability of and access to healthy eating and physical opportunities in their communities.

## EXAMPLES OF YMCA PIONEERING HEALTHIER COMMUNITIES

### Des Moines, Iowa

It is estimated that approximately 40 percent of Des Moines middle-school children are overweight. In response, Des Moines became a PHC site (called Activate Des Moines) and developed Trim Kids, a 12-week program that teaches parents and overweight children to take the steps necessary for long-term healthy living by providing menu ideas, easy exercises and tips for parents so they can encourage their kids. As of 2006, more than 600 individuals have participated in Trim Kids and the program is expanding to 12 new communities. In addition, leaders of Activate Des Moines helped convince the Des Moines School Board to require healthier options for snacks served in schools and in school vending machines.<sup>337</sup>

### Milwaukee, Wisconsin

Milwaukee's PHC project focuses on reducing health issues related to overweight youth and their families, particularly those from low-income areas. To achieve this goal, the Milwaukee team has developed healthy-living programs for children and teens.

- Milwaukee's elementary school program, a 12-week session for 4th and 5th graders, provides information about proper fruit and vegetable consumption and encourages students to increase their level of physical activity. During the program, participating students and their families receive a free YMCA family membership.<sup>338</sup>
- Milwaukee residents aim to build a healthier, safer, walk-able and bike-able community. The Milwaukee PHC team and other groups conducted a walk-able neighborhood study, including determining priority areas for curb-outs, roundabouts, bike lanes, and countdown crosswalk meters. Over the long-term, the community plans to add trees and other attractions and create a map outlining key sights and historical landmarks. The Milwaukee PHC team is working in collaboration with various community partners, including the Milwaukee County Transit System, the Milwaukee Department of Public Works, and the Milwaukee Police Department, to implement the environmental improvement project.<sup>339</sup>

## NATIONAL RECREATION AND PARK ASSOCIATION

With over 6,000 public parks and recreation agencies that serve over 200 million people each year, the National Recreation and Park Association (NRPA) launched a multi-year community-centric strategic effort in 2001 to address the nationwide issues of physical inactivity and poor diet that have contributed to the expanding obesity epidemic. Through a partnership with the National Heart, Lung and Blood Institute of the National Institutes of Health, a three year field study, Hearts 'N Parks, was led by park and recreation professionals in 56 communities across 10 states with high rates of cardiovascular disease. The field study resulted in the launch of a NRPA Step Up to Health Initiative. NRPA has conducted 32 Step Up to Health Summits since February 2005. More than 2,000 individuals have been trained in the Community Mobilization Model and over 700 communities have joined the Step Up to Health program.<sup>340</sup>

## 4. Working with Health Care Providers

Studies have shown that educating doctors about providing better counseling to patients about physical activity and nutrition has been an important factor in influencing patient behavior change.<sup>341</sup>

The majority of Americans come in contact with a health care provider at least once a year due to sickness or for a health check-up. Each patient visit provides an opportunity for health care providers to discuss the health benefits of proper nutrition and physical activity with patients as well as to screen for individuals who may be at risk for weight-related health problems.

This section identifies a series of barriers that impede health care providers from routinely providing obesity and physical inactivity screening and treatment to patients.

Two surveys including obese adults who annually visited their physicians at least once a year found that fewer than half of the obese patients had been advised to lose weight or exercise.<sup>342</sup>

Of those who were overweight, only 35 percent had been counseled on exercise. Of individuals who were sedentary, only 22 percent had been counseled by their physician about exercise.<sup>343</sup>

A number of barriers have been identified that impede health care providers from providing effective obesity and physical inactivity screening and treatment to their patients.

### Barrier #1: Lack of Physician Awareness and Training

Physicians often do not receive proper training about effective screening and treatment of obese and sedentary individuals, according to a number of studies. Therefore, these physicians feel unprepared to provide patients with diet and physical activity counseling and behavioral therapy and other obesity-related services. In a survey conducted by the American Medical Association, 56 percent of graduating medical students indicated that “nutrition-related experiences during their training were inadequate” and only 50 percent felt that “they were well prepared to assess patients’ status for obesity.”<sup>344</sup>

In an attempt to enhance providers’ knowledge of proper obesity-related treatment services, some insurers are offering educational opportunities and other tools to providers. For example in 2006, Blue Cross of California (BCC) launched a statewide BMI training and promotion program for clinical staff (registered nurses, licensed vocational nurses, and medical assistants) throughout California in an attempt to combat the childhood obesity epidemic. The program, called “Taking Measures for Their Future,” will reach more than 9,000 pediatric and family practices.<sup>345</sup>

### Barrier #2: Lack of Training for Communicating Delicately and Effectively with Patients about Weight Problems

In a survey of pediatricians published in 2002 in *Pediatrics*, many providers said they felt they had low levels of proficiency dealing with behavior management strategies (38.9 percent), providing guidance in parenting techniques (25.0 percent), and

properly addressing family conflicts (30.0 percent) among obese child patients and their guardians.<sup>346</sup>

In a statewide survey of 240 providers in California, more than 90 percent responded that they felt they needed more training in strategies and skills for communicating with parents about their child’s weight problems. In response to these results, Children’s Hospital & Research Center Oakland (CHRCO) launched a series of workshops in 2006 to teach physicians how to talk to parents about their child’s obesity-related health problems.<sup>347</sup> Kaiser Permanente has also started offering their providers with similar training about how to counsel families regarding prevention and management of conditions in overweight children.<sup>348</sup>

### Barrier #3: Lack of Reimbursement for Obesity Services

The 2002 *Pediatrics* survey also found that 46 percent of pediatricians said reimbursement is seen as a barrier in the treatment of overweight children and adolescents. Fifty-eight percent indicated that lack of clinician time was a barrier.<sup>349</sup> Physicians are likely to focus limited time they have on the health issues that instigate a patient’s visit to the doctor, and not on other apparent issues, such as excessive weight.

Changes to reimbursement policies could provide a financial incentive for physicians to become more engaged in screening for and treating obesity-related concerns. If policies were to change encouraging obesity screening, physicians would be more likely to address issues of patients who present with obesity and physical inactivity issues.

## REACHING CHILDREN AND YOUTH THROUGH HEALTH CARE PROVIDERS

Children and youth routinely have well-care examinations by doctors, providing a strong opportunity for evaluation and counseling related to activity and nutrition.

Research featured in the 2006 *Future of Children* journal regarding childhood obesity suggested that “given the magnitude of the childhood obesity problem, however, pediatricians and other health care providers are going to have to step up and take a major role in the care and health of the obese child. Successfully treating obesity will require a major shift in pediatric care.”<sup>350</sup>

The American Academy of Pediatrics recommends that pediatricians ask parents a variety of questions to gauge children’s physical activity, such as “the number of times per week their child plays outside for at least 30 minutes” and “the number of hours per day their child spends in front of a television, video game, or computer screen.”<sup>351</sup> Further, they suggest the use of pedometers because of the ease with which the device can evaluate the number of steps and because of their “gadget appeal among youngsters.”<sup>352</sup>

Many children and youth receive health care coverage based on their parents work insurance plans. Exploring changes to these policies to encourage an emphasis on well-care including physical activity and nutrition counseling could have a significant impact on preventing and controlling childhood obesity.

### EXAMPLE OF INSURERS DEVELOPING CHILDHOOD-FOCUSED PROGRAM

Blue Cross of California has “developed and distributed a Childhood Obesity Physician Toolkit to the 12,000 pediatric and family practice physicians in its network, which provides information to help physicians engage families in dialogue about their child’s weight, nutrition and physical activity, and offers an online Childhood Obesity Continuing Medical Education (CME) Course developed in partnership with the CMA foundation and designed to screen, identify, and manage at risk and overweight pediatric patients.”<sup>353</sup>

The Section 2: State Responsibilities and Policies provides some examples of states offering childhood Medicaid benefits.

## DEVELOPING BEST PRACTICES FOR HOSPITALS IN THE FIGHT AGAINST CHILDHOOD OBESITY

The Youth Obesity Learning Collaborative, created in early 2006 by the Association for Community Health Improvement of the Health Research and Educational Trust, involves 15 rural, urban, and suburban hospitals from around the country that are working to implement successful childhood obesity prevention and reduction programs in their communities. The ultimate goals of the Learning Collaborative are to “enhance the effectiveness of participants’ initiatives and to develop guidance for other hospital-based partnerships working to reduce youth obesity and its negative impacts on health.”<sup>354</sup>

Through the collaborative, member hospitals participate in face-to-face and virtual meetings to exchange intervention strategies, outcomes, and measurement tools and data.<sup>355</sup> They are also involved in developing case studies and a web-based guidebook to help other hospitals implement successful childhood obesity programs in their communities. The guidebook will be available in late summer of 2007.

## 5. Workplace Approaches

The workplace is considered an important setting for reaching adults since people are influenced by their employers' practices and policies. Employers can create an environment that encourages workers to engage in increased physical activity, by supporting gym memberships or offering workout facilities on-site and supporting breaks throughout the day where people are encouraged to be active (such as taking a walk).

Wellness programs typically also concentrate on improving eating habits in addition to encouraging increased physical activity.

According to the Society for Human Resources Management, 43 percent of employers "who offered health insurance also offered some type of incentive to encourage healthy behavior" in 2006.<sup>356</sup> In addition, the number of employers offering weight-loss programs specifically increased from 17 percent in 2001 to 29 percent in 2006, representing a 71 percent increase.<sup>357</sup>

Twenty-five percent of Fortune 1000 companies are expected to have on-site medical clinics by the end of 2007, according to Watson Wyatt Worldwide Inc. It is estimated 15 percent had these types of clinics available in 2006.<sup>358</sup>

Return on investment (ROI) for large corporate health management programs has been shown to range from \$1.49 to \$4.91 per dollar spent, with a median of \$3.14.<sup>359</sup> Some studies suggest that significant financial benefits often are realized only over time periods, particularly in companies where employee turnover is low.<sup>360</sup> Concerns about costs have deterred many smaller and medium businesses from investing in wellness programs. Experts suggest that insurers could step in to address the needs of small and medium sized employers to be able to affordably provide wellness programs.

