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Obesity in America: A Growing Threat

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OVERVIEW — *This issue brief seeks to clarify the nature and causes of the obesity epidemic in the United States and provides an overview of the associated economic and health costs. The paper summarizes existing federal programs and policies that address obesity and examines new and emerging policy strategies to battle the bulging American silhouette. Topics explored include population-based prevention, federal food- and nutrition-assistance programs, Medicare and Medicaid payment policies, school health initiatives, and publicly funded biomedical research.*

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Obesity in America: A Growing Threat

The continuing expansion of the nation's waistline has pushed obesity to the top of the list of major health problems in the United States. But is obesity truly a burden on the U.S. health care system? Why have public health officials and policymakers been paying close attention to this issue? And what, if anything, can be done to encourage millions of Americans to slim down? Although obesity is currently a hot topic among policy movers and shakers, it is certainly not a new issue and has been a topic of concern since the early 1950s, with U.S. government agencies and health organizations publishing guidelines for obesity prevention through diet, exercise, or both.¹ However, only recently has obesity become a widespread epidemic, in the United States and globally, leading to substantial health and economic costs to which policymakers are giving renewed attention.

Can health policy be employed to combat this growing epidemic? Federal and state programs currently seek to address the obesity epidemic through a broad range of interventions. These intervention strategies include publicly funded scientific research to examine the biomedical mechanisms of weight control; food labeling and nutritional regulations to aid consumers in making healthy food choices; land-use proposals to encourage active lifestyles; and educational programs to improve the public's awareness of the importance of a proper diet and adequate exercise. These activities rely on different strategies and address different aspects of the multifaceted problem presented by obesity.

Critics have argued that existing public policy is not aggressive enough, given the magnitude of the obesity problem in this country, and have called for more proactive, innovative policies. Some of the bolder proposals include bringing civil suits against the fast-food industry to recoup the costs associated with treating obesity-related diseases (an effort to emulate the settlements reached with the tobacco industry) and levying targeted taxes on "junk" food to provide funding for treatment and prevention activities. While many doubt the political viability of these specific proposals, the obesity epidemic has drawn considerable attention from policymakers, and new policy initiatives to address the issue are already underway.

NATURE AND IMPACT OF THE OBESITY EPIDEMIC

In the United States, obesity is an increasingly problematic public health concern. The prevalence of obesity among U.S. adults has increased dramatically in recent years. In 1991, only 12 percent of adults were obese.

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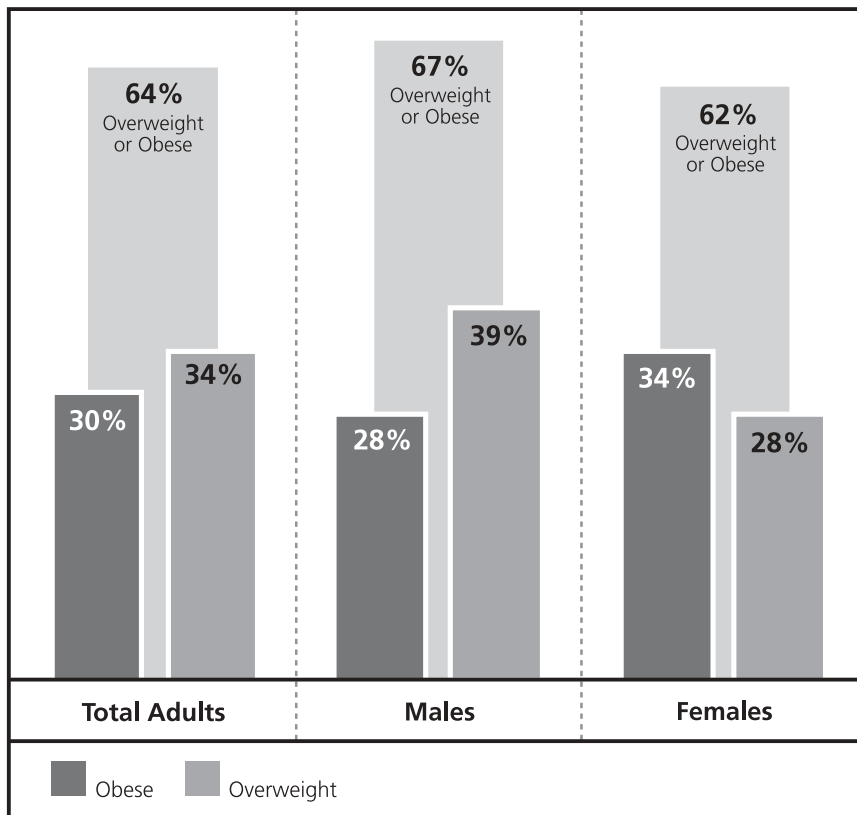
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By 2001, almost 21 percent of adults were obese, representing a nearly 75 percent increase. Because these data are based on self-reported height and weight, obesity rates are most likely even higher than these estimates suggest. Results from the 1999 National Health and Nutrition Examination Survey, which collects data through clinical measurements, found that approximately 30 percent of U.S. adults are obese and an additional 34 percent are overweight (Figure 1), indicating that only 35 percent of adults are at or below a healthy weight.²

Even more alarming is the increase of those who are morbidly obese; that is, those who are 100 pounds or more overweight. According to Roland Sturm, a Rand economist, about one in 80 men weighs more than 300 pounds, a 50 percent rise from 1996 to 2000, and one in 200 women weighs more than 300 pounds, representing a 67 percent increase.³

FIGURE 1
Prevalence of Overweight and Obesity among Adults
20 Years of Age and Older, 1999–2000



Source: National Health and Nutrition Examination Survey (NHANES 1999-2000), National Center for Health Statistics, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services.

Who Is Affected?

Obesity has increased in every state, in both sexes, and across all age, race, and socioeconomic groups. No region in the United States is immune to the obesity epidemic. During the 1990s, every state saw an increase in the prevalence of obesity among adults. Twenty-two states had rates of obesity of 20 percent or greater in 2000, compared with none in 1991. The states with the highest rates of obese residents include Mississippi (24 percent), Louisiana (23 percent), and West Virginia (23 percent).⁴

Although men are more likely to be overweight than women, women are more likely to be obese. Among both men and women, the prevalence of overweight and obesity increases with advancing age, until about age 69, after which it starts to decline. However, during the past decade, the sharpest increase (70 percent) in rates of overweight and obesity occurred among adults ages 18 through 29.

Racial and ethnic minorities generally have higher rates of overweight and obesity than do whites in the United States. In 2000, obesity was found in almost 30 percent of African Americans, slightly less than one-quarter of Hispanics, and 18 percent of whites.⁵ Within racial groups, gender disparities also exist. Black and Mexican American women are more likely to be overweight and obese than black and Mexican American men. In addition, one study suggests that black and Hispanic women in their 20s and early 30s become obese faster than white women.⁶

Disparities based on socioeconomic status also exist among the overweight and obese. For all racial and ethnic groups, women of lower socioeconomic status, with an income of less than 130 percent of the federal poverty level, are 50 percent more likely to be obese than those with higher incomes. In contrast, men are about equally likely to be obese, regardless of their socioeconomic group.⁷ Higher education seems to correlate with lower rates of obesity. For example, those with less than a high school education are more likely to be obese (24 percent) than those with a high school diploma (19 percent). However, the greatest increase of obesity (67 percent) within the last decade occurred among individuals with some college education.

Studies have shown that the overweight problem has increased at an even more dramatic rate in children and adolescents than in adults, making childhood overweight a lifelong threat to many communities. Over the past two decades, the percentage of overweight children (ages 6 through 11) has more than doubled, rising from 7 percent in 1980 to 15 percent in 1999.⁸ For adolescents (ages 12 through 19), the percentage of overweight has almost tripled during this same period, rising from 5 percent to 14 percent.

