

**Tipping the Scales on Obesity:
Meeting the Challenges of Today
for a Healthier Tomorrow**

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Today more Americans than ever before are overweight and obese. As a result, our society faces increased incidence of obesity-related diseases, such as heart disease and diabetes, and we are paying additional health care costs to treat these conditions.

It is widely acknowledged that the challenge to individual and public health is significant. Reversing this dangerous trend requires concerted action by the public health, medical, nutrition, fitness, business and educational communities – as well as by individuals and the food industry. But while there is agreement that maintaining a healthy weight means balancing energy intake with energy output, consensus has not been reached on the best approach for achieving this balance.

A better understanding of the multiple social, economic, biological and cultural factors that have led to our overweight and sedentary society is crucial if we are to develop solutions to revitalize America's health.

Tipping the Scales on Obesity: Meeting the Challenges of Today for a Healthier Tomorrow is a comprehensive examination of existing data and research about obesity, inactivity and related trends. We hope this resource will provide a basis for greater understanding about the roots of this public health challenge and the need for constructive, actionable solutions.

Tipping the Scales is intended to:

- Provide a comprehensive examination of obesity by citing factual, research-oriented studies on the trends, the contributing factors and the effects of obesity;
- Examine why and how multiple sectors of society must work together to understand and attack obesity, inactivity and the behavioral patterns that underlie both;
- Evaluate the range of proposed solutions; and,
- Outline the elements of successful social and individual change strategies.

Conquering this epidemic requires both a community effort and an individual commitment. Schools, families, communities, health professionals, the food industry, the government and the media all have an important role to play in supporting better attitudes, behavior and choices when it comes to food and activity. Together, with the right information, we can set a course for a healthier balance for life.

Sincerely,



Susan Finn, PhD, RD
ACFN Chair and Spokesperson

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INTRODUCTION

There is general agreement that obesity is a critical public health issue, but no such agreement exists about its causes or potential solutions. Americans are bombarded on a daily basis with competing information, agendas and ideas about health and nutrition. Yet few sources exist for comprehensive, balanced, actionable and easy-to-understand information about how to sustain a healthy lifestyle.

To fill this void, the American Council for Fitness and Nutrition (ACFN) has developed *Tipping the Scales on Obesity: Meeting the Challenges of Today for a Healthier Tomorrow* to provide a fulsome examination of the complex, multifaceted issues surrounding obesity.

Tipping the Scales is divided into three major sections:

- Section I examines the obesity epidemic from a historical perspective to better understand the unintended consequences of human progress on health in terms of industrial, technological, economic and societal trends. It evaluates the roles played by society's major sectors – including families, schools, communities, government and business – in understanding and addressing obesity.
- Section II looks at possible solutions to obesity, offers a framework for evaluating them and discusses the challenges of implementation. Topics covered in this section include energy balance and physical activity, nutrition and physical education, marketing and advertising, behavior change, product reformulation and innovation, and community planning.
- Section III provides a call to action for all sectors of society to work together to tackle obesity. It includes a list of strategic directions and specific action items to help combat obesity. This section also highlights specific programs, policies and products that are already making a difference in the battle to improve America's health.

The full content of ACFN's *Tipping the Scales on Obesity: Meeting the Challenges of Today for a Healthier Tomorrow* also is available online at www.acfn.org.



I. OBESITY: THE UNINTENDED CONSEQUENCES OF HUMAN PROGRESS

The obesity epidemic did not arise overnight. It has been a gathering storm driven by human progress and achievement over many decades. Understanding the prevalence of obesity in America, the historical changes that together have led to the current epidemic, and the factors that continue to contribute to obesity are key to solving this multifaceted issue.

1.1 The State of America's Weight: How Severe is the U.S. Obesity Problem?

Measuring the scope of the problem: BMI, physical activity and food consumption

The most commonly used method for defining whether people are within their appropriate weight range for their height is body mass index or BMI, yet despite its popularity, it does have some limitations.

BMI does not distinguish between weight from fat and weight from muscle or bone.¹ BMI can therefore overestimate body fat in individuals with proportionally high muscle mass, such as athletes and bodybuilders. It can underestimate body fat in people who have lost muscle mass, such as older individuals. Body fat distribution also varies among races and ethnicities, some of which tend to have higher body fat percentages for a given BMI. While BMI is a valuable tool, some experts suggest that other factors and methods should be used to define weight problems.

The U.S. Centers for Disease Control and Prevention (CDC) quantified obesity using BMI. According to data gathered between 1999 and 2000:^{2,3}

- 30 percent of U.S. adults aged 20 years and older — nearly 59 million people — were obese, defined as having a BMI of 30 or more.
- 64 percent of U.S. adults aged 20 years and older were either overweight or obese, defined as having a BMI of 25 or more.
- 15 percent of children and adolescents aged six to 19 years were overweight, defined as a BMI for age and sex at or above the 95th percentile of the CDC growth charts.

Another way to measure the extent of America's weight problem is by quantifying Americans' physical activity and food consumption levels. Numerous experts agree that the majority of people with weight problems are burning fewer calories through physical activity than they consume from food. Along with a combination of genetic and environmental factors, eating too much or being sedentary can lead to weight gain by altering "energy balance."⁴

Americans' daily food intake has increased over several decades; at the same time, physical activity levels have declined. This has left the energy equation unbalanced, leading to a 10- to 12-pound median weight gain in the population over the past 20 years.⁵

- Over the past 30 years, the amount of calories that Americans consume per day has increased by an average of 168 for men and 335 for women.⁶
- More than 50 percent of American adults do not get enough physical activity to provide health benefits; 26 percent are not active at all in their leisure time.⁷

¹ Strategic Plan for NIH Obesity Research. August 2004: page 12. <http://obesityresearch.nih.gov>.

²Prevalence of Overweight and Obesity Among Adults: United States, 1999-2000 <http://www.cdc.gov/nchs/products/pubs/pubd/hestats/obese/obse99.htm>.

³ Prevalence of Overweight and Obesity Among Children and Adolescents: United States, 1999-2000 <http://www.cdc.gov/nchs/products/pubs/pubd/hestats/overwght99.htm>.

⁴ National Center for Chronic Disease Prevention and Health Promotion. Overweight and Obesity. Factors Contributing to Obesity. U.S. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion. www.cdc.gov/nccdphp/dnpa/obesity/contributing_factors.htm. Updated September 15, 2003.

⁵ Philipson, Tomas. "The Economics of Obesity: A Report on the Workshop Held at USDA's Economic Research Service." ERS:USDA. May 2004.

⁶ Trends in Intake of Energy and Macronutrients – United States, 1971-2000. JAMA. March 10, 2004. Vol. 291, No. 10

Energy balance is well recognized as an important approach to maintaining a healthy weight. The search for solutions for preventing and arresting the rate of overweight and obesity must by necessity consider approaches that help individuals achieve energy balance.

American Journal of Clinical Nutrition, April 2004

Research has given us a pretty good understanding of the causes of these trends. In recent years, we are seeing the result of an imbalance within people's dietary choices. The most important imbalance is between calories in versus energy out.

*Mark B McClellan, MD, PhD
Former Commissioner, U.S. Food and Drug Administration,
Speech at Harvard School for Public Health, July 1, 2003*

Fundamentally, obesity represents an imbalance between energy intake (e.g., calorie intake) and energy output...

