Overweight and Obesity in Michigan: Surveillance Update 2011

Michigan Department of Community Health

MDCH

MiNPAO

Michigan's Nutrition, Physical Activity and Obesity Program

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OVERWEIGHT AND OBESITY AMONG MICHIGAN ADULTS

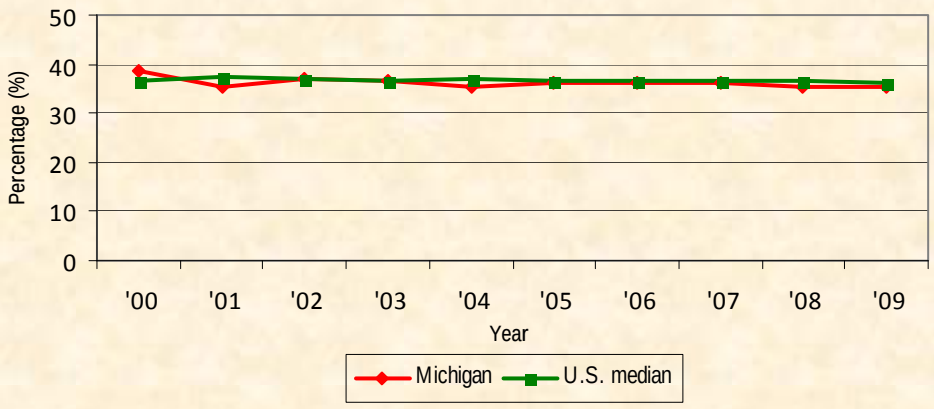
What are overweight and obesity?

- Obesity is defined as a Body Mass Index (BMI) of 30 or higher; while a BMI between 25 and 29.9 is considered overweight.[1]
- Obesity is a result of an energy imbalance which involves consumption of too many calories and not getting adequate physical activity.[2]
- Obesity has been shown to be associated with various consequences, including type 2 diabetes, hypertension, dyslipidemia, stroke, coronary heart disease, and gynecological problems in women.[3]

Is obesity an epidemic?

- Michigan has the 10th highest prevalence of obesity in the United States.
- In 2009, three out of every ten adults in Michigan were obese, while approximately 35% of adults were overweight.[4]
- In 2018, Michigan is expected to spend $12.5 billion on obesity related health care costs if rates continue to increase at their current levels.
- If the 2008 obesity rate remains constant, Michigan is estimated to save $867 per adult in health care costs by 2018 - a savings of almost $6.9 billion.[5]

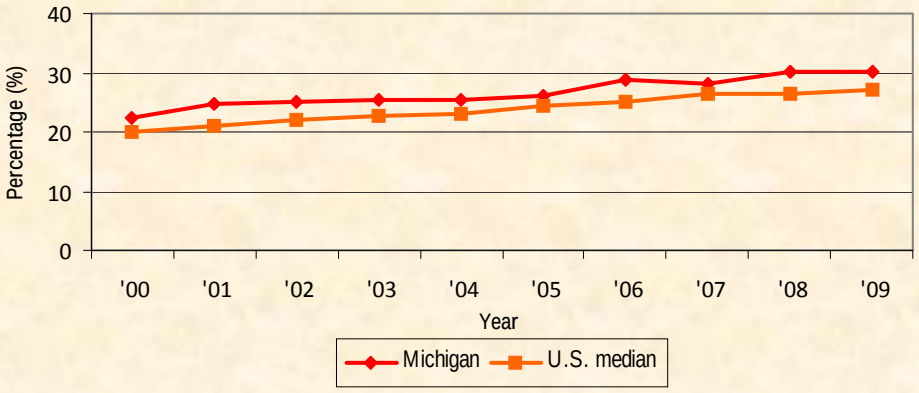
Overweight
Michigan and United States, 2000-2009



In 2009, 35.2% of the Michigan adult population was overweight. This prevalence has been stable since 2000 and remains consistent with the US median prevalence.

Source: CDC BRFSS [www.cdc.gov/brfss/] and MiBRFSS [www.michigan.gov/brfs]

Obesity
Michigan and United States, 2000-2009

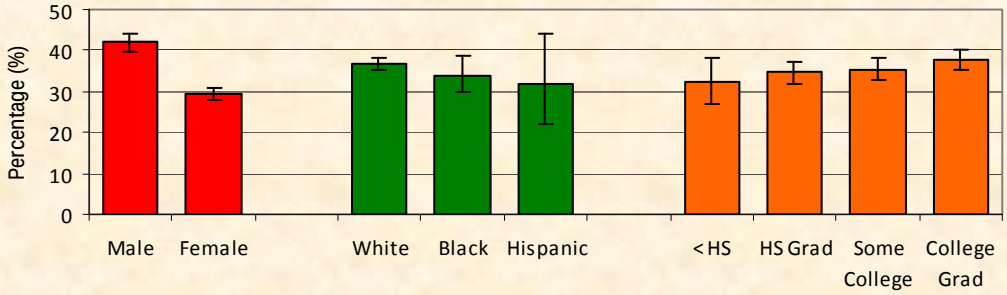


In 2009, 30.3% of Michigan adults were considered obese.

Obesity prevalence has consistently increased since 2000 for both Michigan and the United States.

Source: CDC BRFSS [www.cdc.gov/brfss/] and MiBRFSS [www.michigan.gov/brfs]

Overweight by Gender, Race, and Education
Michigan, 2009

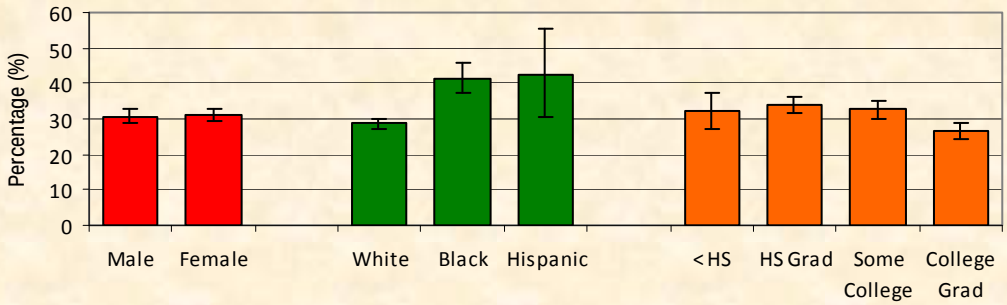


Source: MiBRFSS [www.michigan.gov/brfs]

In 2009, males had a significantly higher prevalence of overweight (42.0%) than females (29.3%).