Racial and ethnic disparities in overweight also exist among children, with black and Hispanic youth having the highest rates. By 1998, more than 22 percent of black and Hispanic children were overweight, while only 12 percent of white children were overweight.⁹ In examining gender

Measuring Obesity

ADULTS

The Body Mass Index (BMI) is a direct calculation based on weight in kilograms and height in meters ($BMI = \text{Weight}/\text{Height}^2$). It is used as a measure of overweight and obesity in adults.

BMI Values for Adults:

25.0–29.9	Overweight
30.0–39.9	Obese
40.0 or higher	Extremely Obese

CHILDREN

For children, obesity is calculated based on growth charts, physical development, gender, and age; therefore, child measures do not have the same cut-points for BMI as adults. To avoid stigma, the terms “at-risk” and “overweight” are used when referring to children and youth.

disparities for overweight among children, Mexican American boys were more likely to be overweight than black or white boys. And black girls tended to have a higher rate of overweight than white or Mexican American girls.¹⁰ For disparities in socioeconomic status, studies have shown that among Mexican American and black children and adolescents, family income does not reliably predict overweight prevalence. However, white adolescents from lower-income families experience a greater prevalence of overweight than those from higher-income families.

More Input, Less Output

Many complex factors have contributed to the rise in obesity. For each individual, a combination of genetics, behavior, environment, culture, and socioeconomic status influences body weight. Experts agree that, in the simplest sense, much of obesity occurs when energy intake (calories consumed) exceeds energy expenditure (metabolism and physical activity).

During the last several decades, the majority of the U.S. population experienced this imbalance of energy intake and output. The average American consumed 15 percent more calories a day in 1997 than in 1984,¹¹ and it is likely that this upward trend in caloric consumption has continued. Paralleling this trend in increased caloric intake are the decrease in exercise and the increased use of technology. Many people live sedentary lives, and approximately 40 percent of adults in the United States do not participate in any type of leisure-time physical activity.¹²

Several environmental and cultural changes have diminished daily opportunities to burn energy. Television viewing and the popularity of computers and video games have especially contributed to the obesity epidemic among children and adolescents.¹³ Approximately 43 percent of adolescents now watch more than 2 hours of television each day. At the same time, schools have generally been decreasing physical-education requirements in the face of budget pressures and other curricula demands.¹⁴ The use of labor-saving machinery for household chores, the higher reliance on cars, and the increasingly automated workplace also are factors in the decrease of physical activity among U.S. children and adults.

Coupled with the diminished opportunity to exercise is the increased opportunity to eat. Because food was often scarce throughout much of human history, "our physiology tells us to eat whenever food is available. And now, food is always available."¹⁵ Numerous environmental and cultural changes, such as the decline in the family dinner and a greater reliance on eating away from home, have helped foster more frequent eating. For example, when people eat out, they tend to eat more or consume higher-calorie foods than when they eat at home.¹⁶ Compounding this trend is the "supersizing" of food portions found in the marketplace. Marketplace portion sizes began to grow in the 1970s, rose sharply in the 1980s, and have continued to grow in parallel with increasing obesity rates.¹⁷ Available data indicate that increasing portion sizes of high-fat

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and high-calorie foods are contributing to the obesity epidemic.¹⁸ Other factors, such as the ready availability of inexpensive foods that are high in sugar and fat, the growth of the fast-food industry, and the increased number and marketing of snack foods, also contribute to more eating.¹⁹

Availability of healthy food choices may play an even larger role in low-income communities, where nutritious foods such as fresh fruits and vegetables are expensive and hard to find, while unhealthy fast-food is abundant and inexpensive. One study, which linked healthy eating and access to grocery stores, found that produce consumption increased 32 percent for each additional supermarket in predominantly black neighborhoods and 11 percent in predominantly white neighborhoods.²⁰ In addition, the study found white neighborhoods had an average of five times as many supermarkets as black neighborhoods. Poorer neighborhoods may also be less conducive to physical activity than wealthier communities. These areas have limited access to parks and other free facilities (such as schoolyards); schools in poorer districts may lack the financial resources to support team sports and exercise equipment; and safety concerns may be heightened.²¹

Genetic and environmental factors are closely intertwined. If a person has a genetic predisposition toward obesity, the modern American lifestyle and environment may make controlling weight more difficult. An environment in which food is plentiful and exercise is deficient affects different people in different ways. These differences explain why some people gain weight eating almost nothing, while others eat constantly and never gain an ounce. "The available data indicate that the genetic contribution to variability in body fatness lies somewhere between 25 and 70 percent; studies in monozygous twins suggest this may be on the order of 50–70 percent, but family studies suggest it may be closer to 25–50 percent."²²

Although genetic factors contribute to some variation in body fatness, those factors alone cannot explain the current obesity epidemic. According to Jeffrey Koplan and William Dietz, genes related to obesity cannot be responsible for the current epidemic of obesity, because the gene pool in the United States did not change significantly between 1980 and 1994.²³ Instead, experts suggest that the most likely factor contributing to the current obesity epidemic is a continued decline in daily exercise that has not been met with a reduction in energy intake (calories).

While the obesity epidemic has been grabbing headlines and receiving increased attention from policymakers, millions of American families still face hunger on a daily basis. The U.S. Department of Agriculture (USDA) has reported that food insecurity (see text box) has fallen by 11 percent and hunger by 16 percent between 1998 and 2000. However, 11 million U.S. households are still food insecure (11 percent of households nationally), representing over 33 million persons residing in these households who experience food insecurity. Approximately 3 million U.S. households (3 percent of households) experience food insecurity to the extent that

Hunger & Food Insecurity

- *Hunger* is the painful or uneasy sensation caused by a recurrent or involuntary lack of food.
- *Food Insecurity* is the limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to obtain foods in a socially acceptable way.

household members experience hunger. For certain low-income and minority populations, the rates of hunger and food insecurity are even higher.²⁴

Because overweight is associated with excessive food intake and hunger with inadequate food supply, the increased rate of obesity coincident with continuing hunger or food insecurity among low-income persons seems illogical. Consequently, many policymakers have questioned the possibility of insufficient food supplies in impoverished families with overweight members. But several studies have shed some light about how this may be possible. William Dietz, who studied this very paradox in a family on welfare, suggested that “food choices or physiologic adaptations in response to episodic food shortages could cause increased body fat.”²⁵ Although research on men and children have yielded mix results, several studies have shown that food insecurity in women is indeed related to overweight, therefore confirming Dietz’s findings.²⁶ Some refer to this dilemma as the “food stamp cycle,” in which “overeating by food-insecure families when food is plentiful, i.e., when food stamps or money for food is available, followed by a short period of involuntary food restriction, followed by overeating, could be a pattern that results in gradual weight gain over time.”²⁷

Lower rates of breastfeeding among minority groups also may contribute to disproportionate levels of obesity in these populations, although the effect is probably small. Breastfeeding is the ideal method of feeding and nurturing infants. Breastfed babies tend to be leaner than formula-fed babies, and breastfeeding may protect babies from becoming obese later in life.²⁸ Breast milk provides a range of benefits for infant growth and development, as well as immunity from infectious diseases. It also helps improve maternal health and facilitates mothers’ weight loss following the birth of their babies. In 1998, only 29 percent of all mothers breastfed at 6 months postpartum. Breastfeeding rates are even lower for women of color. Only 19 percent of African-American women and 28 percent of Hispanic women breastfed at 6 months postpartum.²⁹ However, the negative effects of bottle-feeding are probably small relative to other factors that influence childhood obesity, such as parental overweight.³⁰

The Consequences of Obesity: More Than Meets the Eye

Obesity has not just affected America’s waistline, but has contributed to serious illness and early death for thousands of people. Obesity can affect not only health, but also quality of life and mental health. The economic impact of obesity is also considerable, with the United States paying a heavy price for direct and indirect costs related to obesity.