*U.S. Food and Drug Administration
Calories Count: Report of the Working Group on Obesity, March 12, 2004*

While average daily calorie consumption has increased, the intake represents relatively small increases in caloric consumption over a long period of time. Research suggests most people do not become overweight overnight; in fact, the average American adult gains only about 2.2 pounds per year.⁸

Some experts argue that the obesity epidemic has arisen due to this gradual weight gain, and that it can be prevented in most of the population by modifying energy balance (i.e., reducing energy intake and/or increasing in physical activity) by as little as 100 kcal/day.⁹ In essence, individuals can prevent weight gain by choosing to consume 100 fewer calories or increasing their physical activity to expend 100 additional calories each day.

Some researchers suggest that a greater adjustment – around 260 calories per day – may be required.¹⁰ Whether it is 100 or 260 calories per day, the important point is that both of these imbalances are small enough for individuals to correct – if they are willing and understand how to reduce their caloric intake and increase their physical activity each day to restore energy balance.

Measuring the consequences: Medical and economic data

The medical and economic consequences of excess weight provide another tool for measuring the impact of America's weight problem. Excess weight has been shown to be:

- **A contributor to increased health risks.** Cancer, coronary heart disease, congestive heart failure, high blood pressure and cholesterol, and Type II diabetes are some of the many diseases related to excess weight.¹¹ The obese or overweight also are more likely to have psychological disorders, such as depression, eating disorders, distorted body image and low self-esteem.¹²

⁷ Physical Activity and Good Nutrition: Essential Elements to Prevent Chronic Diseases and Obesity. http://www.cdc.gov/nccdphp/aag/aag_dnpa.htm.


⁸Hill JO, Wyatt HR, Reed GW, Peters JC. Obesity and the Environment: Where do we go from here? *Science*. February 7, 2004. 229; 5608:853-55.

⁹ Ibid.

¹⁰ Butte, N. "Big steps needed to reverse childhood obesity." *Nutrition and Your Child Newsletter*, Vol. 1 2004. USDA/ARS Children's Nutrition Research Center at Baylor College of Medicine.

¹¹ Surgeon General. The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity. U.S. Department of Health and Human Services. Atlanta, GA. 2001.

¹² California Center for Public Health Advocacy. *An Epidemic: Overweight and Unfit Children in California Assembly Districts*. Davis, CA. 2002.



The location of fat on the body may increase a person's health risks. Waist circumference and waist-to-hip ratio also are measures used to predict health risks. Waist-to-hip ratio is a risk indicator when the presence of excess fat mainly around the waist or abdomen is out of proportion to total body fat. A waist-to-hip ratio of 1.0 is considered risky for both men and women. Women with a waist measurement of more than 35 inches or men with a waist measurement of more than 40 inches have a higher health risk because of their fat distribution.¹³ Healthy waist-to-hip ratios are 0.90 or less for men and 0.80 or less for women.¹⁴

In 2000, more than 400,000 deaths in the United States were attributed, in part, to people being overweight, mostly because of imbalances between diet and physical activity – an increase of one third from 1990 estimates of the number of deaths linked to poor diet and physical inactivity.¹⁵

- **A factor in America's rising health care costs.** Some researchers have calculated that the costs attributable to excess weight and associated health problems accounted for 9.1 percent of total U.S. medical expenditures in 1998.¹⁶ Nationally, the direct lifetime medical costs of diabetes, heart disease, high cholesterol, hypertension and stroke are \$10,000 greater per individual for people who are obese than for those who are not obese. In 2002, spending levels for these five illnesses were expected to increase more than 20 percent in the following two years.¹⁷

The total cost of obesity nationwide was estimated to be \$117 billion in 2000. This includes services related to the prevention, diagnosis or treatment of related diseases; the lost wages of people who were out of work due to illness or disability; and, potential earnings lost by premature death.¹⁸

1.2 Problems Through Progress: The Unintended Effects of Technological Advances

Since man's earliest days, strenuous physical activity was a daily part of life. Hunting and gathering the food necessary to survive, along with the numerous rigors of a non-technological society, allowed man to balance calories consumed and calories burned without conscious effort.¹⁹ Additionally, some research (e.g., the "thrifty gene hypothesis")²⁰ suggests humans are predisposed to storing fat to survive when food is scarce.

In the last 100 years, advances in agriculture, technology and transportation have gradually changed the way Americans eat, work and move. Along with a higher standard of living and an improved economy, these trends also have unintentionally contributed to the prevalence of obesity.

Today, food production requires:

- **Less physical exertion.** In the past, agricultural production required strenuous work. In effect, farmers were paid to exercise, and food was expensive because of the amount of time and physical energy required for output. Now, with mechanized farming and food production methods, more food can be produced with less work. The result has been low-cost, readily available food with little energy output needed in exchange.

¹³ Understanding Adult Obesity, NIH Publication No. 01-3680, NIDDK Weight Control Information Network. October 2001.

¹⁴ Overweight and Obesity. Defining Overweight and Obesity, Centers for Disease Control and Prevention. www.cdc.gov.

¹⁵ Mokdad AH et al. Actual causes of death in the United States, 2000. *JAMA*. 291:1238-45, 2004.

¹⁶ Finkelstein, EA, Fiebelkorn, IC, Wang, G. National medical spending attributable to overweight and obesity: How much, and who's paying? *Health Affairs* 2003;W3:219-226.

¹⁷ Philipson, Tomas. "The Economics of Obesity: A Report on the Workshop Held at USDA's Economic Research Service." ERS: USDA. May 2004.

¹⁸ Office of the Assistant Secretary for Planning and Evaluation. Physical Activity Fundamental to Preventing Disease. U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation. June 20, 2002.

¹⁹ US Department of Health and Human Services. Physical Activity and Health: A Report of the Surgeon General. Atlanta, GA. 1996.

²⁰ Strategic Plan for NIH Obesity Research. August 2004: page 13. <http://obesityresearch.nih.gov>.

- **Less time.** Technological change has made food production less labor-intensive. For example, in 1900, it took 35 to 40 labor hours to produce 100 bushels of corn. Today, it takes only two and a half hours.²¹

Leisure Activity

Technology has given Americans more time to enjoy leisure activities. A snapshot of how Americans spend their leisure time today compared with past years reveals that:

- Watching television has replaced most active leisure-time activities.²² Rather than exercising or playing, time spent watching television has increased six-fold.²³ Today, 98 percent of Americans have a television set and watch an average of 15 hours per week.²⁴ Studies have indicated a link between obesity and the decreased physical activity associated with watching television.^{25,26}
- A recent study found that electronic game use among children eight years and younger is associated with increased BMI.²⁷

Community Planning

Increased mobility also is a contributing factor in the obesity epidemic. The industrialization of the American workforce and urbanization in the 19th and 20th centuries spawned the construction of the first public transportation systems. Personal forms of transportation also emerged during this period, as record numbers of consumers purchased newly affordable automobiles for their everyday use – reducing the time spent walking.

Today, for example:

- Americans walk, on average, eight miles less per day than our ancestors.²⁸
- U.S. households make an average of 12 car trips a day.²⁹
- In 1996, cars were used for 84 percent of all trips in urban areas.³⁰

The emergence of modern-day transportation has translated into a more efficient and stronger economy, while simultaneously allowing Americans to achieve the “American Dream” by living in the suburbs and commuting to work. In 1990, for example, 27.5 million workers commuted to jobs outside of their home counties – an increase of 206 percent over 30 years.³¹

As a result of this explosion in transportation options, new communities have been planned with modern transportation in mind. As Americans have moved further out from urban areas, “sprawl” – communities defined by unwalkable distances between houses, stores, schools and businesses – has come to dominate the landscape.

