

Fact Sheet: Overweight and Obesity in Baltimore City, 1997-2007

Goal

To describe overweight and obesity prevalence, and dietary and physical activity habits in Baltimore City using the best available data.

Background

The U.S. Department of Health and Human Services' Healthy People 2010 framework has set a goal of reducing national overweight and obesity prevalence to 5% for children and adolescents 6-19 years old, and 15% for adults 20 years and older.

According to the Centers for Disease Control and Prevention, more than one third of adults in the U.S. are obese. This compares to roughly one fourth of the adult population ten years ago. During the same time period, obesity prevalence among children and adolescents has increased by about 66%.

For adults, obesity is measured with BMI, or Body Mass Index, which is calculated based on an adult's height and weight. Though BMI does not directly measure body fat, it is closely correlated, and is therefore considered a reliable representation of body fat. BMI is calculated using the following formula: $[(\text{weight}) / (\text{height})^2] \times 703$ (see table at right for BMI ranges and corresponding weight statuses).

BMI is calculated in the same way for children and youth age two to 18 years; this measurement is subsequently plotted on a growth chart according to each child's age and sex to achieve a BMI-for-age percentile. Children and youth falling within the fifth and 85th percentiles are considered normal weight.

Being overweight or obese can put an individual at risk for hypertension, stroke, type 2 diabetes, osteoarthritis, and respiratory problems, among other complications.

Key Points

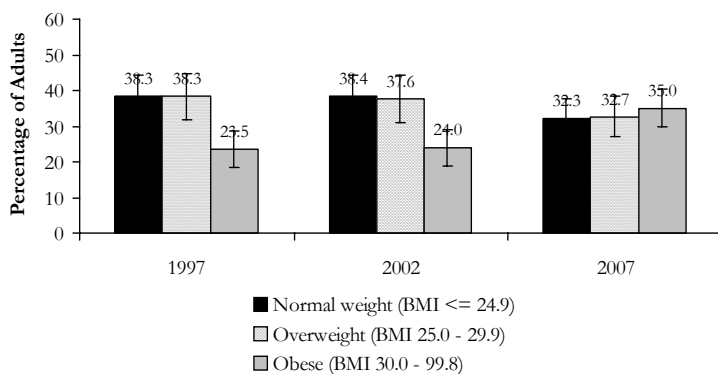
- In 2007, more than a third of adults surveyed in Baltimore City were obese based on self-reported height and weight
- In 2007, one fifth of high school students surveyed in Baltimore City were obese based on self-reported height and weight
- As of December 2006, 12% of children age 2-5 receiving WIC services were overweight
- Among high school students and adults surveyed, overweight and obesity prevalence in Baltimore City is higher than both state and national prevalence
- Among children age 2-5 years receiving WIC services, obesity prevalence in Baltimore City is lower than Maryland prevalence
- Adult survey respondents in Baltimore City have become more physically active since 2001
- High school students surveyed in Baltimore City consume more fruits and vegetables than students surveyed in Maryland and in the U.S.

Weight Status	BMI (Adults >=18 Years)	BMI-for-age Percentiles (Children & Youth 2-18 Years)
Underweight	Below 18.5	Below 5th
Healthy Weight	18.5 to 24.9	5th to 85th
Overweight	25.0 to 29.9	85th to 95th
Obese	30.0 or higher	95th or higher

Source: Centers for Disease Control & Prevention

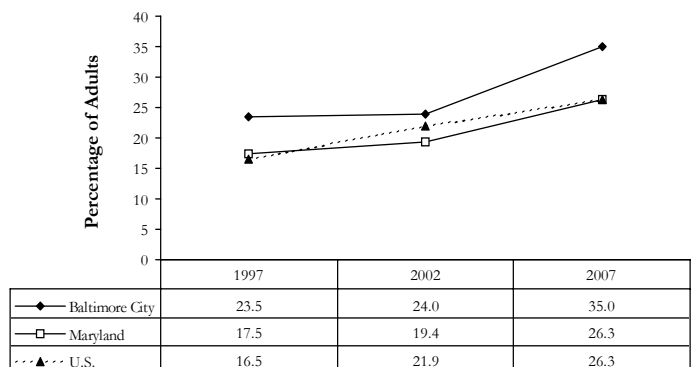
Overweight and Obesity Prevalence Among Adults, 1997-2007

