

Burden Of Obesity and Physical Inactivity

A Report on Obesity and Related Morbidity and
Mortality and Physical Inactivity in
La Crosse County

2009

Prepared for the Pioneering Healthy Communities – Healthy Living, Eat Well, Move More
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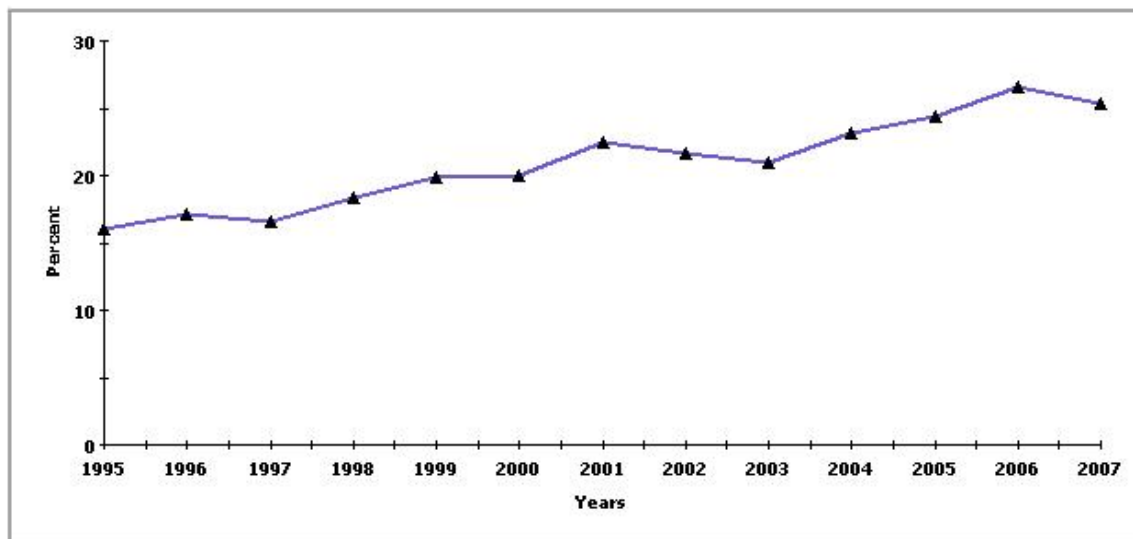
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Introduction:

Obesity is one of the most serious health problems in the United States today. Obesity is defined as a body mass index (BMI, a ratio of weight to height), of 30 or more. Overweight is defined as a BMI of 25 to 29.9. Adult obesity rates have doubled since 1980, from 15% to 30%. Two-thirds of adults are now either overweight or obese. Childhood obesity rates have nearly tripled since 1980, from 6.5% to 16.3%. Additionally, the obesity epidemic is taking a toll on the U.S. economy by adding billions of additional dollars in health care costs and hurting our country's ability to compete in the global economy. It is clear that obesity is impacting the entire country.

According to the Behavior Risk Factor Survey (BRFS), the prevalence of obesity in Wisconsin for the year 2005 was 24.4%, which has since risen to 26.2% in 2006 and 26.6% in 2007.

Wisconsin Obesity Rates: 1995-2007 (BMI \geq 30)



Source: WISH Data Query System (Wisconsin Interactive Statistics on Health), Bureau of Health Information and Policy Division of Public Health Wisconsin Department of Health Services **WISH is available at <http://dhs.wisconsin.gov/wish>**

Burden of Obesity:

Obesity has physical, psychological, and social consequences in adults and children. Children and adolescents are developing obesity-related diseases, such as type 2 diabetes, that were once seen only in adults. Obese children are more likely to have risk factors for cardiovascular disease, including high cholesterol levels, high blood pressure, and abnormal glucose tolerance. One study of 5- to 17-year-olds found that 70% of obese children had at least one risk factor for cardiovascular disease and 39% of obese children had at least two risk factors.

