

# Indiana's Obesity Epidemic Weighs Heavily on Policymakers

The scales in America have gone up—way up, and obesity is a national crisis. Obesity costs the nation an estimated 75 billion dollars a year, half of which is financed by Medicare and Medicaid (Finkelstein, Fiebelkorn, & Wang, 2004; Flegal, 2005). The result is increased healthcare costs for individuals in both private and tax-funded insurance plans. However, the cost of obesity is far more than financial. A number of health problems are associated with obesity, resulting in physical suffering, lost work days, and subsequent economic stress (National Task Force on the Prevention and Treatment of Obesity, 2000). Additionally, obesity may carry psychosocial implications—particularly among children—such as poor self-esteem, decreased motivation, depression, anxiety, and poor prospects for a healthy, successful life. For the 127 million overweight adults in America, weight is a daily struggle.

Unfortunately, Indiana sits near the heavy end of the scales, and must contend with greater numbers of health problems and increased healthcare costs associated with obesity. In addition, nationwide rates of obesity are higher among certain minority groups, with some minority groups in Indiana showing particularly large increases in rates of obesity (Bolen, Rhodes, Powell-Griner, Bland, & Holtzman, 1997; Centers for Disease Control and Prevention, 2005).

In this issue brief, we will review the prevalence and consequences of obesity, discuss factors that contribute to obesity for

the entire population and for specific groups, review a number of recent public health initiatives to combat this problem, and provide some thoughts for policymakers to consider.

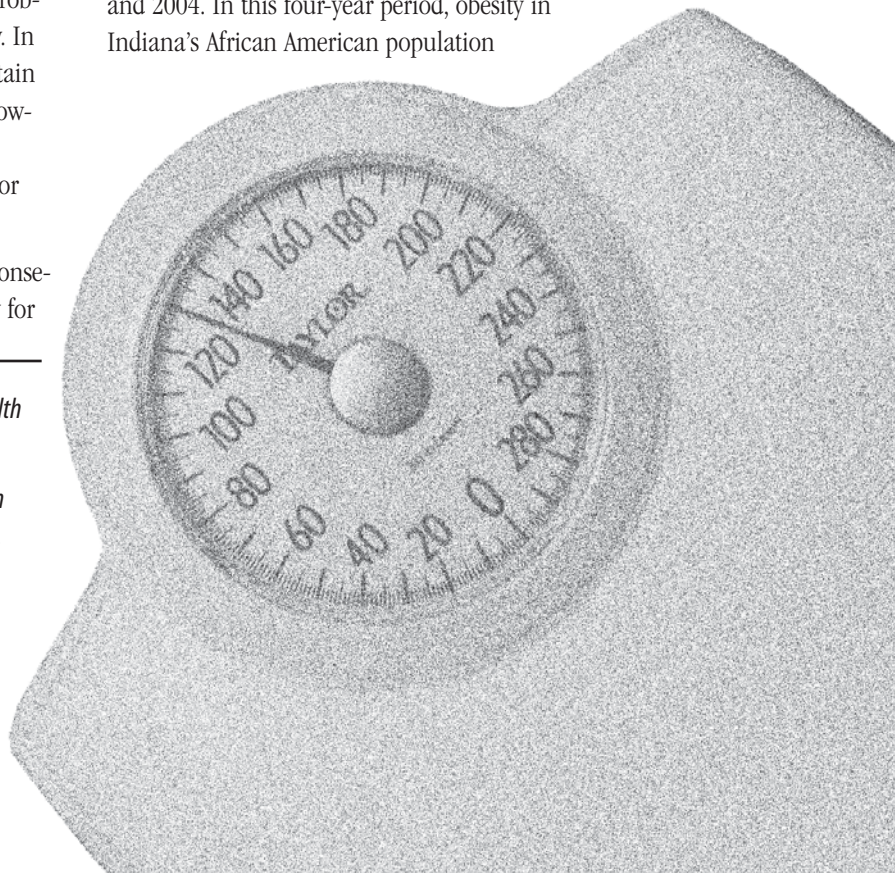
## Prevalence

From 1960 through 1980, the proportion of obese Americans stayed relatively steady, but obesity has more than doubled in the past 25 years (Centers for Disease Control and Prevention, 2001; see Figure 1, page 2). In 2000, more than 30 percent of the people in the United States were obese.