The relationship between obesity and health has been a major factor in drawing national attention to the growing prevalence of obesity. As the second leading cause of preventable deaths in the United States, obesity claims approximately 300,000 lives each year.³¹ Obesity is strongly associated with multiple chronic conditions, such as high blood pressure, high

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cholesterol, heart disease, stroke, type 2 diabetes, and with some forms of cancer, such as uterine, gall bladder, breast, colon, and kidney. Other conditions, such as sleep apnea, asthma, arthritis, reproductive complications, and psychological disorders such as depression, can be attributed to obesity as well.

Obese individuals have a 50 percent to 100 percent increased risk of death from all causes, compared with normal-weight individuals. Most of the increased risk is due to cardiovascular causes. Almost 80 percent of obese adults have diabetes, high blood pressure, coronary heart disease, high blood cholesterol levels, or osteoarthritis.³² High blood pressure is the most common overweight- and obesity-related health condition in men and women. For example, obese men and women are more than twice as likely, compared with men and women who are not overweight, to have hypertension. And the findings for high blood cholesterol among obese individuals, compared with those not overweight, paints the same picture. Obese and overweight persons also represent 67 percent of those with type 2 diabetes.

Increases in weight gain, whether modest or large, can increase one's risk of illness and death. For example, individuals who have gained 11 to 18 pounds double their risk of developing type 2 diabetes, while those who gain 44 pounds or more have four times the risk of type 2 diabetes.³³ Strong evidence suggests short-term weight loss (as modest as 5 percent to 15 percent of excess total body weight) in overweight and obese individuals reduces risk factors for diabetes and cardiovascular disease.

The adverse effects of obesity are not only medical. They can also affect quality of life for individuals, limiting mobility and decreasing physical endurance. In addition, negative attitudes toward the obese still exist and often result in social, academic, and job discrimination.³⁴ In general, community-based studies in the United States have not found a strong link between psychological disorders and obesity.³⁵ Many studies specifically examining the relationship between depression and obesity have been inconclusive.³⁶ However, recent studies in Europe have shown a link between obesity and depression, warranting further study in the United States.

Body image also plays a key role in individuals' emotional response to their size and appearance. People at greater risk for poor body image are most likely to be binge eaters, women, those who were obese during adolescence or with early onset of obesity, and those with emotional disturbances. Obese individuals, especially women, tend to overestimate their body size. However, body image perceptions have been known to differ among various ethnic and racial groups. For example, differences in body image and weight-related concerns between black and white girls and women have been observed. In general, black girls and women report less social pressure to be slim, fewer incidences of weight-related discrimination, less weight and body dissatisfaction, and greater acceptance

Modest weight loss in overweight and obese individuals reduces risk factors for diabetes and cardiovascular disease.

of overweight than their white counterparts. These differences will have a profound effect in trying to address obesity in this country and need to be considered when discussing prevention interventions.

Although obesity-related diseases occur most frequently in adults, important consequences of excess weight occur in overweight children and adolescents as well. "Overweight adolescents have a 70 percent chance of becoming overweight or obese adults. This increases to 80 percent if one or more parent is overweight or obese."³⁷ Children with one obese parent face two times the risk of becoming obese adults, compared with children whose parents are not obese.³⁸ Moreover, many chronic conditions (for example, type 2 diabetes, high blood pressure, and high cholesterol) that were previously considered adult diseases are now seen more frequently in overweight and obese children and adolescents. For example, type 2 diabetes used to be so rare in children and adolescents that it was called "adult-onset diabetes." However, recent reports indicate that 8 percent to 45 percent of children with newly diagnosed diabetes have type 2 diabetes. And as the U.S. population becomes increasingly overweight, researchers expect type 2 diabetes to appear more frequently in younger, prepubescent children.

Children often experience social and mental health problems because of their excess weight. "The most immediate consequence of overweight, as perceived by children themselves, is social discrimination."³⁹ This is also associated with poor self-esteem and depression. And, as mentioned earlier, obese children who grow up to be obese adults tend to have a poorer self-image as well.

In addition to the health and social costs of the obesity epidemic, the financial impact of the disease has also been overwhelming. As the prevalence of overweight and obesity has increased in the United States, so have related care costs, both direct and indirect. In 2000, according to the Surgeon General's Call to Action, the total cost of obesity was estimated to be about \$117 billion. Of this cost, \$61 billion (approximately 5 percent of U.S. health expenditure) was attributed to direct costs, such as physician visits and hospital and nursing home care, and \$56 billion was attributed to indirect costs, such as the loss of future earnings due to premature death.

A more recent study validates these findings and indicates that spending on obesity has continued to increase with overall health spending.⁴⁰ This study, based on data from the 1998 Medical Expenditure Panel Survey and the 1996 and 1997 National Health Interview Survey, estimates that the Medicare program spent approximately \$23.5 billion on care attributable to overweight and obesity in 1998 (11.1 percent of total program spending) and the Medicaid program spent \$14.1 billion (8.8 percent of total program spending). These estimates reveal that the public sector finances nearly half of all medical spending related to overweight and obesity.

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Most of the medical costs associated with obesity are related to type 2 diabetes, coronary heart disease, and hypertension. The federal government, through the Medicaid and Medicare programs, spends \$84 billion annually on five major chronic conditions that could be significantly improved by increased physical activity: diabetes, heart disease, depression, cancer, and arthritis.⁴¹ Of these diseases, type 2 diabetes related to obesity and overweight is the most costly. As of 1995, the cost of treating type 2 diabetes in the overweight and obese was \$63 billion (more than 60 percent of the total cost of type 2 diabetes). Obesity leads to even higher increases in health care and medication costs than do smoking or problem drinking.⁴² Obesity is associated with a 36 percent increase in inpatient and outpatient costs and a 77 percent increase in medication costs over those incurred by people within a normal weight range.

The economic costs of overweight and obesity extend beyond the costs of medical care and include lost productivity and employee absenteeism. As for weight-loss efforts, Americans have also spent billions of dollars trying to shed the excess pounds. Americans spend \$33 billion annually on weight-loss products and services, such as low-calorie foods, artificially sweetened products (for example, diet sodas), and on memberships to commercial weight-loss centers.⁴³

POLICY LEVERS FOR PREVENTION AND TREATMENT

The consequences of obesity are serious, both for the individuals struggling with the condition and for society, which must bear the costs associated with rising obesity rates in the population. Although obesity is rooted in the behaviors and attitudes of individuals, societal influences—those that help and those that hinder weight management—may prove instrumental in determining whether the obesity epidemic in this country can be controlled.

Obesity is a very complex problem that cannot be solved through any single solution. An effective response is likely to require action on many fronts and will involve a variety of players. Given the degree, pervasiveness, and complexity of the obesity problem, interventions have been mounted by many parties, including community-based organizations, schools, church groups, employers, health care providers, pharmaceutical manufacturers, and national health advocacy associations such as the American Heart Association.