²¹ Agricultural News at Colorado State. http://agnews.colostate.edu/index.asp?page=food_for_thought. Accessed July 6, 2004.

²² French SA, Story M, Jeffery RW. Environmental influences of eating and physical activity. *Annu Rev Public Health*. 2001. 22:309-35.

²³ Ibid.

²⁴ Ibid.

²⁵ Andersen RE, Crespo CJ, Bartlett SJ, Cheskin LJ, Pratt M. Relationship of Physical Activity and Television Watching With Body Weight and Level of Fatness Among Children. *JAMA*. 1998;279:938-942

²⁶ Hill JO, Peters JC. Environmental Contributions to the Obesity Epidemic. *Science*. 280:1371-1374. May 29, 1998.

²⁷ Vandewater EA, Shim M, Caplovits AG. Linking obesity and activity level with children's television and video game use. *Journal of Adolescence*. February 2004. 27:1:71-85.

²⁸ French SA, Story M, Jeffery RW. Environmental Influences on Eating and Physical Activity. *Annu Rev Public Health*. 2001. 22:309-35

²⁹ Why people don't walk and what city planners can do about it. Local Government Commission Center for Liveable Communities.

http://www.lgc.org/freepub/PDF/Land_Use/focus/plan_to_walk.pdf Accessed July 6, 2004.

³⁰ Frank LD, Engelke P. How land use and transportation systems impact public health: A literature review of the relationship between physical activity and built form. 2000. <http://www.cdc.gov/nccdphp/dnpa/pdf/aces-workingpaper1.pdf> Accessed September 7, 2004.

³¹ United States Department of Transportation, Research and Special Programs Administration. “Journey-to-Work Trends in the United States and its Major Metropolitan Areas, 1960-1990.” <http://ntl.bts.gov/DOCS/473.html>. Accessed on September 17, 2004.



Residents of counties with sprawl are less likely to walk during leisure time.³² Barriers that prevent them from walking include weather, distance, lack of sidewalks or time and inconvenience.³³ Suburban sprawl and its ability to limit physical activity have had a measurable impact on the health of Americans.³⁴ People who live in areas with more sprawl are likely to weigh six pounds more than people who live in compact areas, and high blood pressure is more common.

The very nature of American communities compounds the obesity issue by making it difficult for Americans to fit physical activity into their daily lives. Research shows that people are unlikely to use community resources located more than a few miles away by car or more than a few minutes away by biking or walking.³⁵ Many recreation facilities and walking/biking trails are not available, safe or convenient.

A recent national survey found that:

- Less than half of municipal and county park and recreation departments provide fitness trails, while only 29 percent provide hiking trails and 21 percent provide bicycle trails.³⁶
- Fifty-six percent of municipal and county park and recreation departments provide a community swimming pool. National estimates are one pool per 53,000 people, compared to the National Recreation and Park Association's recommendation of one pool for every 20,000 people.³⁷

Family Dynamics

The traditional "breadwinner" model of the American family has been replaced by two wage-earner or single-parent families. One consequence of this trend has been increased pressures on the household, which unintentionally has contributed to America's war with its waistline.

People are confronted with the rigors of balancing work with family. They often have less time to spend preparing nutritious meals at home and eat more meals away from home or on the run.

The percentage of households that reported cooking "two or more times a day" dropped from 35.9 percent in 1993 to 32.1 percent in 2001. The percentage of households cooking, on average, "once a day" declined as well, from 44.3 percent in 1993 to 40.5 percent in 2001. Consequently, the percentage of households reporting cooking "a few times a week" and "once a week" has increased.³⁸ Some experts suggest that consumers need to change how they view "eating out," which was once seen as an occasional indulgence, to avoid "splurging" on calories.³⁹

Adjustments in Personal Preferences

In 1900, familiar household routines included cooking from scratch and canning preserves for the winter. In less than three generations, the American food system has been completely restructured. Today, the world's most sophisticated food marketing system provides an array of options, ranging from a complete, ready-to-eat dinner to the dinner's assorted, individual ingredients, packaged to meet consumer needs and expectations for enhanced safety and convenience.

³² Ewing R, Schmid T, Killingsworth R, Zlot A, Raudenbush S. Relationship between urban sprawl and physical activity, obesity, and morbidity. *American Journal of Health Promotion*. Sept/Oct 2003;18:1: 47-57.

³³ Frank LD, Engelke P. How land use and transportation systems impact public health: A literature review of the relationship between physical activity and built form. 2000. <http://www.cdc.gov/nccdphp/dnpa/pdf/aces-workingpaper1.pdf> Accessed September 7, 2004.

³⁴ Ewing R, Schmid T, Killingsworth R, Zlot A, Raudenbush S. Relationship between urban sprawl and physical activity, obesity, and morbidity. *American Journal of Health Promotion*. Sept/Oct 2003;18:1: 47-57.

³⁵ U.S. Department of Health and Human Services. Healthy People 2010: Physical Activity and Fitness. Washington, DC. 2000.

³⁶ French SA, Story M, Jeffery RW. Environmental Influences on Eating and Physical Activity. *Annu Rev Public Health*. 2001. 22:309-35

³⁷ Ibid.

³⁸ Energy Information Administration. "Cooking Trends in the United States: Are We Really Becoming a Fast Food Country?" November 25, 2002. <http://www.eia.doe.gov/emeu/recs/cookingtrends/cooking.html>. Accessed September 15, 2004.

³⁹ Warshaw, H. Eat Out, Eat Right: The Guide to Healthier Eating Out. 2003.



Consumers make food choices based on taste, cost and convenience, and to a lesser extent, on health and variety. Economic growth in much of the world has led to more affluent consumers who demand more variety and higher quality in the food they eat.⁴⁰ Furthermore, changing U.S. demographics result in mature consumers, greater ethnic diversity and higher incomes, which drive changes in consumer demand for food products. While the food industry has responded to consumer demand for more options, this has made it even more important for individuals to balance convenience with a healthy lifestyle.⁴¹

Focus on Education

A startling number of American schoolchildren are being denied the tools they need to begin forming healthy lifestyles early. Cash-strapped schools are forced to choose between academic classes that raise test scores and physical education or nutrition classes that can help children develop healthy eating and exercise habits. Ironically, while budgets for nutrition and physical education classes are being cut, research analyzing the results of the California Department of Education's 2001 California Physical Fitness Test shows that participation in physical education classes can help enhance academic performance.⁴²

About one in four children does not get any physical education in school. For those who do, 93 percent say they enjoy physical education classes. However, physical education classes account for, at most, less than two hours of physical activity each week.⁴³ According to the most recent Shape of the Nation Report released by the National Association for Sport and Physical Education, Illinois is the only state that requires daily physical education for all K-12 students;⁴⁴ and, in 2003, only 28.4 percent of students in high school nationwide attended physical education class daily, down from 42 percent in 1991.⁴⁵ When children are sedentary at school, they do not compensate by increasing their level of activity at home. In fact, when children are not given the opportunity to exercise at school, they are even less active at home than on the days when they are physically active at school.⁴⁶

Nutrition education also is inadequate. The American Dietetic Association recommends that students get 50 hours of nutrition instruction each year to develop better long-term habits, but the nationwide average is only 13 hours.⁴⁷ Less than one-third of all schools provide enough nutrition education to actually influence motivation, attitudes and eating behaviors.⁴⁸ Yet, nutrition education has been shown to improve eating habits and health status.⁴⁹

⁴⁰ United States Department of Agriculture. Agriculture Fact Book 2001-2002. March 2003.