Weight Classification by Body Mass Index for Baltimore City, 1997-2007



Source: Maryland BRFSS

Percentage of Adults Classified as Obese According to Body Mass Index, 1997-2007



Sources: Maryland and CDC BRFSS

- Between 1997 and 2007 in Baltimore City, obesity prevalence among adults surveyed increased by nearly 50%
- On average, obesity prevalence among adult survey respondents is about 30% higher in Baltimore City than in Maryland and nationally

- Nearly twice as many black adults as white adults surveyed reported being obese
- The highest percentage of adults surveyed who were obese were between the age of 50 and 64

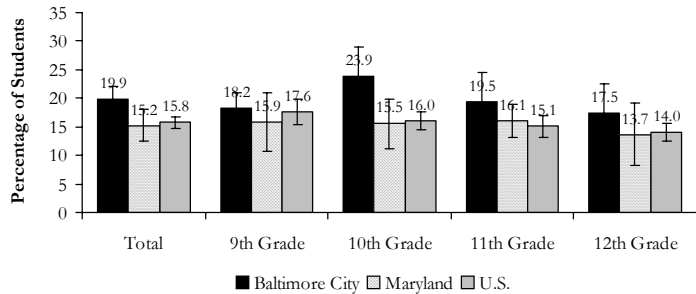
Table 1. Weight classifications among adults in Baltimore City by age, sex, and race, 2007

		Normal Weight	Overweight	Obese
Age	18-34	48.8	27.9	23.3
	35-49	31.5	29.2	39.3
	50-64	21.2	39.0	39.8
	65+	26.8	35.8	37.4
Sex	Male	33.8	39.7	26.5
	Female	31.2	27.7	41.1
Race	White (non-Hispanic)	41.7	35.0	23.3
	Black (non-Hispanic)	22.7	33.8	43.5

Source: 2007 Maryland BRFS

Overweight Prevalence Among High School Students, 2005-2007

Percentage of High School Students Classified as Overweight According to Body Mass Index, 2007



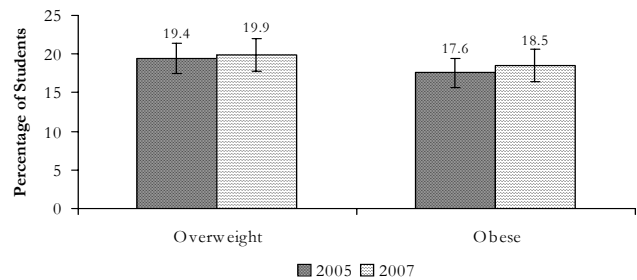
Source: YRBSS

Table 2. Weight classifications among high school students in Baltimore City by sex and race, 2005

Sex	Male	15.4
	Female	22.8
Race	White	18.8
	Black	19.5

Source: 2005 YRBSS

Percentage of High School Students in Baltimore City Classified as Overweight or Obese According to Body Mass Index, 2005 and 2007

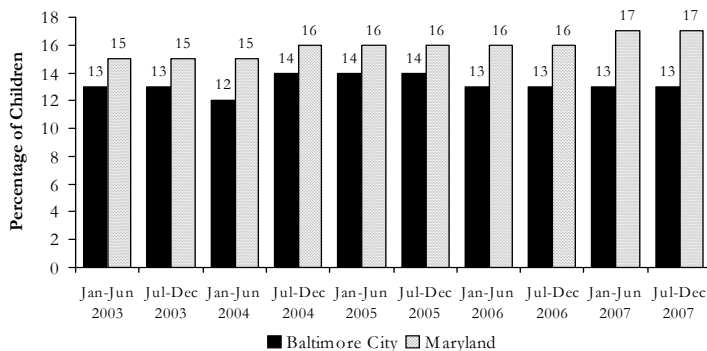


Source: YRBSS

- On average, overweight prevalence among student survey respondents is 31% higher in Baltimore City than in Maryland, and 26% higher in Baltimore than nationally
- Between 2005 and 2007, overweight prevalence among Baltimore City high school students surveyed increased by 3%, while obesity prevalence increased by 5%
- In 2005, female respondents were 48% more likely to be overweight than their male counterparts