### HEALTHY WORKFORCE ACT

U.S. Senators Tom Harkin (D-IA) and Gordon Smith (R-OR) have introduced the Healthy Workforce Act of 2007 to assist businesses in providing a range of opportunities to help employees lead healthier lives, including incentives to offer onsite health promotion programs.

The bill would provide tax credits to businesses that offer comprehensive wellness programs to their employees. Businesses could receive the tax credit for 10 years for establishing new qualified wellness programs.

Employee wellness programs eligible for the tax credit may include:

- Raising health awareness through health education and health risk assessments.
- Behavioral change programs that encourage employees to lead a healthy lifestyle through counseling, seminars or on-line programs. Programs could include classes on nutrition, stress management, or smoking cessation.
- A meaningful program participation incentive, such as individual reductions in health insurance premiums.

## EXAMPLES OF BUSINESS WELLNESS EFFORTS

### Lighten Up Dow Chemical

With more than 60 percent of its U.S. workforce either overweight or obese, the Dow Chemical Company has begun to encourage weight management and physical activity for approximately 10,000 employees at 12 work sites around the country. Plans include:

- Work with food service and vending companies to reduce the amount of high-fat and high-sugar items offered;
- Put up signs to encourage people to take the stairs instead of the elevator;
- Offer weight management tracking programs; and
- Implement walking paths and routes around the buildings.<sup>361</sup>

The company estimates that if successful, the program could reduce corporate health care costs by more than double the costs of their investment in the wellness program.<sup>362</sup>

### Nordam Group

The Nordam Group, an aerospace manufacturer based in Tulsa, Oklahoma, recently implemented a wellness program for its employees and experienced a savings of \$454,000 in medical costs during the first year of the program's operation.<sup>363</sup> The company's wellness program encourages exercise, healthy eating, and smoking cessation among its employees. The company also:

- Sponsors employee teams for local runs and walks;

- Holds health fairs;
- Pays as much as \$300 in incentives for healthy activities such as losing weight or quitting smoking; and
- Has negotiated affordable YMCA membership plans for its employees.<sup>364</sup>

Nordam estimates that for every \$1 that the company invests in its wellness program, it gets a return of between \$2.50 and \$6.<sup>365</sup>

### Minnesota Fittest State Initiative

The Minnesota Fittest State Initiative was launched in 2007 by state business and policy leaders, targeting 2 major health risk factors: physical inactivity and unhealthy eating. Fittest State is being led by Blue Cross and Blue Shield of Minnesota (BCBSMN), with support from area businesses, including General Mills and Medtronic, and local chapters of the American Heart Association and the American Cancer Society.

- The initial focus of Fittest State will be on implementing physical activity and nutrition interventions in the workplace.
- Long-term, the program aims to move beyond employer programs to reach families, children and communities.

BCBSMN will make funding available for employers interested in implementing worksite wellness programs and for communities to make walking and biking routes safer. In addition, program partners can host forums to allow business leaders to share best practices and informational resources.<sup>366</sup>

## EXAMPLE OF ESTABLISHING WELLNESS PROGRAMS FOR SMALL AND MEDIUM SIZED EMPLOYERS

In March 2007, Blue Cross and Blue Shield of Minnesota (BCBSMN), the state's largest private insurer, created a "Workplaces on the Move" initiative that "will select up to 20 [small- to mid-sized] employers [in 2007] to receive 3-year contracts that range in value from \$25,000 to \$100,000 depending on the size of the company."<sup>367</sup>

Through Workplaces on the Move, BCBSMN's goal is to "tackle preventable heart disease and cancer by addressing

their root causes -- tobacco use, lack of physical activity and unhealthy eating." The only requirement from BCBSMN is that the programs promote better health by encouraging employees to increase their level of physical activity.<sup>368</sup>

The Workplaces on the Move initiative provides examples for other small- to medium-sized organizations on ways to implement wellness programs for their employees.

## NEW NON-DISCRIMINATION REGULATIONS FOR EMPLOYER WELLNESS PROGRAMS

New non-discrimination rules went into effect in July 2007 to help ensure that employer wellness policies are not overly punitive to those who cannot alter their lifestyles. The rules, issued in December 2006 by HHS and the Department of Labor (DOL), are part of the Health Insurance Portability and Accountability Act (HIPAA).<sup>369</sup>

The maximum discount an employer or insurer can provide to employees for taking part in a wellness program will be

capped at 20 percent of a single employee's insurance premium.<sup>370</sup> In addition, employers will be required to provide "reasonable alternatives" in their wellness policies for people with physical or medical conditions. For example, since nicotine addiction is considered a medical condition, employers generally will be required to make allowances in health plans and wellness programs for workers who have been unable to quit.<sup>371</sup>

## 6. IMPROVING THE BUILT ENVIRONMENT

A significant advancement in obesity research is a growing recognition in the field of the built environment, which is often defined as the man-made aspects of communities.

The built environment and community design, including available retail and restaurants and transportation to food retail locations, impact physical activity and eating patterns.<sup>372</sup>

### SOME KEY BUILT ENVIRONMENT FACTORS

- Sidewalks
- Bike paths
- Street layout
- Recreational spaces, such as parks and community centers
- Proximity of stores and offices within walking distance of homes
- Safety of communities
- Sprawl
- Neighborhood availability of stores and restaurants offering healthy or less healthy selections of food choices

A number of studies have examined the influence of the built environment on physical activity.

- Researchers have found that people walk and bike less in communities that are “less dense” or where shopping and places of work are spread out in distance.<sup>373</sup>
- One study found that sprawl was associated with people walking less, higher rates of obesity, and higher levels of hypertension.<sup>374</sup>
- A research group concluded higher physical activity and lower obesity levels could be seen in more “walkable” communities.<sup>375</sup>
- A study that examined 13 countries with a wide variety of types of cities found obesity declines in communities with more “mixed land use” (closer proximity of home to stores and work places), and rises with time spent in a car daily, even when controlling for factors such as age, income, education, and gender/ethnicity.<sup>376</sup>
- Most school-aged children are either driven by a parent (53 percent) or a school bus (38 percent). Less than 2 in 10 (17 percent) walk.<sup>377</sup> The study concluded that “the main reason their children do not walk or bike is because the school is too far away (66 percent). Other concerns include too much traffic, no safe route (17 percent), fear of abduction (16 percent), crime in the neighborhood (6 percent), lack of convenience (15 percent), and finally, children not wanting to walk (6 percent).”<sup>378</sup>
- Youth from low-income families often have the least access to safe venues for physical activity. The GAO found that “areas of low socioeconomic status and high minority populations had fewer venues for physical activity” and “adolescents in unsafe neighborhoods engage in less physical activity” than their peers.<sup>379</sup>
- A 2005 analysis of the National Household Transportation Survey showed that residents in large urban areas with rail transit systems are much more likely to walk for utilitarian purposes.<sup>380</sup> Those in large urban areas without a rail transit system were still more likely to walk, but to a lesser extent.<sup>381</sup>
- Additional studies have found that a lack of “green spaces” and other recreational areas may contribute to higher obesity rates. For instance, fewer parks and swimming pools are typically available in communities with high levels of poverty and with greater numbers of African Americans and Latinos, who have higher rates of overweight and obesity.<sup>382</sup>

## PREVENTION INSTITUTE'S ENACT: ENVIRONMENTAL NUTRITION AND ACTIVITY COMMUNITY TOOL

The Prevention Institute has produced an Environmental Nutrition and Activity Community Tool (ENACT) to provide “a hands-on assessment and planning resource for organizations, coalitions and communities interested in improving their nutrition and physical activity environments.”<sup>383</sup> It provides a “concrete menu of strategies designed” to help communities assess and improve the local environment in which they live.<sup>384</sup> ENACT focuses on seven different settings or sectors: childcare, school, after-school, neighborhood, workplace, healthcare, and government.

## RECOMMENDATIONS FOR IMPROVING COMMUNITY DESIGN TO ENCOURAGE INCREASED PHYSICAL ACTIVITY AND MORE NUTRITIOUS EATING HABITS

From TFAH's 2005 *F as in Fat* report developed in consultation with Smart Growth America:

- **Encourage “Mixed Use” Areas.** Communities and states should examine and update zoning and land use laws to allow for more “mixed use” commercial and residential communities, so people can have more opportunities to walk or bike to retail centers and to work.
- **Examine Health Impact of New Building.** Communities should require “Health Impact Assessments” for proposed land use and building projects, which will help communities and policymakers understand how community health might be affected if new building restricts access to recreational space and to food shopping. These can be based on the “Environmental Impact Assessment” model.
- **Building Design Codes.** Encourage new building design that encourages use of staircases rather than elevators or escalators and offers other spaces that facilitate activity in commercial and public buildings.
- **Build More Sidewalks.** Communities should place greater emphasis on building sidewalks, particularly in new developments and around highways, to make it possible for people to walk safely.
- **Encourage Transportation Fund Use for Mass Transit and Alternatives to Highways.** Communities should insist that states and counties require alternative proposals be examined when new highway initiatives are proposed. New development should also be required to include pedestrian-friendly components, such as sidewalks, which encourage interconnectivity of communities and opportunities for activity. State and federal transportation dollars should be considered for mass transit, sidewalk, and mixed use opportunities rather than be focused on highway construction.
- **Modernize New School-Site Construction Requirements.** States and localities should review and update old acreage requirements for new school construction that required large spaces for construction. Outdated requirements have resulted in schools being built in remote locations that students can often only access by bus rather than by walking or biking. Flexible standards for school site construction would allow communities to build schools closer to existing homes and commercial regions instead of in remote areas.
- **Providing Improved Healthy Food Access in Low-Income Areas.** Healthy food access is a demonstrated problem in many low-income communities. Communities should encourage the development of and provide public space for locally-operated produce markets and farmers markets. Also, through the use of incentives, communities should encourage supermarkets and food shopping vendors to locate in lower-income neighborhoods and offer healthier food alternatives.