⁴¹ Cutler DM, Glaeser EL, Shapiro JM. Why have Americans become more obese? The Economic of Obesity: A Report on the Workshop Held at USDA's Economic Research Service. May 2004.

⁴² California Center for Public Health Advocacy. An Epidemic: Overweight and Unfit Children in California Assembly Districts. Davis, CA. 2002.

⁴³ National Association for Sport and Physical Education. Shape of the Nation Report. Executive Summary. NASPE, 2001.

⁴⁴ PE4Life. Blueprint for Change, Our Nation's Broken Physical Education System: Why It Needs to Be Fixed, and How We Can Do It Together. May 5, 2004.

⁴⁵ Grunbaum JA, Kann L, Kinchen S, Ross J, Hawkins J, Lowry R, et al. Youth Risk Behavior Surveillance—United States, 2003. *Mortality and Morbidity Weekly Report* 2004;53(SS-2):1-95.

⁴⁶ Dale, D, Corbin, CB, Dale, KS. "Restricting Opportunities to be Active during School Time: Do Children Compensate by Increasing Physical Activity Levels After School?" *Res Q Exerc Sport*. September 2000.

⁴⁷ Position of the American Dietetic Association, Society for Nutrition Education, and American School Food Service Association-Nutrition services: An essential component of comprehensive school health programs. *J Am Diet Assoc*. 2003;103:505-514.

⁴⁸ Ibid.

⁴⁹ Position of the American Dietetic Association, Society for Nutrition Education, and American School Food Service Association-Nutrition services: An essential component of comprehensive school health programs. *J Am Diet Assoc*. 2003;103:505-514.

II. TIPPING THE SCALES: IDENTIFYING SOLUTIONS THAT WORK

Research and experience indicate that no single solution or “quick fix” will combat the obesity epidemic successfully. Rather, because of the variety and complexity of interacting causes of obesity, there is a need for multiple treatments and solutions that involve multiple sectors of society working together on multifaceted approaches that encourage healthy eating and physical activity behaviors.⁵⁰

2.1 Strategies that Work

While many Americans struggle to overcome obesity and achieve a healthy weight, there are others who have already achieved this goal. More than 4,000 people have enrolled in the National Weight Control Registry, an ongoing study of people who have maintained a weight loss of 30 pounds or more for at least one year.⁵¹ Their successes can provide insight into:

- Some of the many ways to incorporate healthy eating and regular physical activity into a busy lifestyle;
- Community and other resources that can help people reach their weight goals and maintain their weight over time; and,
- Other factors that helped these individuals adopt healthier lifestyles.

Comparing these strategies can help researchers determine the most effective ways to encourage healthy eating and physical activity levels in various populations. Additionally, research suggests that obesity is not an insurmountable challenge. Halting gradual weight increase by making small lifestyle changes is key to stopping and ultimately reversing the progression toward obesity.

Although popular views hold that our excess weight has accumulated because of increased food portions and “couch potato” behaviors, the average American adult gains less than 2.2 pounds per year. Only small, consistent increments in energy balance (less than 100 calories per day) are needed to incite weight gain rates of this magnitude.

*James O. Hill, Ph.D.
Director, Center for Human Nutrition
University of Colorado Health Sciences Center
2003*

Taking an extra 15-minute walk or eating a few bites less (or 25 percent less) at each meal can be enough to equalize the ratio of calories consumed versus calories burned.⁵² The millions of people who have maintained a healthy weight are a testament to this approach, in spite of the numerous factors that make weight loss challenging in today's world.

American Council for Fitness and Nutrition Position Statement

ACFN recognizes that obesity is among the nation's primary concerns and is committed to encouraging the health and well-being of Americans through the promotion of energy balance: the combination of healthy eating and appropriate levels of physical activity.

⁵⁰ Strategic Plan for NIH Obesity Research. August 2004: page 13. <http://obesityresearch.nih.gov>.

⁵¹ Lifespan. The National Weight Control Registry. http://www.lifespan.org/services/bmed/wt_loss/nwcr/. Accessed June 29, 2004.

⁵² Hill JO, Wyatt HR, Reed GW, Peters JC. Obesity and the Environment: Where do we go from here? *Science* February 7, 2004. 229; 5608:853-55.



2.2 Criteria to Identify Solutions that Work

Solutions that hold the greatest potential are those that encourage energy balance by promoting positive and achievable goals. Research and evidence-based evaluation criteria will assist in identifying those solutions that promise to be most effective – based on demonstrated viability of those solutions.

The following criteria can be used to help sort through proposed solutions and new approaches that may help address obesity. These criteria can help identify proposals with the most potential to bring about lasting change in how Americans balance what they eat with how active they are in their daily lives.

- ✓ Energy balance is fundamental.
- ✓ Solutions should be grounded in research.
- ✓ Individual choice should be supported.
- ✓ Approaches should be realistic and relevant.
- ✓ Communities should be able to implement solutions.
- ✓ Prevention is key.
- ✓ Balance should be part of the solution.
- ✓ Solutions should have demonstrated efficacy.

Does the solution incorporate the concept of energy balance – integrating both nutrition and physical activity? Nutrition and health professionals need to educate (or re-educate) Americans that it is not just about food or physical activity alone, but rather about moderating calories based on their energy requirements that will lead to healthy lifestyles.


Is the proposed solution grounded in sound science? Policy decisions should be based on the best scientific and medical evidence available at the time, with an understanding that knowledge is a process, not a destination. Lifestyle recommendations and decisions will need to evolve as new understandings are developed.

Does the solution reinforce, support and empower individuals to make informed choices? Success in arresting the epidemic of obesity, preventing excess weight gain and developing healthy lifestyle habits are all fundamentally rooted in the personal actions of the individual.

Is the proposed solution based on real-life situations and solutions? Ultimately, lifestyle choices are made by the individual. Health promotion must meet consumer needs and demands; and recommendations for achieving a healthy lifestyle must be relevant, realistic and relate to the diversity of the population.

Does the solution work within or support the collective actions of various sectors of society? Individuals, communities, government, schools, the food industry and others bear responsibility in supporting the individual to achieve healthy lifestyles and in enabling communities to achieve sustainable health for all individuals within those communities.

Does the proposed solution emphasize arresting or preventing weight gain? The initial emphasis has to be on prevention of additional weight gain. It also is important to help people currently at a healthy weight avoid falling into the obesity trap later in life. For adults, this means maintaining healthy target weights without additional weight gain, no matter their life stage; and, for children, this means optimal growth and development without excess weight gain.



Is the solution based on the idea of the whole diet, rather than “silver bullet” solutions? Eating is fundamental to life and health. Therefore, it is not a single food or beverage, but rather the whole diet – what, how much and how often individuals consume – that supports a healthy lifestyle.