Obesity Prevalence Among Children Receiving WIC Services, 2003-2007

Distribution of Obesity Prevalence, Age 2-5 Years, 2003-2007



Source: Maryland Women, Infants, & Children Program

- On average, obesity prevalence among WIC recipients age 2-5 is approximately 20% lower in Baltimore City than in Maryland

Intake: Fruits and Vegetables

Table 3. Adult fruit and vegetable intake, 1997 and 2007

	Baltimore City		Maryland	
	1997	2007	1997	2007
Three or more times per day	71.7	57.4	69.8	63.5
Less than three times per day	28.3	42.6	30.2	36.5

Sources: 1997 & 2007 Maryland BRFSS

- Between 1997 and 2007, fruit and vegetable consumption decreased by 25% among Baltimore City adult survey respondents

- In 2007, the proportion of high school students surveyed who consumed five or more fruits and vegetables per day was 18% higher in Baltimore City than in Maryland
- Between 2005 and 2007, the proportion of Baltimore City students surveyed who consumed fruits and vegetables increased by 4%, while milk and juice consumption remained relatively constant

Table 4. Consumption of healthful foods among high school students, 2005 and 2007

	Baltimore City		Maryland		U.S.	
	2005	2007	2005	2007	2005	2007
Five or more servings of fruits/vegetables per day	21.6	22.5	19.9	19.0	20.1	21.4
Three or more servings of milk per day	8.6	8.5	13.1	9.7	16.2	14.1
100% fruit juice at least once a week	82.7	81.1	82.8	80.8	81.4	80.3

Sources: 2005 & 2007 YRBSS

Physical Activity Habits

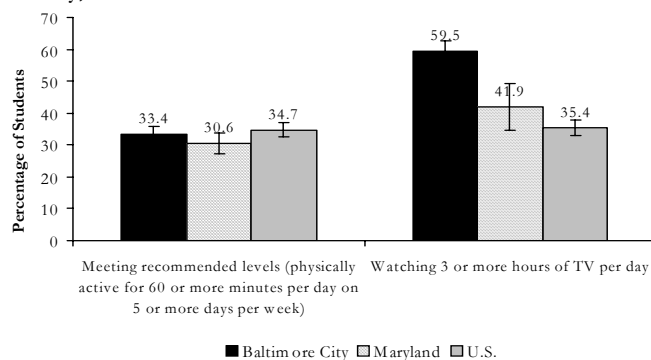
- The percentage of adult survey respondents in Baltimore City who met recommended levels of physical activity increased by 11% between 2001 and 2007
- In 2007, adult respondents in Baltimore City were 5% less likely to meet recommended levels of physical activity than their counterparts in Maryland

Table 5. Moderate physical activity for 30 or more minutes per day, 5 or more days per week among adults, 2001 and 2007

	Baltimore City		Maryland	
	2001	2007	2001	2007
Sufficient activity (30 minutes or more)	30.0	33.2	31.9	35.1
Insufficient activity (less than 30 minutes)	46.5	45.7	49.8	49.4
No activity	23.6	21.1	18.3	15.5

Sources: 2001 & 2007 Maryland BRFSS

Percentage of High School Students Engaging in Physical Activity, 2007



Source: YRBSS

- In 2007, the proportion of Baltimore City students surveyed who watched 3 or more hours of TV per day was approximately 40% higher than students surveyed in Maryland and nearly 70% higher than those surveyed nationally
- In the same year, Baltimore City students surveyed were 9% more likely to meet recommended levels of physical activity than students surveyed in Maryland and 4% less likely than students surveyed nationally