# Survey of Chronic Disease Directors and Directors of Health Promotion and Education

In order to understand which obesity prevention and reduction strategies experts believe are most effective and should be prioritized, TFAH conducted a survey of state Chronic Disease Directors (CDDs) and state Directors of Health Promotion and Education (DHPEs). CDDs and DHPEs are state government employees who serve on the front lines of public health in each state by developing and implementing policies and programs to prevent chronic disease and promote better health.

In July 2007, the National Association of Chronic Disease Directors (NACCD) and the DHPE association distributed a survey by email to their members. The survey was administered through the Internet service

Survey Monkey ([www.surveymonkey.com](http://www.surveymonkey.com)) and was available for a period of over 2 weeks. Thirty-three out of 50 CDDs and 21 out of 50 DHPEs responded to the survey (See Appendix B for a list of survey participants).

## A. BARRIERS TO SOLVING THE PROBLEM OF OBESITY IN ADULTS

Overall, the CDDs and DHPEs expressed concern about a number of issues that serve as barriers to preventing and controlling adult obesity. The barriers respondents felt were most significant included:

- Lack of funding;
- Lack of political leadership on the adult obesity issue; and
- Unhealthy settings in which adults live day-to-day (e.g., the workplace or surrounding built environment not being conducive to physical activity, limited access to nutritious foods, etc.).

More than 80 percent of CDDs and DHPEs responded that all 9 of the potential barriers listed in the survey were either a major or minor barrier to addressing the challenge of obesity.

When asked specifically what action the federal government could take to combat the adult obesity problem, many of the CDDs and DHPEs identified increased federal funding for obesity-related research and interventions for adults.

| Barriers to Solving Adult Obesity Problem   | Percentage Indicating Barrier as MAJOR | Percentage Indicating Barrier as MAJOR or MINOR |
|---|--|---|
| Lack of population health funding for health promotion and disease prevention   | 90.6%                                  | 100%  |
| Environmental factors (e.g., limited sidewalks and green space, unsafe neighborhoods, urban sprawl and reliance on cars, etc.)                                  | 86.8%                                  | 100%  |
| Workplace settings not conducive to healthy eating and physical activity  | 79.2%                                  | 100%  |
| Lack of leadership on the issue (e.g., obesity is not a political priority, government funds not being allocated to the issue, etc.)                            | 76.9%                                  | 100%  |
| Limited access to nutritious foods, such as fruits and vegetables, due to high prices or limited availability in certain areas (e.g., inner-city neighborhoods) | 70.4%                                  | 94.5%   |
| Lack of reimbursement for obesity treatment services (e.g., nutritional therapy, behavioral counseling, etc.)   | 58.5%                                  | 92.5%   |
| Under-diagnosis of obesity and overweight within the primary care setting   | 40.7%                                  | 83.3%   |
| Inconclusive research regarding appropriate interventions   | 35.2%                                  | 81.5%   |
| Unclear and inconsistent messages regarding nutrition and physical activity   | 31.5%                                  | 83.4%   |

## B. BARRIERS TO SOLVING THE OBESITY PROBLEM IN CHILDREN AND ADOLESCENTS

The CDDs and DHPEs reported the top major barriers for combating obesity in children and adolescents included:

- Unhealthy settings in which children and adolescents live day-to-day;
- Lack of funding; and
- Lack of political leadership on the issue.

For children and adolescents, unhealthy living settings encompass the home (i.e. physical activity and eating patterns of parents), school (e.g., cuts in physical education, lack of healthy foods served in schools, etc.), and the built environment (e.g., limited sidewalks).

Also, the CDDs and DHPEs felt that overall limited funding for public health programs is a problem, but that it is compounded in dealing with childhood obesity since limited financial resources at the school level also cuts into physical and health education programs. When asked specifically what action the federal gov-

ernment could take to help combat childhood obesity, many of the respondents identified increased federal funding for obesity-related research and interventions for youth.

For adults, only 31.5 percent of CDDs and DHPEs identified “unclear and inconsistent messages regarding nutrition and physical activity” as a major barrier to combating the adult obesity problem, however, the majority (52.8 percent) of respondents listed these messages as a major barrier in the fight against childhood and adolescent obesity. One reason for this may be due to the fact that the majority of physical activity level recommendations for children and adolescents have been based on studies involving adults and not youth.

The majority, more than 85 percent, of CDDs and DHPEs felt that all of the issues included in the survey were either major or minor barriers to addressing childhood obesity.

| Barriers to Solving Childhood and Adolescent Obesity   | Percentage Indicating Barrier as MAJOR | Percentage Indicating Barrier as MAJOR or MINOR |
|--|--|---|
| Physical activity and eating patterns of parents   | 96.3%                                  | 100%  |
| Cuts in physical education, recess and health education at schools   | 92.5%                                  | 100%  |
| Lack of population health funding for health promotion and disease prevention  | 84.9%                                  | 100%  |
| Environmental factors (e.g., limited sidewalks and green space, unsafe neighborhoods, etc.)  | 83.0%                                  | 100%  |
| Lack of healthy foods in schools and school funding methods that require soda or other vending contracts to make ends meet           | 74.1%                                  | 100%  |
| Lack of leadership on the issue (e.g., obesity is not a political priority, government funds not being allocated to the issue, etc.) | 67.9%                                  | 98.1%   |
| Unclear and inconsistent messages regarding nutrition and physical activity requirements for children and adolescents                | 52.8%                                  | 88.6%   |
| Under-diagnosis of obesity and overweight within the primary care setting  | 52.8%                                  | 90.5%   |
| Lack of reimbursement for obesity treatment services (e.g., nutritional therapy, behavioral counseling, etc.)                        | 51.9%                                  | 94.5%   |
| Inconclusive research regarding appropriate interventions  | 40.7%                                  | 85.1%   |

### C. OBESITY AS A TOP STATE BUDGET PRIORITY

The CDDs and DHPEs strongly felt that lack of funding was a serious barrier to combating the obesity problem in both adults and youth. In addition, only half (50.94 percent) of respondents reported that obesity prevention and control was a top budget priority within their state department of health. In states where it was not considered a top bud-

et priority, the CDDs and DHPEs listed various other mandated public health programs that take precedence over obesity given limited financial resources, including: infectious diseases and emergency preparedness, “categorical” disease specific programs such as cancer prevention, and health services (e.g., Medicaid, WIC, senior services, etc.).

### D. PHYSICAL ACTIVITY OR WEIGHT LOSS: WHICH SHOULD BE THE FOCUS IN THE FIGHT AGAINST OBESITY?

The majority of CDDs and DHPEs (64.2 percent) indicated that there needs to be a balance between focusing on physical activity and weight loss in the fight against obesity.

Of the respondents who chose either weight loss or physical activity as the main focus in the fight against obesity, 28.3 percent chose

physical activity, compared to only 5.7 percent who chose weight loss alone. These results follow the idea highlighted earlier in the report that physical activity can lead to improved health outcomes in individuals independent of weight loss.

## E. WAYS TO MEASURE SUCCESS

The majority of CDDs and DHPEs rated “prevalence of related chronic disease like diabetes” (58.5 percent) and “minutes and intensity of physical activity per week” (66.0 percent) as good measures for evaluating the effectiveness of obesity interventions. Forty five percent of respondents indicated that BMI and nutritional intake measures (e.g., total caloric intake, dietary fiber intake, fat intake, etc.) are good evaluation measures.

Many respondents indicated that changes in BMI and obesity-related chronic disease rates are long-term in scope and therefore

take a long time to materialize or to show progress. Many of the CDDs and DHPEs, therefore, stressed the importance of also using short term-focused measures to evaluate obesity interventions. Examples of short-term measures listed by respondents included: environmental measures (e.g., access to healthy foods and transportation opportunities in communities), population physical activity and fitness levels, population television viewing time, physical education requirements in schools, and the number of worksite wellness initiatives.

## F. FOCUS OF FUTURE OBESITY PREVENTION RESEARCH AT NIH

When asked what their top research question would be if they could determine the National Institutes of Health’s (NIH’s) research agenda for obesity, the majority of CDDs and DHPEs listed questions focused on finding the “best practices” for preventing and treating obesity. These respondents stressed the importance of using studies to uncover evidence-based/scientific-proven obesity interventions and programs. Examples of questions the CDDs and DHPEs listed included:

- What mixtures of communication, counseling and policy/environmental change (e.g., improved sidewalks, increased access to fruits and vegetables, etc.) yield the best results in modifying community obesity levels?
- What are the top behavioral issues that contribute to obesity and what are the most effective interventions that can assist in changing those behaviors?
- Are there evidence-based programs for different demographic populations (e.g., age, sex, ethnicity, and geographical areas) to combat obesity?
- What treatment has shown to be the most successful long term for weight loss and maintaining weight in overweight adolescents?
- What are the most effective programs for achieving weight loss and increasing physical activity among those at-risk for or with obesity?
- What obesity prevention and reduction interventions work in rural areas?

# Public Opinion Survey

## 6 SECTION

**A** survey commissioned by the TFAH finds that 85 percent of adults think obesity has reached epidemic proportions in the United States, a figure that is consistent among gender, age, education, and racial breakdowns.

The survey was designed and conducted by Greenberg Quinlan Rosner Research, Inc. Interviewing was conducted by professional interviewers. The survey reached 1,021 adults ages 18 and older. The survey was conducted July 12-16, 2007. The data were weighted by gender, age, race, and region, to ensure an accurate reflection of the population. The sample size with these weights applied is 1,021 and is subject to a margin of error of +/- 3.1 percent at a 95 percent level of confidence.

The public also expresses a desire to see more action taken to resolve this epidemic. Americans express a familiarity with and understanding of the need to maintain a healthy weight and participate in physical activities. While they believe that people have a responsibility to tackle this issue at an individual level, a large majority also sees a need for government to play some role in helping individuals accomplish those goals. This is particularly true with respect to childhood obesity, where Americans show strong concern about the lack of activity and nutrition provided in schools.

Key findings include that:

- **Eighty-five percent of Americans believe that obesity is an epidemic in this country.**
- **Most people believe that government should play some role in addressing the issue of obesity in the U.S.** A majority of adults (51 percent) say that the primary responsibility for tackling the obesity epidemic should come from a combination of individuals and government. Eighty-

one percent of Americans believe that government should have some role in addressing the issue.

