



American Dietetic Association
American Dietetic Association Foundation



The State of Family Nutrition and Physical Activity **Are We Making Progress?**

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A free downloadable copy of this report, executive summary and supporting data from the *Family Nutrition and Physical Activity Survey* are available at www.eatright.org.

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Executive Summary

Ten years ago, the U.S. Surgeon General released a landmark report: “The Call to Action to Decrease and Prevent Overweight and Obesity.” The Surgeon General warned that, if overweight and obesity were not controlled, the number of obesity-related deaths would soon surpass the number of tobacco-related deaths (1). This news caught the nation’s attention and led to many public and private efforts targeting two of the root causes of overweight and obesity: poor nutrition and lack of physical activity.

The Surgeon General’s report, and many subsequent government and science-based institutions’ reports, called for changes in five key areas: communities and families, schools, healthcare, worksites and media. As these reports have concluded, poor nutrition and inactivity stem from many factors deeply rooted in our culture, factors that have become part of the societal norm. Changes will not necessarily come quickly and will require ongoing, vigilant attention from public and private sectors (2).

In a major step to drive changes further, First Lady Michelle Obama launched the Let’s Move! initiative, and the White House convened a Task Force on Childhood Obesity Prevention. In May 2010, the task force released 70 recommendations for childhood obesity prevention and announced the goal of reducing the childhood obesity rate from the current 17% to 5% by 2030 (3). The recommendations for government, healthcare, communities, schools and families help to focus resources, and the Let’s Move! campaign brings the vital momentum required to keep prevention efforts moving forward.

Over the past decade, the American

Dietetic Association (ADA) and its Foundation (ADAF) committed resources toward efforts to treat, reduce and prevent childhood overweight and obesity. This commitment is further strengthened now with the launch of *Kids Eat Right*, a platform designed to ensure that sound nutrition recommendations are part of childhood obesity prevention. A member-driven public education campaign, *Kids Eat Right* mobilizes ADA’s 71,000 members to support families, schools and communities in their pursuit of quality nutrition for all children — especially for our most at-risk populations.

With all of this exciting momentum, we must also give care and consideration to actions taken and messages sent regarding food and nutrition. It is critical that nutrition policies and practices take a total diet approach that supports all the foods required for optimal growth and development. An inadequate amount of food or lack of nutrient-dense foods may negatively affect children’s health today and disease prevention for the future (4). Without daily consumption of foods providing the necessary nutrients, children are at risk for iron-deficiency anemia, poor

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academic performance, development of psychosocial difficulties and an increased likelihood of developing chronic diseases such as heart disease, diabetes and osteoporosis during adulthood (5).

Review of recent food consumption data from the National Health and Nutrition Examination Survey (NHANES) indicates that there are gaps between children's recommended and actual intake of key nutrients, gaps that sadly are the same as ten years ago, despite increasing efforts to close them (6,7,8). Along with low intake of vitamins and minerals, these data show higher-than-recommended consumption of sugar and saturated fat. The consumption of sweetened beverages, desserts and snack foods adds calories without necessary nutrients and may also displace the eating of nutrient-dense foods, resulting in a negative effect on the quality of kids' diets and their nutritional status (9,10). Failure to address these nutritional gaps puts the nation at risk of raising a generation of children who suffer negative consequences to their social and physical well-being regardless of their weight.

We must assess, re-calibrate and redouble our efforts to address children's total nutrient needs while promoting healthy weights. *Kids Eat Right* recognizes the powerful role that registered dietitians can play in this effort. With a unique blend of skills and knowledge, dietitians can balance the concurrent needs of normal growth and development along with prevention of chronic illnesses.