Is there a role for the federal government in addressing the obesity epidemic? Although individual and private-sector efforts are critical, federal policy has played a variety of roles in responding to obesity in the United States. As obesity inched its way up the list of health priorities, numerous nutrition and wellness programs to prevent and treat obesity were developed by the federal government. While these interventions have tended to emphasize supporting individuals in their efforts to decrease energy

intake and increase energy expenditure, some policies attempt to address the underlying societal factors that act as barriers to individual approaches.⁴⁴

The major areas of current federal activity to address the obesity epidemic can be divided into five general categories: educating the public through information dissemination, improving access to healthy foods, improving access to physical activities, researching the metabolic and pharmacological dynamics of weight control, and providing behavioral and medical interventions for individuals. Although these categories are not mutually exclusive, and some initiatives draw on strategies from multiple categories, these five areas provide a general overview of the range of government-sponsored or supported interventions currently being implemented.

Such activities are carried out by several agencies, including the Department of Health and Human Services, the Department of Agriculture, the Department of Education, and the Department of Transportation; are not generally integrated into a single, well-defined program; and are often implemented in cooperation with state, local, and private-sector partners. Given the fragmentation of efforts, it is difficult to quantify the level of government resources devoted to combating obesity, to gauge precisely how these resources are allocated across the five categories of intervention cited above, or to provide an exhaustive inventory of government activities. The following narrative is intended to characterize the general nature of federal efforts in each of the areas identified. The Appendix provides a compilation of illustrative programs in each of these areas.

Information and Education

Efforts relying primarily on information dissemination and education to change attitudes and behaviors related to nutrition and physical activity are a major emphasis of government activity to control obesity. One might think that the American public is inundated with media images that encourage fitness and warn about the dangers of obesity. However, a recent survey revealed that 78 percent of Americans do not believe that their body weight is a serious health concern, yet two thirds of respondents were overweight or obese.⁴⁵ Information that facilitates healthy food and lifestyle choices, public awareness levels regarding the importance of these choices, and behavioral and motivational programs to aid in weight control and management are critical components for an effective strategy to reduce obesity.

Governmental action in this area includes a diverse range of activities, such as formal regulations related to food labeling to convey nutritional content, dietary guidelines to promote healthy eating habits, public awareness campaigns, curricula development, and model educational programs to facilitate behavioral change. Whether education is through labeling, mass media, professional guidelines, or community outreach programs,

Seventy-eight percent of Americans do not believe that their body weight is a serious health concern.

all these efforts represent population-based attempts to increase awareness and support healthy behaviors.

The Task Force on Community Preventive Services, an independent panel of scientific experts supported by the Centers for Disease Control and Prevention (CDC), conducted systematic reviews of community interventions to increase physical activity. Based on available evidence, the task force recommended several interventions related to information dissemination and education to provide behavioral and social support for physical activity.⁴⁶ The task force found sufficient evidence to support the efficacy of community interventions involving:

- Comprehensive, high-visibility community campaigns to promote physical activity.
- Point-of-decision prompts to encourage stair walking.
- Behavior-change group programs.
- School-based physical education.
- Improved social support networks or “buddy programs” to encourage physical activity.

The task force found that the available evidence was insufficient to demonstrate the effectiveness of mass media campaigns, classroom-based education, and college-age physical education. Similar evidence reviews are currently being conducted for community interventions related to nutrition and dietary patterns.

Reflecting political and funding realities, the federal role in supporting these types of community interventions has generally focused on the development of standards and models and relies heavily on state and private-sector partners to disseminate and implement these tools and programs more broadly. For example, earlier this year, in an effort to better guide American’s eating habits, the Institute of Medicine of the National Academies of Sciences, funded substantially by the Department of Health and Human Services (DHHS), issued new nutritional recommendations in a report entitled “Dietary Reference Intakes for Energy, Carbohydrates, Fiber, Fat, Fatty Acids, Cholesterol, Protein, and Amino Acids.” The report, which takes the place of the Recommended Dietary Allowances, urges Americans to decrease their fat and sugar intake and boost their fiber intake, among other recommendations. While the report itself garnered some media interest and public attention and recommendations will be reflected in food labels, DHHS will generally look to the private sector for ongoing efforts to encourage compliance with these nutritional recommendations.

In fiscal year (FY) 2002, Congress appropriated \$27.5 million to CDC to address physical activity, poor nutrition, and obesity. A portion of these funds was used to support state-based nutritional and physical-activity programs in 12 states, with awards averaging \$400,000 per state per year.⁴⁷ The nature of the interventions implemented differs in each of the states

Educational Programs: Illustrative Example

Through a partnership with the University of Colorado Health Sciences Center, the state established the *Colorado on the Move* initiative in two communities. Program participants are offered pedometers and encouraged to walk an additional 2,000 steps a day. The initiative will eventually implement a nutrition component as well, which will also focus on promoting small behavioral changes to achieve long-term health benefits.

receiving funds, although most focus on educating and supporting people in making healthier choices. A review of Colorado's program (see textbox) provides an example of the type of activities pursued. With FY 2003 funding of \$34 million, CDC will expand these programs and support research to increase physical activity and improve nutrition.

CDC also supports nutrition and physical education through its coordinated school health program, which promotes healthy behaviors, such as eating a healthy diet, being physically active, and avoiding tobacco use. In FY 2002, Congress appropriated \$10.8 million dollars to fund the program. Approximately 75 percent of program funds are awarded to state education agencies to work cooperatively with state health agencies to implement policies and programs that encourage healthy behaviors. In 2002, 20 states received grant awards. The school health program received approximately \$10.5 million in appropriations in FY 2003.

Although CDC represents a major focal point of educational activities, multiple agencies within DHHS have issued guidelines and developed demonstration programs intended to assist health care providers, community organizations, church groups, and others in developing and implementing nutrition and physical-fitness practices and programs. Although tailored to different audiences and different target populations, these guides and model programs share the goal of identifying best-practice models that can be replicated more broadly throughout the country.

Through the development and dissemination of objective standards and model educational programs, the federal government plays an important leadership role in stimulating action and creating an evidence base for effective population-based interventions. The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity was a major governmental step in addressing the obesity epidemic. It not only confirmed obesity as a major health issue in the United States, but also helped open the channels of communication among policymakers, providers, advocates, researchers, and consumers.

While important, these government-supported efforts to provide education related to obesity prevention and reduction are largely overshadowed by advertising to promote high-fat, energy-dense foods. The food industry spends about \$33 billion annually on advertising and other consumer promotions.⁴⁸ These expenditures are orders of magnitude greater than the investments made by government agencies to encourage healthy choices. As public spending on health education is unlikely to ever match the promotional budget of the food industry, the creation of public-private partnerships to better leverage federal support has been the most common approach.

Access to Healthy Foods

Although information dissemination and education represent major focuses of activity for reducing obesity, the federal government also plays a

much more direct role in helping many of its citizens make healthy food choices. Examinations of government food- and nutrition-assistance programs have explored the role of these programs in addressing the obesity epidemic. In an effort to fight obesity, policymakers have been paying close attention to the food choices available through these food-assistance programs.

These USDA programs provide a basic safety net to millions of people who might otherwise go hungry. These programs recently have come under increased scrutiny by policymakers, who are asking whether they are nutritionally appropriate or are contributing to the obesity epidemic. Critics argue that these programs could be improved to provide more nutritious food offerings through changes such as providing more fruits and vegetables, reducing high-fat food choices, and encouraging breastfeeding for infants.

While originally designed to combat hunger, these programs now face the challenge of ensuring proper nutrition while helping alleviate food insecurity and hunger, which still occurs in the United States. Although many of these programs are targeted toward children, some also serve adults. These programs, which include the Food Stamp Program; the National School Breakfast and Lunch Programs; the Summer Food Service Program; the Child and Adult Care Program; and the Women, Infants, and Children (WIC) Program, are briefly described below.