Does the proposed solution demonstrate efficacy without major unintended consequences? For many proposed solutions, there is little to no data supporting final outcomes. For new proposals, pilot studies are necessary to demonstrate that proposed solutions will address their intended purpose.

2.3 Proposed Solutions: Galvanizing Efforts

Obesity is a complex problem for which there is no one simple solution. Nearly every sector of society is challenged with a call to action, and some solutions are more promising than others.

The following list illustrates the scope of thought being applied to the obesity solution:

- **Empower consumers** with tips for healthy eating and physical activity. Unlike genetic factors that contribute to obesity, lifestyle factors (such as eating too much or being too sedentary) are under an individual's control. Therefore, educational efforts have been proposed to emphasize each person's ability to make small lifestyle changes (such as taking the stairs instead of the elevator or choosing foods in appropriate portion sizes) that can help achieve energy balance.
- **Conduct research** on factors that motivate people to make lifestyle changes. Because it can be challenging for some people to change their behaviors, there is a call for additional scientific research to identify effective ways to motivate changes in behavior.
- **Provide tools** to help Americans measure their energy intake and expenditure. Americans are bombarded with information provided separately about food products and about physical activity, but some experts have identified a need to merge this information together and develop simple tools that will enable individuals to put the “calories in/calories out” equation into practice in everyday life.
- **Educate parents** and other caregivers as they shape children's lifelong habits and relationship with food and physical activity. With childhood obesity on the rise, initiatives aimed at parents have been proposed to highlight their role in shaping their children's lifelong habits and relationship to food and physical activity.
- **Increase physical education** in schools. There has been a movement supporting daily physical education as a requirement for all Americans in grades K-12.
- **Expand nutrition education** in schools and in communities, through food labeling practices and other avenues. Experts contend that more attention can be spent on educating Americans about what constitutes a healthy diet and how the focus should be on calories rather than carbohydrates or other ingredients.
- **Change community designs** to encourage more physical activity. Community planners can consider adjustments for new and existing communities that encourage more physical activity, such as allowing room for sidewalks and bicycle paths.
- **Provide healthier food product choices** by offering improved products, ingredients and packaging to promote healthy eating behaviors. The food and beverage industry has done so in the face of changing consumer demand and despite the economic challenges inherent in product reformulation.

- **Require mandatory food labeling in restaurants** to educate consumers and promote healthier choices. Food products sold in grocery stores are required to have nutrition labels, and some restaurants have begun incorporating nutrition information into their menus as well. Making nutrition information mandatory in restaurants, however, may be impossible to achieve on a widespread basis.
- **Tax soft drinks and other foods** to reduce consumption of certain foods and to raise money for consumer education. To date, there is little/no research supporting this approach.
- **Impose limitations on school vending machines** to include healthier options. Restricting access to vending machines lies in direct conflict with the concept of individual choice. Banning vending machines completely or limiting the locations, times and offerings takes choice out of consumers' hands. Social Issues Research Centre (SIRC) considers the restriction of food to be counterproductive. They believe that banning foods causes the "forbidden-fruit effect" - an increase desire for the banned food. This results in over consumption of the desired food outside the restricted food context.⁵³ In addition, a recent study shows that restrictive feeding practices can lead to eating in the absence of hunger in adolescent girls.⁵⁴
- **Regulate food advertising and marketing.** Some have considered more rigorous federal regulation of food marketing and advertising practices, although the food industry has procedures in place to ensure that its products are marketed appropriately. The industry has long been a proponent of and has followed the guidelines of the Children's Advertising Review Unit (CARU), the self-regulatory body for children's advertising that ensures truthful, non-deceptive advertising to children under the age of 12. CARU provides guidelines on advertising to children and reviews and evaluates advertising claims for truth and accuracy. In addition, CARU helps to ensure that commercials or advertisements directed to children do not contain inappropriate messages. The industry has launched significant efforts to help inform consumers about the role a particular product plays in the context of a healthy and balanced lifestyle.
- **Pursue litigation or punitive actions.** In extreme cases, some Americans have sued the food and beverage industry or others, but "blaming" any one group can be counterproductive. It would be better to channel energy and resources into working together to build consumer demand for healthier products and energy balance. Frivolous obesity lawsuits threaten jobs and raise food prices. Congress currently is considering legislation that would prevent such litigation.

2.4 Promising Solutions in Practice: Efforts Already Underway

Many initiatives that have been implemented in recent years are starting to show positive results in helping Americans integrate more physical activity with a healthier diet. These programs can serve as models for future programs.


USDA Fruit and Vegetable Pilot Program (FVPP)⁵⁵

The FVPP provided free fresh and dried fruits and fresh vegetables to elementary and secondary schools during the 2002-2003 school year. The program was funded by the Nutrition Title of the 2002 Farm Act, which provided USDA with \$6 million to award to schools participating in the program.

⁵³ School meals: a new diet of reason. Social Issues Research Centre. http://www.sirc.org/news/school_meals.html. Accessed July 27, 2004.

⁵⁴ Birch, L. et al. Learning to overeat: maternal use of restrictive feeding practices promotes girls' eating in the absence of hunger. *American Journal of Clinical Nutrition*, Vol. 7, No. 2, 215-220. August 2003.

⁵⁵ Buzby JC, Guthrie JF, Kantor LS. USDA-Evaluation of the USDA Fruit and Vegetable Pilot Program: Report to Congress. May 2003.



What's involved: One hundred seven schools participated in the program: 25 schools in four states - Indiana, Iowa, Michigan and Ohio - and seven schools in the Zuni Indian Tribal Organization in New Mexico. The fruits and vegetables were distributed from kiosks, classroom service, free vending machines or a combination of the three. Schools could choose when the fruits and vegetables were provided (either in the morning or afternoon, before or after school, or throughout the course of the day). Nutrition education and promotional activities varied among the schools, ranging from no additional plans to extensive plans for incorporation education and promotional programs into the curriculum.

Results: Because this program is in the pilot stage, there is little quantitative data thus far on the effects of the FVPP. However, participating schools have reported positive anecdotal results from the FVPP, including:

- Increased attention in class;
- Increased variety in snacking options and consumption of fruits and vegetables;
- Increased student awareness of and preference for a wider variety of fruits and vegetables;
- Helped children who would otherwise be hungry get more food; and,
- Increased students' consumption of fruits and vegetables at lunch.

Carol M. White Physical Education Program (PEP)⁵⁶

PEP grants provide funds for local education agencies to initiate, expand and improve physical education programs and assist them in meeting state standards for physical education in schools. PEP provided \$60 million for physical education programs in 2003, up from \$50 million in 2002, and will offer \$70 million in grant funding in 2004.

What's involved: Programs funded through PEP grants may provide one or more of the following:

- Fitness education and assessment to help students understand, improve or maintain their physical well-being.
- Instruction in a variety of motor skills and physical activities designed to enhance the physical, mental and social or emotional development of every student.
- Development of, and instruction in, cognitive concepts about motor skill and physical fitness that support lifelong healthy lifestyles.
- Opportunities to develop positive social and cooperative skills through regular physical activity.
- Instruction in healthy eating habits and good nutrition.
- Opportunities for professional development of physical education teachers to stay abreast of the latest research, issues and trends in the field of physical education.

