PREVENTING OBESITY AND REDUCING CHRONIC DISEASE:

The Michigan Healthy Eating and Physical Activity Plan

A Five–Year Plan to Address the Epidemic of Obesity

Obesity Prevention Subcommittee of the
Cardiovascular Health Advisory Committee

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Introduction

Obesity in Michigan

Overweight has increased. The weight of Michigan's population has been steadily rising. In Michigan adults, the prevalence of obesity[a] has doubled over the past two decades. As of 2004, 35.5% of Michigan adults report weights that are classified as overweight and an additional 25.5% report weights classified as obese.[1] As of 2002, the prevalence of obesity among older adults age 65+ (25.2%) was higher in Michigan than in any other state.[2]

Among children age 6 and older, the national prevalence of overweight has tripled over the past three decades.[3] In 2003, approximately 12% of Michigan low-income children under the age of five were overweight (compared to 14% of low income children nationally).[4] Approximately 16% of elementary school-age children in the country are considered overweight.[3] As of 2003, 12% of Michigan high school students reported weights that are classified as overweight and an additional 15% reported weights classified as "at risk of overweight."[5] In Detroit, 19.9% of high school students are overweight, the highest prevalence of any of the 18 large metropolitan areas followed by the CDC.[6]

Some groups are affected more. Obesity has increased in people of all ethnic groups, all ages, and both genders. However, some groups are more at risk than others. National data sources reveal that Black females have the highest rates of obesity (49%), followed by Mexican-American females (38%), White females (31%), White and Black males (28%), and Mexican American males (27%).[7] Michigan's surveillance system does not permit accurate obesity estimates for all ethnic groups, but confirms a similar pattern among ethnic groups, with Black females being the population group most affected by obesity.[8]

In some but not all groups, lower incomes are associated with higher prevalence of obesity. Nationally, women of lower socioeconomic status are about 50% more likely to be obese than those of higher socioeconomic status.[9] In Michigan, this is true for White but not African American women.[8]

Among high school-aged children, both national and Michigan surveys have shown that Black and Hispanic children are more likely to fall into overweight categories.[3,5] Of special note, rates of overweight among children of all major ethnic groups take a sharp rise during the elementary school years.[3]

Four Reasons for Concern

The relentless trend of increasing body weight raises four main concerns:

1. **Weight trends reflect troubling cultural trends.** Because the weight gain in our population has occurred over a mere 20 years, it is clear that changes in our gene pool are not responsible. Rather, the obesity epidemic is due to many changes in our culture that negatively impact access to physical activity and health-promoting foods. A few of these changes include:

   - Increased time spent behind the wheel of a car due to urban sprawl.
   - Universal availability of low-cost, highly-palatable food with high fat content and relatively low nutrient density.
   - Increasing portion sizes.
   - Increased demands on time leading to greater reliance on fast foods and a trend for sleep deprivation.
   - Increases in "screen time" (time spent on television, computer use, and video games).
   - Rising consumption of calorically-sweetened beverages.

[a] For this document, the terms overweight, obese and at risk of overweight are based on the Body Mass Index (BMI) guidelines from the Centers for Disease Control and Prevention (CDC). BMI is defined as weight (in kilograms) divided by height (in meters) squared [weight in kilograms/(height in meters)^2]. For purposes of describing the population (but not for diagnosing individuals), CDC classifies adult BMI as follows: below 18.5 is "underweight," 18.5-24.9 is "normal" weight, 25.0-29.9 is "overweight," and 30 and above is "obese." For children, CDC compares BMI-for-Age to CDC growth charts. "At risk of overweight" means a BMI-for-Age between the 85th and 95th percentile; "overweight" means a BMI-for-Age at or above the 95th percentile.

Changes such as these create an environment that promotes weight gain. In this environment, it is harder for everyone to lead a healthy lifestyle. Individuals with a genetic predisposition to weight gain easily become overweight or obese, but many others whose weights remain in the "normal" range are at increased risk of chronic disease due to inadequate physical activity and less than optimal diets. Many individuals in all weight categories fail to get minimal amounts of physical activity and fruits and vegetables. These failures increase risks for long-term health problems such as osteoporosis, heart disease, stroke and cancer among people at all weights.

2. **Higher weights are associated with health problems.** People who are obese are more likely to have health conditions and risk factors such as insulin resistance, diabetes, hypertension, stroke, dyslipidemia, heart disease, and certain kinds of cancers.[10] Modest weight loss is accompanied by improvements in risk factors. It is important to note, however, that risk factors can sometimes be improved without weight loss if physical activity is increased and eating patterns are improved.[11]

3. **There are economic costs.** Health conditions associated with obesity can lead to increased health care costs. Adults classified as obese have been found to have 36% higher annual medical expenditures than those classified as having "healthy" weight.[12] Part of the cost of health care for obese individuals can be attributed to physical inactivity. For people of all weights, physical inactivity is a major contributor to serious medical conditions such as osteoporosis and diabetes.[13] The cost of the direct medical care for the portion of health conditions caused by physical inactivity among Michigan adults has been conservatively estimated at $58 Million per year.[14] These costs are borne largely by employers and by the state (through Medicaid payments). Ultimately, Michigan residents absorb these costs through higher taxes and increased cost of goods. The total cost (direct and indirect) estimated for physical inactivity is $1,175 per year per Michigan adult resident.[14]

4. **Social pressure for slenderness leads to unsafe weight loss practices.** During the same period that citizens have been gaining weight, there has been increasing social pressure for children and adults to achieve body shapes of extreme slenderness that are leaner than is necessary for optimal health and wellness. Those who fail to attain a socially acceptable body shape are often subjected to open or subtle harassment, stigmatization and discrimination.[15,16]

   In response to these social pressures, dieting for weight loss has become common. In 2003, 45% of all Michigan adults and 46% of all high school students were trying to lose weight.[1,5] Some individuals make desperate attempts at weight loss, placing their health at risk. For example, Michigan high school students of all ethnic groups and both genders engage in dangerous weight loss practices. Girls are the most likely to engage in the unsafe practices of vomiting or taking laxatives (8%), going without eating for 24 hours or more (17%) and taking diet pills, powders or liquids without a doctor's advice (11%).[5] Attempts to lose weight in some vulnerable individuals evolve into eating disorders.[17]

Philosophy for Addressing Population Weight Issues

There is no magic bullet for obesity. Despite widespread concern about the negative consequences of obesity, increases in dieting behavior, and a growing weight loss industry ($46 billion in the United States in 2005[18]), the prevalence of obesity continues to rise. No formula for successful long term weight loss in a population has been identified anywhere in the world. It has been well-demonstrated that most people can lose weight, but time and again research shows that the vast majority of people who lose weight regain it during subsequent months and years.[19] Weight regain is often accompanied by deterioration in self-esteem as well as reversion to pre-weight loss status in terms of health risk factors such as blood lipid concentrations and blood pressure.[11] Worse, rebound weight gain is common, where dieters regain all the weight lost plus additional weight.

Focus on the root causes. Given the absence of evidence-based population approaches to weight loss, the Michigan Department of Community Health (MDCH) has focused the governmental resources available for the obesity epidemic not on weight loss, per se, but rather on the root causes of obesity—the factors that make it difficult for our citizens to increase physical activity and improve food choices. Focusing on healthy eating and physical activity rather than weight loss offers several advantages:

- Weight loss is often achieved by individuals who adopt healthier lifestyles.
- Improving diet quality and physical activity will reduce chronic disease risk, even if weight loss is absent or minimal.
- Interventions that focus on positive behaviors that can be maintained are more likely to improve mental health and self-esteem than weight loss interventions, which are likely to end with the perception of personal failure when weight is regained.
- Public health interventions can target positive behaviors for which there are some evidence-based approaches.
- Interventions that improve walkability, bikability and access to healthy food typically improve the quality of life and economic health of a community.
- Public health messages focused on positive behaviors are unlikely to worsen the social pressure for excessive slenderness which contributes to unsafe weight loss practices and eating disorders.

Although most efforts are focused on healthy eating and physical activity, the *Michigan Healthy Eating and Physical Activity Plan* does address the issue of weight loss in the healthcare setting. The plan emphasizes development of consensus guidelines and identification of evidence-based tools and resources for healthcare providers.

How the Plan was Developed

Strategic planning to address Michigan's obesity epidemic occurred in four distinct phases over a period of four years, involving 134 individuals, representing 94 organizations.

