

## Part B. Section 3: Translating and Integrating the Evidence: A Call to Action

The data clearly document that America is experiencing a public health crisis involving overweight and obesity. Particularly alarming is the further evidence that the obesity epidemic involves American children and youth, as nearly one in three are classified as overweight or obese. Childhood obesity and overweight is a serious health concern in the United States (US) because of immediate health consequences, as well as because it places a child at increased risk of obesity in adulthood, with all its attendant health problems such as cardiovascular diseases (CVD) and type 2 diabetes (T2D). All adults—parents, educators, caregivers, teachers, policy makers, health care providers, and all other adults who work with and care about children and families—serve as role models in some capacity and share responsibility for helping the next generation prevent obesity by promoting healthy lifestyles at all ages. Primary prevention of obesity, starting in pregnancy and early childhood, is the single best strategy for combating and reversing America’s obesity epidemic for current and future generations. While there is also an urgent need to improve the health and well-being of children and adults who are already overweight and obese, primary prevention offers the strongest universal benefits. Solving the obesity problem will take a coordinated system-wide, multi-sectoral approach that engages parents as well as those in education, government, healthcare, agriculture, business, advocacy and the community. This approach must promote primary prevention among those who are not yet overweight and address weight loss and fitness among those who are overweight.

Disparities in health among racial and ethnic minorities and among different socioeconomic groups have been recognized as a significant concern for decades. Several subgroups of the population (Native Americans, Blacks, Hispanics, and segments of the population with low income) have a strikingly high prevalence of overweight and obesity. Dietary patterns vary among different ethnic and socioeconomic groups. Individuals of lower education and/or income levels tend to eat fewer servings of vegetables and fruits than do those with more education and/or higher income. According to national surveys, Blacks tend to have the lowest intakes of vegetables and fruits among ethnic groups, but also have a higher prevalence of hypertension and related diseases, such as stroke. Although the reasons for these differences are complex and multifactorial, this report addresses research indicating that certain dietary changes can provide a means to reduce health disparities. If we are successful in changing dietary intake patterns of all Americans through a systematic approach, we will go along way in narrowing the gap in health disparities.

Although obesity is related to many chronic health conditions, it is not the only diet-related public health problem confronting the nation. Nutritionally suboptimal diets with or without obesity are etiologically related to many of the most common, costly, and yet preventable health problems in

the US, particularly CVD (atherosclerosis, stroke) and related risk factors (T2D, hypertension, and hyperlipidemia), some cancers, and osteoporosis. Improved nutrition and appropriate eating behaviors have tremendous potential to enhance public health, prevent or reduce morbidity and mortality, and decrease health care costs.

The science is not perfect; evidence is strong in some areas and limited or inconsistent in other areas. Nevertheless, this report is an urgent call to action to address a major public health crisis by focusing on helping all Americans achieve energy balance through adoption and adherence to current nutrition and physical activity guidelines.

After reviewing its entire report, the Dietary Guidelines Advisory Committee (DGAC) recognized a need to not only document the evidence, but translate and integrate major findings that have cross-cutting public health impact and provide guidance on how to implement the changes necessary to enhance the health and well being of the population. Below are the four major cross-cutting findings from the 2010 DGAC Report, followed by suggestions for implementation.

## **Four Main Integrated Findings to be Used in Developing the 2010 Dietary Guidelines for Americans**

### **1. Reduce the incidence and prevalence of overweight and obesity of the US population by reducing overall calorie intake and increasing physical activity.**

A focus on life-stage approaches (pregnant women, children, adolescents, adults, and older adults) is necessary nationwide to help Americans meet nutrient needs within appropriate calorie intake. To achieve this, Americans should:

- Know their calorie needs. In other words, individuals need to know how many calories they should consume each day based on their age, sex, and level of physical activity.
- Significantly lower excessive calorie intake from added sugars, solid fats, and some refined grain products.
- Increase their consumption of a variety of vegetables, fruits, and fiber-rich whole grains.
- Avoid sugar-sweetened beverages.
- Consume smaller portions, especially of high-calorie foods.
- Choose lower-calorie options, especially when eating foods away from home.
- Increase their overall physical activity.

- Have access to improved, easy-to-understand labels listing calorie content and portion size on packaged foods and for restaurant meals (especially quick service [i.e., fast food] restaurants, restaurant chains, and other places where standardized foods are served).