There were no significant differences in the prevalence of overweight by race or education level.

Obesity by Gender, Race, and Education
Michigan, 2009



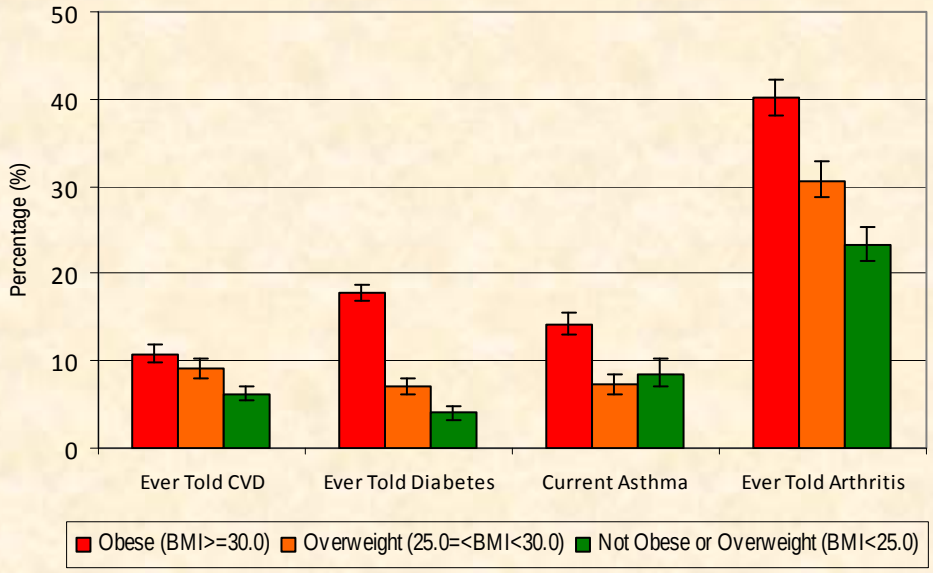
Source: MiBRFSS [www.michigan.gov/brfs]

In 2009, obesity rates were similar among males and females.

In Michigan, Hispanics (42.6%)and Blacks (41.6%) had a significantly higher prevalence of obesity than Whites (28.7%).

College graduates were less likely to be obese than adults with less than a college degree, though this was not a significant difference.

Chronic Disease Prevalence by Weight Status
Michigan, 2009



Source: MiBRFSS [www.michigan.gov/brfs]

In 2009, Michigan adults who were considered obese reported the highest prevalence of chronic health conditions such as cardiovascular disease (CVD), diabetes, asthma and arthritis.

Significant differences between obese and healthy weight adults were noted for all chronic health conditions (i.e., CVD, diabetes, asthma and arthritis).

What is Michigan doing to reduce overweight and obesity in adults? The state has many initiatives in place that support the reduction of overweight and obesity in Michigan residents. Some of these programs include:

- **Healthy Communities:** Our community environment is one of the most influential factors in whether we eat healthy or are physically active. Rethinking and planning our communities to support healthy lifestyles is a key strategy in Michigan for preventing obesity and other chronic diseases. Local health departments and community coalitions are creating policy and environmental changes to support healthy eating and physical activity throughout Michigan. Michigan's Healthy Communities Program, which is comprised of several nationally recommended initiatives including the Building Healthy Communities Project, Michigan Nutrition Network: Local Advisory Group Network, and Complete Streets Policy Initiative is changing social norms around unhealthy behaviors by making healthy lifestyles easier for residents to pursue. For more information, please visit www.mihealthtools.org/mihc

- **Healthy Faith-Based Organizations:** Given the clear importance of lifestyle behaviors on our health and wellbeing, and the fundamental influence of faith and faith-based relationships in providing the benchmark for many lives, it is apparent that faith communities can play a compelling role in encouraging and supporting their members in making healthy lifestyle choices that will keep them well. African American churches in Michigan are working to incorporate nutrition and physical activity policies and practices into health ministries and to increase access to fruits and vegetables in communities. For more information, please visit www.michigan.gov/preventobesity

References:

1. Centers for Disease Control and Prevention. http://www.cdc.gov/obesity/defining.html. June 9, 2010.
2. Centers for Disease Control and Prevention. http://www.cdc.gov/obeisty/causes/index.html June 9, 2010.
3. NIH, NHLBI Obesity Education Initiative. Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults. Available online: http://www.nhlbi.nih.gov/guidelines/obesity/ob_gdlns.pdf June 9, 2010.
4. Fussman C, Boinapally P. Highlights from the 2009 Michigan Behavioral Risk Factor Survey & Weight Status Among Michigan Adults. *Michigan BRFSS Surveillance Brief*. Vol. 4, No. 3. Lansing, MI: Michigan Department of Community Health, Chronic Disease Epidemiology Section, June 2010.
5. The Future Costs of Obesity: National and State Estimates of the Impact of Obesity on Direct Health Care Expenses, Kenneth E. Thorpe, Ph.D. Nov 2009; A collaborative report from United Health Foundation, the American Public Health Association and Partnership for Prevention; Retrieved from http://www.americashealthrankings.org/2009/report/Cost%20Obesity%20Report-final.pdf on January 6, 2011.

Suggested citation: Boinapally P, Fussman C, Imes G. Overweight and Obesity Facts in Michigan Adults. Michigan's Nutrition, Physical Activity and Obesity Program Surveillance Brief. Michigan Department of Community Health, Division of Genomics, Perinatal Health and Chronic Disease Epidemiology. February 2011.