While the number of obese Americans has increased in all age groups, education levels, and races, this increase has been greater among some minority groups, a trend that concerns many Indiana public health officials. Figure 2, page 2, shows the *percentage change* in the number of obese individuals per ethnic group in the United States and Indiana between 2000 and 2004. In this four-year period, obesity in Indiana's African American population

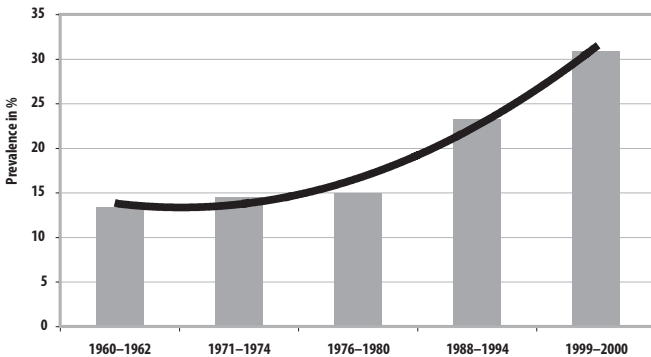
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*This issue brief was developed by Eric Wright, Ph. D., director of health policy, and other analysts at the Center for Urban Policy and the Environment. Dr. Wright and a team of specialists who study health policy issues are developing a Center for Health Policy that will soon operate as a highly focused research unit.*





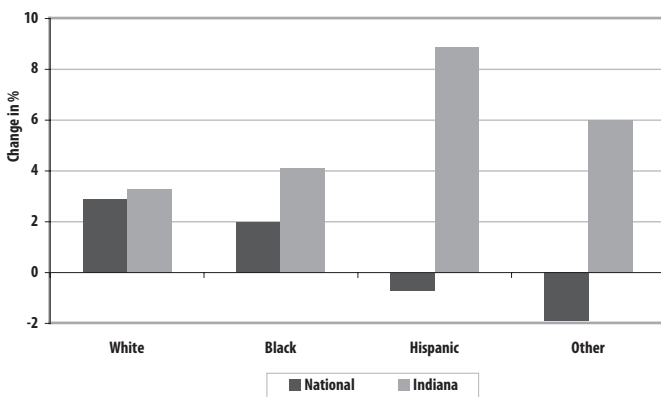
**Figure 1: Prevalence of Obesity in the United States: 1960–2000**



Source: National Health and Nutrition Examination Survey  
 Note: The statistics shown are for people age 18 to 74.

increased at more than double the national rate; a substantial increase can also be observed in Indiana’s Hispanic population. In light of these statistics, we must evaluate the many factors contributing to this disparity in order to develop policies and programs that address obesity prevention and care among minority populations.

**Figure 2: Percentage Change in the Percentage of Obese Individuals per Ethnic Group, United States and Indiana, 2000–2004.**



Source: Centers for Disease Control and Prevention, Behavioral risk Factor Surveillance System Statistics  
 Note: The statistics shown are for people age 18 to 74

**The Health and Economic Impacts of Obesity**

Even though obesity was considered the second leading cause of preventable death in the United States as recently as 2004 (American Obesity Association, 2005; Mokdad, Marks, Stroup, & Gerberding, 2004), Medicaid and Medicare do not classify obesity itself as a disease. Rather, these organizations recognize that obesity is related to a number of diseases, and they estimate the cost of obesity by tallying the cost of chronic health conditions that are closely correlated to it, including:

- Type II Diabetes Mellitus;
- coronary heart disease;
- ischemic stroke;
- sleep apnea and pulmonary dysfunction;
- gallbladder disease;
- liver disease;
- musculo-skeletal diseases;
- reproductive dysfunction in women;
- cancers: colon, endometrial, and postmenopausal breast cancer;
- dementia and Alzheimer’s Disease.