- **Fifty-six percent of adults support the idea of funding government health budget programs to strategically combat obesity.**
- **Americans are very concerned about childhood obesity and see schools as a starting place for tackling the obesity crisis.** Less than one-third of adults think that children participate in adequate amounts of physical activity during the school day. Just 42 percent of Americans think that school lunches are nutritious enough. The proposals which receive the most support for how government can help fight the obesity epidemic center on schools and childhood obesity – increasing physical activity and starting before and after-school programs (71 percent rated as an 8 or higher on a 10 point scale), and establishing higher nutritional standards for school lunches (66 percent rated as an 8 or higher on a 10 point scale).
- **Despite the rising prevalence of obesity, most Americans have an awareness of the steps that should be taken to avoid obesity.** On average, nearly two-thirds of Americans say that their doctor or health care provider has talked to them about issues like weight management and exercise. Likewise, most can correctly identify the government's recommended level of physical activity.

■ **The public responds favorably to proposals that show government helping to make it easier for individuals to take the necessary steps to fight obesity and live healthier lives.** People have some awareness of what they should do to be healthy, but they want government to help make it

easier and less expensive to make the right choices. Majorities support proposals to expand educational programs about healthy living, provide low-cost access to exercise programs, and reduce the marketing of unhealthy foods.

## A. AMERICANS VIEW OBESITY AS AN EPIDEMIC

The public is nearly united in the belief that obesity has reached epidemic proportions in this country. Eighty-five percent of adults say that the problem is at epidemic levels.

This includes every demographic group, including gender, age, income, racial, and geographic breakdowns.

| Is obesity an epidemic in the United States? |       |
|--|-------|
|  | % Yes |
| Total  | 85    |
| White  | 85    |
| African American                             | 85    |
| Hispanic                                     | 85    |
| Men  | 81    |
| Women  | 89    |
| Ages 18-29                                   | 89    |
| Ages 30-39                                   | 84    |
| Ages 40-49                                   | 86    |
| Ages 50-64                                   | 84    |
| Ages 65+                                     | 85    |
| High school or less                          | 81    |
| Some college/post high school                | 89    |
| College graduate                             | 85    |
| Less than \$30,000/yr household              | 84    |
| \$30,000-\$50,000/yr household               | 88    |
| \$50,000-\$75,000/yr household               | 87    |
| More than \$75,000/yr household              | 86    |
| Democrat                                     | 87    |
| Independent                                  | 85    |
| Republican                                   | 84    |
| Northeast                                    | 86    |
| Central                                      | 84    |
| South  | 84    |
| West   | 87    |

## B. PEOPLE BELIEVE GOVERNMENT CAN HAVE AN EFFECTIVE ROLE IN FIGHTING THE OBESITY EPIDEMIC

Americans believe that individuals play a big role in addressing chronic health issues like obesity, and that people can take action to address these problems. Forty-five percent of Americans think individuals and family are most responsible for addressing these health concerns, while just 2 percent believe that government holds the primary responsibility.

However, people do believe government has a role in addressing the obesity epidemic. Overall, a majority (51 percent) of adults believes that individuals and government share the responsibility for combating obesity. Moreover, most who indicate that individuals hold primary responsibility say that government should have some role in taking on this issue. Together, this leads to a staggering 81 percent of Americans who believe government should help in reducing obesity in the United States.

### ■ African Americans and Hispanics are more likely to view a role for government.

A nearly universal 96 percent of African Americans say government should have some role and 87 percent of Hispanics concur. Seventy-nine percent of white Americans see government as having a role in combating obesity.

### ■ Women favor a government role more than men.

While more than three quarters of men (78 percent) want some government role, 85 percent of women support government playing a part in tackling the obesity epidemic.

### ■ The desire for a government role increases as income level decreases.

Americans with the lowest levels of income are most eager to see government play some role in taking on the issue of obesity.

| Support for government role in combating obesity by income level |  |
|--|--|
|  | % Government should have role <sup>385</sup> |
| Total  | 81   |
| Less than \$30,000/yr household                                  | 87   |
| \$30,000-\$50,000/yr household                                   | 85   |
| \$50,000-\$75,000/yr household                                   | 80   |
| More than \$75,000/yr household                                  | 77   |

## C. MOST AMERICANS WANT TO MAKE COMBATING OBESITY A HIGH BUDGET PRIORITY

Fifty-six percent of Americans support funding strategic government efforts to fight obesity at all levels of government. This includes majorities of most demographic groups. Men, who are generally more reticent about investing government resources, are as likely as women to support funding for this issue as a priority.

African Americans are, by far, most likely to want government to make addressing obesity a priority in health budgets (81 percent support), with less support among both Hispanics (69 percent) and whites (52 percent). Americans under the age of 50 also show greater interest in investing budget funds to combat obesity (59 percent), compared to voters over 50 (53 percent).

## D. STRONG SUPPORT EXISTS FOR IMPROVING STANDARDS IN SCHOOLS TO FIGHT CHILDHOOD OBESITY

Americans do not believe schools provide a supportive environment for encouraging healthy behavior in children. Currently, less than one-third of adults (28 percent) think that children participate in adequate amounts of physical activity during the school day, and just 32 percent think that kids are engaging in enough physical activity outside of school. Forty-eight percent of adults say that lunches provided by schools are not nutritious enough, including a majority of parents with kids under the age of 18 (55 percent).

However, there is broad support for efforts to improve the role of schools in promoting better health. Many Americans believe government has a major role to play in combatting obesity through the schools. When asked about a series of actions government

could take to help combat obesity, the proposals which received the most support were schools-based approaches:

- Increasing physical education and activity in schools, including before and after school programs (71 percent rated as an 8 or higher on a 10 point scale).
- Establishing higher nutritional standards for school lunches (66 percent rated as an 8 or higher on a 10 point scale).

In addition, 60 percent of Americans favor a proposal to allow schools to measure each student's BMI annually and confidentially report the findings to his or her parents as a way of bringing to light potential problems or needs for changes. This includes 63 percent of dads and 60 percent of moms. Only 36 percent of Americans oppose the proposal.

## E. MOST ADULTS WANT GOVERNMENT TO HELP MAKE IT EASIER TO LIVE HEALTHY LIVES

People express an awareness of the importance of maintaining a healthy weight and regular exercise. They also see value in government playing a role in helping people achieve those standards as a means of reducing the occurrence of obesity in the United States.

Americans see a role for government in helping to turn awareness into action, particularly in the form of helping to provide strategies to increase physical activity and maintain a healthier diet in people's daily lives. As mentioned earlier, the proposals receiving the most support focus on helping schools in the effort to combat childhood obesity. The proposals that received the next strongest levels of support center on actions government can take to help individuals live healthier lives.

- Expanding educational programs to teach individuals about nutrition and healthy lifestyles (61 percent rated as an 8 or higher on a 10 point scale).
- Providing free or low-cost access to exercise and weight loss programs (59 percent rated as an 8 or higher on a 10 point scale)
- Reducing the marketing of unhealthy foods and increase the marketing of healthy foods (59 percent rated as an 8 or higher on a 10 point scale).
- Setting aside more green space in communities for parks and recreational areas (54 percent rated as an 8 or higher on a 10 point scale).

## Proposals to help combat obesity

|   | % rating as an 8 or higher on a 10 point scale |
|---|--|
| Increasing physical education and activity in schools, including before and after school programs | 71   |
| Establishing higher nutritional standards for school lunches                                      | 66   |
| Expanding educational programs to teach individuals about nutrition and healthy lifestyles        | 61   |
| Providing free or low-cost access to exercise and weight loss programs                            | 59   |
| Reducing the marketing of unhealthy foods and increase the marketing of healthy foods             | 59   |
| Setting aside more green space in communities for parks and recreational areas                    | 54   |
| Expanding coverage for prevention, diagnosis and effective treatments of obesity                  | 50   |
| Building more sidewalks in neighborhoods and communities to promote walking                       | 43   |

Strongest support for these measures tracks with those most likely to see a role for government in addressing the issue of obesity, including African American and Hispanic adults, women, people with less than a college education, and those with household incomes of less than \$50,000 a year.

Health care providers are also seen as playing a key part in educating the public about healthy living, and most Americans report that their doctors are talking to them about obesity issues. Sixty-four percent say their doctor talked about the importance of maintaining a healthy weight during their last visit, while 66 percent say their physician mentioned the need for physical activity. At the same time, more than two-thirds of adults correctly identify the current CDC recommendation for moderate-intense physical activity as thirty minutes a day on five or more days a week.

While majorities of Americans report knowledge or receiving information from medical providers, there are differences within some demographic groups:

■ **Doctors provide less information to younger people about health risks and keeping healthy.** Younger Americans, who are less likely to be facing immediate health issues, are also least likely to have heard from their doctors about the importance of

a healthy weight and exercise. Fifty-six percent of adults under 30 and 63 percent of those ages 30 to 49 recall getting such information from their health care provider, while 69 percent of those over 50 heard from their doctor on the same topic. Doctors can help in the effort to fight the obesity epidemic and future health problems by working to inform their patients early about developing healthy habits.

■ **Americans living in the Northeast and Western regions of the country are more informed about healthy living than their counterparts in the Central and Southern parts of the U.S.<sup>386</sup>** People living in the Northeast and West are more likely to correctly identify the recommendations for moderate physical activity (70 and 73 percent respectively) compared to the South (63 percent) and Central (68 percent) regions. In addition, Northeastern residents are more likely to recall receiving information about keeping health from their doctors (73 percent about weight management; 76 percent about physical activity) than people in other regions. (For weight management -- Central region: 65 percent; South: 66 percent; West: 54 percent. For physical activity -- Central region: 64 percent; South: 66 percent; West 58: percent.)