The Health Consequences of Obesity

- Coronary heart disease
- Type 2 diabetes
- Cancer (endometrial, breast, and colon)
- Hypertension (high blood pressure)
- Dyslipidemia (high total cholesterol or high levels of triglycerides)
- Stroke
- Liver and gallbladder disease
- Sleep apnea and respiratory problems
- Osteoarthritis (degeneration of cartilage and underlying bone within a joint)
- Gynecological problems (abnormal menses, infertility)

The more life threatening problems of obesity fall into four main areas:

1. Cardiovascular disease (heart problems)
2. Conditions associated with insulin resistance such as type 2 diabetes
3. Certain type of cancers, especially hormone related and large-bowel cancers
4. Gall bladder disease

La Crosse County Health Statistics 2005-2007

	2005	2006	2007
Deaths Due to Cancer (per 100,000)			
• Breast Cancer	42.69	15.60	11.01
• Colorectal Cancer	20.19	21.11	21.11
Deaths Due to Heart Disease (per 100,000)			
• Diabetes	17.44	12.85	20.19
• Heart disease	165.2	190.9	168.87
• Stroke	48.64	48.64	52.31
Prevalence			
• Obese (BMI \geq 30)	28.9%	30.2%	21.7%
• Overweight/Obese (BMI \geq 25)	74.2%	63.4%	58.2%

Source: WISH Data Query System (Wisconsin Interactive Statistics on Health), Bureau of Health Information and Policy Division of Public Health Wisconsin Department of Health Services.

State of Wisconsin Health Statistics 2005-2007

	2005	2006	2007
Deaths Due to Cancer (per 100,000)			
• Breast Cancer	27.36	13.67	13.17
• Colorectal Cancer	17.97	17.70	17.21
Deaths Due to Heart Disease			
• Diabetes	22.99	21.84	20.52
• Heart disease	212.73	206.42	201.71
• Stroke	53.32	50.96	47.54
Prevalence			
• Obese (BMI \geq 30)	24.4%	26.2%	25.3%
• Overweight/Obese (BMI \geq 25)	61.5%	63%	62.2%

Source: WISH Data Query System (Wisconsin Interactive Statistics on Health), Bureau of Health Information and Policy Division of Public Health Wisconsin Department of Health Services.

The American Diabetics Association describes type 2 diabetes as a new epidemic among American children. Traditionally a disease of mature adults, type 2 diabetes now accounts for 8% to 45% of new pediatric diabetes cases, depending on geographical location (American Diabetes Association, 2005).

According to Francine Ratner Kaufman, president of the American Diabetes Association, “there is no doubt that the emergence of this epidemic in children and young adults is a major public health problem.” The association calls on schools and communities to take an active role in the prevention of type 2 diabetes in children by encouraging physical activity and improved eating habits.

Prevalence of Overweight/Obesity and Physical Inactivity in 12 Counties: 2004-2006 combined

	Buffalo	Clark	Crawford	Grant	Jackson	Juneau
No exercise	14.8%	24.1%	25.5%	25.2%	20.3%	20.2%
Obese	21.1%	28.6%	28.3%	24.4%	30.5%	21.1%
Obese/Overweight	68.5%	72.3%	69.6%	64.3%	65.2%	62.5%

	La Crosse	Monroe	Richland	Sauk	Trempealeau	Vernon
No exercise	17.2%	21.7%	23.0%	22.3%	30.6%	17.7%
Obese	32.3%	22.1%	29.9%	27.5%	23.0%	27.6%
Obese/Overweight	61.5%	68.3%	75.3%	64.3%	67.7%	63.2%

Source: WISH Data Query System (Wisconsin Interactive Statistics on Health), Bureau of Health Information and Policy Division of Public Health Wisconsin Department of Health Services

Cost of Treatment:

Overweight and obesity and their associated health problems have a significant economic impact on the U.S. health care system (USDHHS, 2001). Medical costs associated with overweight and obesity may involve direct and indirect costs (Wolf and Colditz, 1998; Wolf, 1998).