Three of the most serious and prevalent health problems driven by obesity are type II diabetes mellitus, coronary heart disease (CDH), and sleep apnea/pulmonary dysfunction.

Medical experts estimate that 8 percent of the U.S. population have type II diabetes, 67 percent of whom are overweight and 46 percent of whom are obese as defined by Body Mass Index or BMI (Flegal, 2005; see the inset on page 3 for an explanation of BMI standards). Diabetes-care costs include lifetime pharmaceutical supplies and the increased use of health services for infections, as well as oral, optical, renal, and neural care (Flegal, 2005; National Task Force on the Prevention and Treatment of Obesity, 2000).

Obesity is also a risk factor for coronary heart disease and heart attacks. Weight gain strains the heart and diminishes cardiac stroke volume (the amount of blood pumped by the heart per contraction), and this leads to increased occurrences of hypertension, dyslipidemia, impaired glucose intolerance and atherosclerosis (Pi-Sunyer, 1998).

Experts also recognize obesity as a major risk factor for sleep apnea and pulmonary dysfunction. Physicians identify decreases in lung capacity and increased airway constriction in obese patients, which can lead to severe arterial hypoxia, sleep arousal, hypertension, and cardiac arrhythmia (Pi-Sunyer, 1998).



## Factors that Contribute to Obesity

A number of factors are associated with group differences in overall health and obesity, with researchers generally agreeing that health status is driven by a combination of three broad categories of factors: (1) biological, (2) behavioral, and (3) contextual.

### **Biological Factors**

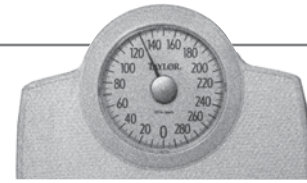
Many experts have theorized that some ethnic groups may possess a genetic predisposition to obesity. However, the National Institutes of Health (NIH) assembled a group of experts to review the existing research and arrive at a consensus on the relationship between genetics and obesity. The group concluded that there is no evidence that the higher rates of obesity among minority groups are related to genetic or biological factors (Stoto, 1998). Further, these researchers recommend focusing research and policymaking on behavioral and contextual factors.

### **Behavioral Factors**

Behavioral factors include day-to-day habits and behaviors that may increase or decrease the likelihood of weight gain (e.g., inactivity and exercise). Experts have found a strong correlation between excess weight and time spent watching television (Bar-Or et al., 1998). In addition, computer use, time with gaming devices, and time commuting by vehicle have been suggested as behavioral factors that contribute to the obesity epidemic.

Researchers have also observed differing rates of inactivity among ethnic and gender groups. Gordon-Larsen and colleagues (1999) found that White adolescent males spend an average of 13 hours inactive per week, while their non-White counterparts average 20 hours of inactivity per week. These results may reflect a number of cultural influences on behavior, such as activity support from family members, friends, and community programs. Other studies have identified factors that are cultural influences on weight control, such as the number of televisions or electronic entertainment materials in the home, perceived parental enjoyment of sedentary activities, participation in club-style activities, and dietary habits (Mirza et al., 2004; Salmon, Timperio, Telford, Carver, & Crawford, 2005).

Social and cultural perceptions of appropriate weight may also play a role in differing rates of obesity. For example, many obese women feel that their weight is “ideal” and thus have no desire to lose weight (Mack et al., 2004). In a similar study,



## Body Mass Index Is the National Standard Measure for Overweight and Obesity

In 1998, the Department of Health and Human Services and National Institute of Health (NIH) chose Body Mass Index (BMI) as the national standard for medical determination of overweight and obesity.

BMI is the chosen measure for two reasons: Calculation of BMI requires only two simple measures—the individual’s weight and height. And BMI is standardized. It is calculated as the individual’s weight in pounds divided by the square of their height in inches, multiplied by 703 or:

$$\text{BMI} = (\text{weight in pounds} / \text{height in inches}^2) * 703$$

A NIH panel dictated clinical guidelines:

*normal weight* is a BMI of 19 to 24.9;

*overweight* is a BMI of 25 or more; and

*obese* is a BMI of 30 or more.