Phase 1: Healthy Lifestyles Initiative for African American Women. In 2001, the MDCH applied for and received a grant from the Centers for Disease Control and Prevention (CDC) to develop a plan to prevent and control obesity in a focused population. Over a six-month period, a 51–member Statewide Planning Committee determined that African American women, the segment of the population most affected by obesity, should be the priority population. A set of recommendations was developed based on research literature and much input related to barriers and opportunities. Although no CDC funding was available to implement the recommendations, entitled An Epidemic of Overweight and Obesity in Michigan's African American Women,[b] many of them have already been carried out. Those that remain have been incorporated into the current plan.

Phase 2: Cardiovascular Health Plan. In 2003, the MDCH convened 68 statewide partners to update an existing state plan to combat cardiovascular disease. Advisors for the resulting document *Improving Cardiovascular Health in Michigan: 2003 Update on the Continuing Challenge*[2] were fully aware that strategies to prevent cardiovascular disease would, in large measure, prevent obesity and other chronic diseases as well. During plan development, extensive literature reviews were conducted so that evidence-based and promising approaches to obesity prevention could be built into the plan. The recommendations in the cardiovascular health plan serve as the primary foundation for the current plan.

Phase 3: Michigan Steps Up. The organizing principle for the current plan was set forth by Surgeon General Kimberlydawn Wisdom, M.D., in her 2003 Prescription for a Healthier Michigan.[c] In this document,

[b] www.michigan.gov/cvh
[c] http://www.michigan.gov/documents/mirx5404_90138_7.pdf

Dr. Wisdom described a Michigan where it would be easier for citizens to make the healthy lifestyle choices: to move more, eat better and eliminate tobacco use. To achieve a healthier Michigan, Dr. Wisdom called for changes in the five settings where citizens function:

- Communities
- Schools
- Businesses
- Faith-based organizations
- Healthcare.

In July of 2004, Dr. Wisdom mobilized over 200 statewide organizations to work together to create the Michigan Steps Up Healthy Lifestyle Campaign to make healthier living in Michigan a reality. Representatives of the 200 organizations formed five stakeholder groups – one for each setting where citizens function. Over the past year, these stakeholder groups have built upon the recommendations in the cardiovascular health plan, launching expanded initiatives in each setting.

Phase 4: Consolidation, Updating and Review. The strategies and action steps that appear in this 2005 *Preventing Obesity and Reducing Chronic Disease: The Michigan Healthy Eating and Physical Activity Plan* are a consolidation and updating of recommendations from each of the preceding phases. Staff members from the MDCH Cardiovascular Health, Nutrition and Physical Activity Section pulled together recommendations from each of the three previous phases, re-organized them to correspond with the five settings identified by Surgeon General Wisdom, and then invited critical review from representatives of 34 statewide organizations, most of whom had served on one or more of the previous advisory planning groups. Despite the impressive quality of thinking that had gone on in the first three phases, this final document includes a number of newly identified recommendations, each of which is supported by commitments to action by one or more planning partners.

Goals and Anticipated Outcomes

This plan to address overweight and obesity in Michigan focuses primarily on moving Michigan's population toward healthier eating and physical activity patterns. If widespread improvements are achieved in these two lifestyle factors, other deeply significant outcomes can reasonably be expected.

Goals

Long-term goals for this plan include:

- Increase the number of Michigan residents who have the knowledge, motivation and opportunity to make lifestyle choices that promote healthy eating.
- Increase the number of Michigan residents who have the knowledge, motivation and opportunity to obtain adequate physical activity levels to maintain good health.
- Reduce unsafe weight loss practices, particularly among school-aged children.
- Improve the capacity of the healthcare system to prevent, detect and manage overweight and obesity.

Anticipated Outcomes

If the plan is successful, the following global outcomes will occur:

- Obesity rates among Michigan adults and children will stop increasing.
- Ethnic disparities in obesity and related chronic diseases will be reduced.
- The economic burden of obesity and related chronic diseases will be eased.

Specific measures for these outcomes, where available, will be found in the evaluation plan written to accompany this document, which will be available at www.michigan.gov/cvh.

Objectives, Timelines and Partners for Five Settings

1. Community Setting

Communities take steps to make it easier for citizens to eat better and move more.

Communities play a vital role in promoting healthy lifestyles. Community facilities, social norms and zoning ordinances can either promote or hinder healthy behaviors among community residents. A "community" is defined as a group of people that form a social unit based on common location, interest, identification, culture and activities.[20]

Objective

By 2010, increase by 50 the number of communities that have implemented policy and environmental changes to support increased physical activity and improved healthy eating options through changes in policies, programs, and practices.

Community Strategy 1: Planning

By 2010, increase by 50 the number of communities that have assessed their physical activity and/or nutrition environment utilizing the Promoting Active Communities Assessment (PAC), Healthy Community Checklist (HCC) and Nutrition Environment Assessment Tool (NEAT), and that have developed action plans for improving policies and the built environment.

Action to Implement the Strategy

1. Increase awareness among state level and local partners that designing healthy livable communities is essential for preventing obesity and other chronic diseases. Timeline: Ongoing.
2. Enhance the capacity of communities to assume leadership for local level policy and environmental changes through training and information exchange. Timeline: Fall 2005 and Ongoing.
3. Evaluate and improve the PAC, NEAT, and HCC assessment tools. Timeline: Annual reviews with improvements as appropriate.
4. Develop a documentation system for communities that complete assessments and implement plans for improvements. Timeline: Fall 2006.
5. Improve access to informational resources that help communities translate the results of assessments into plans for improvements. Timeline: Winter 2005 and annually when needed.
6. Design and implement a system for sharing success stories of communities that have improved local policies and facilities to promote physical activity and healthier eating. Timeline: Spring 2006 and Ongoing.
7. Create and maintain a forum for dissemination of evidence-based tools for local-level policy and environmental changes to support healthy lifestyles and communication among communities that are interested in policy and environmental change. Timeline: Fall 2007 and Ongoing.
   a. Create and maintain on the Michigan Steps Up Website a Community Section including (1) a listing of all community health coalitions and (2) tools to support policy and environmental changes related to increased physical activity and improved healthy eating options. Timeline: Fall 2005 and Ongoing.
   b. Update the website of the Michigan Department of Community Health Cardiovascular Health, Nutrition and Physical Activity Section, to include funding opportunities for community planning and change. Timeline: Fall 2005 and Ongoing.
   c. Create the Michigan 5 A Day website, listing choices to improve healthy eating options in communities. Timeline: Spring 2006 and Ongoing.

Community Strategy 2: Healthy Eating Options

By 2010, increase by 25 the number of communities that have taken steps to increase demand for, and improve access to, healthy foods.

Action to Implement the Strategy

Increase Demand for Healthy Eating Options

1. Educate communities about existing resources for increasing the motivation for healthy eating. Timeline: Fall 2006 and Ongoing.
2. Increase demand for nutritious food through information about preparation of healthy foods. Timeline: Fall 2005 and Ongoing.
3. Encourage opportunities for social support for healthy eating. Timeline: Fall 2008 and Ongoing.
4. Promote the acceptance of breastfeeding in communities. Timeline: Fall 2008 and Ongoing.

Increase Access to Healthy Eating Options

5. Work with partners to identify urban and rural areas where access to healthy food is limited, and develop strategies to expand access in those locations. Timeline: Fall 2006 and Ongoing.
6. Assist communities in providing healthy eating options through restaurant meal choices and vending machine options and in creating positive publicity for establishments with these healthy offerings. Timeline: Fall 2008 and Ongoing.
7. Assist communities in identifying strategies to grow, transport and store healthier, local food. Timeline: Fall 2009 and Ongoing.
8. Assist communities in identifying strategies that will make the community more breastfeeding friendly. Timeline: Fall 2007 and Ongoing.
9. Support communities in their efforts to increase participation in food assistance programs for those in need. Timeline: Fall 2006 and Ongoing.
10. Create and implement a plan to develop community support for the necessity of policy and environmental changes to improve healthy eating options. Timeline: Fall 2008 and Ongoing.

Community Strategy 3: Physical Activity

By 2010, increase by 25 the number of communities that have taken steps to promote a physically active lifestyle.

Action to Implement the Strategy

Increase Demand for Physical Activity

1. Educate communities about existing resources for increasing motivation for daily physical activity. Timeline: Fall 2006 and Ongoing.
2. Increase awareness and understanding of how physical activity can be incorporated into an individual's daily routine. Timeline: Fall 2005 and Ongoing.
3. Increase opportunities for social support for physical activity. Timeline: Fall 2008 and Ongoing.
4. Increase awareness of the importance of limiting screen time for youth and adults. Timeline: Fall 2007 and Ongoing.
5. Create and implement a plan to develop community support for the necessity of policy and environmental changes to improve safe walking and biking opportunities for transportation and recreation. Timeline: Fall 2008 and Ongoing.