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OVERWEIGHT AND OBESITY AMONG MICHIGAN YOUTH

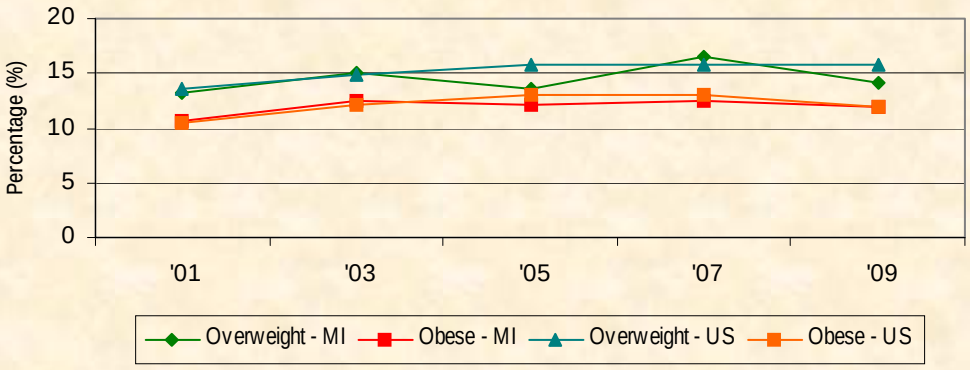
What are overweight and obesity in youth?

- Obesity in youth is defined as a Body Mass Index (BMI) for age at or above the 95th percentile, while a BMI between the 85th and 95th percentile is considered overweight, based on CDC BMI-for-Age growth charts[1].
- Obesity is a result of energy imbalance which involves consumption of too many calories and not getting adequate physical activity[2].
- Obese youth are at risk for a number of chronic diseases such as type 2 diabetes, hypertension, stroke, heart disease, asthma and certain types of cancer[3].
- The main source of information related to youth (9^{th} -12^{th} graders) health and behaviors in Michigan is the Youth Risk Behavior Survey (YRBS)[4].

Risk behaviors of overweight and obesity in Michigan youth[4]

- 80% of youth did not consume adequate (5 or more) servings of fruits and vegetables per day.
- 28% of youth drank at least one pop or soda a day.
- Males (32%) drank soda more often than females (23%).
- Youth participation in physical education classes on a daily basis was very limited (31%).
- Only 47% of youth were physically active for at least 60 minutes per day on five or more of the past seven days.
- On an average school day, approximately 30% of youth spent 3 or more hours watching television, while 23% of youth used computer or video games for 3 or more hours.
- Black youth had the highest prevalence of excessive television viewing (48%) and computer or video game use (28%).

Overweight and Obesity
Michigan and United States Youth, 2001-2009

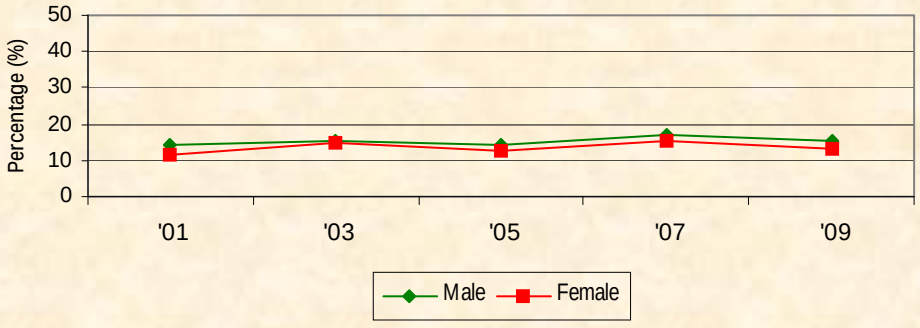


Source: CDC YRBSS [www.cdc.gov/yrbss/] and MiYRBS [www.michigan.gov/yrbs]

The trend in youth overweight and obesity for both Michigan and the United States has gradually increased over the past ten years.

The prevalence of obesity in Michigan youth has increased from 10.7% in 2001 to 11.9% in 2009; this however is not a statistically significant change.

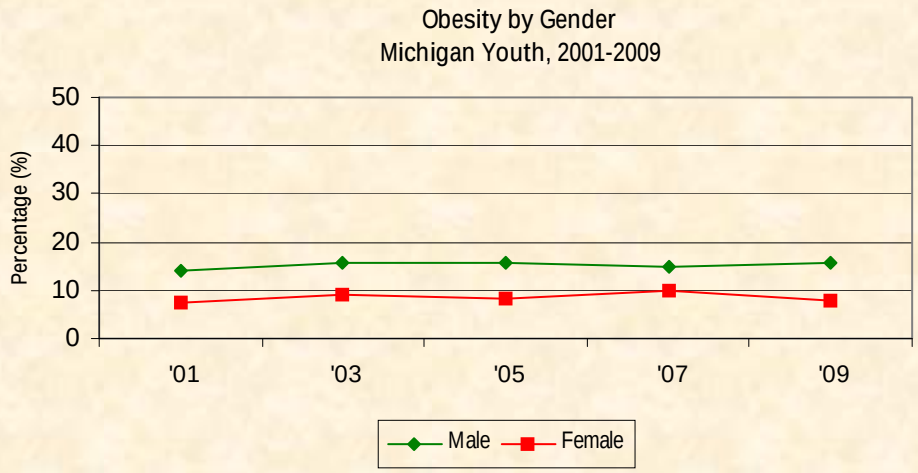
Overweight by Gender
Michigan Youth, 2001-2009



Source: MiYRBS [www.michigan.gov/yrbs]

From 2001 to 2009, male youth have had higher prevalence rates of overweight compared to female youth.

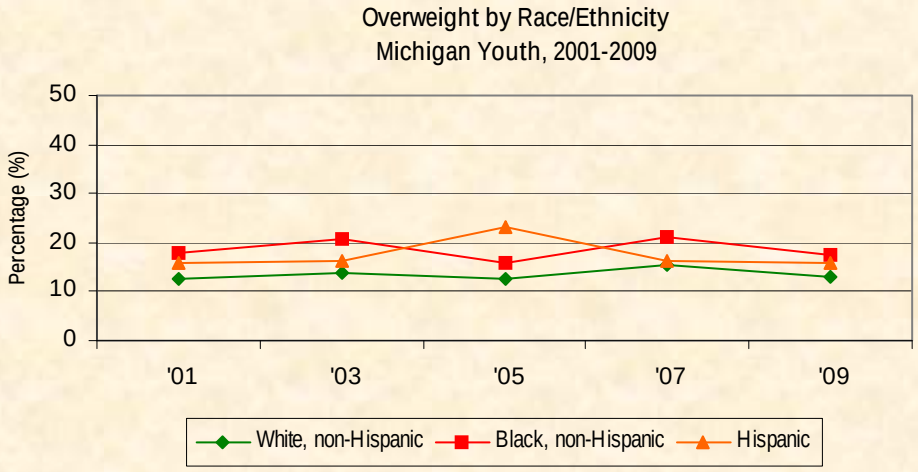
In 2009, a higher percentage of males (15.2%) were overweight compared to females (13.2%), though this was not a significant difference.