■ The *Food Stamp Program* permits low-income households to obtain a more nutritious diet through coupons or electronic benefit transfer card, which participants can use like cash at most grocery stores. As of 2001, the average monthly participation level was 17 million individuals (7 million households). Total cost for the program was \$17.5 billion in FY 2001.

■ The *National School Breakfast and Lunch Program* provides low-cost or free breakfast, lunch, or after-school snacks to qualified children. It provides per meal cash reimbursements as an entitlement to schools and child care programs for this purpose. In the 2000–2001 school year, 27.4 million children participated in the school lunch program and 7.9 million participated in the school breakfast program. In FY 2001, spending totaled \$6.5 billion for the school lunch program and \$1.49 billion for the school breakfast program.

■ The *Summer Food Service Program* is an entitlement program designed to let eligible sponsoring organizations (that is, schools or county, tribal, or state governments) serve nutritious meals to low-income children when school is not in session. In summer 2001, the program served more than 2 million children. Total federal cost for this program was \$232 million in FY 2000.

■ The *Child and Adult Care Food Program* is an entitlement program that provides federal funds for meals and snacks to licensed public and nonprofit child care centers, family and group child care homes for preschool children, and adult day care centers serving chronically

Access to Healthy Foods: Illustrative Example

The Women, Infants, and Children (WIC) program sponsored by USDA established a Farmer's Market Nutrition program to provide fresh and nutritious foods from farmer's markets to low-income families participating in the WIC program in 28 states. Congress appropriated \$25 million for the program in FY 2002 and FY 2003.

impaired adults or people over age 60. In FY 2000, the total federal cost for this program was \$1.6 billion, which served over 2.5 million children and 67,000 elderly persons.

■ The *Women, Infant, and Children (WIC) Program* is not an entitlement program but was created to provide nutritious foods, nutrition education, and access to health care to low-income pregnant women, new mothers, and infants and children who are both living below 185 percent of the federal poverty line and at nutritional risk. Congress annually determines the federal funding for the program, which cost approximately \$4 billion in FY 2000.

Although federal policy in this area has generally focused on retooling federally-funded food-assistance programs, other types of policies have been considered at the state and local level to improve Americans' diets, such as limiting soda and snack vending machines in public schools. Generally speaking, these policies affect populations broader than those receiving subsidized meals and seek to minimize unhealthy food choices and maximize healthy alternatives.

Some advocates have called for broader federal oversight of school nutrition programs to stimulate state and local action in these areas.⁴⁹ Research suggests that students in schools that provide access to soft drinks and snack foods are less likely to consume fruits, juices, milk, and vegetables than students who do not have such access.⁵⁰ About 60 percent of U.S. middle schools and high schools sell soft drinks in vending machines, and contracts with beverage distributors represent important sources of revenue for many school districts.⁵¹ Although USDA regulation of the school lunch and breakfast programs prohibits the sale of "competitive" foods of minimal nutritional value in the food service area during meal times, it does not restrict the availability of those products at other times during the day or in other locations on the school campus. With the Child Nutrition Act (the legislation that authorizes the USDA school nutrition programs) up for reauthorization this session, debates are likely to ensue regarding the degree of latitude local jurisdictions should have in controlling school nutrition programs and policies.

Access to Physical-Activity Facilities

Both physical activity and dietary intake are important components in weight loss and control. Regular physical activity substantially reduces the risk of dying of coronary heart disease, the nation's leading cause of death, and decreases the risk of colon cancer, diabetes, and high blood pressure. Environmental issues such as proximity of athletic facilities, street design, density of housing, availability of public transit, access to pedestrian- and bicycle-friendly transportation routes, and the availability of safe outdoor spaces play significant roles in promoting or discouraging physical activity. The Task Force on Community Preventive Services strongly recommends the creation of, or improvement of access

Advocates have called for broader federal oversight of school nutrition programs.

to, places for physical activity, combined with informational outreach activities.⁵² Evidence reviews related to transportation policies and urban planning are pending.

Despite the proven benefits of physical activity, more than 60 percent of American adults do not get enough physical activity and more than a third of young people in grades 9 through 12 do not regularly engage in physical activity vigorous enough to provide health benefits. In 2001, only half of high school students participated in any physical-education classes and less than one-third participated in physical education on a daily basis.⁵³ A number of initiatives have begun through federal, state, and local governments to reverse this trend. While many of these programs involve educating consumers about the importance of physical activities, some are focused more directly on providing means for people to become more active in their daily lives.

Policies in this area, including strengthened physical-education requirements in public schools, zoning regulations, and investments in parks and recreational facilities, are more typically found at the state and local level. However, federal policies have played important roles in encouraging states and localities to make their communities more conducive to physical activity. For example, the Transportation Equity Act for the 21st Century (TEA-21), the legislation that authorizes federal surface transportation programs for highways, highway safety, and transit, encourages physical-activity-friendly transportation investments in a number of ways.⁵⁴ TEA-21 provides dedicated funding for the development of recreational trails, with \$50 million appropriated for this purpose in FY 2003, and explicitly allows the use of federal highway funds for the development of bike paths and pedestrian walkways. With TEA-21 set to expire on September 30, 2003, the reauthorization debate may consider strengthening linkages between transportation policy and efforts to combat the obesity epidemic.

The Carol M. White Physical Education Program within the Department of Education provides grants to local educational agencies and community-based organizations to support physical-education programs for students in kindergarten through grade 12. As authorized under Title V of the No Child Left Behind Act of 2001, funds are awarded through a competitive process, with \$59.5 million available for awards in FY 2003. As stipulated in the authorizing legislation, the first report describing the grants made under this program and the impact of these efforts was due to Congress in June 2003. Other federal programs, such as the National Parks System, similarly facilitate more active lifestyles and provide an important policy lever for addressing obesity.

Research

Research is fundamental in our understanding of better treatment and prevention strategies for obesity. It has also expanded our knowledge

Research: Illustrative Example

Transport and Metabolism of Fatty Acids in Adipocytes—This National Heart, Lung, and Blood Institute study, utilizing new biophysical and molecular biology strategies, is examining the individual factors that may influence fat storage and exploring how extrinsic conditions (such as the presence of insulin or glucose, the external supply of free fatty acids, and the action of hormones) affect free fatty acid transport and metabolic rate. This research is expected to help formulate new therapies for obesity.

of obesity as a chronic disease with complex interactions of genetic, metabolic, behavioral, psychological, and environmental factors. Several federal and state research programs are seeking to increase our understanding of obesity. These programs range from basic scientific research on molecular and cellular dynamics to clinical research in the biomedical and behavioral treatment of obesity.

Research related to obesity is conducted in a number of federal agencies (including the Department of Agriculture, the Department of Veterans Affairs, and the Department of Defense), but the National Institutes of Health (NIH) within DHHS provides the greatest amount of financial support for such research. Obesity research is carried out in multiple institutes within NIH, including the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), which takes the lead role in obesity-related research; the National Heart, Lung, and Blood Institute (NHLBI); the National Cancer Institute; and the National Institute of Child Health and Human Development.

In FY 2002, NIH spent \$297.2 million on obesity research,⁵⁵ representing approximately 1 percent of total NIH funding. The NIH Obesity Research Task Force was recently established to facilitate obesity-related research across institutes within NIH. Cochaired by the directors of NIDDK and NHLBI, the task force is charged with developing a strategic plan for obesity research within NIH. The task force will also serve as a point of contact for external agencies.