Direct medical costs may include:

- Preventive
- Diagnostic
- Treatment services related to obesity

Indirect costs relate to:

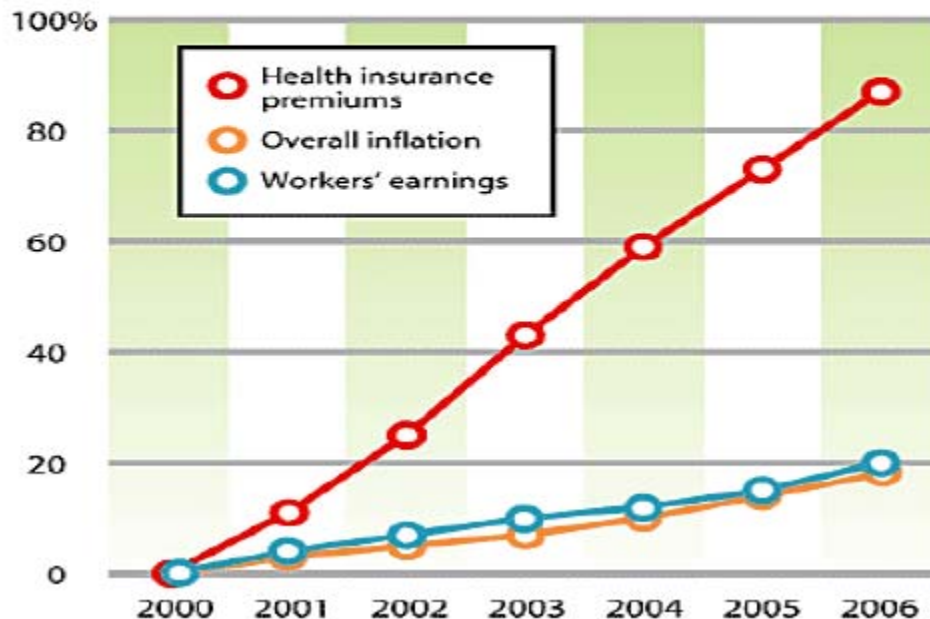
- Morbidity
- Mortality

Morbidity costs are defined as the value of income lost from decreased productivity, restricted activity, absenteeism, and bed days. Mortality costs are the value of future income lost by premature death.

- It was only 15 years ago that the National Institutes of Health (NIH) first declared obesity a disease. At that time, fewer than 10 percent of Americans were considered obese. By 2006, approximately 32 percent of Americans were suffering from the disease, with an additional 32 percent considered overweight.
- According to the Wisconsin Public Health & Health Policy Institute (2003) the national cost of treating obesity was \$77 billion per year and Wisconsin's share \$1.4 billion per year.
- A 2008 study reported that obese employees cost private employers approximately \$45 billion a year as a result of medical expenses and excessive absenteeism (Rosen & Barrington, 2008)