Increase Access to Physical Activity

6. Assist communities in creation and promotion of recreational activities that encourage active lifestyles as viable, attractive alternatives to sedentary activities. Timeline: Fall 2007 and Ongoing.
7. Participate in and support community initiatives that have an impact on improving the built environment. Timeline: Fall 2005 and Ongoing.

Community Strategy 4: State-Level Coordination

By 2007, create at least ten opportunities for coordination by existing state-level groups, agencies, and organizations working to promote healthy eating, physical activity, and weight management through education or policy and environmental changes.

Action to Implement the Strategy

1. Increase communication and collaboration to promote consistency of messages and coordination of effort within components of state government that promote healthy eating, physical activity, and weight management. Timeline: Spring 2006 and Ongoing.
2. Schedule planned information exchange among statewide advisory groups promoting policy and environmental change. Timeline: Fall 2005 and Ongoing.
3. Increase communication and collaboration between statewide partners promoting policy and environmental change and Michigan academic partners conducting research on these topics. Timeline: Fall 2006 and Ongoing.

Community Strategy 5: State-Level Programs for Vulnerable Populations

By 2007, initiate collaboration and programming with at least five partners around healthy eating and physical activity for vulnerable population groups and those with disproportionate burdens of overweight and obesity.

Action to Implement Strategy

1. Children under 5:
   a. Collaborate with segments of state government implementing health programs directed at children under 5 and their families to achieve coordination of effort with respect to healthy diet, breastfeeding, physical activity, decreased screen time and obesity prevention. Timeline: Summer 2006 and Ongoing.
   b. Seek resources to develop parent guidance material similar to the *Healthy Kids, Healthy Weight* document to be used with parents of children under 5. Timeline: Summer 2006.

2. Older Adults:
   a. Collaborate with segments of state government implementing health programs directed at older adults to achieve coordination of effort with respect to healthy diet, physical activity, decreased screen time and obesity prevention. Timeline: Summer 2006 and Ongoing.
   b. Assist in the development and implementation of the "Elder Friendly Communities" certification process. Completion: Fall 2005.
   c. Expand the nutrition and physical activity information for older adults available on the state-sponsored websites. Timeline: September 2005 and Ongoing.

3. Minority Groups with Disproportionate Burdens of Overweight and Obesity:
   a. Collaborate with partners who are addressing health promotion in minority populations to identify and implement evidence-based or promising strategies to encourage healthy diets, breastfeeding, physical activity, decreased screen time and obesity prevention. Timeline: Spring 2006.
   b. Promote faith-based initiatives serving African American and other minority populations. (See Faith community strategies, pages 17–18.)
   c. Translate into Spanish, pilot test and make widely available *Healthy Kids Healthy Weight* guidance materials for parents. Timeline: Pilot test complete Winter 2005.

Implementation Partners for Community Strategies

- 5 A Day Coalition
- American Cancer Society Michigan Chapter
- American Heart Association Midwest Affiliate
- Cardiovascular Health Advisory Committee
- C.S. Mott Group for Sustainable Food Systems at Michigan State University
- Governor's Council on Physical Fitness, Health and Sports
- Michigan Association for Local Public Health
- Michigan Commission on Aging
- Michigan Department of Agriculture
- Michigan Department of Community Health
- Michigan Department of Transportation
- Michigan Office of Services to the Aging
- Michigan Diabetes Outreach Network
- Michigan State University Department of Food Science and Human Nutrition
- Michigan State University Extension
- Michigan Steps Up Community Stakeholder Group
- National Kidney Foundation of Michigan

2. School Setting

Schools provide knowledge and opportunities for healthy eating and physical activity for students, staff and families.

Because students spend a large portion of their waking hours at school, the environment created within the school itself can have a strong impact on the health of its students. In addition, school staff are usually viewed as respected authorities by parents, students and the community. Therefore, messages (both explicit and implied) delivered by the school about health are often highly influential.

Objective

By 2010, 50% of Michigan schools will have made changes to policies, programs, and practices that make school environments more supportive of healthy eating and physical activity for staff, students and families.

School Strategy 1: Team Formation & School Assessment

By 2010, 50% of Michigan schools will have assessed strengths and barriers to healthy eating and physical activity in the school environment through Coordinated School Health Teams using the online Healthy School Action Tool (HSAT).

Action to Implement the Strategy

1. Increase the number of Coordinated School Health Teams through ongoing education for school and community leaders about the Teams. Timeline: Ongoing.
2. Develop a marketing strategy to promote awareness and use of the online HSAT by Coordinated School Health Teams. Timeline: January 2006 with periodic updates.
3. Establish a system for training school and community leaders to become Certified HSAT Facilitators at the state, regional, and local levels. Timeline: July 2005.
4. Provide grants to schools to form a Coordinated School Health Team, complete the HSAT and make policy and environmental changes. (Funding dependent) Timeline: Ongoing.
5. Develop an automatically generated feedback report to schools summarizing the results of their HSAT assessment and re-assessment in a format that will motivate policy and environmental changes. (Funding dependent) Timeline: September 2006.
6. Provide an annual statewide conference on healthy school environment education to school and community leaders with a focus on Coordinated School Health Teams and HSAT. (Funding dependent) Timeline: Fall 2005, 2006, 2007, 2008, and 2009.
7. Evaluate and improve the HSAT assessment tool. Timeline: Evaluate annually and update as appropriate.

School Strategy 2: Policy & Environmental Changes

By 2010, 50% of Michigan schools will have implemented policy and environmental changes that support healthy eating, physical activity and healthy weight.

Action to Implement the Strategy

1. Support Michigan schools in continuing to implement recommendations in the consensus document *The Role of Michigan Schools in Promoting Healthy Weight.* Timeline: Ongoing.
2. Work with Department of Education and other statewide partners to develop consensus on model language for the Local Wellness Policy that has been federally-mandated for all school districts. Timeline: September 2005.
3. Provide grants to schools to form a Coordinated School Health Team, complete the HSAT and make policy and environmental changes. (Funding dependent) Timeline: 2005-2006 school year.
4. Work with partners to promote student walking and biking to school through encouragement of and technical assistance for:
   a. Local school site selection policies that place a high priority on supporting non-motorized home-to-school commuting for students and staff and preservation of existing walkable neighborhood schools. Timeline: Ongoing.
   b. The Safe Routes to School initiative. Timeline: Ongoing.
5. Work with partners to increase fruits and vegetables in school meal programs, by developing school gardens, farm to school programs, youth farm stands and other initiatives that provide education and fresh produce to students and staff. Timeline: Ongoing.
6. Encourage schools to make policy and environmental improvements by providing recognition for schools that do so:
   a. Work with state partners to develop and launch the *Michigan Surgeon General's Healthy School Environment Recognition Program.* Timeline: September 2005.
   b. Provide assistance to selected Team Nutrition elementary schools in submitting applications to the *Healthier US School Challenge*. Timeline: Spring 2006.
7. Promote widespread local adoption and implementation of Michigan State Board of Education 2003 Policies on offering Healthy Food and Beverages in Venues Outside of the Federally Regulated Child Nutrition Programs, Quality Physical Education and Coordinated School Health Programs. Timeline: Ongoing.
8. Develop and implement a statewide training course and technical support for food service staff and directors to help schools increase reimbursable school meals participation while decreasing á la carte sales of less healthy foods. (Funding dependent) Timeline: Trainings completed September 2007.
9. Develop an online system for the Adolescent Health Survey to identify pre/post behavior changes in eating and physical activity in schools that have completed the HSAT. Timeline: December 2006.
10. Develop a reporting system for schools to showcase behavior change resulting from their HSAT actions plan. (Funding dependent) Timeline: December 2007.

School Strategy 3: Curriculum and Staff Development

By 2010, increase the availability and accessibility of high quality nutrition and physical education curricular for Michigan teachers.

Action to Implement the Strategy

Physical Education

1. Raise awareness of need for physical education five times a week for thirty minutes using a quality physical education curriculum such as the Exemplary Physical Education Curriculum (EPEC). Timeline: Ongoing.
2. Promote use of the EPEC by Michigan teachers via presentations at conferences, email listserv, and articles in professional journals and newsletters. Timeline: Ongoing.
3. Update and revise EPEC units for grades K-5 (two objectives) and complete the seven remaining secondary level EPEC instructional units. (Funding dependent) Timeline: Fall 2008.
5. Promote and expand recognition for schools with quality physical education programs, including the *Exemplary Physical Education Award* program. Timeline: Ongoing.
6. Explore a strategy for adding testing on physical education achievement to the Michigan Educational Assessment Program. Timeline: Fall 2006 and Ongoing.