Collectively, these measures will help Americans manage their body weight and improve their overall health. In order to achieve this goal, the public and private sectors must be committed to assisting all Americans to know their calorie needs at each stage of life and help them recognize how to manage and/or lower their body weight. Simple but effective consumer-friendly tools for self-assessment of energy needs and self-monitoring of food and beverage intake are urgently needed and should be developed. These strategies will enable everyone to recognize and implement, both inside and outside the home, dietary recommendations that have been consistent for decades.

**2. Shift food intake patterns to a more plant-based diet that emphasizes vegetables, cooked dry beans and peas, fruits, whole grains, nuts, and seeds. In addition, increase the intake of seafood and fat-free and low-fat milk and milk products, and consume only moderate amounts of lean meats, poultry, and eggs.**

This approach will help Americans meet their nutrient needs while maintaining energy balance. Importantly, this will assist Americans to increase their intake of shortfall nutrients, such as potassium and fiber. These goals can be attained through a range of food patterns—from omnivore to vegan—that embrace cultural heritage, lifestyle, and food preferences. These flexible patterns of eating must encompass all foods and beverages that are consumed as meals and snacks throughout the day, regardless of whether they are eaten at home or away from home.

**3. Significantly reduce intake of foods containing added sugars and solid fats because these dietary components contribute excess calories and few, if any, nutrients. In addition, reduce sodium intake and lower intake of refined grains, especially refined grains that are coupled with added sugar, solid fat, and sodium.**

The components of the American diet that are consumed in excess are solid fats and added sugars (SoFAS), refined grains, and sodium. SoFAS alone contribute approximately 35 percent to total energy intake of Americans. Collectively, the consumption of foods containing SoFAS, refined grains, and sodium lead to excessive calorie intake, resulting in weight gain and health consequences such as hypertension, CVD, and T2D. Reducing the intake of these over-consumed components will require much more than individual behavior change. A comprehensive approach is needed. The food industry will need to act to help Americans achieve these goals. Every aspect of the industry, from research and development to production and retail, needs to contribute healthful food

solutions to reduce the intake of SoFAS, certain refined grain products, and sodium. Sound health and wellness policies at the local, state, and national level also can help facilitate these changes.

#### **4. Meet the 2008 Physical Activity Guidelines for Americans.**

A comprehensive set of physical activity recommendations for people of all ages and physical conditions was released by the US Department of Health and Human Services in 2008 (HHS, 2008). The 2008 Physical Activity Guidelines for Americans were developed to help Americans to become more physically active. By objective measures, large portions, indeed the majority, of the US population are sedentary (Metzger, 2008). In fact, Americans spend most of their waking hours engaged in behaviors that expend very little energy (Matthews, 2008). To increase the public's participation in physical activity, compelling multi-sector approaches are needed to improve home, school, work, and community environments to promote physical activity. These changes need to surpass planned exercise and foster greater energy expenditure throughout the day. Improved exposure to recreational spaces, increased use of active transportation, and encouraging development of school and worksite policies that program physical activity throughout the day can help enable Americans to develop and maintain healthier lifestyle behaviors. Special attention and creative approaches also are needed to help Americans reduce sedentary behaviors, especially television viewing and video game use, among children and adolescents.

### **A Call to Action**

Dietary Guidelines for Americans have been published since 1980. During this time obesity rates have escalated and dietary intake patterns have strayed from the ideal. The 2010 DGAC recognizes that several of its recommendations have been made repeatedly in prior reports with little or no demonstrable impact. For example, recommended intakes of vegetables and fruit remain woefully unchanged, despite continuing advice to markedly increase intake of these foods. Substantial, high-level barriers appear to impede achievement of these goals, including certain government regulations and policies. Chief among these are land use policy and economic incentives for food manufacturers. The food supply and access to it has changed dramatically over the past 40 years, contributing to an overall increased calorie intake by many individuals. Since the 1970s, the number of fast food restaurants has increased 147 percent. The portions that are served in restaurants and the serving sizes of foods sold in packages at stores have increased as well. Moreover, the number of food items at the supermarket has increased from 10,425 in 1978 to 46,852 in 2008, and most of these contribute SoFAS, refined grains, and sodium to the American diet (see *Part D. Section 1. Energy Balance and Weight Management* for a discussion of recent changes in the food environment). This has far-reaching effects such that the average child now