The Centers for Disease Control provide a BMI calculator on its website at <http://www.cdc.gov/nccdphp/dnpa/bmi/calc-bmi.htm>.

Flynn and Fitzgibbon (1996) studied adolescent females in a low-income African American community and found that healthy-weight African American girls visualize ideal weight as heavier than their own body image, and significantly heavier than White adolescent females do. As a result, African American girls may be less motivated to engage in behaviors that prevent obesity during adolescence.

### **Contextual Factors**

The social context of a community or nation—particularly its access to healthcare—may also play a role in cultural differences in obesity. Access to healthcare, especially by underinsured groups, varies from state to state due to public health policies. One factor that may contribute to disparities in healthcare services among minorities is the cultural similarity between physician and patient. Patients report that their degree of involvement in decision making and participation in person-



al healthcare is significantly higher when their physician is of the same ethnicity (Cooper-Patrick et al., 1999). However, African Americans and Hispanics account for roughly 10 percent of physicians, but more than 20 percent of patients in the United States (Saha, Taggart, Komaromy, & Bindman, 2000). This rift between the demographic characteristics of our physician population and those receiving care in the United States may help explain health inequality regarding obesity.

Another contextual factor is the lack of reimbursement for physicians and hospitals that provide care for obese patients. Prevention of and treatment for obesity as a condition are not reimbursed under Medicaid, Medicare, or by many private insurance plans. For this reason, even if access to care is improved, the impact of healthcare providers on obesity prevention and treatment still will be limited.

The physical environment of the individual's community represents another important contextual factor. Low-income minority populations often live in neighborhoods that lack streetlights, sidewalks, safe trails, and exercise-friendly parks. Additionally, inhabitants of these communities may be reluctant to participate in outdoor activities due to personal safety concerns. Researchers at the Center for Urban Policy and the Environment have shown that the presence of urban trails positively correlates to physical activity levels (Wilson & Lindsey, 2005). Also, some groups may be exposed to advertising that targets individuals differently according to their race, age, and economic status, and thus influences their overall health behaviors (Daniels et al., 2005).

Not surprisingly, the availability and cost of healthy food choices also has been identified as an important contextual factor. One study found four times as many supermarkets in wealthy, White neighborhoods as in poorer, ethnic neighborhoods (Morland, Wing, & Roux, 2002), thus impacting the availability and cost of healthy foods and the likelihood of poor eating habits. Moreover, researchers have shown that healthy diets cost significantly more than poor-quality, calorie-laden diets (Drewnowski & Darmon, 2005a, , 2005b), and that most low-cost food in the United States is calorie-dense.

## Obesity Prevention Programs

Obesity is a complex, multifactorial pandemic in American society, requiring multi-level strategies that address the problem at the individual, community, and population levels. A recent review of 79 obesity intervention programs based in schools and worksites found that very few programs have demonstrated efficacy across all populations and conditions (Katz et al., 2005; the full text of this report is available at:

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5410a1.htm>). In the seven studies deemed effective, the key characteristics were a *combination* of nutritional education, physical activity, and the convenience factor of the program being located in the workplace.

The cost of a healthy diet versus a poor quality diet has caused some legislators to discuss the option of taxing fast food. However, given that fast food is still likely to remain less expensive than healthier options, a tax of this nature would likely provide little incentive to improve food choices, and economists generally feel that there would be no shift in the food selection model if this tax policy were enacted (Bar-Or et al., 1998).