Nutrition Education/ Health Education

7. Raise awareness of the need to provide nutrition education through the provision of 60 minutes per week of health education using a quality health education curriculum like the Michigan Model for Comprehensive School Health Education Curriculum. Timeline: Ongoing.
8. Update K-5 healthy eating and physical activity modules of the Michigan Model Curriculum and pilot test revised lessons for 4th and 5th grade. (Funding dependent) Timeline: 2007 school year.
9. Incorporate MyPyramid information in the Michigan Model Curriculum for grade levels K-12. Timeline: 2006.
10. Identify a mechanism for incorporating information on decreasing screen time (television, computer, video time) as part of the Michigan Model Curriculum, teacher references, and family resource sheets. Timeline: Fall 2005.
11. Develop monthly nutrition education activities for the 25 Michigan Schools that receive the Free Fruit and Vegetable Snack Program Grants through USDA. Timeline: Fall 2005 with annual updates.

Staff Development for Curricula

12. Make teacher training for EPEC more accessible by developing training materials that may be accessed by Internet or on a DVD. Timeline: Fall 2006.
13. Integrate nutrition education and physical activity promotion into English/Language Arts instruction using the Team Nutrition resources and communication channels. (Funding dependent) Timeline: 2007
14. Distribute information about healthy eating, physical activity and healthy weight to listservs of Michigan teachers. Timeline: Ongoing.

School Strategy 4: Before and After School Activities

By 2008, have a plan in place to reach out to programs and caregivers of preschool and school age children and youth to increase activity levels and promote healthy eating during non academic school hours.

Action to Implement the Strategy

1. Work with the Michigan After-School Partnership to upgrade after-school programming. Timeline: Ongoing.
2. Work with partners to provide access to education and training for caregivers and program leaders on programs and activities to meet the nutritional and physical activity needs of children and youth before and after school. Timeline: 2008.
3. Work with partners to involve before and after school care givers in walk to school activities. Timeline: 2007.
4. Promote physical activity programs like the *Choose Your Move* game to school and community-based after-school programs for children age 9-13. Timeline: Ongoing.

School Strategy 5: Respectful Environments and Behaviors

By 2007, formulate a team to assist Michigan schools in creating a respectful and caring school environment for students and staff of all body sizes and shapes.

Action to Implement the Strategy

1. Promote prevention-based initiatives like Coordinated School Health Teams and HSAT and discourage weight-based evaluation of student academic progress or fitness status at school. Timeline: Ongoing.
2. Pilot test and revise lessons to promote respect for self and others—*Every Body Is Good (EBIG)*. Timeline: Spring 2006.
3. Distribute *EBIG* free of charge to teachers though multiple channels. Timeline: Fall 2006.
4. Develop a teacher in-service module on *EBIG*. (Funding dependent) Timeline: Fall 2006.
5. Promote widespread local adoption and implementation of the Michigan State Board of Education Policies on Bullying (July 19, 2001) and Quality Character Education (June 8, 2004), and promote understanding that these policies are applicable to the issue of respect for self and others in relation to body size and shape. Timeline: Ongoing.

School Strategy 6: Family Support for Healthy Lifestyles

By 2008, design and implement a program to reach out to parents of preschool and school aged children and youth with materials and resources that will encourage healthy eating and physical activities as part of family life.

Action to Implement the Strategy

1. Develop a strategy to reach out to parents with message-reinforcing materials on healthy eating and physical activity through venues like parent teacher conferences. Timeline: Summer 2006. Implementation: Ongoing.
2. Provide *Healthy Kids Health Weight: Tips for Families with Kids of All Shapes and Sizes* (English and Spanish) to schools and evaluate best practice methods of distribution for greatest family impact. Timeline: May 2006.
3. Work with partners to encourage student and parent physical activity programs such as walking programs and pedometer challenges to encourage walking within the family. Timeline: Ongoing.
4. Work with partners to support family-based nutrition and physical activity education through family book bags sent home through schools and caregivers. (Funding dependent) Timeline: 2007.
5. Explore methods to encourage in-home family meals as a means to encourage healthy eating. Timeline: Ongoing.

School Strategy 7: Partner Collaboration

By the end of 2005, assure coordination and collaboration of existing state-level groups, agencies, and organizations working on policy and environmental changes that enable healthier eating and physical activity/education in school settings.

Action to Implement the Strategy

1. Schedule quarterly information exchange among School Health Partners to increase communication, strengthen partnerships and to facilitate providing consistent messages to schools. Timeline: Ongoing.
2. Use Michigan Action for Healthy Kids Steering Committee, Michigan Team Nutrition Steering Committee and Michigan Steps Up School Group Meetings to provide updates on state level initiatives. Timeline: Ongoing.
3. Reach agreement among state-level partners on a collaborative funding strategy for local healthy school environment initiatives, and on consistent requirements when offering grants to schools. Timeline: January 2006.
4. Develop an online system to share Michigan school success stories of policy and environmental changes made in the areas of healthy eating and physical activity. (Funding dependent) Timeline: December 2005.
5. Implement an online mechanism to facilitate the sharing of programs and resources among organizations. (Funding dependent) Timeline: September 2005.
6. Explore a strategy for creating a nutrition and physical education Michigan Educational Assessment Program test. Timeline: Fall 2006 and Ongoing.

Implementation Partners for School Strategies

- C.S. Mott Group for Sustainable Food Systems at Michigan State University
- Governor's Council on Physical Fitness, Health and Sports
- Michigan Action for Healthy Kids Coalition
- Michigan Department of Community Health
- Michigan Department of Education
- Michigan Diabetes Outreach Network
- Michigan State University Extension
- Michigan Steps Up School Stakeholder Group
- Michigan Team Nutrition
- United Dairy Industry of Michigan

3. Business Setting

Businesses encourage and support healthy eating habits and physically active lifestyles for employees.

Adults spend a large portion of their waking hours at work. The environment created within the worksite itself can have an impact on the health of employees. The physical health of employees affects the fiscal health of any business.

Objective

By 2010, increase by 200 the number of Michigan employers with specific policies or practices that support healthy eating habits and physically active lifestyles.

Business Strategy 1: Assessment, Planning, and Policy

Increase by 50 per year the number of business partners who are assessing worksite environments, creating action plans, and developing policies to create healthy business environments.

Action to Implement the Strategy

1. Provide guidance and technical assistance to worksite wellness teams using the Designing Healthy Environments at Work (DHEW) assessment and planning tool. Timeline: Ongoing.
2. Gather existing worksite wellness resources to use in the creation of a business toolbox, including evidence-based or promising worksite healthy weight programs. Timeline: 2006.
3. Create a forum for information exchange and dissemination of evidence-based tools for business wellness. Timeline: 2006.
4. Create a mentoring vehicle for employers to share effective business wellness interventions. Timeline: 2006.
5. Increase the number of businesses that have a worksite wellness team. Timeline: Ongoing.
6. Develop guidelines for ways businesses can support breastfeeding. Timeline: Fall 2006.
7. Work to create a system to provide wellness expertise to small businesses. Timeline: 2008.
8. Enhance the current recognition system for businesses that improve worksite policies and environments to support healthy lifestyle. Timeline: Fall 2006.
9. Update the existing healthy workplace recognition systems to be consistent with the DHEW tool and market recognition opportunities. Timeline: Spring 2007.
10. Design a system for systematically collecting information about worksite improvements in policies and environments that support healthy lifestyles. Timeline: Fall 2007.
11. Gather, compile, and distribute to employers data and materials that adequately quantify return on investment (ROI) for businesses in implementing worksite wellness policies, programs, and practices related to physical activity and nutrition. Timeline: Fall 2006, with updates as needed.
12. Create connections and provide guidance to hospital community wellness programs in assisting businesses with wellness programming and services to support physical activity and healthy eating. Timeline: Fall 2005 and Ongoing.
13. Evaluate and improve the DHEW assessment tool. Timeline: Evaluate in Summer 2006, with annual review and update as appropriate.

Business Strategy 2: Healthy Eating Supports

Increase by 25 per year the number of businesses that have implemented policies, programs or practices to support and encourage healthy eating habits.

Action to Implement the Strategy

1. Identify and disseminate tools that support healthy eating at the worksite. Timeline: Spring 2006 and Ongoing.
2. Develop and disseminate guidelines for providing healthy and affordable food choices in worksite vending machines and cafeterias. Timeline: Winter 2005 and Ongoing.
3. Provide guidance for creating an environment that encourages healthy home packed snacks and meals. Timeline: Spring 2006.
4. Where feasible, facilitate employee purchase of fresh, locally grown produce by providing guidance and tools for the development of worksite produce stands, drop off points for products of community supported agriculture, and farm to cafeteria initiatives. Timeline: Summer 2006 and Ongoing thereafter.
5. Encourage businesses to adopt polices that support breastfeeding by employees. Timeline: Ongoing.