NIH research related to obesity encompasses a broad spectrum of molecular, clinical, behavioral, and environmental research. A substantial portion of this research portfolio focuses on developing a better understanding of the physiological processes that regulate weight control (such as the neural pathways that influence food intake, the digestive and absorptive mechanisms of the gastrointestinal tract, and the biology of fat cells or adipocytes), as well as the genetic factors that influence these physiological characteristics. The recent discovery of the adipocyte-secreted hormone leptin by an NIDDK-supported researcher has led to an explosion of research related to the brain pathways that regulate hunger, satiety, and energy metabolism. These basic research activities yield discoveries that may assist in identifying drug targets that could be leveraged in the development of new therapeutic interventions.

NIH also supports numerous clinical trials that assess the impact of weight-loss regimens and the effect of weight loss on comorbidities and mortality. Although a significant body of evidence links obesity to a range of diseases, including diabetes, heart disease, and some cancers, little is known regarding the long-term impact of weight loss on morbidity. In fact, available epidemiological data suggest that mortality increases with weight loss, although these studies cannot distinguish between intentional weight loss and the unintentional weight loss that often accompanies fatal diseases. NIH is currently supporting a number of clinical trials that

seek to document the long-term health effects of intentional weight loss through systematic, large-scale, randomized clinical trials. The Diabetes Prevention Program trial and other trials have shown that weight loss can have short-term beneficial health effects, including reducing cholesterol levels, lowering blood pressure, and preventing the onset of type 2 diabetes. The NIH Look AHEAD and Diabetes Prevention Program Outcomes Study trials are investigating the long-term link between weight loss and morbidity. Other studies are evaluating the impact and effectiveness of increasingly popular weight-loss techniques, such as the Atkins diet and bariatric surgery.

In addition to sponsoring clinical trials that examine techniques for and health effects of obesity treatment, NIH also supports research focused on identifying the external conditions that prevent obesity and facilitate obesity treatment. These studies examine the social, cultural, psychological, economic, environmental, and other determinants that influence food intake and physical-activity patterns, as well as evaluating environmental and policy interventions seeking to modify these determinants.

NIH supports a variety of educational efforts that seek to convey the existing scientific knowledge base to health professionals and the public. NIDDK has established a Clinical Obesity Research Panel (CORP), formerly named the National Task Force on Prevention and Treatment of Obesity. CORP, which is composed of leading obesity researchers and clinicians, is responsible for synthesizing current, scientifically based information about the prevention and treatment of obesity; developing statements about topics of clinical importance, based on critical analyses of the literature; and providing advice to the NIDDK Advisory Council on important clinical research needs. CORP advises the Weight-Control Information Network (WIN), which was established in 1994 to provide health professionals and consumers with science-based information on obesity, weight control, and nutrition. WIN has also developed *Sisters Together: Move More, Eat Better*, an initiative that encourages black women to maintain a healthy weight by becoming more physically active and eating healthier foods. WIN produces fact sheets, brochures, and a quarterly newsletter designed to provide practical information about the long-term health benefits of eating well and being physically active.

Congress has voiced support for expanding research on obesity. Advocates have argued for research to more fully embrace prevention-oriented models, calling for an increase in the level of resources devoted to examining population-based interventions (such as studying the effect of the availability of recreational facilities on physical activity). An improved evidence base linking population-based interventions to positive outcomes could increase the political viability of these approaches. Other concerns regarding the existing obesity research portfolio center around the degree of attention paid to the disproportionate disease burden borne by racial and ethnic minorities. Although NIH has made efforts to target investigations into the health disparities experienced by minority groups,

some critics argue for an even greater emphasis on understanding the role of race and ethnicity in obesity.

Clinical Treatment

Although most of the interventions described above represent *population-based* interventions to address obesity, the federal government also influences the availability and adoption of *person-based* services through the coverage policies of publicly financed health care insurance programs. In particular, the benefit and coverage policies of Medicare, Medicaid, and State Child Health Insurance Programs (SCHIP) have a significant impact on the types of clinical weight-management services available to the American public.

Clinical treatments for obesity have been demonstrated to be moderately effective, although the types of interventions proven to be most efficacious are not typically implemented in primary-care practices.⁵⁶ The U.S. Preventive Services Task Force, an independent panel of preventive-medicine experts supported by the Agency for Health Care Research and Quality, recommends routine screening for obesity and intensive behavioral dietary counseling for obese persons and others with cardiovascular and other diet-related chronic disease risks.⁵⁷ The task force found that the most effective interventions combined education, behavior-oriented counseling, and patient reinforcement and follow-up. More intensive interventions, and those of longer duration, are associated with a larger magnitude of benefit and more sustained changes in diet.⁵⁸

Patients urged to lose weight by their physicians are more likely to attempt weight-loss regimens than those who are not counseled by their care provider,⁵⁹ yet less than half of obese adults are counseled about weight loss during primary-care visits. This “undertreatment” of obesity reflects providers’ pessimism about treatment outcomes, which is based on the limited long-term efficacy of available treatments, lack of physician awareness and knowledge regarding counseling techniques, and limited reimbursement for weight-loss treatment.⁶⁰

In general, preventive services are not covered under Medicare unless specifically mandated by Congress. Section 1862 of the Social Security Act states that services will not be covered if they “are not reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member.” The Medicare program does not currently recognize obesity as an illness. Hospital and physician services for weight loss are not covered.

Similarly, Medicaid and SCHIP do not currently recognize obesity as a disease. As a result, hospital and physician services for obesity are not covered and drugs for weight loss are excluded from payment. However, states can apply for a waiver to provide coverage for weight-loss drugs under Medicaid. In some situations, both Medicaid and Medicare will

Clinical Treatment: Illustrative Example

The Health Resources and Services Administration supports a Diabetes and Hypertension Collaborative that includes intensive nutrition and weight-management education for patients in community health centers.

pay for gastric bypass surgery to induce weight loss as a form of treatment for diabetes or heart disease for the morbidly obese.

Private-sector insurance programs often follow the federal lead with respect to coverage policies. Coverage for obesity treatment is generally minimal or completely lacking under most private health plans. While some managed care companies and health maintenance organizations do provide coverage for some services (for example, support such as corporate wellness programs that incorporate weight management, prescription drugs, reimbursement for membership in weight-loss programs, and surgery), many programs require a comorbid condition such as type 2 diabetes as a condition of covering weight-loss treatments.

The primary-care service delivery systems sponsored directly by federal funds, such as the Health Resources and Services Administration (HRSA) Community Healthy Center program, the Indian Health Services, and Department of Defense and VA clinical services, have established clinical programs to promote nutritional and physical-activity counseling for high-risk patients. Although not delivered through an insurance mechanism, these programs provide individualized counseling and services to obese patients who have or are at risk for other chronic health conditions.

Although weight-management services may be available within these federally funded primary-care systems, the lack of reimbursement mechanisms for weight-loss services in Medicare, Medicaid, and most private plans is likely to significantly influence the broader affordability and accessibility of these interventions. The costs of individualized, intensive counseling services and pharmaceutical weight-loss aids are significant and may be unaffordable to many consumers in the absence of health care coverage or other form of subsidy.

POLICY OPTIONS AND FUTURE DIRECTIONS

The dramatic increase in obesity rates, coupled with the growing evidence base linking obesity with a wide range of resource-intensive chronic diseases, has spurred policymakers to re-evaluate the effectiveness and adequacy of existing government interventions related to physical activity and nutrition. Both Congress and the administration have focused renewed attention on obesity as a major health issue and have developed proposals to address the obesity epidemic.

President Bush launched Steps to a HealthierUS, a new initiative to encourage Americans to be physically active, eat a nutritious diet, and undergo preventive screenings. The initiative would revitalize the President's Council on Physical Fitness and Sports; develop agencywide activities to promote personal fitness; and promote the use of public lands and water. In addition, the President has signed an Executive Order that directs certain federal agencies to review all policies, programs, and regulations related to physical activity, nutrition, and

screenings and propose modification or new actions to further improve the promotion of personal fitness.