Results: Since 2001, more than 400 schools and community programs have received PEP grants. In 2003, awards ranged from \$28,230 to \$500,000, with 256 winners in 44 states nationwide, an impressive increase from the 171 awards in 38 states in 2002.⁵⁷

In 2004, PEP anticipates \$69,000,000 in appropriations to 250 new awardees. Awards range from \$100,000 to \$500,000, with an average of \$295,000. The monies include an increase of nearly 20% in funding for the program, which was approved by Congress to enhance opportunities for applicants.

Improved Nutrition and Physical Activity Act (IMPACT)

This bill recognizes health problems associated with obesity and is designed to reduce those problems by promoting improved nutrition and physical activity.⁵⁸

⁵⁶ The Carol M. White Physical Education Program. <http://www.pepgrant.info/Index.html>. Accessed June 29, 2004.

⁵⁷ American Council for Fitness and Nutrition press release. "Deadline Approaches for \$70 Million Physical Education Grants: ACFN Urges Communities Nationwide to Apply." March 4, 2004. <http://www.acfn.org/pressrelease/030804>. Accessed June 29, 2004.

⁵⁸ North Carolina Alliance for Athletics, Health, Physical Education, Recreation and Dance. IMPACT Summary. http://www.ncaahperd.org/advocacy/impact_summary.htm. Accessed July 9, 2004.



What's involved: The IMPACT bill would:⁵⁹

- Establish grant money for the training of health professionals to diagnose, treat and prevent obesity and eating disorders.
- Provide grant money for states to develop community programs to help fight obesity and eating disorders.
- Provide CDC with more authority to collect data on fitness levels and energy expenditure among children.
- Instruct HHS to summarize obesity-related research to date and suggest future research that should be conducted.

Results: IMPACT was passed by the U.S. Senate in December 2003 and currently is being considered by the House of Representatives.

America on the Move (AOM): AOM is a nationwide initiative to get individuals and communities involved in better nutrition and fitness practices to improve overall quality of life.⁶⁰

What's involved: AOM challenges individuals and communities to change their health behaviors.

For individuals, the challenges are to move more and eat less; AOM recommends walking an extra 2,000 steps each day and eating 100 fewer calories each day. For communities, AOM facilitates support of individual efforts by reaching out to worksites, schools and faith-based organizations.

Results:

- AOM has 18 state affiliates, including Virginia, Michigan and California.⁶¹
- More than 200 organizations and 150,000 residents have joined Colorado on the Move (AOM's pilot program).⁶²
- AOM is committed to measuring results, and while the program is in its early stages, anecdotal evidence points to success. One example of success is a participant from Colorado on the Move who has lost 35 pounds through eating healthier and walking more. Her goal is to walk 10,000 steps each day.⁶³

Workplace Wellness Programs

Many American corporations are offering workplace wellness programs and fitness centers to promote energy balance among their employees. Research supports the need for more employers to offer company-sponsored physical activity and fitness programs.⁶⁴

What's involved: Employers have organized fitness classes, posted nutrition tips in the cafeteria or organized committees to help improve physical activity opportunities and healthy eating support. The specific type of workplace program varies depending on the company.

For example, the Johnson & Johnson Health & Wellness Program provides diabetes and cholesterol screenings, fitness centers and various other services including weight management classes.⁶⁵ Sprint Corp. went a step further and designed its headquarters to encourage physical activity by adding appealing stairways and slow elevators.⁶⁶ BlueCross BlueShield created WalkingWorks, a program that provides companies with materials and motivational tips to get their employees walking.⁶⁷

⁵⁹ Ibid.

⁶⁰ America on the Move. <http://www.americaonthemove.org/WAboutUs.asp?PageID=1#37>. Accessed July 9, 2004.

⁶¹ America on the Move: Affiliates. <http://www.americaonthemove.org/WAffiliates.asp?PageID=10>. Accessed July 28, 2004.

⁶² America on the Move launches – National grassroots initiative will inspire healthy eating and active living and fight obesity epidemic.

<http://www.americaonthemove.org/pdflinks/AOMPRESSReleaseLaunch071403.pdf>. Accessed July 28, 2004.


⁶³ Colorado on the Move: Case Study. <http://www.americaonthemove.org/pdflinks/COMCaseStudy.pdf>. Accessed July 28, 2004.

⁶⁴ U.S. Department of Health and Human Services. Healthy People 2010: Physical Activity and Fitness. Washington, D.C. 2000.

⁶⁵ Health and Wellness Services. <http://www.jnj.com/careers/health.html>. Accessed June 11, 2004.

⁶⁶ McCafferty, J. The New Belt Tightening. CFO Magazine. June 7, 2004.

⁶⁷ Blue Cross Blue Shield Association. "WalkingWorks: The Blue Program for a Healthier America." <http://www.bcbs.com/walkingworks/>. Accessed September 16, 2004.



Results: The payoff for workplace wellness programs comes not only in terms of healthier employees, but also in bottom-line savings. For example, General Motors saved up to \$450 in paid health care costs per employee by encouraging some of its obese employees to enroll in a physical activity program. The company estimates it could save as much as 1.5 percent of its total health care costs if all obese, sedentary employees were to adopt physically-active lifestyles.⁶⁸

2.5 Food and Beverage Industry: Programs Having an Impact

Food and beverage companies agree that food consumption is an important factor in the obesity epidemic and that the food industry plays a role in helping Americans live more healthful lives. As a result, food and beverage manufacturers have initiated research, special programs and policies at the national and local level to promote improved health and wellness. In response to changing consumer demand, food and beverage companies have taken steps to provide healthier food choices, decrease portion sizes and reformulate products to lower calories, reduce fat and sugar, lower cholesterol and add vitamins. They also participate in community health and wellness initiatives and promote nutrition education and physical activity in schools.

In addition, the food industry has a longstanding commitment to responsible advertising and marketing practices and continues to ensure that its practices do not portray overeating or inappropriate consumption of foods. Many food companies use marketing to communicate healthy lifestyle messages to consumers, including children, through multiple media. Marketing can send messages about healthful diets and physical activity and help inform consumers about the role a particular product plays in the context of a healthy and balanced lifestyle.

The industry is following the guidelines of the Children's Advertising Review Unit (CARU) of the Council of Better Business Bureaus, the self-regulatory body for children's advertising that plays a major role by ensuring truthful, non-deceptive advertising to children under the age of 12. CARU was established in 1974 by the National Advertising Review Council (NARC) and provides guidelines on advertising to children. It also reviews and evaluates advertising claims for truth and accuracy, and helps to ensure that commercials or advertisements directed to children do not contain inappropriate messages.

The food and beverage industry understands that instilling motivation, rather than restricting or punishing consumers, is the key to long-term eating and lifestyle behavior. The industry advocates efforts that help consumers make informed and positive choices about nutrition and physical activity, rather than restrictive measures (e.g., taxing certain foods or food ingredients, banning vending machines in schools) that have not been proven effective in motivating long-term behavior or diet changes.

⁶⁸ Wang F et. al. "Relationship of Body Mass Index and Physical Activity to Health Care Costs Among Employees." *Journal of Occupational & Environmental Medicine*. May 2004;46(5):428-436.

III. WORKING TOGETHER TO BUILD A HEALTHIER TOMORROW: A CALL TO ACTION

Expanding scientific and medical knowledge is the key to tightening the belt on the nation's expanding waistlines. Behavioral scientists specializing in nutrition and physical activity have documented that few interventions are effective in real-world settings. In fact, according to leading behavioral experts, theoretical models of human eating and physical activity behaviors can account for only about 30 percent of the behaviors. There is more to be learned about changing behavior and giving consumers the skills and tools they need to succeed. Likewise, advances in human genomics are producing new information on the genetic links to preventing weight gain.