consumes 365 calories per day of added sugars and 433 calories per day of solid fat for a combined total of 798 calories, or more than one-third of total calorie intake (HHS, 2010; see *Part D. Section 2. Nutrient Adequacy*). Conversely, Americans spend 45 percent less time preparing food at home (see *Part D. Section 1. Energy Balance and Weight Management*) or eating food at the family table than previously, and this behavioral trend is associated with increased risk of weight gain, overweight and obesity. **In this context, the DGAC concluded that mere repetition of advice will not effectively help Americans achieve these evidence-based and often-repeated goals for a healthy diet.**

Ensuring that all Americans consume a health-promoting dietary pattern and achieve and maintain energy balance requires far more than individual behavior change. A multi-sectoral strategy is imperative. For this reason, the 2010 DGAC strongly recommends that HHS and USDA convene appropriate committees, potentially through the Institute of Medicine (IOM), to develop a strategic plan focusing on the behaviors and actions needed to successfully implement the four key 2010 DGAC recommendations highlighted above.

A coordinated strategic plan that includes all sectors of society, including individuals, families, educators, communities, allied health professionals, public health advocates, policy makers, scientists, and small and large businesses (e.g., farmers, agricultural producers, food scientists, food manufacturers, and food retailers of all kinds), should be engaged in developing and implementing the plan to help all Americans eat well, be physically active, and maintain good health. It is important that any strategic plan be evidence-informed, action-oriented, and focused on changes in systems (IOM, 2010a). This systems approach is already underway in countries such as the United Kingdom for obesity prevention (Butland, 2007) with promising results. Recent examples of this approach in the US include an IOM committee convened by HHS and USDA and charged with developing strategies for gradually but dramatically reducing sodium intake, which remains persistently high even after more than 40 years of advice. This IOM committee recently issued its report (IOM, 2010b), providing a comprehensive strategy to reduce dietary sodium intake in the general population by focusing on the food supply and targeting industry to partner in systematic reductions in sodium content of foods. Already there is encouraging evidence that food manufacturers are responding positively and are committed to reducing the sodium content in their food products. Similarly, the US National Physical Activity Plan, released in May, 2010, was developed by multiple stakeholders and provides a comprehensive, realistic implementation framework intended to promote physical activity in the American population. Most recently, the May, 2010, White House Task Force on Childhood Obesity Report, *Solving the Problem of Childhood Obesity Within a Generation*, also calls for a multi-sector, systems approach to solving this important public health issue.

## An Urgent Need to Focus on Children

Any and all systems-based strategies must include a focus on children. Primary prevention of obesity must begin in childhood. This is the single most powerful public health approach to combating and reversing America's obesity epidemic over the long term. Trends for childhood overweight and obesity are alarming, with obesity prevalence rates tripling between 1980 and 2004. Although rates for children appear to be leveling off, they remain high, with one-third currently overweight or obese, defined as at or above the 85<sup>th</sup> percentile on body mass index (BMI)-for-age growth charts (Ogden, 2010). These numbers represent more than 25 million children in the US. In order to reverse this trend, we will need to work together as a Nation to improve the food environment to which children are exposed at home, school, and the community. Efforts to prevent childhood obesity need to start very early, even in utero. Increasing evidence indicates that maternal obesity before conception and excessive gestational weight gain represent a substantial risk of childhood obesity in the offspring (see *Part D. Section 2. Energy Balance and Weight Management* for a detailed discussion of this issue). Thus, addressing maternal nutrition, physical activity, and body weight before conception and during pregnancy as well as emphasizing early childhood nutrition is paramount for preventing the onset of childhood obesity. Areas targeting childhood obesity prevention that should be addressed include, but are not limited to:

- Improve foods sold and served in schools, including school breakfast, lunch, and after-school meals and competitive foods so that they meet the recommendations of the IOM report on school meals (IOM, 2009) and the key findings of the 2010 DGAC. This includes all age groups of children, from preschool through high school.
- Increase comprehensive health, nutrition, and physical education programs and curricula in US schools and preschools, including food preparation, food safety, cooking, and physical education classes and improved quality of recess.
- Develop nationally standardized approaches for health care providers to track BMI-for-age and provide guidance to children and their families to effectively prevent, monitor, and/or treat childhood obesity.
- Develop nationally standardized approaches for health care providers to improve nutrition, physical activity participation, healthy weight gain during pregnancy and the attainment of a healthy weight postpartum.
- Increase safe routes to schools and community recreational areas to encourage active transportation and physical activity.
- Remove sugar-sweetened beverages and high-calorie snacks from schools, recreation facilities, and other places where children gather.