A variety of legislative proposals related to obesity were considered during the 107th Congress and re-introduced this session. The Senate and House introduced similar versions of the Improved Nutrition and Physical Activity Act (IMPACT). Both bills would amend the Public Health Service Act to address issues of overweight and obesity through a wide variety of mechanisms. Other more focused bills, such as the Medicaid Obesity Treatment Act (H.R. 2024) and the Obesity Prevention Act (H.R. 2227), seek to address the obesity epidemic through the Medicaid program and through model school-based physical-fitness and nutrition programs in state educational agencies, respectively.

Although the various proposals pursued somewhat different strategies, in general the recent and proposed policy changes reflect all or some of the following:

- ***Increase federal support for educational programs, mass media campaigns, and research efforts.*** Many of the proposals being considered would significantly increase the investment of federal dollars in programs to combat obesity. Proposals include increased spending on grants to support the development of pilot programs, mass media campaigns sponsored by CDC, aid to schools to support physical-education programs, training of health professionals, and NIH research related to obesity prevention and treatment. The House version of the IMPACT bill specifically calls for an evidence-based report evaluating the effectiveness of existing weight-loss programs. Both the House and Senate versions require a comprehensive report summarizing the status of federally funded research related to obesity. Critics argue that although these initiatives are important, they represent modest investments relative to the scope of the problem and are not of the magnitude required to effect meaningful change.
- ***Provide enhanced incentives for individuals, the states, and the private sector to pursue innovative solutions.*** Recognizing that federal action alone will not be sufficient to significantly reduce obesity, many new or proposed programs seek to leverage state and private efforts. For example, DHHS has launched a Healthy Community initiative that would provide \$13.7 million in grants to approximately a dozen communities seeking to design and implement creative approaches to addressing obesity, diabetes, and other chronic disease problems. The President's FY 2004 budget proposal would significantly expand the Steps to a HealthierUS, of which the Healthy Communities grant is a major part, increasing total funding to \$125 million and expanding the number of grantee sites. The IMPACT bill allows DHHS to give priority to grant applicants willing to offer matching funds. In April 2002, the Internal Revenue Service recognized obesity as a disease and, therefore, allows many tax payers to deduct the cost of weight-loss programs as a medical expense. While these experiments may yield some promising

Many new or proposed programs seek to leverage state and private efforts.

results, it is not yet clear how widely adopted these practices and programs will become.

■ *Modify the food choices available through federal food-assistance programs.* In light of the reach and scope of the various federal food-assistance programs, a significant amount of attention has focused on ensuring that these programs offer healthy and nutritious food choices that promote good eating habits. The IMPACT bill calls for a study investigating whether USDA food-assistance programs could be improved to contribute to obesity prevention. H.R. 2227 focuses specifically on developing model approaches through the school lunch program. Some observers have noted that existing food-assistance programs are often viewed as agricultural support programs and opposition from powerful farming, dairy, and food industry lobbies may block efforts to achieve a substantial overhaul of these programs.

■ *Expand the weight-management services available through publicly financed insurance mechanisms.* Significant attention has focused on modifying the benefits available through Medicaid and Medicare to improve offerings related to obesity treatment and prevention. The House version of the IMPACT bill calls for the establishment of a \$25 million demonstration project to examine the feasibility and effectiveness of providing Medicare beneficiaries with behavioral coaching and other support services to improve wellness. H.R. 2024 seeks to require states providing prescription drug coverage to cover drugs medically necessary to treat obesity.

Many advocacy groups have called for much more aggressive federal policies to reduce obesity.⁶¹ These proposals include federal mandates to eliminate the availability of “junk food” in schools; dramatic increases in the availability of healthful foods, such as fruits and vegetables, through the USDA school meals programs; more stringent requirements regarding nutritional labeling on menus and menu boards at fast-food and other chain restaurants; tax levies on soft drinks; tax incentives to encourage grocery stores to locate in low-income neighborhoods; more proactive uses of transportation policy to support walking, biking, and mass transit; and reductions in (or elimination of) farm subsidies that lower the prices of corn sweeteners and other energy-dense food products. Many of these policies are likely to face stiff opposition from industry lobbies that view such proposals as misguided and at odds with their interests.

Significantly reducing obesity rates in the United States will require some fairly profound societal changes. Meaningful policy interventions in this area are likely to involve either actions that threaten the economic interests of industries that benefit from the status quo or substantial investments of public resources. During the 108th Congress, policymakers will continue to focus on the obesity epidemic and consider legislation that will not only address the epidemic, but could also have an appreciable effect in reversing this deadly trend. Given that the obesity epidemic is associated with deeply ingrained societal structures, policymaking on

Reducing obesity rates in the United States will require profound societal changes.

this issue is not likely to be limited to a single piece of legislation or a single program. Rather, it will involve multiple congressional committees and federal agencies addressing a variety of policy spheres, including health, education, transportation, taxation, agriculture, and social welfare.

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60. Tarayn Grizzard, "Undertreatment of Obesity," *MSJAMA*, 288, no. 17 (November 6, 2002): 2177.
61. Nestle and Jacobson, "Halting the Obesity Epidemic."

Appendix

Examples of Federal Activities to Reduce Obesity

Information and Education

- The Department of Health and Human Services (DHHS) under the Healthy People 2010 initiative, has produced the *Healthy People in Healthy Communities: A Community Planning Guide Using Healthy People 2010*. This guide outlines strategies to help start community activities.
- DHHS has recently launched a youth-oriented media campaign, *Verb: It's What You Do*, to promote physical activity and community involvement and to discourage unhealthy, risky behavior among youth from ages 9 through 13, known in marketing terms as "tweens." The campaign encourages tweens to find a verb, such as "run," "sing," or "dance," and use their verb to become more involved in regular physical activity.
- The Centers for Disease Control and Prevention (CDC) is using existing surveillance systems to develop reports and guidelines on obesity and obesity-related diseases. CDC has also developed guidelines for school health programs, based on a review of published research and input from academic experts. For example, the *School Health Index for Physical Activity and Healthy Eating: A Self-Assessment and Planning Guide*, developed by CDC, enables schools to identify strengths and weaknesses of their physical-activity and nutrition policies and programs.
- The CDC, in collaboration with the President's Council on Physical Fitness and Sports and the Department of Education, has developed a report, *Promoting Better Health for Young People through Physical Activity and Sports*, which describes strategies to increase the number of youth engaging in physical activity.
- The Indian Health Service has partnered with the Head Start Bureau to develop an initiative, Healthy Children, Healthy Families, and Healthy Communities: A Focus on Diabetes and Obesity Prevention, which focuses on obesity and diabetes prevention activities for Head Start children, families, staff, and communities.
- The Office of Women's Health has developed the Girls and Obesity Initiative in an effort to identify existing government obesity programs and to adapt these programs toward gender-specific guidance for girls.
- The Agency for Health Care, Research, and Quality is working with the U.S. Preventive Services Task Force to update the chapter on screening for obesity in the 1996 *Guide to Clinical Preventive Services*. The report will be updated to address screening, counseling, and effective primary-care-based interventions for overweight and obesity.
- The Health Resources and Services Administration (HRSA) has developed Bright Futures in Practice: Physical Activity, a set of guide-

lines and tools on health promotion, disease prevention, and early recognition of physical-activity issues and concerns for infants, children, and adolescents. In addition, HRSA has developed the Bright Futures in Practice: Nutrition, which provides nutritional guidelines for infants, children, and adolescents.