This report outlines the premise behind *Kids Eat Right* and highlights

the eating and activity habits of families and subsequent nutritional gaps or deficiencies in kids' eating patterns. A newly released survey conducted by the ADAF — the *Family Nutrition and Physical Activity Survey* of children and their parents — reveals that families have made changes since the initial survey in 2003 and are ready to make more changes. The child-parent pairs were asked the same questions to determine if parents were aware of behaviors and if they connected with children's views. Obviously, being aware of eating and activity habits is the starting point; without that, change cannot occur. The survey provides insight into eating and activity behaviors and can help to explain why kids' diets are inadequate in key nutrients. Kids are not always eating three meals a day and eat many times throughout the day. This is reflected in the NHANES data that documents kids' snack foods are often high in calories without necessary nutrients; this may lead to unhealthy weights in kids (11,12). Importantly, the survey indicates that there are many opportunities for positive change. By building on children's and parents' desire to eat healthy and be active — and by identifying drivers of positive habits — solutions to the chronic problems associated with undernourishment, inactive lifestyles and unhealthy weights can be more successful.

The time is now. With communities across America focused on the issue, with the Let's Move! initiative in place and with children and their parents showing a new stage of readiness for change, this is the time to help *Kids Eat Right*. ■

Are We Making Progress?

The December 2001 Surgeon General's report made headlines: it found that 13% of 6- to 11-year-old children and 14% of 12- to 19-year-olds were obese (at that time, the terminology was overweight) (1). Since then, information about obesity and two of the primary causes — poor nutrition and inactivity — has been regularly in the news. Although researchers say the rapid rise in obesity is leveling off, nearly a decade later 17% of 2 to 19 years old are obese, with the highest prevalence among Mexican American boys (27%) and African American girls (29%) (13,14).

Since 1980 when the first Dietary Guidelines for Americans were released, there have not been the types of improvements in the diets of Americans as hoped for by health professionals working as advisors on the Guidelines (15). The aim of the Guidelines is to provide advice about how good dietary habits can promote health and decrease risk for major chronic disease (16). The messages have been generally consistent: Americans have been called upon to maintain a healthy weight, to limit sugar, sodium and saturated fat and to eat plenty of fruits, vegetables, whole grains and low-fat and fat-free dairy foods. Unfortunately, the majority of children do not meet the recommended servings from the five food groups, and adults consume below recommended intake on four or more nutrients (17).

In light of these trends, this *Kids Eat Right* report examines the state of family nutrition and physical activity using data from the National Health and Nutrition Examination Survey (NHANES 2005-2006, 2007-2008) (17,18), statistics from the Centers for Disease Control and Prevention 2009 Youth Risk Behavior Surveillance Survey (19) and new findings from the American

Dietetic Association Foundation's (ADAF) *Family Nutrition and Physical Activity Survey*. Conducted initially in 2003 and again in 2010, the ADAF survey assesses children's attitudes and behaviors related to nutrition and physical activity and parents' understanding of and connectedness to their children's behaviors. (See sidebar on page 4 for more information on the ADAF survey.)

What Kids Are Not Eating

At the same time that many children are overweight or obese, many children have diets that are deficient in one or more nutrients, leaving them in a state of under-nutrition, or malnourishment (21). Data from the National Health and Nutrition Examination Survey (NHANES) from 2007-2008 indicate that 90% of children over 8 years of age do not consume recommended servings of vegetables and that 75% consume less than recommended amounts for fruits. For milk and milk products, more than 50% of boys aged 9 to 18 years and over 90% of girls do not consume recommended amounts (21). The grain group now distinguishes between refined and whole grain foods, and while all kids exceed recommended servings for

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Family Nutrition and Physical Activity Survey Methodology

The American Dietetic Association Foundation *Family Nutrition and Physical Activity Survey* was developed to gain a better understanding of factors related to healthy weights. The survey explored children's attitudes and behaviors regarding nutrition, eating habits and physical activity, as well as parents' awareness of their children's attitudes and behaviors.

The survey was first fielded in January 2003 to 615 pairs of children and parents representative of the U.S. population. In 2010, the survey instrument was amended to include new content domains based on results from an environmental scan, literature review on factors related to childhood obesity and prevention as well as information and insights gained from focus groups conducted in spring 2009 with parents (low-income white, Hispanic, African American, men and women) and their children of middle-school age (boys and girls) (20). Changes to the survey instrument included adding questions about potential drivers of healthful behaviors and the role of registered dietitians. Nearly two-thirds of the original questions were repeated in the 2010 survey.