Source: MiYRBS [www.michigan.gov/yrbs]

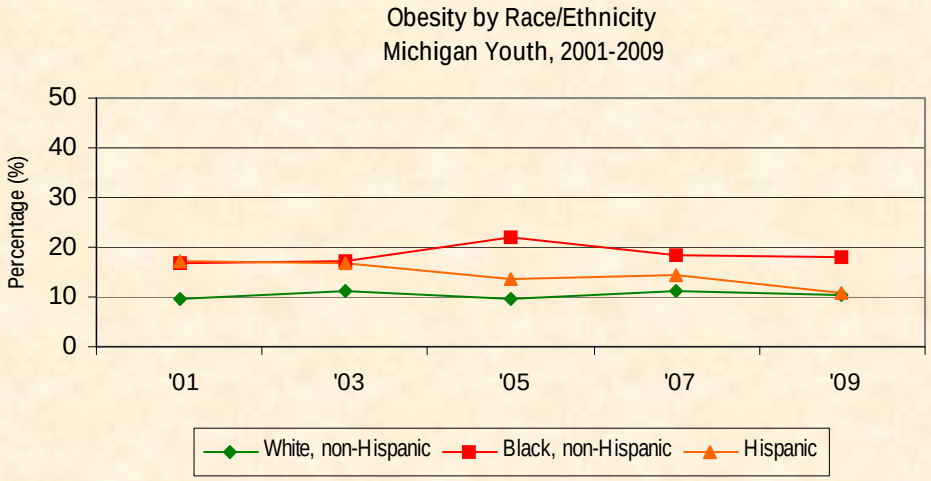
Since 2001, male youth had higher prevalence rates of obesity when compared to female youth.

In 2009, male youth (15.7%) had a significantly higher obesity rate than females (8.0%).



Source: MiYRBS [www.michigan.gov/yrbs]

In 2009, Black, non- Hispanics (17.3%) and Hispanics (15.9%) had higher prevalence rates of overweight than White, non-Hispanics (13.1%).



Source: MiYRBS [www.michigan.gov/yrbs]

Black, non-Hispanics had a higher prevalence of obesity since 2001.

In 2009, Black, non-Hispanics (18.2%) had a higher prevalence of obesity compared to both Hispanics (10.9%) and White, non-Hispanics (10.3%).

What is Michigan doing to reduce overweight and obesity in youth? The state has many initiatives in place that support the reduction of overweight and obesity in Michigan youth. Some of these programs include:

- **Healthy Kids, Healthy Michigan** (HKHM)**:** A statewide coalition with over 120 participating organizations (representing government, non-profits, public and private sectors) with a five year strategic policy plan focused on reducing childhood obesity. Coalition successes include passage of the Complete Streets legislation, Medicaid policy clarification, and Access to Fresh, Healthy Food in Underserved Areas through a property tax abatement. For more information, please visit www.healthykidshealthymich.com

- **Safe Routes to School** (SRTS)**:** An international movement to make it safe, convenient, and fun for children to walk and bike to school. Since 2008, MDCH has partnered with the Michigan Department of Transportation and the Michigan Fitness Foundation to build capacity among Local Health Departments (LHD's) to increase the physical activity levels of elementary school students (K-8). Currently, MDCH has partnered with 8 LHD's to implement the SRTS program in 32 Michigan schools.

- **Shaping Positive Lifestyles & Attitudes through School Health** (SPLASH)**:** Focuses on low-income elementary, middle and high schools to improve consumption of fruits and vegetables and increased physical activity. It is anticipated that in the 2010/2011 school year, there will be 286 SPLASH schools participating; 2254 SPLASH teachers involved and 101,000 students attending SPLASH schools.

- **Nutrition Standards:** The State Board of Education passed the *Michigan Nutrition Standards* in October 2010. The *Standards* emphasize colorful fruits and vegetables, whole grains, low-fat dairy, beans, nuts and lean proteins. The *Standards* cover both USDA funded school meals and snacks AND all food and beverages sold or available outside of the USDA program (cafeterias, vending machines, concession stands, a la carte snack lines, school parties, school stores and during after-school events). Pilot testing, tool kit development and evaluation to determine cost neutral implementation is currently underway. The goal of this initiative is to have legislation passed by January 2012. By offering healthy food and beverages, schools provide a supportive environment for making healthy choices. State level standards will provide schools with consistent messages.

References:
1. Centers for Disease Control and Prevention (CDC). http: //www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/about_childrens_bmi.html Accessed on February 3, 2011.
2. Centers for Disease Control and Prevention. http://www.cdc.gov/obesity/causes/index.html June 9, 2010
3. Haslam DW, James WP (2005). *"Obesity". Lancet* **366** (9492): 1197–209. PMID 16198769.
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FRUIT AND VEGETABLE CONSUMPTION AMONG MICHIGAN ADULTS

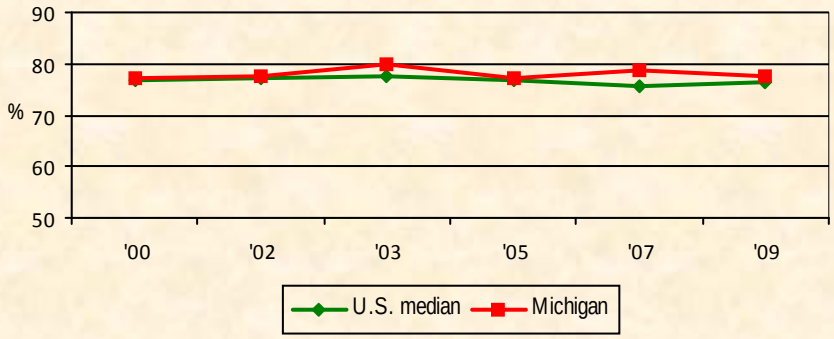
Benefits of fruits and vegetables[1]

- Fruits and vegetables, as part of a healthy diet, are important for optimal child growth, weight management, and chronic disease prevention.
- Eating a diet rich in fruits and vegetables can help prevent weight gain and even help with weight loss.
- There is a nutrient gap in the American diet which fruits and vegetables can help to fill.
- Fiber rich fruits and vegetables help control blood sugar, lower bad cholesterol, lower triglycerides, and displace the intake of fat and cholesterol in the diet.