- **African Americans, most likely to have heard information about keeping healthy from doctors, are less informed on specific strategies for maintaining healthy weight and exercise regimens.** Nearly 9-in-10 African Americans recall their doctor talking about maintaining a healthy weight (88 percent) during their last visit, and 85 percent recall a discussion on the importance of participating in physical activity. However, only 62 percent of African Americans and Hispanic adults answered with a correct knowledge of recommended levels of activity, compared with 71 percent of white adults.
- **Seniors also lack specifics on appropriate levels of physical activity.** Older adults are most likely to hear from their doctors about the need to manage their weight

and keep active. Yet, these same people - particularly senior citizens - are less likely to be able to cite the correct level of recommended physical activity.

- **Lower income Americans have less access to information from health professionals, and consequently, less knowledge about how to maintain a healthy lifestyle.** People living in households with incomes of less than \$30,000 a year -- many of whom have less access to quality health care -- have the least knowledge about staying healthy and the needed level of physical activity. Fifty-nine and 61 percent say their doctor talked to them about the importance of a healthy weight and exercise, respectively, while 61 percent identified the recommended level of physical activity.

| Information about obesity less accessible to lower-income Americans |       |               |               |               |              |
|---|-------|---------------|---------------|---------------|--------------|
|   | Total | % Under \$30K | % \$30K-\$50K | % \$50K-\$75K | % Over \$75K |
| % Whose doctor discussed importance of maintaining healthy weight   | 64    | 59            | 70            | 71            | 62           |
| % Whose doctor discussed importance of physical activity            | 66    | 61            | 72            | 67            | 67           |
| % Who correctly identify recommended levels of physical activity    | 68    | 61            | 67            | 76            | 76           |

### REGIONAL DEFINITIONS:

**Northeast:** Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, Delaware, New Jersey, New York, Pennsylvania.

**Central:** Illinois, Indiana, Michigan, Ohio, Wisconsin, Iowa, Kansas, Minnesota, Missouri, North Dakota, South Dakota, Nebraska.

**South:** Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Texas, Virginia, District of Columbia, Kentucky, Maryland, Oklahoma, Tennessee, West Virginia.

**West:** Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming, Alaska, California, Oregon, Hawaii, Washington.

# Recommendations

**T**he serious negative health and economic consequences of the obesity epidemic make the problem too important to ignore. Despite some increased attention on the issue, the continued rise in obesity rates causes concern that the crisis is getting worse instead of better.

The obesity epidemic is not going to get better without a cultural shift in how the country approaches the issue.

For too long, obesity and overweight have been considered an individual problem. When two-thirds of Americans are overweight or obese and weight-related health care costs are compounding the nation's skyrocketing health care costs, this is clearly a national problem. And for too long, the focus of obesity prevention has been about appearance. The cultural emphasis needs to be changed away from "dieting" and appearance toward promoting healthy eating and physical activity. The approach needs to focus on encouraging lifestyle changes, even small ones, which can help people improve their health. For instance, as discussed in

**Section 4: Promoting Physical Activity as a Strategy to Improve Health** of this report, even a little physical activity can have a big impact on improving people's health.

TFAH's top recommendations for combating the obesity epidemic include:

- A. Improving Federal Leadership: National Strategy;**
- B. Fighting Obesity in the Workplace;**
- C. Helping All Americans Become More Physically Active;**
- D. Helping Americans Choose Healthier Foods; and**
- E. Accelerate and Escalate the Research into Ways to Promote Lifestyle Changes.**



## STATUS OF IOM'S 2005 RECOMMENDATIONS FOR CONFRONTING THE CHILDHOOD OBESITY EPIDEMIC FOR THE FEDERAL GOVERNMENT

In 2005, the IOM issued a ground-breaking report *Preventing Childhood Obesity: Health in the Balance* to develop a prevention-focused action plan to decrease the prevalence of obesity in children and youth in the U.S. The report included a range of recommendations for different sectors, including 5 for the federal government.

| IOM Recommendation   | Status   |
|--|--|
| 1. Establishing an interdepartmental task force and coordinate federal actions   | No coordinated federal government effort has been established.   |
| 2. Developing nutrition standards for foods and beverages sold in schools  | The 2007 reauthorization of the Farm Bill is expected to update nutrition standards for school meal programs to meet the <i>Dietary Guidelines for Americans, 2005</i> . These guidelines focus on meeting minimum nutrition standards and are not expected to include standards for competitive foods and beverages.  |
| 3. Funding state-based nutrition and physical activity grants with strong evaluation components  | CDC's school-based DASH grants average only \$416,000 and continue to be awarded to only 23 states. VERB, a social marketing effort targeted at promoting physical activity in tweens that had proven positive results, has been defunded.   |
| 4. Developing guidelines regarding the advertising and marketing to children and youth by convening a national conference  | The FTC has held a conference to work with food, beverage, and marketing industries. In July 2007, a number of prominent companies announced voluntary self-regulation to limit marketing unhealthy food and beverage products to children under age 12. The federal government is not providing direct leadership over the effort and does not have a plan for evaluating the content of the ads or holding industry accountable. |
| 5. Expanding funding for prevention research, experimental behavior research, and community-based population research; strengthen support for surveillance, monitoring and evaluation efforts. | Funding for prevention, experimental, and community-based population research has remained stagnant.   |

## A. IMPROVING FEDERAL LEADERSHIP: NATIONAL STRATEGY TO COMBAT OBESITY

*The federal government should develop and implement a National Strategy to Combat Obesity. This plan should involve every federal government agency, define clear roles and responsibilities for states and localities, and engage private industry and community groups.*

Every segment of society has a role to play in fighting the epidemic, including families, health care providers, schools, businesses, and communities. Political will must be galvanized to make combating obesity a national priority at all levels of government.

State and local health departments should convene diverse local leaders and members of the community to look for ways to promote physical activity and healthy eating, making information available and making changes that help make it easier for people to make healthier choices.

Our national leaders should give the crisis the attention it deserves by developing the National Strategy to Combat Obesity. The National Strategy for Pandemic Influenza Preparedness, with comprehensive government-wide responsibilities, clear timelines, and detailed action items, provides a strong example for how this type of effort could be undertaken. Obesity is as much of a threat to the public's health as the looming possibility of a flu pandemic, and the nation must make a similar level of commitment by creating a government-wide plan for addressing the problem and providing the funding needed to carry out the plan.

As part of the strategy:

- The nation's health officials should articulate federal government-wide responsibilities across multiple Departments (e.g. Health and Human Services, Transportation, Agriculture, Education, Interior), provide specific responsibilities to states and localities, define expectations of the private sector, and develop detailed guidelines, action items, benchmarks, and timelines.
- The federal government must provide significant funding for implementation of the National Strategy to Combat Obesity. This must include an investment to increase both scientific research to develop effective, wide-scale public health solutions (see Recommendation 3 for more detail) and to provide communities with the capacity and resources needed to make changes. The federal government needs to make a serious national commitment to this public health crisis, instead of the fits-and-starts and funding-and-cutting pattern we have today.
- Federal agencies must put forward clear, consistent recommendations for nutrition and physical activity for individuals. Currently, CDC, NIH, and the *Dietary Guidelines for Americans, 2005*, all have slight variations on physical activity recommendations. Information about healthy eating and activity should be contained in a single set of clear guidelines and promoted through high profile and ongoing public education efforts.

## B. FIGHTING OBESITY IN THE WORKPLACE

*Federal, state, and local governments need to work with private employers and insurers to ensure that every working American has access to a workplace wellness program.*

Our national economic well-being requires that we engage every sector of society to promote better nutrition and increased physical activity. It is in everybody's best interest to address the obesity crisis to help improve the economic vitality of our country. Obesity prevention, control, and treatment need to become a primary focus for every sector of society.

The negative health consequences of inactivity and poor nutrition are leading to a less productive U.S. workforce and exponentially driving up health care costs. It is in the economic interest of every employer and the nation as a whole to put a greater emphasis on keeping the workforce healthy and providing preventive care.

## C. HELPING ALL AMERICANS BECOME MORE PHYSICALLY ACTIVE

*Research shows even small amounts of physical activity can lead to major improvements in health. Americans must be given the tools they need to engage in more physical activity. In addition, children should be given the opportunity to be more physically active throughout the day, both in and out of school. The communities we live in should allow greater opportunities for physical activity, including places for safe and affordable public recreation and increased availability of sidewalks.*

With the rise in childhood obesity, special attention should be given to finding ways to help young people to habitually make physical activity a part of their daily lives.

While schools and school districts are struggling to meet set academic standards with limited resources and time, physical education is often being squeezed out. School design and community planning and development are also creating obstacles to physical activity in everyday life.

To accomplish this goal:

- a. Insurers should work with small- and medium-sized employers to provide programs that are affordable.
- b. Federal, state, and local governments should find ways to incentivize or encourage employers to provide workplace wellness programs and preventive care coverage to their employees.
- c. Federal, state, and local governments should be model employers, setting an example for private businesses and organizations.
- d. Medicare, Medicaid, and SCHIP should update and increase obesity-related coverage and reimbursement for preventive services (e.g. nutrition counseling and physical activity programming) and set an example for private insurers.

Steps to improve opportunities for physical activity include:

- Federal, state and local governments need to make sure that physical education is part of the curriculum in every school. This includes eliminating barriers to physical education, such as lack of quality teachers or insufficient funding.
- Schools should be encouraged to not only increase the amount of time students spend in physical education classes but ensure that enough time is actually being spent in moderate-to-vigorous physical activity before and after school and between classes.
- Schools and communities should ensure that their environments are conducive to improving physical activity in children (e.g., establish safe routes to schools, work with city or county to have well-marked crosswalks and sidewalks for safe walking and cycling). The need for physical activity should be incorporated into all planning for building new schools or remodeling existing schools.

## D. HELPING AMERICANS CHOOSE HEALTHIER FOODS

Americans must be given the tools to take personal responsibility for their eating habits, including nutritional recommendations, access to supermarkets, nutritional information when they purchase food, and healthy food in schools.

Addressing growing obesity rates is going to require Americans to dramatically change their eating habits. Instead of periodically cutting calories or going on fad diets, individuals need to develop healthy and balanced diets to complement a more physically active lifestyle.