Once the most promising strategies for combating America's obesity epidemic are identified, it is important to take immediate action. Available resources should be devoted to the initiatives that hold the most promise, both in terms of immediate results and, most importantly, longer-term strategies.

We consider [obesity] a major threat. There is no single cause of all human obesity, so we must explore prevention and treatment approaches that encompass many aspects, such as behavioral, sociocultural, socioeconomic, environmental, physiologic and genetic factors.

*Dr. Elias A. Zerhouni
Director of the National Institutes of Health, March 9, 2004*

A call to action must be issued to all sectors of society, individually and as a collective group to support these strategies. Everyone must play a part in helping to promote healthy eating and regular physical activity among all Americans. Working together is the only way to address the obesity epidemic.

3.1 Call to Action: What Society Can Do

Each sector of society can take steps to encourage Americans to balance how much they eat with their daily level of physical activity. Following is a "to do" list for a variety of societal groups.

Families

- ✓ Make informed choices about nutrition and physical activity, balance calories in versus calories out by making small lifestyle changes.
- ✓ Create an environment that supports healthy eating and physical activity among children and adults.
- ✓ Learn about the role of parents and caregivers in shaping their children's lifelong choices regarding food and physical activity – and adjust parenting styles to reflect this information.

Schools

- ✓ Expand physical education and nutrition education programs to make them a core piece of the school curriculum.
- ✓ Ensure that all eligible children in every school participate in school meal programs to promote healthy eating habits.

Employers

- ✓ Offer workplace wellness programs that encourage physical activity and promote healthy eating in the workplace and beyond.
- ✓ Organize fitness classes, post nutrition tips in the cafeteria and organize support groups among employees committed to a healthy lifestyle.



Community Planners

- ✓ Create more sidewalks, bicycle paths and other recreational facilities.
- ✓ Improve the safety and convenience of existing recreational facilities.

The Food and Beverage Industry

- ✓ Expand the food and beverage options available to Americans.
- ✓ Step up educational efforts to inform consumers about the importance of achieving and maintaining energy balance.
- ✓ Reformulate products to lower calories, reduce fat and sugar, lower saturated and trans fat, add vitamins and minerals, and offer new choices for smaller portion sizes.
- ✓ Promote nutrition education and physical activity, especially in schools.

The Health Care Industry

- ✓ Provide educational materials and tools for patients about maintaining energy balance.
- ✓ Educate medical professionals through physician-training programs and medical associations about how to motivate patients to adopt healthier lifestyles.
- ✓ Recommend physical education modifications for students with injuries or special needs, rather than providing exemptions from school programs altogether.

The Research Community

- ✓ Launch controlled research studies to investigate the motivation behind long-term lifestyle changes.
- ✓ Develop tools that will help Americans translate the “calories in/calories out” equation to their everyday lives.

Government

- ✓ Mandate nutrition and physical education.
- ✓ Align the Dietary Guidelines for Americans, the USDA Food Guide System and the Nutrition Facts Label.

Advertisers

- ✓ Use food marketing to communicate healthy lifestyle messages to consumers, including children, through multiple media.
- ✓ Send messages about healthier diets and physical activity.
- ✓ Inform consumers about the role a particular product plays in the context of a healthy and balanced lifestyle.

3.2 Call to Action: Collaboration Among a Variety of Groups

In tandem with their individual actions, various sectors of society should form partnerships to combine efforts for an even broader impact on obesity and health. According to the U.S. Surgeon General's 2001 “Call to Action” report, partnerships at the organizational, industrial, state and community levels are needed. In particular, a national steering committee could centralize leadership and provide an overarching perspective to guide national efforts.⁶⁹

A collaborative approach allows groups to share knowledge about what works, so society's overall understanding of how to address the obesity epidemic can continue to grow. Also, it enables resources to be shared, so that the energy balance message can be promoted through numerous channels more efficiently.

⁶⁹ U.S. Department of Health and Human Services. “The Surgeon General's Call To Action To Prevent and Decrease Overweight and Obesity.” Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, Office of the Surgeon General; 2001. Available from: U.S. GPO, Washington.



APPENDICES



APPENDIX A: ABOUT THE AMERICAN COUNCIL FOR FITNESS AND NUTRITION

The American Council on Fitness and Nutrition (ACFN) is a non-profit association formed in January 2003 by a coalition of food and beverage companies, trade associations and nutrition advocates to work toward comprehensive and achievable solutions to the nation's obesity epidemic. ACFN has more than 90 members, including the American Dietetic Association and the American Association of Diabetes Educators, and is guided by an Advisory Board of experts in the fields of nutrition, physical activity and behavior change.

The rise in obesity is the result of the interaction of a wide variety of economic, cultural, social and genetic factors. Just as there is no single cause of obesity, there is no simple solution.

ACFN collaborates with health professionals, educators, governments, policy makers and consumers on lasting approaches to reducing obesity. Specifically, ACFN supports:

- Providing parents, teachers and children with information and resources to assist them in making the best lifestyle choices regarding physical activity and nutrition.
- Increased physical activity for every American, with an emphasis on giving students in every school the opportunity to engage in 30 minutes of physical activity each day.
- Improving the communication of nutrition information and education materials for parents, teachers and community-based programs.

APPENDIX B: USING THE BODY MASS INDEX

The most commonly used method for defining whether people are within their appropriate weight range for their height is body mass index or BMI. This measurement is calculated using the following formula:

$$\frac{\text{Weight in pounds}}{(\text{height in inches})^2} \times 703$$

The National Institutes of Health developed BMI in 1973 and more than 50 scientific and medical organizations now use it as the standard. BMI classifications include:

- Underweight (a BMI value < 18.5);
- Healthy/normal weight (a BMI value ranging from 18.5 to 24.9);
- Overweight (a BMI value ranging from 25 to 29.9), which is defined as increased body weight in relation to height;
- Obese (a BMI value > 30), which is defined as an excess accumulation of body fat in relation to lean body muscle;⁷⁰ or
- Morbidly obese (a BMI value > 40)⁷¹

⁷⁰ Overweight and Obesity. Defining Overweight and Obesity. Centers for Disease Control and Prevention. www.cdc.gov.

⁷¹ Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults. http://www.nhlbi.nih.gov/guidelines/obesity/ob_gdlns.pdf.

APPENDIX C: NATIONAL WEIGHT CONTROL REGISTRY

About the Registry:

The National Weight Control Registry (NWRC) is a research study which demonstrates that long-term, successful weight loss is indeed possible. The NWCR is a longitudinal prospective study of individuals 18 years and older, who have successfully maintained a 30 pound weight loss for a minimum of one year. Developed by Rena Wing, PhD, at Lifespan, Brown University and the University of Pittsburgh, and James Hill, PhD, at the University of Colorado, the NWCR has identified more than 4,000 individuals who have lost significant amounts of weight and kept it off.