Strategies to increase fruit and vegetable access and availability[2]

- Improve access to retail venues that sell or increase availability of high quality, affordable fruits and vegetables in underserved communities.
- Include or expand farm-to-where-you-are programs in all possible venues.
- Support and promote community and home gardens.
- Establish policies to incorporate fruit and vegetable activities into schools.
- Increase access to fruits and vegetables in emergency food programs.
- Promote food policy councils to improve the food environment at the state and local level.

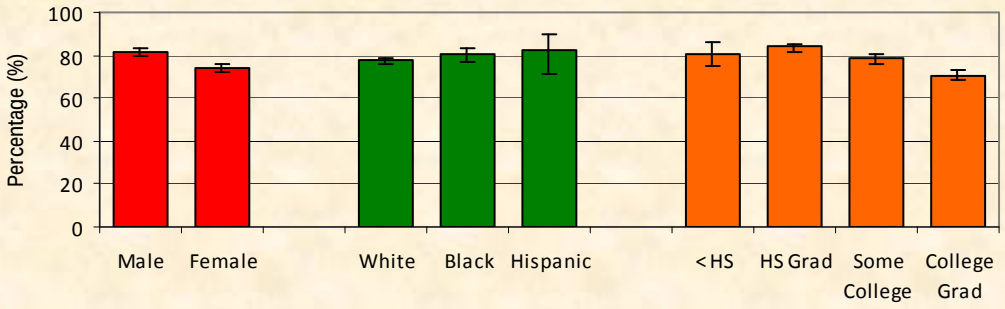
Inadequate Fruit and Vegetable Consumption
United States and Michigan, 2000-2009



In 2009, 77.4% of Michigan adults did not consume adequate amounts of fruits and vegetables. This prevalence has been stable since 2000 and remains consistent with the US median prevalence.

Source: CDC BRFSS [www.cdc.gov/brfss/] and MiBRFSS [www.michigan.gov/brfs]

Inadequate Fruit & Vegetable Consumption by Gender, Race, and Education;
Michigan, 2009

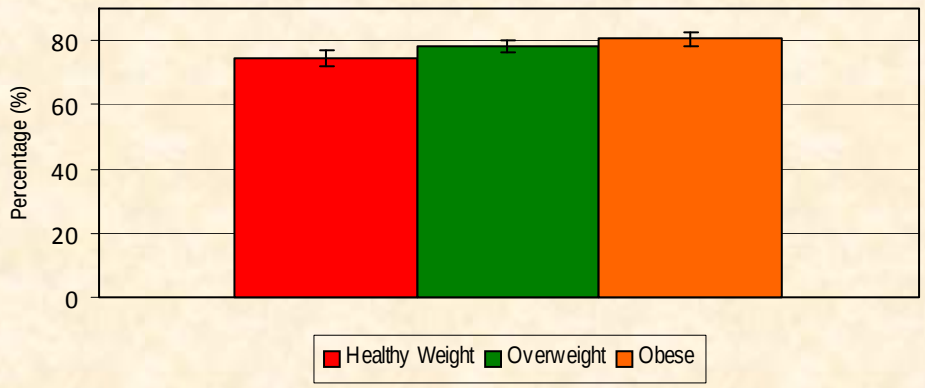


In 2009, men consumed significantly lower amounts of fruits and vegetables compared to women.

No significant differences were noted between different racial/ethnic groups or education levels.

Source: MiBRFSS [www.michigan.gov/brfs]

Inadequate Fruit & Vegetable Consumption by WeightStatus
Michigan, 2009



Source: MiBRFSS [www.michigan.gov/brfs]

Obese individuals tend to consume fewer fruits and vegetables per day compared to overweight and healthy weight individuals; however the differences between weight groups were not significant.

What is Michigan doing to increase fruit and vegetable intake? The state has many initiatives in place to increase fruit and vegetable intake in Michigan residents. Some of these programs include:

- **Local Food Policy Councils** – Supports and advises local residents and governments in developing policies and systems to improve the local food system, with the goal of increasing fruit and vegetable access and availability.
- **Michigan School Nutrition Standards** – Comprehensive Nutrition Standards are implemented in three pilot school districts that will inform statewide legislative policy. The Standards address all food and beverages offered and sold on the school campuses including fruit and vegetable availability.
- **Farmers Markets** – Michigan is promoting farmers markets across the state by assisting communities in beginning or expanding farmers markets. Market managers have access to assistance for redemption of SNAP (Supplemental Nutrition Assistance Programs) benefits, Project FRESH (Farm Resources for Expanding and Supporting Health), WIC (Women, Infants and Children Program) Cash Benefit Vouchers, and Rapid Market Assessments.
- **Community Gardens –** Communities with gardens can benefit from increased access to fresh and healthy produce, exercise, and recreation opportunities. Community gardens also offer community development and beautification, green space and storm water filtration, as well as increased property values and economic development opportunities.

For additional information, visit www.michigan.gov/preventobesity

References:

1. US Department of Health and Human Services and US Department of Agriculture. *Dietary Guidelines For Americans, 2005.* 6th edition, Washington DC: US Government Printing Office; January 2005, Accessed December 15, 2010.
2. US Centers for Disease Control and Prevention. The CDC Guide to Strategies to Increase Fruit and Vegetable Access and Availability. 2010; http://www.cdph.ca.gov/SiteCollectionDocuments/StratstoIncreaseFruitVegConsumption.pdf. Accessed November 15, 2010.