Information about healthy eating and physical activity should be promoted through high profile and ongoing public education efforts. And, while the *Dietary Guidelines for Americans, 2005* provide recommendations for healthy eating, there needs to be greater acknowledgement that the American diet is extremely different from those recommendations, so greater effort needs to be made to bridge the divide.

Improving America's nutrition requires the following steps:

- USDA should require all schools to meet the *Dietary Guidelines for Americans, 2005* and should implement IOM nutrition standards for “competitive foods” in schools.
- Provide nutrition counseling as part of preventive health services covered by insurance.
- Require restaurants and food companies to provide better and more readily accessible information about the nutritional content of their products.
- Implement an overall U.S. agricultural policy that works to improve Americans' nutrition choices and increase opportunities for fruit and vegetable consumption.
- Improve access to healthy foods in all communities and schools, especially communities that face additional barriers (e.g. lack of groceries stores).

## E. ACCELERATE AND ESCALATE THE RESEARCH INTO WAYS TO PROMOTE LIFESTYLE CHANGES

Researchers know a lot about what constitutes healthy nutrition and physical activity. The challenge is finding ways to encourage people to make healthier decisions about diet and exercise that work on a wide-scale.

Researchers and practitioners have identified a number of promising strategies that have helped lead some to make choices to change their behavior, such as offering increased time for physical activity in schools, providing nutritional information in restaurants, and making healthy foods more accessible and affordable.

However, as obesity rates continue to rise in the U.S., there needs to be increased and strategic research about how to promote healthier habits more effectively and on a larger scale in all communities. The level of investment in research should reflect the level of threat obesity poses to our health and economy.

Some research about how to influence cultural behavior is underway at NIH, CDC, and through measuring the success of real-world obesity prevention and control efforts – but it is not enough to address the severity of this health threat.

TFAH recommends that research into public health interventions aimed at promoting improved nutrition and increased physical activity be rapidly escalated and accelerated to meet the urgency of the crisis. Intervention efforts with strong evaluation components like CATCH and the recently defunded VERB program provide examples for this type of research.

TFAH has identified five major research questions that have not yet been adequately answered and could help provide breakthroughs in developing even more effective obesity prevention and control strategies.

## CHALLENGE TO THE RESEARCH COMMUNITY: FIVE MAJOR RESEARCH QUESTIONS

**1) How does obesity relate to people’s health and life expectancy?** Despite efforts by the CDC to study obesity, morbidity, and mortality, there are still many remaining questions about how obesity impacts health, contributes to diseases, and, in some cases, leads to death.

**2) What is success: Can people be fit and fat or is weight loss necessary for good health?** Research should examine the interrelationship between weight and activity. There are many questions about whether inactivity or weight has a bigger impact on health. These studies should explore how incremental changes in weight impact people’s health. Additionally, there are questions about how active Americans currently are versus how active they should be to maintain good health. These research efforts should also develop model physical education programs in schools and investigate the impact of community design on activity levels.

**3) What are the relationships between socioeconomic and cultural issues and obesity?** This research should further examine the economics of eating healthy, including food accessibility and affordability, and racial/ethnic genetic and cultural differences. Improved understanding in these areas will lead to better intervention efforts within targeted populations.

**4) What are the costs of obesity and the benefits of possible policy actions?** There needs to be further research that clearly identifies the harms and costs caused by obesity and the potential health and economic benefits of anti-obesity efforts. Research should examine obesity prevention programs targeted at individuals, families, schools, communities, the food industry, employers, states, and the federal government. For example, more research is needed to study the impact of school nutrition and physical activity programs on academic outcomes, including school attendance, student behavior, and student achievement on standardized tests.

**5) Who is responsible for obesity reduction?** Research should examine if focusing on personal responsibility is most effective or if approaches that include other factors that influence individual behavior lead to more positive results. There should also be efforts to develop better communication with the public about obesity recommendations and actions through consistent and effective messages targeted at appropriate audiences.

## F. TWENTY ACTION STEPS TO COMBATING OBESITY

| Stakeholders  | Recommendation                          | Description   |
|---|---|---|
| <b>Individuals and Families:</b><br><br><i>Eat and Exercise for Better Health</i> | <b>Personal Responsibility Programs</b> | <b>Individuals Should Factor Health Concerns into Their Eating and Exercise Choices.</b> Research has found that even small changes in diet and physical activity can yield big results toward reducing people’s risk for health problems, ranging from diabetes to heart disease. Everyone should regularly engage in some form of physical activity. Individuals should also adapt eating patterns toward healthier selections and limit their intake of foods with minimal nutritional value. People should also learn about and take advantage of resources designed to help them stay healthy. If they are unsatisfied with the support they receive, they should make their opinions known to their local, state, and federal government officials. |
|   | <b>Family Matters</b>                   | <b>People Should Also Be Concerned About Obesity and Inactivity as Health Risks to Their Family Members.</b> By encouraging family members to make healthy choices, people may help decrease the number of health problems their loved ones face. Particularly, by helping children stay active and maintain nutritious eating habits, families may help them avoid potential life-long diseases. Families also have leverage as consumers. They should directly communicate with food, beverage, and marketing industry and use their purchasing power to encourage product development and offerings that match the interest they may have for alternative choices.   |

| Stakeholders  | Recommendation  | Description  |
|---|---|--|
| <p><b>Communities and Local Governments:</b></p> <p><i>Encourage and Facilitate a Healthy Lifestyle</i></p> | <p><b>Healthy Environments in Community and Faith-Based Organizations</b></p> | <p><b>Provide Opportunities for Safe and Supervised Activity for Children.</b> Communities should develop and support organizations and facilities that allow children to participate in safe physical activity programs.</p> <p><b>Provide No or Low Cost Physical Activity Opportunities and Nutrition Counseling.</b> Communities should support offering no and low cost venues for children and adults to participate in physical activity, ranging from building and maintaining parks to supporting community centers, such as YMCAs. Community groups should also provide access to no or low cost physical activity programs.</p> <p><b>Offer Healthy Food at Community Events.</b> Communities should provide nutritious food at events to help people foster and maintain healthy eating habits.</p>  |
|   | <p><b>Focus on Smarter Community Design</b></p>                               | <p><b>Provide Improved Healthy Food Access in Low-Income Areas.</b> Healthy food access is a demonstrated problem in many low-income communities. Communities should encourage the development of and provide public space for locally-operated produce markets and farmers markets. Also, through the use of incentives, communities should encourage supermarkets and food shopping vendors to locate in lower-income neighborhoods and offer healthier food alternatives.</p> <p><b>Encourage “Mixed Use” Areas.</b> Communities and states should examine and update zoning and land use laws to allow for more “mixed use” commercial and residential communities, so people can have more opportunities to walk or bike to retail centers and to work.</p> <p><b>Examine Health Impact of New Building.</b> Communities should require “Health Impact Assessments” for proposed land use and building projects, which will help communities and policymakers understand the possible resulting changes to people’s health, including access to recreational space and to food shopping. These can be based on the “Environmental Impact Assessment” model.</p> <p><b>Building Design Codes.</b> Encourage new building design that includes stair-friendly and other spaces that facilitate activity in commercial and public buildings.</p> <p><b>Encourage Greenspace Development and Build More Sidewalks.</b> Prioritize and incentivize increased green space development through the collaboration of public health and transportation entities in states. Communities should also place greater emphasis on building well-lit sidewalks and paths, particularly in new developments and around highways, to make it possible for people to walk safely.</p> <p><b>Encourage Transportation Fund Use for Mass Transit and Alternatives to Highways.</b> Communities should insist that states and counties require alternative proposals be examined when new highway initiatives are proposed. New development should also be required to include pedestrian-friendly components, such as sidewalks, which encourage interconnectivity of communities and opportunities for activity. State and federal transportation dollars should be considered for mass transit, sidewalk, and mixed use opportunities rather than be focused on highway construction.</p> |

| Stakeholders  | Recommendation  | Description   |
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| <p><b>Communities and Local Governments:</b></p> <p><i>Encourage and Facilitate a Healthy Lifestyle</i></p>                             | <p><b>Healthy Environments in Community and Faith-Based Organizations</b></p> | <p><b>Modernize New School-Site Construction Requirements.</b> States and localities should review and update old acreage requirements for new school construction that required large spaces for construction, but have ended up resulting in the building of schools in remote locations that students can often only access by bus rather than by walking or biking. Flexible standards for school site construction would allow communities to build schools closer to existing homes and commercial regions instead of in remote areas.</p>  |
| <p><b>Governors, Legislators, and State Health Departments:</b></p> <p><i>Oversee and Implement Creative Policies</i></p>               | <p><b>Obesity Research and Prevention Initiatives</b></p>                     | <p><b>Community-Wide Education Campaigns.</b> Communities and states should create or expand initiatives to inform the public about ways to maintain better health, particularly for groups that are at-risk for obesity-related diseases and for children. These efforts should include developing practical, effective, and consistent messages to help avoid confusion. In addition, efforts to mobilize communities around physical activity, nutrition policy, and environmental change using evidence-based practices should be supported.</p>  |
|   | <p><b>Employer Status and Purchasing Clout</b></p>                            | <p><b>State and Local Government Employee Wellness Efforts.</b> State and local governments are employers as well as providers of governance and public service. Many Governors have begun initiatives to provide workplace wellness, preventive health care services, including premium discounts, subsidies for fitness clubs and activities, disease management programs, and information to state employees, such as nutrition, physical activity, and obesity counseling. All states should offer these programs and should also provide these models to private businesses to expand these opportunities to private employees as well.</p> <p><b>Leverage Power as Food Purchaser.</b> The public sector purchases food across a range of institutions, including in government cafeterias, schools, and prisons. The government should leverage its power as a food purchaser to require a greater emphasis on nutritional value as a priority in the bidding process for these contracts.</p> <p><b>Evaluate Current Snack Tax and Liability Limitation Policies.</b> States should devote time and resources to developing evaluation standards to monitor the effectiveness of both types of controversial initiatives.</p> |
| <p><b>Schools and School Districts:</b></p> <p><i>Educating Healthy Minds and Bodies... “Minimum” Standards Are Not Good Enough</i></p> | <p><b>Taking Responsibility for Feeding Students Well</b></p>                 | <p><b>Adopt Higher Nutritional Standards Than USDA.</b> Some states have taken the lead in setting requirements that are higher than the USDA minimum requirements for food served in school. Instead of focusing on delivering minimum nutritional standards, schools and school districts should concentrate on setting high nutritional standards for the foods served to students that allow them to eat for better health. These standards should be extended to cover “competitive” foods as well as those sold during the regular meal program.</p> <p><b>Revise Food Contract Policies and Priorities to Focus on Maximum Nutrition.</b> Contracts for school food suppliers and providers should be reviewed to focus on competing to provide maximum nutrition standards to students.</p>   |