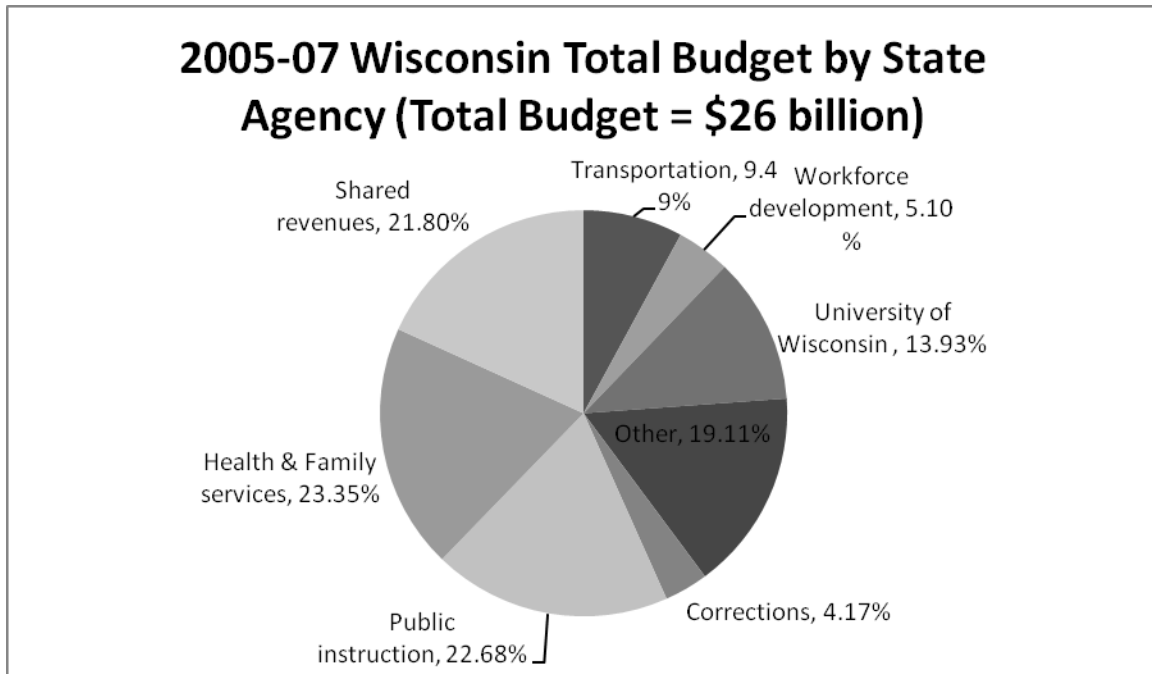
The rising cost of healthcare

The mounting cost of health insurance premiums for a family of four has outpaced growth in workers' wages and inflation from 2000 to 2006.



Source: Wisconsin Division of Public Health, 2007

- The estimated annual cost of obesity in the U.S. for 2007 has been placed at a staggering \$125 billion. Half of this amount is for direct medical costs, the other half accounts for the value of wages lost by those unable to work because of illness or disability.
- According to a study of national costs attributed to both overweight and obesity, medical expenses accounted for 9.1 percent of total U.S. medical expenditures in 1998 and may have reached as high as \$78.5 billion (\$92.6 billion in 2002 dollars) (Finkelstein, Fiebelkorn, and Wang, 2003). Approximately half of these costs were paid by Medicaid and Medicare.



Source: Wisconsin division of Public Health, 2007.

Population at Highest Risk for Obesity/Physical Inactivity

To determine what populations are at highest risk for obesity or physical inactivity, data was obtained from the BRFSS for La Crosse County, combining 3 years of data (2005-2007). There was an insufficient number of people surveyed each year to be able to look at this information by year, or for other counties within the region. Physical inactivity rates and overweight and obesity rates were compared statistically by demographic characteristics in the following two tables.

La Crosse County Physical Inactivity Rates by Demographic Characteristics, 2005-2007

	Exercise		No exercise		<i>P value</i> ¹
	n ²	%	n	%	
Gender					0.7655
Males	95	85.3	22	14.7	
Females	114	83.8	29	16.2	
Age					0.0003
18-44	78	90.8	13	9.2	
45-64	95	88.3	16	11.7	
65+	33	55.4	21	44.6	
Race					0.0859
Non-Hispanic White	197	85.7	44	14.3	
Non-Hispanic Black	-		1		
Other	11	80.3	5	19.7	
Education					0.0001
Less than High school	10	69.9	6	30.1	
High school graduate/GED	43	77.2	21	22.8	
Some college/Tech school	65	79.1	19	20.9	
College graduate/Post-Graduate	90	96.1	5	3.9	
Employment					0.0002
Employed for wages	132	92.1	16	7.9	
Self-Employed	12	61.0	9	39.0	
Out of work/Unable to work	16	88.9	4	11.1	
Homemaker	16	88.7	3	11.3	
Student	6	83.2	3	16.8	
Retired	27	56.4	16	43.6	
Health Insurance					0.6394
Yes	189	83.9	45	16.1	
No	20	88.5	6	11.5	
Marital Status					0.0336
Married	140	84.6	30	15.4	
Divorced	20	77.6	8	22.4	
Widowed	12	57.0	8	43.0	
Never Married	37	93.3	5	6.7	
Number of children					0.0948
None	141	83.0	38	17.0	
1	20	84.8	7	15.2	
2	30	97.2	1	2.8	
3+	17	75.7	5	24.3	
Income					0.0006
\$0-24,999	36	77.3	18	22.7	
\$25,000-49,999	61	86.6	14	13.4	
\$50,000+	94	92.1	9	7.9	

¹ P-value is the result of a statistical test examining differences between two or more groups. A p-value < 0.05 is statistically significant.