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PHYSICAL ACTIVITY AMONG MICHIGAN ADULTS

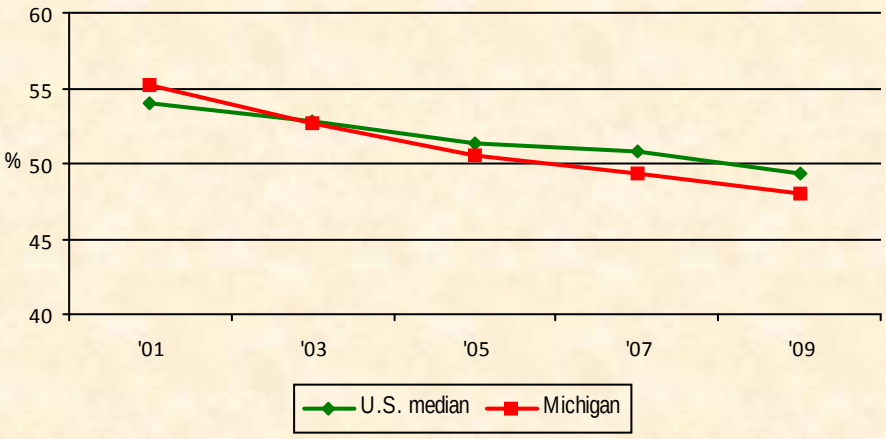
Why is regular physical activity important?

- Regular physical activity is one of the most important contributors to health and a key factor in maintaining a healthy weight. Regular physical activity decreases the risk of developing chronic diseases and can also reduce feelings of anxiety and depression.[1]
- The 2008 Physical Activity Guidelines for Americans recommends that adults should avoid physical inactivity[2] and need to do at least **150 minutes**/week of moderate intensity aerobic activity OR **75 minutes**/week of vigorous intensity aerobic activity OR an **equivalent mix of moderate and vigorous intensity** aerobic activity.
- The estimated cost of physical inactivity in 2000 was $76.6 billion in the United States[3]. In 2002, the direct and indirect costs were $8.9 billion in Michigan alone.[4]

Strategies to increase access to physical activity[5]

- Increase and enhance access to places for physical activity combined with informational outreach.
- Social support interventions in community settings to increase regular physical activity among residents.
- Community wide campaigns to increase awareness of the importance of regular physical activity.
- Point of decision prompts in work and public places.
- Behavior change programs to encourage physical activity as part of a healthy lifestyle.
- Street scale and community scale urban design and land use policies and practices.
- Transportation and travel policies and practices.

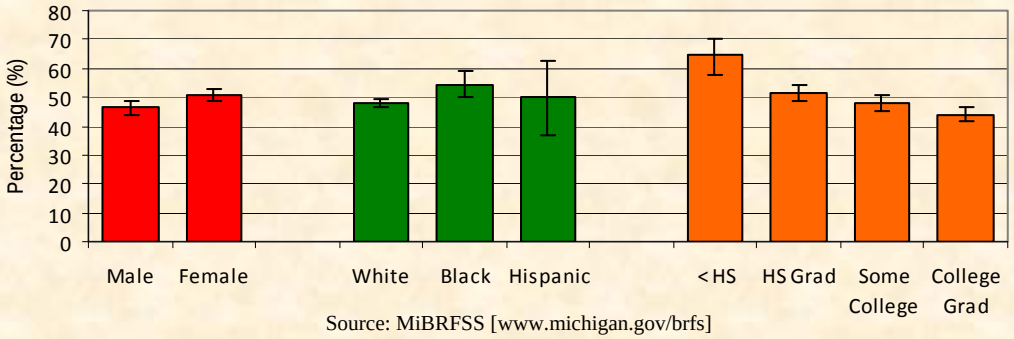
Inadequate Physical Activity
United States and Michigan, 2001-2009



Source: MiBRFSS [www.michigan.gov/brfs]

In 2009, the prevalence of inadequate physical activity among Michigan adults was 48%. This represents a decrease of 7.2% since 2001.

Inadequate Physical Activity by Gender, Race, and Education
Michigan, 2009



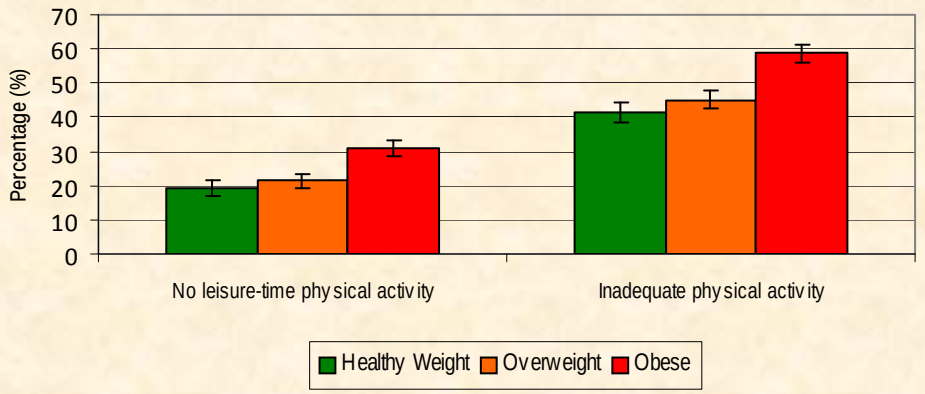
Source: MiBRFSS [www.michigan.gov/brfs]

In 2009, males (53.7%) had significantly higher rates of physical activity compared to females (49.1%).

There were no significant differences in physical activity by race.

Physical activity levels increased with education.

Inadequate Physical Activity by Weight Status
Michigan BRFS, 2009



In 2009, Michigan adults who were obese reported significantly more inadequate and no-leisure time physical activity levels compared with adults who reported a BMI that was normal or overweight.