One of the most effective methods for preventing obesity is to improve healthy food options in the school environment. Some state legislators and community school systems have made strides in restricting the availability of soda and low-nutrient food to children in public schools. The effect of policies like this can be significant—the *Wisconsin Medical Journal* reports that for every additional serving of sugar-sweetened drink a child consumes per day, their risk of becoming overweight increases by 60 percent (Fox, Meinen, Pesik, Landis, & Remington, 2005). Currently, 19 states have created policies to limit the availability of “competitive foods” (i.e., foods that compete with nutritious offerings, “junk food”). In 2002–2003, at least 24 states introduced legislation to either regulate school vending machines or improve the nutritious offerings in cafeterias. Recently, a Los Angeles school board voted to end the sale of soft drinks by school cafeterias and vending machines entirely.

Students who participate in the National School Lunch Program have significantly higher vegetable and milk intake while consuming fewer sugar-sweetened beverages. Unfortunately, participation is low among high school students because competitive “junk” foods are also available in most schools. However, complete elimination of such foods may not



The state of Indiana, led by Governor Mitch Daniels, has taken up the fight against fat via *INShape Indiana*. This program serves as a tool to connect Hoosiers interested in improving their lifestyles with state programs, education, and fitness resources. It also provides registrants with the opportunity to track their progress online and even network health profiles with family members or friends via the website. Some of the resources offered include:

- community nutrition and obesity prevention
- healthy recipes,
- fruit and vegetable tips,
- tobacco cessation, and
- healthy after fifty.

For more information about *INShape Indiana*, visit <http://www.in.gov/inshape/>

*In the photo above, Governor Mitch Daniels participates in INShape Indiana at the National Institute of Fitness and Sport on the IUPUI campus.*

*Photo courtesy of INShape Indiana*

be necessary—West Virginia, Texas, California, and Florida all have set nutritional standards for the competitive foods offered at public schools. Legislators, school boards, or school administrators can require that juice drinks be real fruit juice, that milk in cafeterias be low-fat or skim, and that vending machines offer more nutritious choices. Overall, providing healthy food to children in school must be a high priority, and policies like these could be helpful preventive measures against childhood obesity.

The recent emphasis on standardized testing and federal guidelines has put many school physical education programs at risk. Nationally, daily participation in physical education programs decreased between 1991 and 2001, although a slight increase was observed after 1995 (Centers for Disease Control, 2001). Unfortunately, the number of Indiana students who participate in both weekly and daily physical education classes is lower than the national average, with most students getting less than two hours per week (Indiana Department of Health, 2005).

In fact, Public Law 108-265 requires every local education agency to establish wellness panels to develop and oversee health promotion policies. The law requires that these panels be composed of parents and community leaders to provide a variety of perspectives. Their responsibilities are to confront and direct

policies concerning nutrition, education, and physical activity for the children in the district. By encouraging increased minority representation on these panels, the state can create an avenue through which targeted, culturally-aware obesity prevention programs for children can be developed.

With the assistance and direction of empowered wellness panels that represent the diversity of the community, schools can intervene in the growing epidemic and widening disparities in obesity by encouraging children and youth to establish healthier lifestyles. Specifically, schools can expand access to nutrition education, establish rigorous nutrition standards in cafeterias, and increase daily levels of physical activity (e.g., by requiring more physical education courses and sponsoring more intra-school sports and activities throughout the school year). Such programs would be effective tools to fight this epidemic.

The state of Indiana has participated in a number of programs designed to support individuals and groups in making healthy lifestyle choices in nutrition, physical activity, and tobacco use. These programs, which provide supportive resources and recognition, include *Hearts 'n Parks*, *Americans on the Move*, and *INShape Indiana*. Two Northern Indiana



*Teen Fitness Champions* (TFC) is a program recently introduced to Marion County by the Indiana Minority Health Coalition. The purpose of this program is to increase awareness of youth obesity and promote healthy lifestyles that will prevent and reduce obesity in minority youth who are 14 to 19 years of age. TFC encourages youth to take action handling obesity through media and community events. The program promotes regular physical activity and nutritious food choices, and participating students are enrolled to win prizes for participating.