² n= number of people surveyed.

La Crosse County Overweight/Obesity Rates by Demographic Characteristics, 2005-2007

	Not Overweight		Overweight		Obese		<i>P value</i>
	N	%	n	%	n	%	
Gender							0.0142
Males	29	25.9	55	43.5	33	30.5	
Females	54	45.2	42	32.1	37	22.7	
Age							0.0171
18-44	33	41.4	42	40.9	14	17.7	
45-64	32	27.2	40	37.6	37	35.3	
65+	16	27.5	14	31.1	19	41.3	
Race							0.6415
Non-Hispanic White	78	34.1	90	39.3	63	26.6	
Non-Hispanic Black	-		-		1		
Other	4	46.6	7	30.8	5	22.6	
Education							0.2900
Less than High school	4	38.0	5	31.2	6	30.8	
High school graduate/GED	21	40.9	18	23.5	23	35.6	
Some college/Tech school	27	34.6	31	37.1	22	28.3	
College graduate/Post-graduate	31	31.2	42	49.3	19	19.5	
Employment							0.3276
Employed for wages	49	36	59	42.2	34	21.8	
Self-Employed	5	18.9	7	35.5	9	45.7	
Out of work/Unable to work	6	44.3	11	41.9	3	13.7	
Homemaker	7	45.9	6	30.0	6	24.1	
Student	4	43.5	1	7.2	2	49.3	
Retired	12	23.3	13	35.2	16	41.5	
Health Insurance							0.7726
Yes	76	37.0	86	36.7	62	26.3	
No	7	23.0	11	46.9	8	30.2	
Marital Status							0.0258
Married	51	30.7	66	40.1	48	29.3	
Divorced	7	20.9	14	44.6	4	34.6	
Widowed	5	25.7	6	36.9	7	37.5	
Never Married	26	57.2	11	29.2	11	13.5	
Number of children							0.4442
None	57	35.1	62	36.4	51	28.5	
1	7	34.8	10	34.9	9	30.3	
2	10	29.6	17	55.1	4	15.3	
3+	8	39.5	8	30.6	6	29.9	
Income							0.9441
\$0-24,999	17	40.0	20	30.3	16	29.7	
\$25,000-49,999	22	32.3	26	37.1	24	30.6	
\$50,000+	33	33.6	41	41.3	26	25.1	

Findings:

Overall, males surveyed in La Crosse county were more likely to be overweight or obese; 74% of males were overweight or obese compared to 55% of females ($p=0.0142$). Both males and females reported similar rates of physical activity.

Adults 18-44 years-old were less likely to be overweight and obese than older adults; 59% of 18-44 year-old adults were overweight or obese compared to 73% of adults 45 years and older ($p=0.0171$). Adults over 64 years old were most likely to be sedentary (44%), compared to those younger adults (9% for 18-44 year-old and 12% of 45-64 year-old adults, $p=0.0003$).

While there was no statistical difference in the rate of obesity by highest education level obtained, those with a college or advanced degree were at a slightly higher risk of being overweight. However, this group was more likely to report being physically active than those with less education ($p=0.0001$). Almost one-third of those adults with no high school diploma were inactive, but they were not at an increased risk of being overweight or obese.

Self-employed or retired adults reported the highest rates of physical inactivity ($p=0.0002$), however there was no difference in the rate of overweight or obesity by employment status. Overall, 39% of self-employed adults reported being sedentary and 81% reported being overweight or obese. Forty-four percent of retired individuals were sedentary and 77% were overweight or obese.

Divorced individuals reported the highest rate of overweight/obesity (79%) and single (never married) adults had the lowest rates (43%; $p=0.0258$). Single adults were most likely to be physically active, whereas widowed adults were the most sedentary ($p=0.0336$).