Source: MiBRFSS [www.michigan.gov/brfs]

What is Michigan doing to increase physical activity among adults? The state has many initiatives in place that support Michigan adults to be more physically active. Some of these programs include:

- **Healthy Communities:** Our community policies and environments are the most influential factors on daily physical activity levels. Planning, redesigning and implementing changes for our communities to encourage and support healthy lifestyles is a key strategy in Michigan for preventing obesity and other chronic diseases. The "healthy communities" model is one of the original programs that is now a national model. Local public health departments and local health coalitions are creating policy and environmental changes to increase the amount of safe physical activity achieved daily for transportation and recreation. Michigan's Healthy Communities Program, which is comprised of several evidence-based and promising practice interventions including the Building Healthy Communities Project and the Complete Streets Policy Initiative are changing social norms around unhealthy behaviors by making healthy lifestyles easier to be pursued by residents. For more information about MI Healthy Communities, please visit www.mihealthtools.org/mihc
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5. US Centers for Disease Control and Prevention. The CDC Guide to Strategies for Increasing Physical Activity in the Community. 2010. Available at http://www.cdph.ca.gov/SiteCollectionDocuments/StratsforIncPAintheCommunity.pdf . January 18, 2011.

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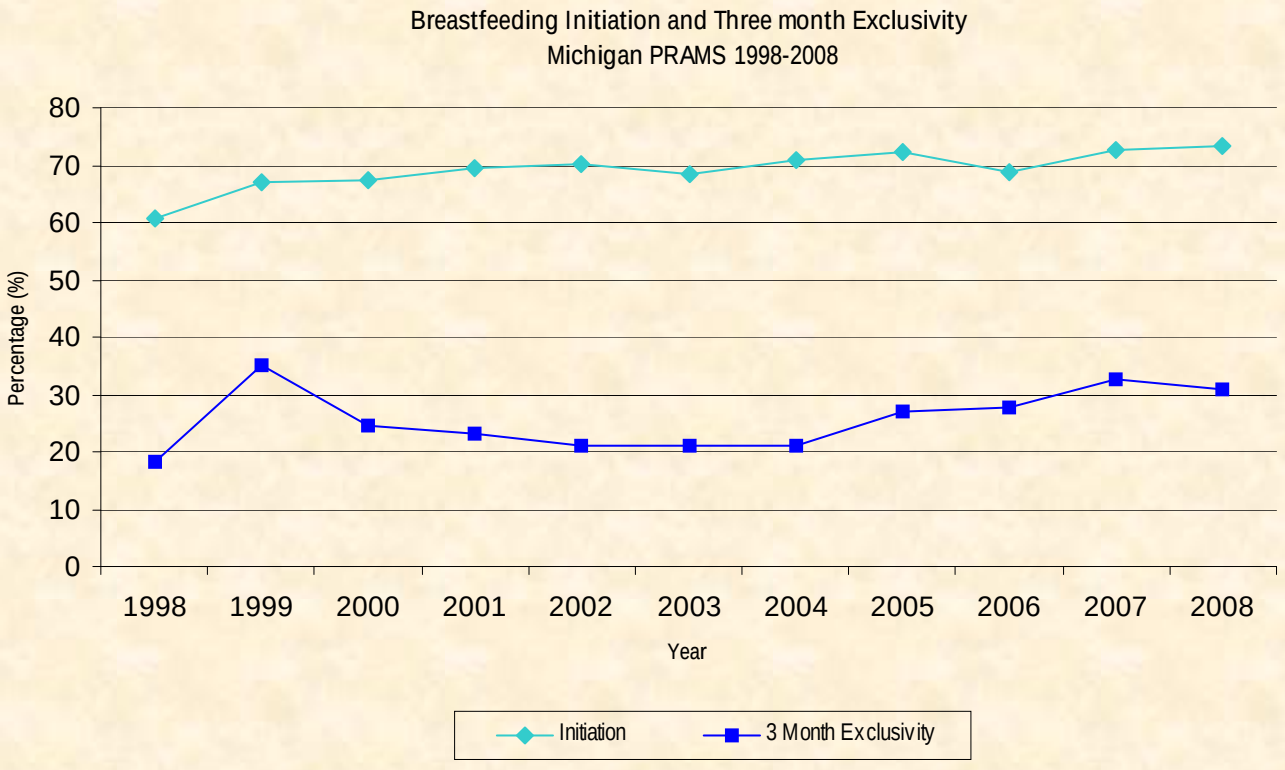
BREASTFEEDING AND OBESITY PREVENTION

What are the benefits of breastfeeding?

- Breastfed infants are less likely to develop health conditions such as ear infections, asthma, Sudden Infant Death Syndrome, GI infections, diarrhea, lower respiratory infections, diabetes and childhood leukemia.[1]
- Infants who are exclusively breastfed for six months are less likely to become obese.[1]
- Breastfeeding protects women from breast and ovarian cancers, type 2 diabetes and postpartum depression and helps women lose weight faster after delivery.[1]
- Breastfeeding contributes to a more productive workforce due to fewer missed days to care for a sick infant.[1]
- Breastfeeding is good for the environment due to less trash and plastic waste.[1]
- Breastfeeding Recommendation: The American Academy of Pediatrics recommends exclusive breastfeeding for the first six months after birth and support for breastfeeding for the first year as long as mutually desired by mother and child.[2]

What are strategies to support breastfeeding? [3]