Business Strategy 3: Physical Activity Supports

Increase by 25 per year the number of businesses that have implemented policy, programs, practices or environmental changes to support and encourage physically active lifestyles.

Action to Implement the Strategy

1. Provide guidelines and tools for promoting and supporting non-motorized commutes to work (safety audits, providing bicycle racks, lockers, financial incentives, etc). Timeline: Spring 2006.
2. Provide guidance, tools and best practice examples of worksite supports for physical activity such as walking trails, fitness rooms, showers, stairwell improvements, walking competitions, etc. Timeline: Summer 2006.
3. Provide guidance for the development of worksite policies that encourage physical activity such as flex-time, walking breaks, walking meetings, insurance premium breaks for active employees, etc. Timeline: Spring 2006.

Implementation Partners for Business Strategies

- American Cancer Society, Michigan Chapter
- American Heart Association Midwest Affiliate
- C. S. Mott Group for Sustainable Food Systems at Michigan State University
- Governor's Council on Physical Fitness, Health and Sports
- League of Michigan Bicyclists
- Michigan Department of Community Health
- Michigan Diabetes Outreach Network
- Michigan Health and Hospital Association
- Michigan Steps Up Business Stakeholder Group

4. Faith-Based Setting

Faith-based organizations inspire healthy eating habits and physically active lifestyles as part of spiritual wholeness.

Rates of obesity among African Americans, especially women, are particularly high compared to other population groups. Since churches are respected sources of guidance in the African American community, they are appropriate settings to inspire healthy lifestyles. To reduce health disparities, highest priority is placed on supporting African American churches in healthy lifestyle initiatives. Furthermore, faith-based organizations present promising opportunities for reaching other populations with disproportionate burdens of obesity.

Objective

By 2010, increase by 100 the number of African American churches and by 30 the number of other (non-African American) faith-based organizations that have made changes to policies, programs and practices that encourage as well as enhance opportunities for physically active lifestyles and healthy eating habits.

Faith Community Strategy 1: Health Ministry

By 2010, increase by 50 the number of African American Churches that have formed a health ministry that promotes healthy eating and physical activity at all life stages.

Action to Implement the Strategy

1. Identify churches that have a health ministry, study their strengths and challenges, and provide technical assistance to enhance current ministry. Timeline: Summer 2006 and Ongoing.
2. For churches without health ministries, develop and offer technical assistance for establishing a health ministry using various models. Timeline: Fall 2006 and Ongoing.

Faith Community Strategy 2: Assessment and Planning

By 2010 at least 50 African American churches will have used a standardized assessment and planning instrument to evaluate their efforts to promote healthy eating and physical activity.

Action to Implement the Strategy

1. Create a faith-based assessment and planning instrument to help health ministries or parish nurse ministries assess a church's efforts to promote healthy eating and physical activity. Timeline: Spring 2007.
2. Pilot test and revise the tool based on input from users. Timeline: Summer 2007.
3. Disseminate and encourage use of the tool by health ministries to develop philosophies or policies around healthy food and increased physical activity opportunities for consideration by church leadership. Timeline: Fall 2007 and Ongoing.

Faith Community Strategy 3: Healthy Eating Supports

By 2010, increase by 50 the number of African American church congregations that create opportunities for and encourage healthy eating habits at all life stages as a part of church life and practice.

Action to Implement the Strategy

1. Develop and disseminate guidance for establishing church policies and nutrition education to promote serving healthier meals at church events. Timeline: Spring 2006.
2. Identify and make available to churches training and resources for kitchen committees in preparing healthier meals at church events (e. g., cooking demonstrations). Timeline: Spring 2006 and Ongoing.
3. Increase awareness of and adoption of existing research-based culturally appropriate programs to increase consumption of fruits & vegetables at all church activities. Timeline: Winter 2006 and Ongoing.
4. Provide guidance, support and training to churches for establishing fruit and vegetable gardens, fruit and vegetable mini marts, community supported agriculture (CSA's) or other distribution points to enhance access to produce. Timeline: Fall 2006 and Ongoing.

Faith Community Strategy 4: Physical Activity Supports

By 2010, increase by 50 the number of African American Churches that create opportunities for physical activity as part of church life and practice at all life stages.

Action to Implement the Strategy

1. Increase awareness of the importance of physical activity to health and wholeness in all stages of life. Timeline: Winter 2006 and Ongoing.
2. Increase awareness of and adoption of existing research-based culturally appropriate programs to increase physical activity as part of church life. Timeline: Spring 2006 and Ongoing.
3. Disseminate tools to help churches coordinate greater access to local facilities such as local recreation, parks, schools and malls for use by church members for physical activity. Timeline: Summer 2006.
4. Develop and disseminate guidance to help churches support low impact physical activities such as walking clubs, prayer walks, praise aerobics, softball teams, and mall walking, including relevant injury prevention guidelines. Timeline: Winter 2006 and Ongoing.

Faith Community Strategy 5: Expanding Faith Based Initiatives to Other Populations Experiencing Disparities

By 2010, increase the variety of faith based initiatives to include other populations with disproportionate burdens of overweight and obesity.

Action to Implement the Strategy

1. Work with community and faith leaders from other populations to determine the most effective ways to incorporate healthy lifestyle promotion into their faith practices. Timeline: Summer 2006 and Ongoing.
2. Identify and disseminate culturally appropriate approaches and materials to promote healthy food choices and increased physical activity through all stages of life. Timeline: Spring 2007.
3. Assist in connecting various parish nurse programs from around the state to facilitate the strengthening and propagation of parish nurse ministries across the state. Timeline: Fall 2006.

Implementation Partners for Faith-Based Strategies

- American Cancer Society Michigan Chapter
- American Heart Association Midwest Affiliate
- C.S. Mott Group for Sustainable Food Systems at Michigan State University
- Michigan Department of Community Health
- Michigan Diabetes Outreach Network
- Michigan Public Health Institute
- Michigan Steps Up Faith Based Stakeholder Group
- Parish Nurse Networks
- Saginaw Valley State University Nursing Program
- St. John Health

5. Healthcare Setting

Healthcare providers routinely promote healthy eating and physical activity for patients and staff.

Patients and families turn to healthcare providers for help with overweight, obesity and related physical problems despite the shortage of proven treatment tools. Healthcare providers can have meaningful roles in prevention, early detection, and management of obesity.

Objective

By 2010, increase by 500 the number of primary care providers in Michigan who are practicing in a healthcare environment that supports primary and secondary prevention for obesity through healthy eating and physical activity among patients and staff.

Healthcare Strategy 1: Systems Change for Primary Care

By 2006, develop and begin implementing a strategic action plan that will focus on incorporating prevention into routine primary care in Michigan with an emphasis on supporting healthy eating, increasing physical activity, and stopping tobacco use.

Action to Implement the Strategy

1. Support the statewide, broad-based group of key stakeholders who can influence the primary care system in Michigan. Timeline: 2006-2010.
2. Develop a strategic action plan to address five priority barriers to prevention in primary care: (1) inadequate reimbursement systems, (2) multiple guidelines, (3) lack of access to comprehensive patient data base, (4) inadequate referral to allied health and to community resources and (5) emphasis on episodic rather than routine care. Timeline: July 2005.
3. Begin implementing strategies to resolve statewide barriers. (Funding dependent) Timeline: April 2006.
4. Modify strategies as needed and continue full implementation. Timeline: 2006-2010.

Healthcare Strategy 2: Evidence-Based and Promising Prevention Tools for Use by Providers

By 2006, Michigan will have in place a widely-used system to improve access to evidence-based and promising prevention tools and materials for healthcare providers in Michigan.

Action to Implement the Strategy

1. Identify relevant consensus documents, evidence-based and promising tools and materials for healthy lifestyle promotion in the clinical setting. Timeline: Initial review complete in February 2005. Complete updates at 6-month intervals.
2. Promote use of a web-based mechanism linked to the Michigan Steps Up Healthy Lifestyle Campaign that posts these evidence-based and promising tools and materials for easy access by healthcare providers in Michigan. Timeline: Website up February 2005. Promotion and updating ongoing.
3. Identify high-quality, culturally sensitive patient education materials suitable for low literacy patients and underserved ethnic groups, addressing physical activity and healthy eating, and get them into the hands of healthcare providers in Michigan. Include materials suitable for use in all areas of healthcare waiting rooms, exam rooms, etc. Timeline: Materials identified by June 2006. Distribution 2006-2007.
4. Maintain a system for sharing information among providers and health care institutions about prevention strategies and programs that are being implemented. Timeline: Ongoing.