While there was no difference in overweight/obesity by income, those with the lowest income, had the highest rate of physical inactivity ($p=0.0006$). Nearly 25 percent of the lowest income-earning adults were sedentary; while only 8% of those in the highest income category were sedentary.

Summary:

Highest risk individuals, and those most in need of intervention include:

- *Older adults (especially those 65+)
- *Self-employed/retired individuals
- *Lower educated adults
- *Divorced/widowed adults
- *Low income adults

Other Issues Influencing Nutrition and Physical Activity Behaviors:

In addition to the population characteristics in the prior section, the following is a list of issues that contribute to obesity and physical inactivity, and are also possible areas for intervention.

Food Choices and Changes:

- Higher caloric intake: Adults consumed approximately 300 more calories daily in 2002 than they did in 1985.
- Higher caloric density of foods.
- Limited access to supermarkets and nutritious, fresh foods in many urban and rural neighborhoods.
- “Portion distortion” or the rise of bigger portions.
- “Value sizing” or placing a higher value on the amount of food versus the quality of food.
- Less in-home cooking and more frequent reliance on take-out food and eating in restaurants.
- The proliferation of microwaves and faster, easier ways to prepare foods.

Schools:

- A variety of food and beverage options are available throughout the school day including soda, fruit drinks that are not 100 percent juice, high energy dense foods, and fast food. These foods and beverages are available at venues such as a la carte lines, school stores, snack machines, fundraisers, and classroom parties.
- Reduction in the amount of physical education, recess, and recreation time.
- Few safe routes to school.
- Limited health education classes.
- Lack of opportunities to participate in physical activity that are life long in nature.

Communities Not Designed for Physical Activity:

- Communities designed to foster driving rather than walking or biking.
- Lack of public transportation options.
- Poor upkeep of sidewalk infrastructure.
- Walking areas often unsafe or inconvenient.
- Limited parks and recreation space, including indoor facilities.
- Poor upkeep and security in local parks.
- Weather conditions limit outdoor physical activity options.
- Lack of affordable indoor physical activity options.

Marketing and Advertising:

- Greater advertising and marketing of less nutritious foods.
- Marketing of “fad” diets.

Workplaces Not Conducive to Health:

- Many desk jobs limit or discourage activity, part of the sedentary lifestyle.
- Worksites typically not designed to foster movement.
- Limited opportunities for physical activity or recreation during the work day.
- Unhealthy options in cafeterias or work lunch sites.
- Lack of bike racks and/or shower facilities discourage active transportation.

Economic Constraints:

- Health insurance coverage for obesity-prevention services is often limited or not available.
- People without health insurance often do not receive either appropriate preventive services or follow-up care.
- “Value sizing” of less nutritious foods and the higher costs of many nutritious foods.
- Expense of and taxes on gym memberships, exercise classes, equipment, facility use, and sports league fees.
- Lower-income neighborhoods have fewer and smaller grocery stores and less access to affordable fruits and vegetables.

Genetics, Physiology, and Life Stages:

- Metabolism.
- Childbearing.
- Increased risk factors for obesity and related diseases in children with obese parents, particularly mothers.
- Aging factors, including menstruation, pre-menopause, and menopause for women.
- Weight-gain as a side effect from some commonly used medications such as insulin, antiretrovirals, antidepressants, oral contraceptives, and injectable contraceptives.

Psychology:

- Body image concerns.
- Consumers’ frustration with conflicting nutrition information and advice.
- Eating to combat stress.
- Turning to eating as a replacement for smoking or other unhealthy behaviors.

Family and Home Influences:

- Influence of other family members’ habits on eating and exercise patterns.
- “Electronic culture” options for entertainment and free time, including TV, video games, and the Internet.
- More people working outside the home or far from home.

Limited Time

- Long work hours mean more meals—many of them high in calories - are eaten outside of the home.
- Car time and commuting cut into free time that could be used for physical activity.

Source: Trust for America’s Health, Issue Report, 2008.