| Stakeholders  | Recommendation   | Description  |
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| <b>Schools and School Districts:</b><br><br><i>Educating Healthy Minds and Bodies...<br/> “Minimum” Standards Are Not Good Enough</i> | <b>Taking Responsibility for Feeding Students Well</b>       | <p><b>Evaluate Alternative Fundraising Options that Do Not Involve Providing Food of Minimum Nutritional Value to Students.</b> Currently many schools, school districts, and after-school activities rely on revenue from vending machines and other food sales. Jurisdictions should conduct cost-benefit analyses of these funds, factoring in the impact and cost to children’s health. Communities must be better informed that while revenue from “competitive foods” may seem like an effective fundraising mechanism, it also directly results in a reduction in federal funds to the school lunch program. Communities should prioritize finding other revenue streams to support programs or offer more healthful items for sale.</p> <p><b>Evaluate and Refine BMI Initiatives.</b> School BMI screening programs should be evaluated for effectiveness for reducing and controlling obesity. Schools in which BMI data is collected should establish clear and consistent evaluation standards to ensure that success can be measured.</p> |
|   | <b>Fitness and Activity During the Day</b>                   | <p><b>Physical Education Should Be Incorporated into No Child Left Behind Requirements.</b> While schools and school districts are struggling to meet set academic standards with limited resources and time, physical education still needs to be considered an important part of a child’s education. Additional emphasis must also be placed on training and maintaining expertly qualified physical education teachers. Schools should also encourage other activity throughout the day and ensure that facilities and space for students provide options for walking, being active, and exercising before and after school as well as between classes.</p> <p><b>Improve Nutrition and Health Promotion Education.</b> Greater efforts should be made to educate students about ways to maintain good nutrition and exercise regimes and how this impacts their health.</p>   |
| <b>Employers:</b><br><br><i>Healthy Workers Are Productive Workers; Jumpstart American Competitiveness</i>                            | <b>Wellness and Disease Prevention Programs and Benefits</b> | <p><b>Offer Employees Programs and Health Benefits that Help Them Stay Healthy,</b> including nutrition, physical activity, and obesity counseling, subsidizing health club memberships, and providing insurance discounts for preventive services. Investing in the health of employees not only improves productivity but also cuts down on absenteeism. A national forum should be established for employers to share best practices in worksite wellness and to foster connections between smaller employers to promote economies of scale to offer wellness benefits.</p>   |
|   | <b>Healthier Work Environments</b>                           | <p><b>Provide Opportunities for Employees to be Active During the Day,</b> including open, safe stairwells and other places to walk. Businesses should also focus on providing healthy options in vending machines and in cafeterias.</p>  |
| <b>Industry:</b><br><i>Encourage Healthy Options, Prevention, and Informed Choice in the Marketplace</i>                              | <b>Health Care Sector</b>                                    | <p><b>Promote Prevention Efforts in the Marketplace.</b> Offering more prevention-focused benefit options to employers could improve long-term health and make an economic difference. This should extend to providing prevention support and offering healthy food and activity capabilities to their own employees as well.</p> <p><b>Routinely Measure Patients’ Exercise Histories.</b> As part of a normal check up, health care providers should routinely ask patients about their exercise histories and habits and counsel patients on the importance of fitness for their health.</p>  |
|   | <b>Food, Beverage, and Marketing Industries</b>              | <p><b>Encourage Healthy Options and Inform Customers.</b> Providing customers with healthy options and additional product information and nutritional values can be good for both health and the bottom line. The food and beverage industry should provide consistent nutritional labeling to consumers, based on product size. Industry should seek the input of parents and other community members to establish standards and practices for marketing products to children.</p>  |

| Stakeholders   | Recommendation   | Description   |
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| <b>Federal Government:</b><br><i>Raising the Bar for Coverage and Updating Nutrition Standards</i> | <b>Update Agricultural Policy to Encourage Healthy Eating</b>                          | <p><b>Include Obesity Prevention-Focused Initiatives in the Farm Bill.</b> The Farm Bill could impact a wider range of other policies related to schools, the Food Stamp Program, farmers' markets, and farm subsidies for fruits and vegetables.</p> <p><b>The Food Stamp and WIC Programs should Focus on Maximum Nutrition for Cost.</b> At a minimum, the programs should be adapted to meet the new IOM recommended opportunities to private employees as well up resulting the building of schools in remote locations that studied federal food guidelines. More should be done to enable healthier food choice, such as purchasing fresh fruits and vegetables, decreasing fat, and increasing whole grain foods. Greater actions should be taken to provide useful nutritional counseling and services.</p>  |
|  | <b>Improve Obesity-Related Coverage in Medicaid &amp; SCHIP</b>                        | <p><b>Provide Routine Screenings for Those At-Risk for Obesity-Related Illnesses.</b> Individuals in lower-income ranges, including many who are in the Medicaid program, are at high risk for obesity and many obesity-related diseases. The current Medicaid reform efforts should mandate routine screenings for program participants along with routine nutritional and obesity counseling. Better prevention and disease management programs will result in cost savings to the system as a whole.</p> <p><b>Provide Obesity-Related Services in the Children's Health Insurance Program (SCHIP).</b> The SCHIP program should be updated to provide obesity-related medical advice, counseling, and treatment.</p> <p><b>Subsidize or Reimburse for Fitness Programs.</b> Providing support for individuals receiving Medicaid to participate in exercise and fitness programs, such as those offered by the YMCA or community recreational centers, will help reduce beneficiaries' risk for developing or better manage obesity-related diseases, as well as improve the health of those who are already suffering from related diseases.</p> |
|  | <b>Raise Requirements on School Meal Programs and Increase Access to Healthy Foods</b> | <p><b>Minimum Nutrition Standards Should Be Raised.</b> The USDA school lunch program not only influences school food offerings through requirements for the formal meal programs, but also serves as a model. The standards should be reformed to focus on providing maximum nutrition rather than minimum nutrition to students. At a minimum, the standards should be raised to match the Dietary Guidelines for Americans, 2005.</p> <p><b>Increase Access to Fruits and Vegetables in Schools.</b> Provide greater funding for the Fresh Fruit and Vegetable Program, the DOD Fresh Program, and farm-to-cafeteria programs that encourage healthy eating among school children.</p>   |
|  | <b>Fix the Food Pyramid and Add Corresponding Physical Activity Guidelines</b>         | <p><b>Address Public Concerns.</b> There were a number of public concerns that were unaddressed after the new food pyramid guidelines were released earlier this year. USDA should make every effort to respond to concerns that ranged from complaints that the spectrum of pyramids was too confusing to information only being available online to insufficient information about unhealthy foods and serving sizes.</p> <p><b>Add More Physical Activity Information.</b> The new food pyramid included encouraging individuals to engage in activity for the first time. This should be expanded into providing a full-fledged set of guidelines and recommendations to the public on physical activity. These should be consistent across government agencies and promoted through major public education initiatives.</p>  |

| Stakeholders | Recommendation  | Description   |
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|              | <p><b>Offer and Emphasize Prevention Benefits Provided to Federal Employees</b></p>   | <p><b>As an Employer, the Federal Government Should Provide Preventive Health Services.</b> The federal government should set an example and place a high priority on providing obesity and nutrition counseling, preventive health programs, proactive disease management benefits, and premium discounts for preventive services to federal employees.</p>  |
|              | <p><b>Use Clout as Food Purchaser, Employer, and Service Provider to Veterans</b></p> | <p><b>Government has a Critical Role as Employer Model and Purchaser.</b> The government purchases food for a range of purposes, ranging from USDA programs to cafeteria food for employees to veterans hospitals to meals for the military. Government should serve as a model in following high nutrition guidelines for the meals and food it provides, as well as using its clout to influence the food industry to provide healthier choices to consumers.</p> <p>The government should also explore incentive programs for food companies to make healthier food available, especially directed to targeted populations.</p>  |
|              | <p><b>Bolster Obesity Research</b></p>  | <p><b>Prioritize and Fund Key Research Initiatives.</b> Based on the size, cost, and impact of the obesity issue, the federal government should prioritize and fully fund critical research efforts, particularly the five major research questions TFAH outlined that are holding back the ability to make better informed and practical policies.</p> <p><b>Expand the Behavioral Risk Factor Surveillance System (BRFSS).</b> Currently, the primary source for trends on health information, BRFSS, is not receiving adequate resources. If the survey were to receive additional resources, the information could better inform policy decisions and allow for more research to be conducted on trends and provide accountability and measures for policy initiatives.</p> <p><b>Explore Economic Incentives for Promoting Good Nutrition and Physical Activity.</b> The federal government should sponsor research and modeling efforts on the use of economic incentives to encourage businesses to provide more healthy options to consumers, such as examining the impact of taxes on unhealthy foods or subsidies for fruit and vegetable marketing.</p>  |
|              | <p><b>Increase Availability of Obesity-Initiatives and Grants to States</b></p>       | <p><b>Expand and Fully Fund Obesity-Related Initiatives.</b> Currently, there are insufficient funds allocated to provide grants for existing obesity programs to meet the requests of states. At a minimum, there should be enough funding to provide grants to all qualified state applicants to the CDC’s Division of Nutrition, Physical Activity, and Obesity (DNPAO) and the school-based Division of Adolescent and School Health (DASH) grant programs.</p> <p><b>Enhance Targeted Public Education Efforts, Particularly for Children.</b> The IOM has called for the increased use of media as a channel to reach and inform children about nutrition and exercise. Public education campaigns aimed at high-risk communities should be developed using consistent messages. CDC had a program called VERB which has been defunded, was a multiethnic, multimedia education campaign targeted at youth ages 9 to 13 that encouraged more physical activity and increased the awareness of the importance of exercise and demonstrated positive results. In a new program, the FDA is partnering with Time Warner’s Cartoon Network to launch a media campaign that encourages “tweens” ages 9 to 13 to make healthy eating decisions. The Spot the Block campaign will teach tweens to read nutrition labels on food packages and make more informed dietary choices.</p> |



## APPENDIX A: METHODOLOGY FOR OBESITY AND OTHER RATES USING BRFSS

Data for this analysis was obtained from the Behavioral Risk Factor Surveillance System (BRFSS) dataset (publicly available on the web at [www.cdc.gov/brfss](http://www.cdc.gov/brfss)). The analysis was conducted by Daniel Eisenberg, PhD, and Edward N. Okeke MBBS, of Department of Health Management and Policy of the University of Michigan School of Public Health.