5. Monitor family history initiatives in primary care and the use of personalized health messages that could motivate patients toward more aggressive preventive measures for obesity or other nutrition-related conditions. Timeline: 2007.

Healthcare Strategy 3: Consensus Guidelines for Childhood Obesity Management

By 2006, Michigan professional associations, standard-setting organizations, and public agencies will reach consensus on recommendations for early detection and management of overweight in children.

Action to Achieve Strategy

1. Identify relevant consensus documents and research reports on early detection and management of childhood obesity for use in clinical settings, addressing the issue of social determinants of obesity. Timeline: Fall 2005.
2. Develop Michigan consensus recommendations for detection and management of overweight in children, using a process that involves pediatric experts, major stakeholder groups and the Michigan Quality Improvement Consortium. Timeline: Spring 2006.
3. Work with Michigan Quality Improvement Consortium staff to incorporate consensus recommendation, where appropriate, into their new guideline on "Management of Overweight in Children." Timeline: Summer 2006.
4. Publish the consensus recommendations, and publicize them through regular communication vehicles of major stakeholder groups. Timeline: Fall 2006.

Healthcare Strategy 4: Childhood Obesity Prevention in Healthcare.

By 2010, increase by 200 the number of healthcare providers implementing childhood obesity prevention measures in their clinical practices.

Action to Achieve Strategy

1. Identify evidence-based and promising tools for preventing childhood overweight in clinical practice. Timeline: Spring 2006.
2. Publicize and make the tools available to health care providers in Michigan. Timeline: Spring 2006.
3. Identify and make available evidence-based tools for encouraging breastfeeding—for health care systems, health care providers, and public health channels. Timeline: Fall 2006.
4. Promote breastfeeding among participants in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) by expanding the peer-counseling program and implementing the Loving Support peer counselor training. Timeline: 2007.
5. Collaborate with Michigan's WIC program as it implements its plan to strengthen healthy weight components of WIC.
   a. Implement a 5 A Day for Better Health Program tailored to WIC clients. Timeline: Fall 2005.
   b. Enhance physical activity education for WIC clients through assessment of current physical activity promotion practices in local agencies and encouraging use of the internet educational module on physical activity. Timeline: 2006.
   c. Increase access of WIC families to healthy food choices by increasing redemption of Project Fresh coupons and strengthening collaboration with food banks and community gardens. Timeline: 2006.
   d. Conduct staff training on more effective ways to address healthy weight and the feeding relationship. Timeline: 2007
6. Re-evaluate MDCH family education for healthy weight materials (Healthy Kids, Healthy Weight) for consistency with new Michigan consensus guidelines, revise if needed and make them available to healthcare providers in Michigan. Timeline: Spring 2007.

Healthcare Strategy 5: Safe Weight Loss, Adults

By 2007, Michigan's major healthcare standard-setting organizations will reach consensus on updating guidelines for management of overweight and obesity in adults.

Action to Achieve Strategy

1. Identify relevant consensus documents and emerging research literature on adult weight loss methods including unintended side effects. Timeline: Fall 2005–Summer 2010.
2. Update the 1990 consensus document *Toward Safe Weight Loss: Recommendations for Adult Weight Loss Programs in Michigan*. Timeline: Spring 2006.
3. Work with Michigan Quality Improvement Consortium staff to incorporate revised recommendations as appropriate into the 2007 update of their "Management of Overweight and Obesity Guideline." Timeline: Fall 2007.
4. Publish the recommendations, and publicize them through the regular communication vehicles of major stakeholder groups. Timeline: Fall 2007.
5. Identify high-quality, culturally sensitive adult patient education materials suitable for low literacy patients and underserved ethnic groups on weight management consistent with new Michigan consensus guidelines and get them into the hands of healthcare providers in Michigan. Timeline: Materials identified by January 2008. Distribution 2008-2010.

Healthcare Strategy 6: Recognition for Prevention in Healthcare

By 2006, the State of Michigan will offer a highly visible event to publicly recognize health care providers and organizations that have incorporated nutrition and physical activity preventive measures for patients and office staff into their routine practices.

Action to Implement the Strategy

1. Reach consensus among partners as to criteria for receiving recognition and a system of verification that criteria have been met. Timeline: Fall 2005.
2. Develop an application process, including a plan for publicizing the award and its recipients. Timeline: Fall 2005.
3. Identify a venue and format for high-visibility events, and hold one annually. (Funding dependent) Timeline: Fall 2006 and annually thereafter.

Healthcare Strategy 7: Provider Awareness

By 2008, raise the awareness among Michigan healthcare providers of the importance of physical activity and healthy eating to the prevention of obesity.

Action to Implement the Strategy

1. Publicize national and state consensus guidelines regarding prevention and treatment of obesity to Michigan health care providers. Timeline: Winter 2007.
2. Encourage schools of higher education to incorporate healthy lifestyle content into academic training curricula for health professions. Timeline: Ongoing.
3. Explore ways to incorporate healthy lifestyle content into health professional credentialing exams. Timeline: 2008.
4. Track evolving science and research related to obesity etiology and prevention (e.g., stress, racism, food insecurity, nutri-genomics) and publicize relevant findings to healthcare providers through web-based channels (See Healthcare Strategy 2). Timeline: Ongoing.

Healthcare Strategy 8: Health Risk Appraisals

By 2008, an online validated health risk appraisal (HRA) that includes nutrition and physical activity will be consistently available to Michigan healthcare providers for use with their patients.

Action to Implement the Strategy

1. Conduct a pilot test for making available the University of Michigan Health Management Research Center HRA on the Michigan Steps Up websites, for use by healthcare partners and citizens. Timeline: Fall 2005.
2. Establish a system of reporting patient HRA results to healthcare providers. Timeline: Spring 2006.
3. Seek funding to open the HRA statewide. Timeline: 2006.
4. Promote the HRA to healthcare providers and citizens. (Funding dependent) Timeline: 2006–2010.

Implementation Partners for Health Care Strategies

- Michigan Association of Nurse Practitioners
- Michigan Department of Community Health
- Michigan Health and Hospital Association
- Michigan Diabetes Outreach Network
- Michigan Nurses Association
- Michigan Osteopathic Association
- Michigan Primary Care Initiative
- Michigan Quality Improvement Consortium
- Michigan State Medical Society
- MI Steps Up Healthcare Stakeholder Group

Appendix 1: Selected Data Describing Weight, Nutrition and Physical Activity in Michigan

Table 1

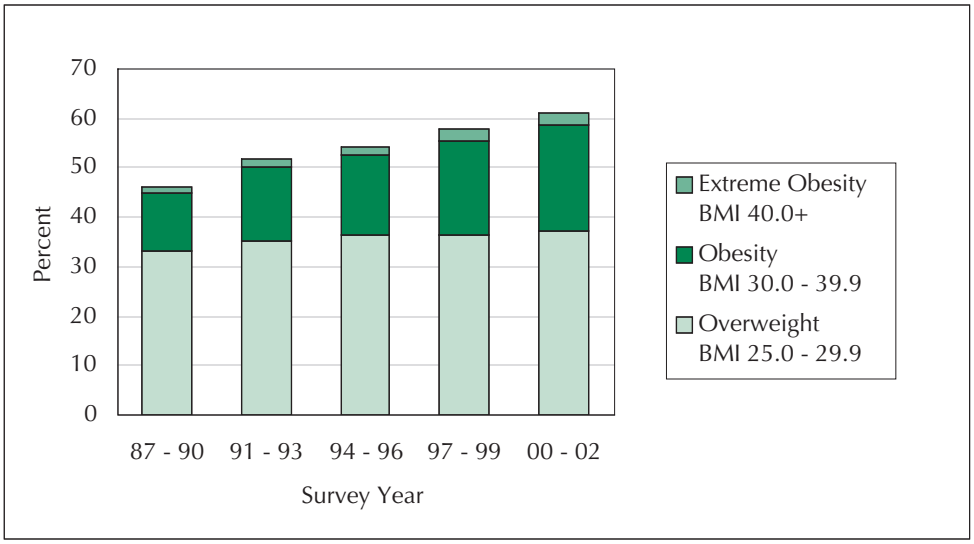
Summary of Available Michigan Data
Prevalence of
At Risk of Overweight, Overweight and Obesity
by Age Group and Race/Ethnicity
June 2005

Age Group	White	Black	Hispanic
2–<5[a]	At Risk 17% Overweight 13%	At Risk 13.7% Overweight 10.7%	At Risk 18% Overweight 17.9%
6–11	No Michigan Data	No Michigan Data	No Michigan Data
High School[b]	At Risk 14% Overweight 11%	At Risk 21% Overweight 17%	At Risk 16% Overweight 17%
18–34[c]	Overweight 30.5% Obese 17%	Overweight 24.7% Obese 25.7%	No Michigan Data
35–54[c]	Overweight 36.7% Obese 28.1%	Overweight 33.6% Obese 41.9%	No Michigan Data
55+[c]	Overweight 40.8% Obese 25.5%	Overweight 39.2% Obese 31.1%	No Michigan Data

Note: BMI, body mass index, is defined as weight (in kilograms) divided by height (in meters) squared [weight in kilograms/(height in meters)^2]. For adults, overweight refers to BMI greater than or equal to 25.0, but less than 30, and obese refers to BMI greater than or equal to 30. For children, at risk of overweight means a BMI-for-Age between the 85th and 95th percentile and overweight means a BMI-for-Age at or above the 95th percentile—based on BMI-for-Age growth charts published by the Centers for Disease Control and Prevention.