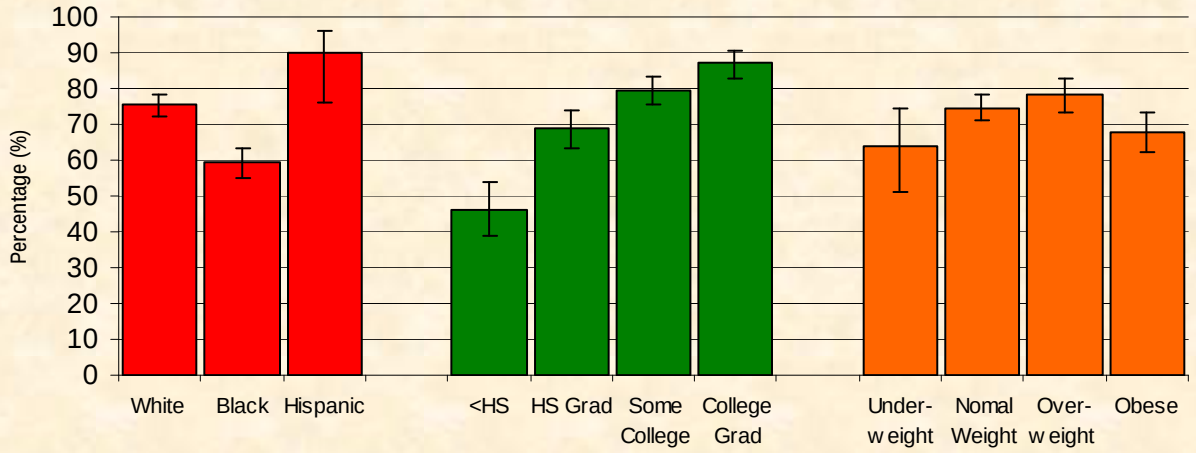
- *Maternity Care Practices*—Standardization of optimal breastfeeding support that takes place during the hospital stay as well as postpartum.
- *Support for Breastfeeding in the Work Place*—Employee benefits and services, such as supportive policies, designated space, and flexible scheduling for breastfeeding.
- *Peer Support*—Encouragement for breastfeeding mothers by breastfeeding mothers in the form of individual counseling and mother-to-mother support groups.
- *Educating Mothers*— Increasing mother's breastfeeding knowledge and skills and influencing attitudes towards breastfeeding.
- *Professional Support*—Assistance from health professionals with the goal of improving breastfeeding outcomes.
- *Media and Social Marketing*—Promotions and advertising that support or encourage breastfeeding and media imagery that strengthen the perception of breastfeeding as a normal, accepted activity.



Source: Pregnancy Risk Assessment Monitoring System (PRAMS) 1998 to 2008

Breastfeeding initiation and 3 month exclusivity rates have been increasing over the past ten years.

Breastfeeding Initation by Race, Education and Pre-Pregnancy BMI, Michigan PRAMS 2008



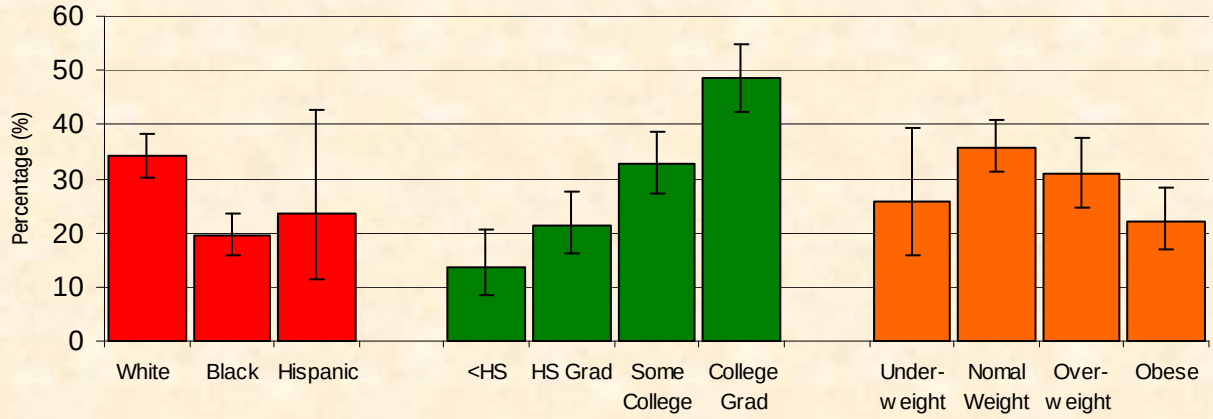
Source: Pregnancy Risk Assessment Monitoring System (PRAMS) 2008

Hispanics reported the highest prevalence of breastfeeding initiation (89.8%), in contrary Black non-Hispanics reported the lowest (59.3%).

The prevalence of breastfeeding increased with education.

Women whose pre-pregnancy BMI was within a healthy weight range reported higher prevalence of ever breastfeeding (74.7%) compared with women who were obese (67.8%).

Three month Breastfeeding Exclusivity by Race, Education and Pre-Pregnancy BMI, Michigan PRAMS 2008



Source: Pregnancy Risk Assessment Monitoring System (PRAMS) 2008

White non-Hispanics reported higher three month exclusive breastfeeding (34.2%) compared to Black non-Hispanics (19.4%)and Hispanics (23.6%).

Breastfeeding exclusivity increased with education.

Women whose pre-pregnancy BMI was within a healthy weight range reported higher exclusivity rates (35.9%) compared with women whose BMI was underweight (25.8%), overweight (30.8%) or obese (22.2%).

What is Michigan doing to promote breastfeeding? The state has many initiatives in place to support breastfeeding. Some of these programs include:

- **The Business Case for Breastfeeding:** The Michigan Breastfeeding Network is working to implement the Business Case for Breastfeeding in businesses around the state and also provide training and technical assistance to businesses and breastfeeding partners. The Business Case for Breastfeeding is a program designed to educate employers about the value of supporting breastfeeding in the work place and provides tools to help employers provide worksite lactation support.

- **Peer Support:** In collaboration with Michigan State University Extension, Michigan's Women, Infants and Children (WIC) program provides support to the "Breastfeeding Initiative". This program pairs WIC mothers to mothers with breastfeeding experience for lactation support and advice before and after childbirth. Thirty-eight counties are participating with the goal of increasing breastfeeding initiation, duration, and exclusivity rates. The WIC program is also implementing a peer counselor program specifically targeting WIC agencies serving high risk infants and minority populations. This program has been implemented in 71 counties throughout Michigan.

- **Breastfeeding Coalitions:** The staff members of Michigan's Nutrition, Physical Activity and Obesity (NPAO) Program are working closely with Michigan Breastfeeding Network representatives to increase the strength and number of breastfeeding coalitions across the state. Coalitions provide a unique opportunity for individuals to become involved with breastfeeding efforts within their community and take ownership of local breastfeeding initiatives. NPAO staff members are also working to create a state-wide breastfeeding coalition summit to foster relationships between local coalitions and give an opportunity for coalitions to connect and share common initiatives, best practices and barriers.

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