- The National Heart, Lung, and Blood Institute (NHLBI) of the National Institutes of Health (NIH) has developed the *Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: Evidence Report*, which can be used by physicians and other health professionals in treating overweight and obesity. The NHLBI has also developed an Obesity Education Initiative to provide information on obesity and obesity-related diseases.
- The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) has developed a Weight-Control Information Network (WIN) to provide health professionals and consumers with science-based materials on obesity, weight control, and nutrition.
- The National Institute on Aging has developed guidelines and a video on exercise for older adults.
- The CDC also sponsors the Active Community Environments program, an initiative to promote walking, bicycling, and the development of accessible recreation facilities. Some of the activities being promoted under this initiative include the Kids Walk-to-School program, which promotes walking and bicycling to school; the development of a guidebook for public health practitioners to use to partner with transportation and city planning organizations to promote walking, bicycling, and close-to-home recreation facilities; a partnership with the National Park Service Rivers, Trails, and Conservation Assistance Program, to promote the development and use of close-to-home parks and recreational facilities; and a collaboration with the Environmental Protection Agency on a national survey to study attitudes of the American public toward the environment, walking, and bicycling.
- The CDC has developed the Personal Energy Plan (PEP), a self-help program for the worksite that aims to promote healthy eating and physical activity. Worksites are encouraged to supplement the PEP kits with added activities and modifications to the nutritional and physical environment.
- The NIDDK, as part of the WIN program, has developed a national media-based program called Sisters Together: Move More, Eat Better, which is designed to encourage black women ages 18 and over to maintain a healthy weight by becoming more physically active and eating healthier foods.
- The NHLBI, in collaboration with the National Recreation and Park Association, has developed the Hearts N' Parks program, a national community-based program designed to help park and recreation agencies encourage heart-healthy lifestyles in their communities. Pilot projects have been tested in North Carolina and Arlington County,

Virginia. Currently, 50 park and recreation departments in ten states and six Marine Corps bases are implementing Hearts N' Parks over a three-year time span.

■ The Department of Transportation has developed the Partnership for a Walkable America, an alliance of public and private organizations and individuals committed to promoting the changes needed to make America more walkable. This independent alliance will focus on strategies to increase safety and access for walking and to promote the health benefits of increased walking.

■ The CDC Division of Nutrition and Physical Activity has initiated a program to support state health departments and their partners in developing and implementing targeted nutrition and physical activity interventions in an effort to prevent chronic diseases, especially obesity. As of 2001, twelve states have received funding to design their own population-based interventions. These states include California, Colorado, Connecticut, Florida, Massachusetts, Michigan, Montana, North Carolina, Pennsylvania, Rhode Island, Texas, and Washington.

■ The National Cancer Institute, in collaboration with the Produce for Better Health Foundation, has developed the 5 A Day for Better Health program, which seeks to improve dietary habits of children and adults. The program's goal is to increase Americans' consumption of fruits and vegetables to five or more servings a day by the year 2010. The program also provides education on the health benefits of eating fruits and vegetables.

■ The CDC, in collaboration with USDA, is developing a mentoring curriculum to promote nutrition and physical activity in young black males, in an effort to reduce racial disparities in nutrition and physical activity.

■ USDA's Team Nutrition, an initiative designed to help schools meet dietary guidelines in their school breakfast and lunch programs, provides grants to states promoting the Federal Dietary Guidelines for Americans, healthy food choices, and physical activity. It includes a variety of nutrition education materials for children ranging from prekindergarten through high school that support concepts to maintain healthy weight. For example, the action kit *Changing the Scene: Improving the School Nutrition Environment*, can be used at the state and local levels to educate decision makers about the role school environments play in helping students meet the goals of the *Dietary Guidelines for Americans*.

■ The CDC Division of Adolescent and School Health supports state education and health departments to implement coordinated school health programs that focus on improving physical activity and nutrition among young people. This support is used to implement training for professionals in health education, physical education, and food service in local schools and districts. For example, the Wisconsin Department of Public Instruction hosted a Best Practices in Physical

Activity and Health Education Symposium that showcased exemplary school health promotion programs. Other states have added new statewide standards for teacher training and physical-fitness testing to local school districts' accountability report cards.

Healthy Food Access

- USDA has recently launched a pilot project in four states (Indiana, Iowa, Michigan, and Ohio) that would provide free fruit and vegetables to public school students in an effort to encourage healthy eating habits. This \$6 million, one-year program requires participating schools to provide the fruits and vegetables at times other than lunch.
- The USDA Community Food Projects Grant Program provides matching grants to community projects designed to increase food security by bringing the whole food system together to assess strengths, establish linkages, and create systems that improve the self-reliance of community members for their food needs. The program emphasizes increasing access to fresher, more nutritious food supplies. Funds have been authorized through 2007 at \$5 million per year.
- The Women, Infants, and Children (WIC) Farmer's Market Nutrition program was established by Congress to provide fresh and nutritious foods from farmer's markets to low-income families participating in the WIC program.

Physical Activity Access

- The Department of Education has developed the Carol M. White Physical Education Program to initiate, expand, and improve physical education programs (including after-school programs) for students from kindergarten through 12th grade. The program will provide equipment and support to enable students to participate in physical education activities, as well as funds for staff and teacher training and education.

Research

- The NHLBI, in collaboration with the Center for Human Nutrition at John Hopkins Bloomberg School of Public Health, is sponsoring the PATHWAYS research program, which fosters culturally appropriate, healthy eating practices and increased physical activity among American Indian children, their families, food services staff, and physical education and classroom teachers.
- The National Institute of Child Health and Human Development supports several research projects that will investigate the bio-behavioral processes, such as eating habits and food avoidance, of obesity in children and adolescents.

■ The NIDDK supports the Obesity and Eating Disorders Program, which provides research ranging from the cellular to behavioral aspects of obesity and eating disorders. The research seeks to increase understanding of the etiology, prevention, and treatment of these conditions. Areas of research interest include investigations of molecular, physiological, metabolic, neuroendocrine, psychological, epidemiologic, and genetic factors; dietary and behavioral interventions; medications; physical activity; and surgery in the treatment of obesity.

■ The NIDDK sponsors ten clinical nutrition research units and 4 obesity/nutrition research centers (ONRC) whose primary purpose is to develop new knowledge concerning the development, treatment, and prevention of obesity. The clinical research units are fully funded by NIH, whereas the ONRCs are institutions that have existing programs and are partially funded by NIH.

■ The NIDDK has also established a National Task Force on Prevention and Treatment of Obesity. This task force, which is composed of leading obesity researchers and clinicians, is responsible for synthesizing current, scientifically based information about the prevention and treatment of obesity and for developing statements, based on critical analyses of the literature, about topics of clinical importance.

Clinical Treatment

■ HRSA supports a Diabetes and Hypertension Collaborative that includes intensive nutrition and weight-management education for patients in community health centers.

■ The CDC Wise Woman program consists of 12 demonstration projects in states, territories, and tribes, and provides screening and lifestyle intervention for many low-income and uninsured women ages 40 to 64.

■ The Office for American Indian, Alaska Native, and Native Hawaiian Programs has developed the Wisdom Steps Health Promotion Program for Elders, a partnership between Minnesota's Tribes and the state Unit on Aging. The program promotes health awareness, with major emphasis on assisting elders in weight loss, participation in exercise programs, improvement of diet, and smoking cessation.

■ The Department of Defense has developed the LEAN program, which is administered in the Tripler Army Medical Center. This is a three-week healthy lifestyle program for patients suffering from hypertension, obesity, type 2 diabetes, and high cholesterol and involves a reasonable, low-intensity exercise program.