Sources:
[a]Pediatric Nutrition Surveillance System, 2003, Michigan Department of Community Health
[b]Michigan Youth Risk Behavior Survey, 2003 (self-reported), Michigan Department of Education
[c]Michigan Behavioral Risk Factor Survey, 2004 (self-reported), Michigan Department of Community Health

Figure 1
Prevalence of Overweight, Obesity and Extreme Obesity
Michigan Adults, 1987-2002



Note: BMI, body mass index, is deined as witht (in kilograms) divided by height (in meters) squared [weight in kilograms/(height in meters)^2]
Source: Michigan Behavioral Risk Factor Survey, Michigan Department of Community Health

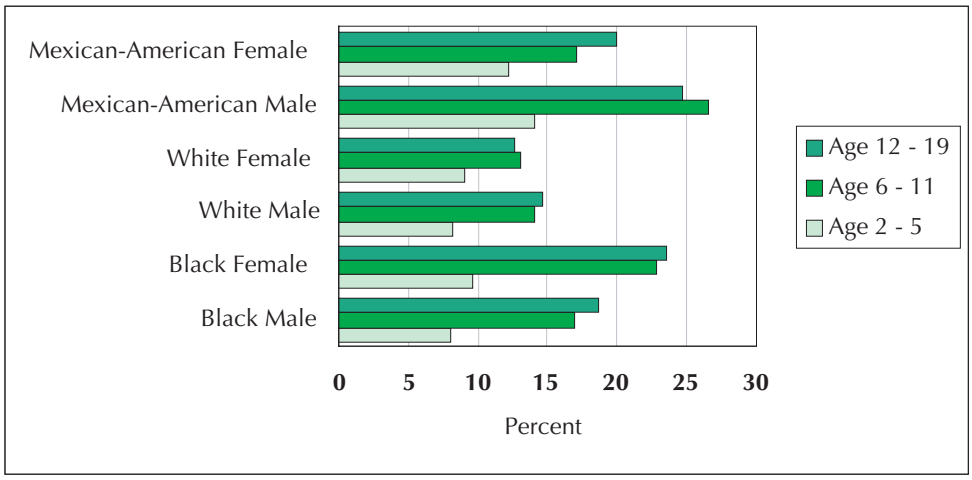
Table 2
Self-Reported Weight Status
Michigan Adults, 2004

Demographic Characteristics	Obese[a]		Overweight[b]	
	%	95% Confidence Interval	%	95% Confidence Interval
Total	**25.5**	**(24.0–26.9)**	**35.5**	**(33.9–37.1)**
Age				
18–24	13.5	(9.8–18.3)	26.9	(21.7–32.9)
25–34	22.3	(18.7–26.4)	33.4	(29.1–38.0)
35–44	28.6	(25.3–32.0)	35.1	(31.7–38.6)
45–54	31.7	(28.5–35.1)	36.2	(33.0–39.6)
55–64	31.9	(28.5–35.6)	41.8	(38.1–45.6)
65–74	25.9	(22.4–29.8)	39.9	(35.8–44.2)
75 +	17.4	(14.1–21.3)	37.7	(33.2–42.3)
Gender				
Male	24.9	(22.8–27.3)	42.2	(39.7–44.7)
Female	26.0	(24.2–27.8)	29.0	(27.1–30.9)
Race				
White	24.2	(22.7–25.7)	36.3	(34.6–38.0)
Black	33.6	(28.6–39.1)	31.8	(26.9–37.2)
Education				
Less than high school	30.1	(24.9–35.8)	34.0	(28.5–40.0)
High school graduate	30.3	(27.7–33.1)	35.2	(32.3–38.1)
Some college	27.6	(24.9–30.5)	33.3	(30.4–36.3)
College graduate	17.1	(15.0–19.3)	38.6	(35.8–41.5)
Household Income				
< $20,000	32.7	(28.8–36.9)	31.4	(27.2–35.8)
$20,000–$34,999	29.1	(25.9–32.5)	34.6	(31.1–38.3)
$35,000–$49,999	25.6	(22.0–29.5)	36.7	(32.6–40.9)
$50,000–$74,999	27.3	(23.8–31.1)	35.1	(31.4–39.0)
$75,000 +	20.0	(17.2–23.1)	40.1	(36.7–43.6)

Note: BMI, body mass index, is defined as weight (in kilograms) divided by height (in meters) squared [weight in kilograms/(height in meters)^2].
[a] BMI greater than or equal to 30.
[b] BMI greater than or equal to 25.0, but less than 30.

Source: Preliminary Estimate, Michigan Behavioral Risk Factor Survey, Michigan Department of Community Health

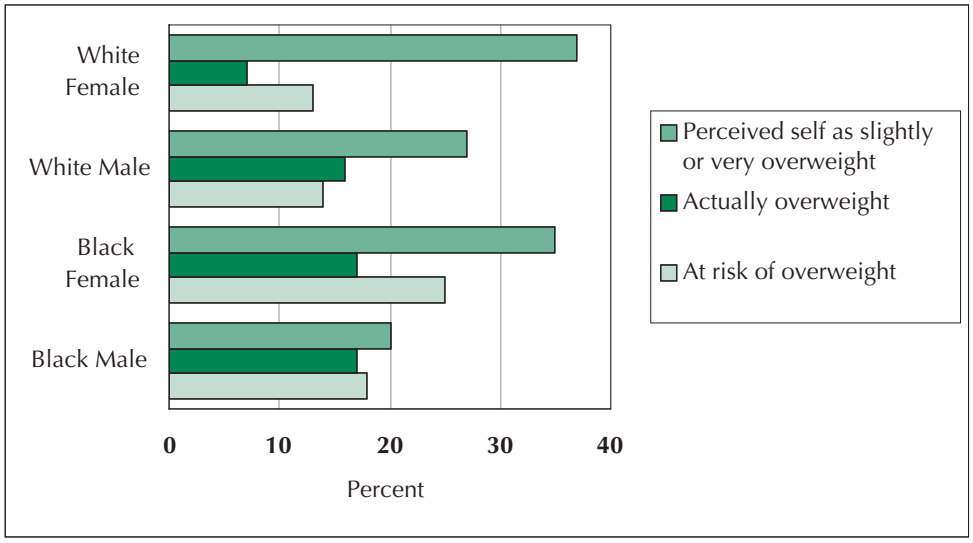
Figure 2
Prevalence of Overweight[a], U.S. Children By Age, Gender, Race/Ethnicity 1999-2002



[a] Overweight means a BMI-for-Age at or above the 95th percentile—based on BMI-for-Age growth charts published by the Centers for Disease Control and Prevention. BMI, body mass index, is defined as weight (in kilograms) divided by height (in meters) squared [weight in kilograms/(height in meters)^2].