*Teen Fitness Champions* is a partner with *FitCity*, a community-wide campaign founded by the Health Foundation of Greater Indianapolis, United Way of Central Indiana, and the Information and Referral Network. For more information, please visit <http://www.imhc.org/teenfitness/>

cities that participated in *Hearts 'n Parks*, (South Bend and Gary), were lauded for standout child programs: Gary, for the *Come Out and Cheer* program, and South Bend for the *Charles Black Hearts N' Parks Day Camp*. The National Recreation and Park Association (NRPA) also identified the *Busy Bees* program in South Bend as a standout adult program. Programs supported by NRPA are geared toward education—actual tracking of weight lost or changed behavior is both time consuming and expensive. For more information on the *Hearts 'n Parks* program and magnet sites, visit their Web site ([http://www.nhlbi.nih.gov/health/prof/heart/obesity/hrt\\_n\\_pk/](http://www.nhlbi.nih.gov/health/prof/heart/obesity/hrt_n_pk/)).

One program implemented in Marion County that targets African American girls, *Go Girls!*, has been developed to improve young women's knowledge about nutrition, appropriate eating habits, and healthy weight loss. Like other education-focused programs, it has demonstrated a significant impact on young women's knowledge and attitudes, but has had mixed results in terms of actual weight loss. This finding underscores the CDC's conclusions that education-only programs are likely to have only limited effects. Thus, as the state continues to work to identify and implement interventions for minority communities, it should focus on programs that take aim at impacting *both* educational outcomes and corresponding physical outcomes as much as possible.

Regardless of the particular approaches our policymakers implement, we must thoroughly evaluate the effectiveness of each strategy so that we can learn from different approaches and replicate successful programs in communities around the state.

### Thoughts for Policymakers

The obesity crisis in America is magnified in the state of Indiana, which ranks ninth of fifty states in the percent of population designated obese (<http://www.statehealthfacts.org>). Of even greater concern, Indiana's minority populations are experiencing a disproportionately high percentage growth in overweight and obesity compared to the White majority population.

The multifactoral nature of weight gain and health in general make clear that there is a need for specifically targeted prevention programs for these groups. Studies by the CDC confirm that programs combining both nutrition education and physical activity are most likely to be effective in helping people from all walks of life lose weight. As Indiana continues to pursue programs to improve the health of our population, it is critical to monitor program methodology and outcomes data. Without this knowledge, we will be unable to celebrate successful efforts and transfer them from one community to another.

In addition to careful development, measurement, and promotion of a culturally relevant obesity prevention agenda, policymakers can help by encouraging minority community leaders to get involved in fighting this epidemic in our communities and schools. Increasing awareness of the widening obesity gap that exists in Indiana is the first step—and the next step is to empower our formal and informal leaders to do something about it.



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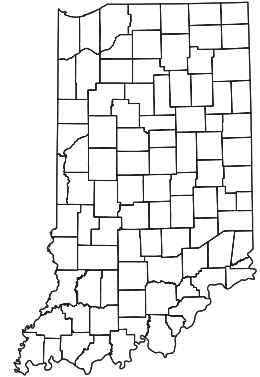


## Indiana's Future: Identifying Choices and Supporting Action to Improve Communities

This project, funded by an award of general support from Lilly Endowment, Inc., builds on the Center's research to increase understanding of Indiana. The Center's faculty and staff work to identify choices that can be made by households governments, businesses, and nonprofit organizations to improve our quality of life. Our goal is to understand the people, economics, problems, and opportunities in Indiana, and to help decision-makers understand the impact of policy decisions. The Center also works to mobilize energy to accomplish these goals.

During 2005, Professor Eric Wright and a team of researchers focused on health policy issues joined the Center for Urban Policy and the Environment. This issue brief is one result of their ongoing efforts to investigate the health policy issues that are a vital component of the quality of life in Indiana communities.

The Center for Urban Policy and the Environment is part of the School of Public and Environmental Affairs at Indiana University-Purdue University Indianapolis. An electronic copy of this document and other information about health policy and other community issues can be accessed via the Center Web site ([www.urbancenter.iupui.edu](http://www.urbancenter.iupui.edu)). For more information, visit the Web site or contact the Center at 317-261-3000.



*State of Indiana*

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