Key Findings:

Successful NWCR participants report making substantial changes in eating and exercise habits to lose weight and maintain their losses. Key findings include:

- The average registrant has lost approximately 60 pounds and has maintained that loss for roughly five years.
- Surprisingly, 42 percent of participants report that maintaining weight loss is less difficult than initially losing the weight.
- Among those who used a commercial program or professional assistance to aid weight loss, about 30 percent participated in programs that used a liquid formula diet.
- Two-thirds of these successful weight losers were overweight as children and 60 percent report a family history of obesity.
- Approximately 50 percent of participants lost weight on their own without any type of formal program or help.
- Participants who maintained weight losses for longer periods of time reported using fewer weight control strategies and found that less effort was needed to maintain weight.
- Walking is the most frequently cited physical activity performed by members.⁷²

⁷² Lifespan. The National Weight Control Registry. http://www.lifespan.org/services/bmed/wt_loss/nwcr/. Accessed September 29, 2004.

APPENDIX D: RESOURCES FOR PUBLIC HEALTH

Many resources are available to help individuals and groups live healthier, more active lives.

Individuals

- America on the Move - <http://www.americaonthemove.org/>
- American Heart Association: Healthy Lifestyle - <http://www.americanheart.org/presenter.jhtml?identifier=1200009>
- American Heart Association: Senate passes the IMPACT Bill - <http://www.americanheart.org/presenter.jhtml?identifier=3017862>.
- Verb - www.verbnow.com

Parents and caregivers

- USDA Food and Nutrition Information Center: Child nutrition and health sub-topics - <http://www.nal.usda.gov/fnic/etext/000008.html>.
- Bright Futures at Georgetown University - www.brightfutures.org/physicalactivity/
- President Fitness Challenge - <http://fitness.gov/challenge/challenge.html>

Schools

- CDC: Healthy You, School Health Index - <http://apps.nccd.cdc.gov/shi/>
- USDA TEAM Nutrition - <http://www.fns.usda.gov/tn/>
- USDA Food and Nutrition Information Center – Nutrition education/commercial sites: <http://www.nal.usda.gov/fnic/etext/000045.html>
- CDC: Adolescents and Young Adults - <http://www.cdc.gov/nccdphp/sgr/adoles.htm>
- Eat Well & Keep Moving - <http://www.hsph.harvard.edu/nutritionsource/EWK.html>

Employers

- Fitsource.com: Overview of Employee Wellness Programs - <http://www.fitresource.com/CorpProg/OverEWP.htm>

Community planners

- CDC: ACES: Active Community Environments Initiative - <http://www.cdc.gov/nccdphp/dnpa/aces.htm>

The Food and Beverage Industry – Most major manufacturers have Web sites that provide information about their products and their involvement in health programs.

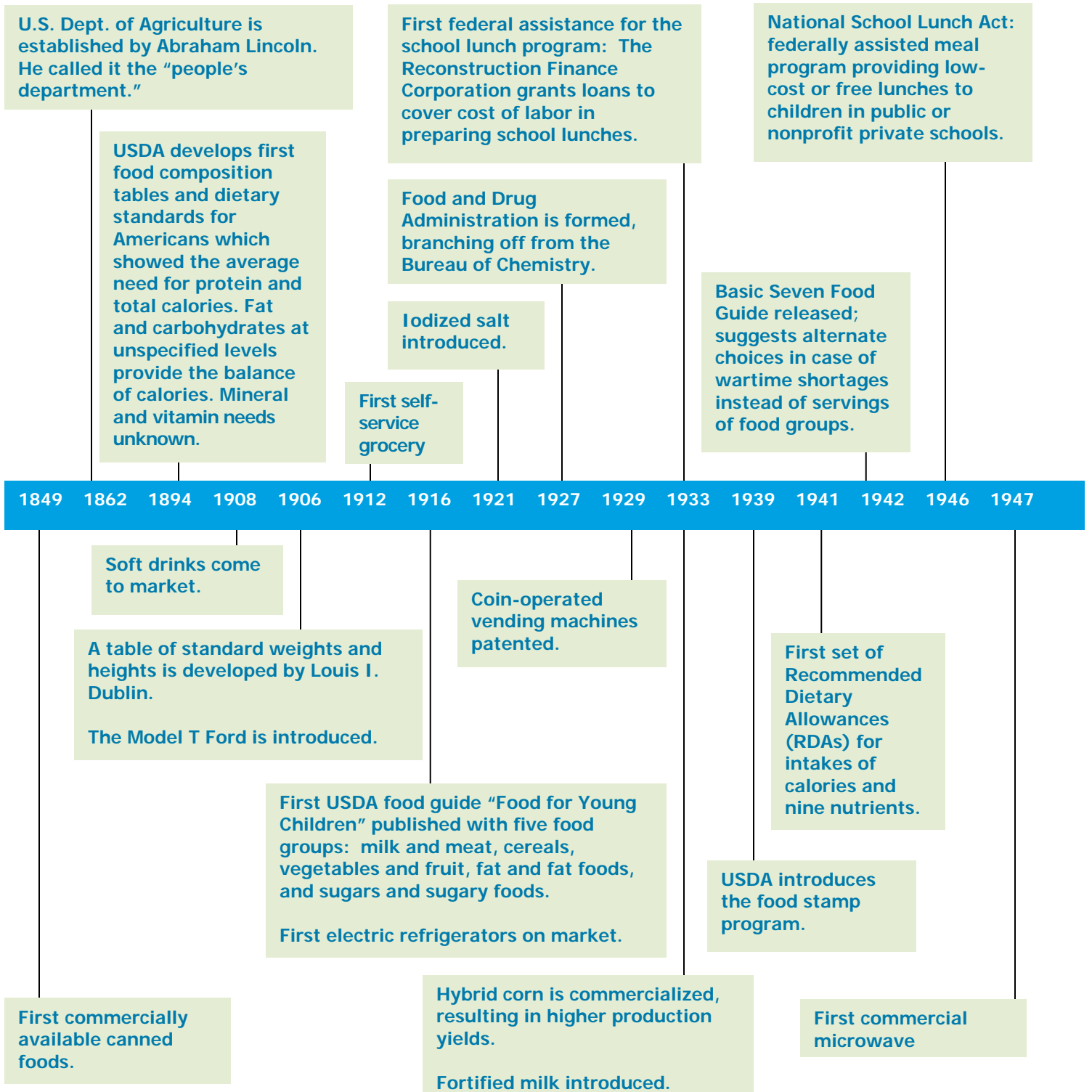
The Health Care Industry

- E-NASCO's Nutrition Teaching Aids - http://www.enasco.com/prod/BrowseQuickIndex?catalog_nbr=615&title=Nutrition+Teaching+Aids&industry_id=4&URL=industry_id=4&seqid=0&seqid=1
- American Academy of Family Physicians: Online Resources - <http://www.aafp.org/x26655.xml>
- Adapted Physical Education - <http://www.pecentral.org/adapted/adaptedmenu.html>
- The National Center on Physical Activity and Disability - <http://www.ncpad.org/>

The Research Community

- NIDDK: Clinical Nutrition Research Centers and Clinical Nutrition Research Units - <http://www.niddk.nih.gov/health/nutrit/cnruon.htm>
- An Internet Primer on "NIH healthy web sites" - <http://www.recgov.org/nih-hr/nih-community.html>

APPENDIX D: HISTORY OF FOOD & TECHNOLOGICAL ADVANCES IN THE UNITED STATES – 1849 TO PRESENT



HISTORY OF FOOD & TECHNOLOGICAL ADVANCES IN THE UNITED STATES – 1989 TO PRESENT (CONTINUED)