BRFSS is an monthly cross-sectional survey designed to measure behavioral risk factors in the adult population (18 years of age or older) living in households. Data are collected from a random sample of adults (one per household) through a telephone survey. The BRFSS currently includes data from 50 states, the District of Columbia, Puerto Rico, Guam, and the Virgin Islands. The most recent data available was 2006.

To account for the complex nature of the survey design and obtain estimates accurately representative at the state level, we used sample weights provided by the CDC in the dataset. The main purpose of weighting is to reduce bias in population estimates by up-weighting population sub-groups that are under represented and down-weighting those that are over represented in the sample.

We specified the sampling plan to STATA<sup>387</sup> using the `svyset` command and the following set of weights: sample weight variable (FINALWT), first-stage stratification variable (STSTR), and primary sampling unit variable (PSU). Omission of the stratification variable in STATA implies no stratification of PSUs prior to first-stage sampling. Omission of the primary sampling unit variable implies one-stage sampling of elements and

no clustering of sampled elements. Omission of the sample weight implies equally weighted sample elements. Mean proportions for each variable were estimated using the `svy: proportion` command.

Variables of interest included BMI, physical inactivity, hypertension, and diabetes. BMI was calculated by dividing self-reported weight in kilograms by the square of self-reported height in metres. Obesity was then defined as calculated BMI greater than or equal to 30 and overweight was defined as calculated BMI greater than or equal to 25 but less than 30. For the physical inactivity variable a binary indicator equal to one was created for adults who reported not engaging in physical activity or exercise during the previous thirty days other than their regular job. For diabetes, analysts created a binary variable equal to one if the respondent reported ever being told by a doctor that he/she had diabetes.

We calculated rolling 3 year averages, first by averaging data from 2003-2005 and then by averaging data from 2004-2006 (after merging data from the relevant time period). We report mean proportions for each 3-year period as well as standard errors and 95 percent confidence intervals for all variables of interest. In addition we carried out a Pearson statistical test of proportions and report which states experienced a significant increase or decrease (significant at the 95 percent level).

The 2003-2005 sample consisted of 923,811 observations while the 2004-2006 sample consisted of 1015644 observations. We excluded all observations with missing values from the analysis.<sup>388</sup>

## APPENDIX B: RESPONDENTS TO TFAH'S SURVEY OF CHRONIC DISEASE DIRECTORS AND DIRECTORS OF HEALTH PROMOTION AND EDUCATION

### State Chronic Disease Directors

33 total respondents: 28 listed below, 5 chose to remain anonymous

|  |   |
|--|---|
| Cherrie Bartlett<br>Administrator for Chronic Disease Prevention<br>Missouri Department of Health & Senior Services                    | Mary Manning<br>Division Director, Health Promotion &<br>Chronic Disease<br>Minnesota Department of Health  |
| Patti Baum<br>Health Promotion Manager<br>New Hampshire Division of Public Health Services   | Paula Marmet<br>Director, Office of Health Promotion<br>Kansas Department of Health and Environment   |
| Cynthia Boddie-Willis<br>Director, Division of Health Promotion and<br>Disease Prevention<br>Massachusetts Department of Public Health | Chandana Nandi<br>Chief, Division of Chronic Disease<br>Illinois Department of Public Health  |
| Michael Byrd<br>Director, Bureau of Community Health<br>South Carolina Department of Health and<br>Environmental Control               | Sue Percifield<br>Director, Chronic Disease<br>Indiana State Department of Health   |
| Carol Callaghan<br>Chronic Disease Director<br>Michigan Department of Community Health   | Marcus Plescia<br>Chief, Chronic Disease and Injury<br>North Carolina Division of Public Health   |
| Gerrelda Davis<br>Acting Chronic Disease Director<br>Louisiana Department of Health and Hospitals                                      | Diane Roberts Ayers<br>Nutrition and Physical Activity Coordinator<br>Georgia Division of Public Health   |
| Joseph Grandpre<br>Chronic Disease Section Chief & Deputy State<br>Epidemiologist<br>Wyoming Department of Health                      | Jennifer Smith<br>Manager, Adult Health and Chronic<br>Disease Group<br>Texas Department of State Health Services                                       |
| Dennis Haney<br>Community Health Consultant<br>Iowa Department of Public Health  | Victor D. Sutton<br>Director, Office of Preventive Health<br>Mississippi Department of Health   |
| Jack Hataway<br>Chronic Disease Prevention Office Director<br>Alabama Department of Public Health                                      | Tom Tracy, Manager and Jaime Hineman, Health<br>Program Specialist<br>Physical Activity and Nutrition Program<br>Idaho Department of Health and Welfare |
| Donna Henry*<br>Director, Health Promotion Division<br>Tennessee Department of Health  | David Vigil<br>Chronic Disease Director<br>New Mexico Department of Health  |
| Charlene Herst<br>Manager, Chronic Disease Section<br>Nevada State Health Division   | Virginia Warren<br>Section Manager for Chronic Disease<br>Arizona Division of Public Health Services  |
| Phil Huang<br>Medical Director, Chronic Disease Prevention<br>Texas Department of State Health Services                                | Ann Weidenbenner<br>CVH Program Administrator<br>Ohio Department of Health  |
| Janet C. Luttrell<br>Manager, Chronic Disease Prevention & Control<br>Branch<br>Kentucky Department for Public Health                  | Sharon A. Williams<br>Director of Chronic Disease Prevention<br>US Virgin Islands Department of Health  |
| Donald Lyman, MD<br>Division Chief<br>California Department of Health Services   | Barbara Yamashita<br>Chief, Community Health Division<br>Hawaii State Department of Health  |

## State Directors of Health Promotion and Education

21 total respondents: 18 listed below, 3 chose to remain anonymous

Eydie Abercrombie  
Physical Activity Section Chief  
Arkansas Department of Health

Don Bishop  
Chief, Center for Health Promotion  
Minnesota Department of Health

Ninia Baehr  
Program Manager, MT Nutrition and Physical  
Activity Program  
Montana Department of Public Health and  
Human Services

Janet Baggett  
Deputy Chief, Bureau of Chronic Disease,  
Prevention & Health Promotion  
Florida Department of Health

Christina Carrillo  
Director, Office of Health Promotion and  
Community Health Improvement  
New Mexico Department of Health

Linda Chasson  
Preventive Health and Safety Division,  
Administrator  
Wyoming Department of Health

Dan Cillessen  
Administrator, Office of Health Promotion  
Nebraska Health and Human Services

Jennifer Dunlap  
Director, Office of Public Affairs  
Indiana State Department of Health

Donna Henry\*  
Director, Division of Health Promotion  
Tennessee Department of Health

Rose Marie Matulionis  
Executive Director  
Directors of Health Promotion and Education

Dr. Jim McVay  
Director Health Promotion & Chronic Disease  
Alabama Department of Public Health

Jane Moore  
Health Promotion & Chronic Disease  
Prevention Manager  
Oregon Department of Human Services

Donna Nichols  
Senior Prevention Policy Analyst  
Texas Department of State Health Services

Mary Pesik  
Nutrition and Physical Activity Program  
Coordinator  
Wisconsin Department of Health and Family  
Services

Ramona Dawn Schaeffer  
Director, Division of Chronic Disease Prevention  
and Control  
Virginia Department of Health

Thomas J. Schafer  
Acting Deputy Director, Office of Health  
Promotion  
Illinois Department of Public Health

Jane Sims  
Project Coordinator  
Utah Department of Health

Maxene Spolidoro  
Health Communications Director, Division of  
Health Promotion and Disease Prevention  
Massachusetts Department of Public Health

*\* Respondent provided answers under both the CDD  
and DHPE survey.*

# Endnotes

- 1 See Section 7 of the report for more details.
- 2 National Institutes of Diabetes and Digestive and Kidney Diseases, Weight-control Information Network, "Do You Know the Health Risks of Being Overweight?" November 2004, [http://win.niddk.nih.gov/publications/health\\_risks.htm](http://win.niddk.nih.gov/publications/health_risks.htm); and U.S. Centers for Disease Control and Prevention, "Overweight and Obesity Consequences," <http://www.cdc.gov/nccdphp/dnpa.obesity/consequences.htm>.
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- 16 U.S. Centers for Disease Control and Prevention, "Youth Risk Behavior Surveillance - United States 2005," *MMWR Surveillance Summaries* 55, no. SS-5 (9 June 2006).
- 17 U.S. Centers for Disease Control and Prevention, *Behavioral Risk Factor Surveillance System Survey Data* (Atlanta, GA: U.S. Centers for Disease Control and Prevention, 2006).
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- 19 This analysis examines a correlation, not a causal relationship. There are 4 potential explanations for the observed relationship. 1) Lack of exercise causes obesity; 2) Obesity causes people to exercise less; 3) An unobserved third factor is causing both obesity and lack of exercise; 4) A combination of any or all of the three previous reasons.
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- 29 National Governors Association, "Healthy States: State of Michigan," <http://www.nga.org/Files/pdf/0703HEALTHYSTATESMI.PDF>.
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