- Develop and enforce responsible zoning policies for the location of fast food restaurants near schools and places where children play.
- Increase awareness and promote action around reducing screen time (television and computer or game modules) and removing televisions from children's bedrooms.
- Develop and enforce effective policies regarding marketing of food and beverage products to children. Efforts in this area are underway through a government interagency committee comprised of the Federal Trade Commission, Centers for Disease Control and Prevention, USDA, and Food and Drug Administration, as well as some self-regulation from industry (Omnibus Appropriations Act, 2009).
- Develop affordable summer programs that support children's health, as children gain the most weight during the out-of-school summer months (von Hippel, 2007).

## **Challenges and Opportunities for Change**

Change is needed in the overall food environment to support the efforts of all Americans to meet the key recommendations of the 2010 DGAC (Story, 2009). The 2010 DGAC recognizes that the current food environment does not adequately facilitate the ability of Americans to follow the evidence-based recommendations outlined in the 2010 DGAC Report. Population growth, availability of fresh water, arable land constraints, climate change, current policies, and business practices are among some of the major challenges that need to be addressed in order to ensure that these recommendations can be implemented nationally. For example, if every American were to meet the vegetable, fruit, and whole-grain recommendations, domestic crop acreage would need to increase by an estimated 7.4 million harvested acres (Buzby, 2006). Furthermore, the environment does not facilitate the ability of individuals to follow the 2008 Physical Activity Guidelines for Americans. Most home, school, work, and community environments do not promote engagement in a physically active lifestyle. To meet these challenges, the following sustainable changes must occur:

- Improve nutrition literacy and cooking skills, and empower and motivate the population to prepare and consume healthy foods at home, especially among families with children.
- For all Americans, especially those with low-income, create greater financial incentives to purchase, prepare, and consume vegetables and fruit, whole grains, seafood, fat-free and low-fat milk and milk products, lean meats, and other healthy foods. Currently, individuals have an economic disincentive to purchase healthy foods.
- Improve the availability of affordable fresh produce through greater access to grocery stores, produce trucks, and farmers' markets.

- Increase environmentally sustainable production of vegetables, fruits, and fiber-rich whole grains.
- Ensure household food security through measures that provide access to adequate amounts of foods that are nutritious and safe to eat.
- Develop safe, effective, and sustainable practices to expand aquaculture and increase the availability of seafood to all segments of the population. Ensure that consumers have access to user-friendly benefit/risk information to make informed seafood choices.
- Encourage restaurants and the food industry to offer health-promoting foods that are low in sodium; limited in SoFAS and refined grains; and served in smaller portions.
- Implement the US National Physical Activity Plan, a private-public sector collaborative promoting local, state, and national programs and policies to increase physical activity and reduce sedentary activity (National Physical Activity Plan, 2010). Through the Plan and other initiatives, develop efforts across all sectors of society, including health care and public health; education; business and industry; mass media; parks, recreation, fitness, and sports; transportation, land use and community design; and volunteer and non-profit. Reducing screen time, especially television, for all Americans also will be important.

The 2010 DGAC recognizes the significant challenges involved in implementing the goals outlined here. These challenges go beyond cost, economic interests, technological and societal changes, and agricultural limitations. Over the past several decades, the value of preparing and enjoying healthy food has eroded, leaving instead the practices of eating processed foods containing excessive sodium, solid fats, refined grains, and added sugars. As a Nation, we all need to value and adopt the practices of good nutrition, physical activity, and a healthy lifestyle. The DGAC encourages all stakeholders to take actions to make every choice available to Americans a healthy choice. To move toward this vision, all segments of society—from parents to policy makers and everyone else in between—must now take responsibility and play a leadership role in creating gradual and steady change to help current and future generations live healthy and productive lives. A measure of success will be evidence that meaningful change has occurred when the 2015 DGAC convenes.

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