Source: National Health and Nutrition Examination Survey (NHANES)

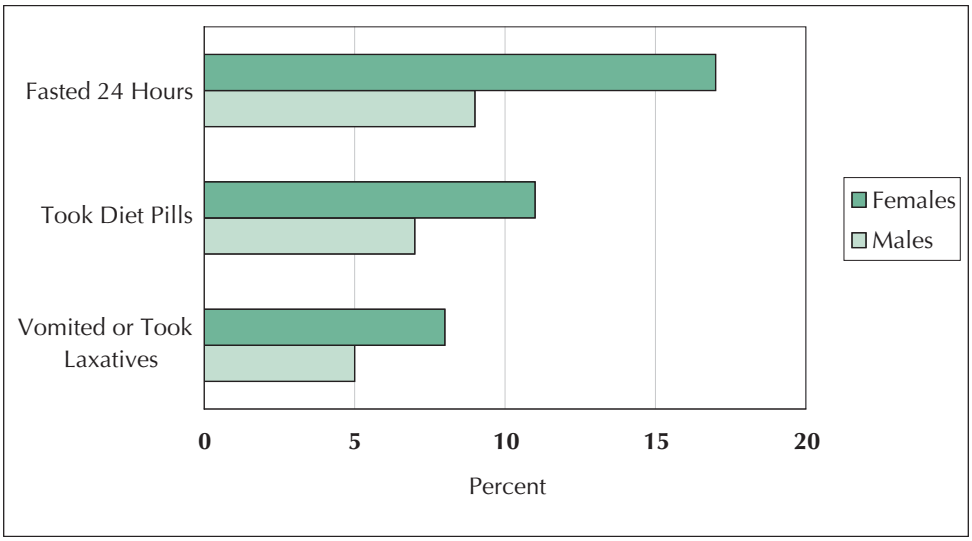
Figure 3
Perception of Weight Compared with Actual Weight Status[a] Michigan Students Grades 9-12, 2003



[a] Weight Status: At risk of overweight means a BMI-for-Age between the 85th and 95th percentile. Overweight means a BMI-for-Age at or above the 95th percentile—based on BMI-for- Age growth charts published by the Centers for Disease Control and Prevention. BMI, body mass index, is defined as weight (in kilograms) divided by height (in meters) squared [weight in kilograms/(height in meters)2].

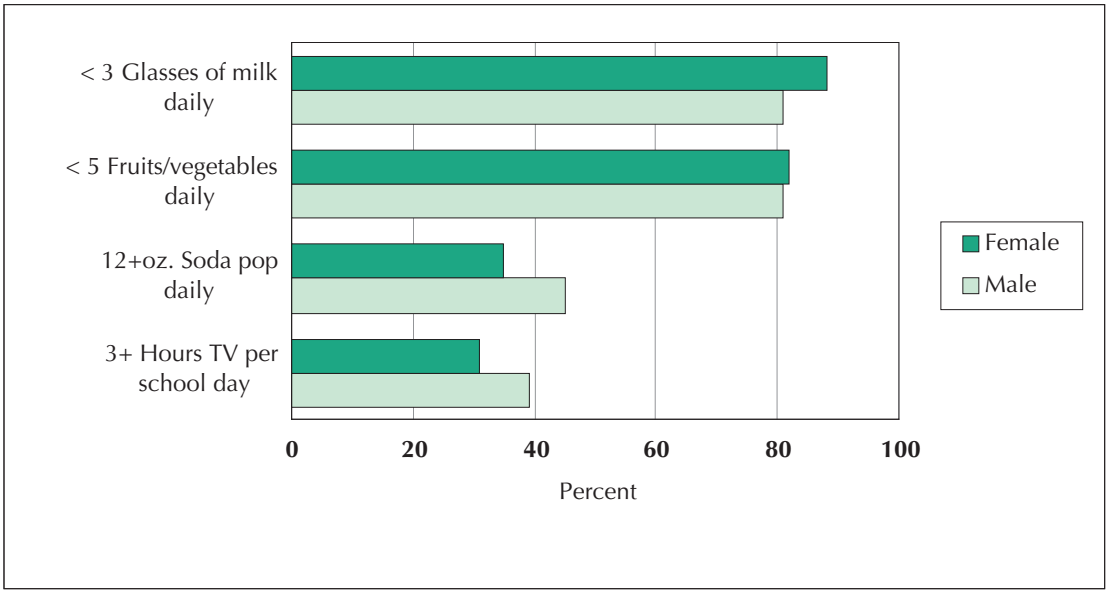
Source: Michigan Youth Risk Behavior Survey, 1993, Michigan Department of Education

Figure 4
Unsafe Weight Control Strategies Used by Michigan Students Grades 9-12, 2003



Source: Michigan Youth Risk Behavior Survey, 2003, Michigan Department of Education

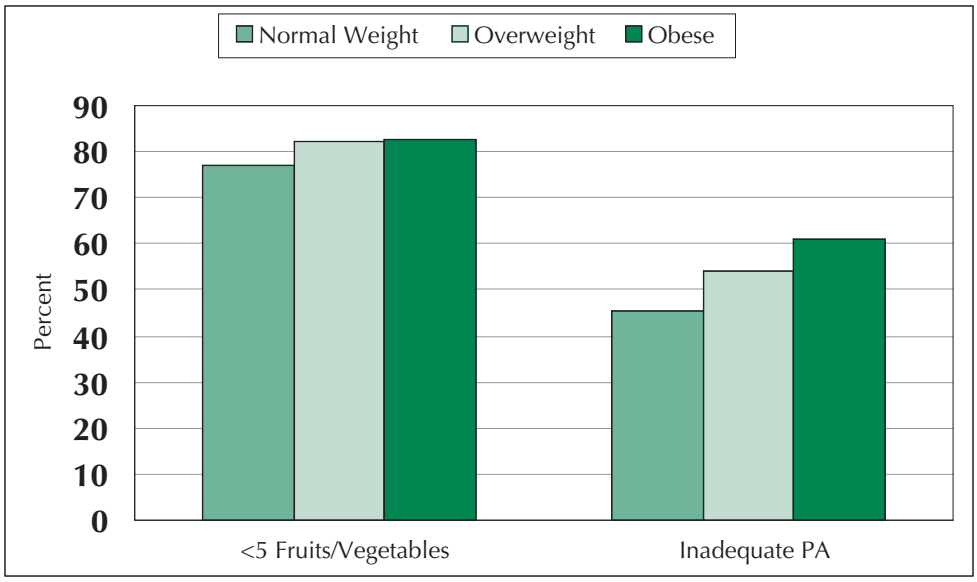
Figure 5
Selected Nutrition and Physical Activity Behaviors, by Gender, Michigan Students Grades 9-12, 2003



Source: Michigan Youth Risk Behavior Survey, 2003, Michigan Department of Education

Figure 6

Percent of Adults Failing to Meet Recommendations[a] for Eating and Physical Activity, by Weight Status[b] Michigan, 2002



[a] Adults were classified as failing to meet recommendations if they reported eating fewer than five servings of fruits and vegetables per day, or if they reported getting neither 30 minutes of moderate physical activity 5 days per week nor 20 minutes of vigorous physical activity three days per week. Underweight adults were excluded from this analysis.

[b] Weight status: BMI, body mass index, is defined as weight (in kilograms) divided by height (in meters) squared [weight in kilograms/(height in meters)^2]. For adults, normal weight refers to a BMI greater than or equal to 18.5, but less than 25. Overweight refers to BMI greater than or equal to 25.0, but less than 30. Obese refers to BMI greater than or equal to 30. Underweight adults were excluded from this analysis.

Source: Michigan Behavioral Risk Factor Survey 2002, Michigan Department of Community Health

Appendix 2: CDC-Funded Targeted Obesity Prevention Intervention

July 1, 2005–June 30, 2006

The Michigan Department of Community Health will implement a targeted intervention for obesity prevention in 2005–2006.

Priority Population. According to preliminary estimates from the 2004 Michigan Behavioral Risk Factor Survey,[8] the population subgroup at greatest risk for developing obesity in Michigan appears to be African American females in the 18–34 year-old age group.

Intervention Setting. Churches are respected sources of guidance in the African American community. There is an impressive record of successful lifestyle interventions in African American churches, documented both in the research literature and in anecdotal success stories from MDCH's faith-based interventions over the past several years.

Intervention. The intervention chosen will build on past MDCH faith based interventions in the City of Detroit to increase access to fruits and vegetables and motivation to consume them. The details of the intervention will be finalized following

- Completion of an ongoing literature search for research-supported interventions in African American churches.
- Careful assessment of factors associated with program successes in Detroit churches to date.
- Respectful input from pastors and representatives of congregations that would be candidates for the intervention.

Funds Available. Pending official approval by CDC of the MDCH proposed budget for obesity prevention[a] for FY 2005–2006, a total of $22,000 of CDC funding will be available for this intervention. It is anticipated that the CDC funds will be used to leverage some additional resources from other Federal, State and private sector partner organizations.

[a] The source of CDC funds would be Cooperative Agreement U58/CCU522826-03, Component 2: State Nutrition and Physical Activity Programs to Prevent Obesity and Other Chronic Diseases, Program Announcement 03022.

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