Data Sources

BRFSS: The Behavioral Risk Factor Surveillance System is a random digit-dialing telephone survey through which data are collected on health status and healthcare access, chronic disease, risk factors, dietary and physical activity habits, demographics, and more (Sample sizes for Baltimore City: 410 in 1997; 337 in 2001; 327 in 2002; 320 in 2003; 285 in 2004; 657 in 2005; 529 in 2006; and 502 in 2007).
<http://www.marylandbrfss.org/pdf/brfss2006report.pdf>

YRBSS: The Youth Risk Behavior Surveillance System is a survey administered in paper format in high schools by the CDC every two years. Baltimore City-specific data were available starting 2005. Data are collected on tobacco, alcohol, and drug use, sexual behaviors, dietary and physical activity habits, and demographics (Sample sizes for Baltimore City: 2613 in 2005 and 1927 in 2007).
http://www.cdc.gov/HealthyYouth/yrbs/pdf/yrbs07_mmwr.pdf

WIC: The Women, Infants, & Children program provides supplemental food and nutrition education for prenatal and post-partum women, infants, and children under age five. The program collects data on infants and children every six months as they come in for WIC certification. Data are collected on height and weight, medical and nutritional history, diet and past pregnancies, and demographics.

Related Reports and Links for Additional Information

General information	Baltimore City-specific links	State and national-level reports
<p><u>Centers for Disease Control and Prevention</u>, http://www.cdc.gov/nccdphp/dnpa/obesity/index.htm</p> <p><u>Children & Youth</u>, http://www.cdc.gov/nccdphp/dnpa/bmi/childrens_BMI/about_childrens_BMI.htm</p>	<p>Glass TA, Rasmussen MD, Schwartz BS. <u>Neighborhoods and Obesity in Older Adults: The Baltimore Memory Study</u>. Am J Prev Med. 2006; 31(6): 455-463, http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1851911</p>	<p><u>DHMH state-level report</u>, http://www.kentonthemove.org/pdf/burden.pdf</p>
<p><u>Body Mass Index calculator</u>, http://www.cdc.gov/nccdphp/dnpa/bmi/adult_BMI/english_bmi_calculator/</p>	<p>Jehn ML, Gittelsohn J, Treuth MS. <u>Prevalence of Overweight among Baltimore City Schoolchildren and its Associations with Nutrition and Physical Activity</u>. Obesity. 2006; 14(6): 989-993, http://www.ncbi.nlm.nih.gov/pubmed/16861603</p>	<p><u>Maryland Health Care Commission Spotlight on Maryland, Obesity Prevalence</u>, http://mhcc.maryland.gov/spotlight/obesity.pdf</p>
<p><u>The Obesity Society</u>, http://www.obesity.org/</p>	<p><u>Local efforts and resources for families</u>, http://www.healthybaltimorechildren.org/info-url4834/info-url.htm?cat_id=1672</p>	<p>Meich RA, Kumanyika SK, Stettler N. <u>Trends in the Association of Poverty with Overweight Among US Adolescents, 1971-2004</u>. JAMA. 2006; 295: 2385-2393, http://jama.ama-assn.org/cgi/content/full/295/20/2385</p>



This fact sheet was created by the Baltimore City Health Department's Office of Epidemiology and Planning, which collects, analyzes, and disseminates data needed to monitor and improve the health of Baltimore residents. Office staff member Aparna Balakrishnan authored the report with assistance from Caroline Fichtenberg, Chief Epidemiologist, and Alisa Ames, Epidemiologist. Thanks also to Dr. Anne Bailowitz, Suzan Mankarious, Deborah Morgan, and Margret Schintzer.

A link to this report can be found at www.baltimorehealth.org/dataresearch.html. Questions or comments can be emailed to health_research@baltimorecity.gov.