Knowledge Networks, a custom survey research company, administered the 2003 and 2010 surveys. Beginning in 1999, Knowledge Networks recruited and established the first online research panel through probability-based sampling. Panel members were randomly recruited through random-digit dialing and address-based sampling methods and were representative of the entire U.S. population. To cover both online and offline populations, households

were provided with access to the Internet and hardware if needed.

The most recent survey was administered online in February 2010 to three population samples of youth aged 8 to 17 and their parents. The population samples included 754 pairs of children and parents who are representative of the U.S. population, 230 Hispanic pairs and 209 African American pairs. The participants were randomly selected from Knowledge Networks' panel, and the survey was offered in English or Spanish.

A sample of 420 white child-adult pairs taken from the 754 pairs in the U.S. population sample was used to assess differences between white, Hispanic and African American child-adult pairs. For analysis by race and income, income brackets were matched to the USDA's nutrient data. "Low" income includes household incomes below \$25,000, "medium" income includes household incomes between \$25,000 and \$74,999, and "high" income includes household incomes of \$75,000 or more. ■

refined grains, 95% do not consume the recommended amount of whole grains. Lastly, consumption of meat, poultry, fish, eggs, soy products, nuts and seeds is low for 75% of girls aged 9 to 18 years, while other kids meet or exceed recommended servings (21).

The 2010 Advisory Committee to the Dietary Guidelines for Americans is concerned about the food kids do *not* eat. Because kids do not consume recommended amounts of core food groups, their diets are low in Vitamin D, calcium, potassium and dietary fiber (21). Eighty percent of girls and 75% of boys ages 4 to 18 have inadequate intake of calcium, and nearly half of all kids' diets are deficient in Vitamin D. The low intake of vegetables, whole grains and fruits is evident in the inadequate consumption of dietary fiber and potassium by 95% of all kids (21). This is not a new problem. Over the past decade, children's eating patterns have been markedly low in vitamins A, C, D and E (22,23,24).

Poor eating habits not only contribute to unhealthy weights, but negative effects from poor nutrition may also include learning and behavior problems, lowered immunity or resistance to colds and flu and dental caries (4,5). These nutrition-related problems can affect children's academic achievement due to missed days of school, poor classroom behavior and diminished ability to concentrate and problem solve (25,26,27). Chronic undernutrition and/or not eating breakfast before going to school (or work) can have a negative effect on problem solving and other cognitive tasks (28,29). A review of studies linking nutrition and learning found that even a well-nourished child who misses

breakfast could have diminished problem-solving capacity to a degree that lowers test scores (30).

What Kids Are Eating

Most children and teens eat enough calories, and some eat more calories than needed for their activity level, which could lead to unhealthy weight gain. The majority of kids, whether at a healthy weight or not, are not eating the right foods — those foods that provide “quality calories.” The NHANES survey of 1977-1978 and 2001-2002 identified major changes in food and drink choices during this period of time; these changes coincided with increases in weight in all age-sex categories. Children shifted from drinking milk to high-sugar drinks and ate more foods that were higher in calories yet lower in nutrients (9). More kids now eat food from outside the home, and daily snacking has increased, with calories in the snacks increasing as well. As noted above, consumption of the food groups kids need more of did not increase over this period (21,23,24).

Foods that provide the most calories in children’s diets are also high in solid fats and/or added sugar. In fact, about one-third of total calories consumed by 2- to 18-year-old U.S. children and adolescents come from the intake of solid fats and added sugars that are commonly viewed as nutrient-poor calories. Grain-based desserts, such as cakes, cookies, donuts, pies, cobblers and granola bars, are the largest source of calories for adults and kids, without contributing any important nutrients (9,10,21).

The shift toward consumption of sweetened beverages, desserts and snack foods is a major contributor to

The State of Childhood Overweight and Obesity

According to the National Health and Nutrition Examination Survey (NHANES), prevalence of overweight and obesity has doubled among 2- to 11-year-olds and tripled among 12- to 19-year-old adolescents.

Among children surveyed in NHANES 2003-2006, 16% of 2- to 19-year-old children and teens were obese, with body mass index (BMI) levels at or above the age and gender-specific 95th percentile, and almost one-third were overweight or obese, with BMI levels at or above the 85th percentile.

Based on 2007-2008 NHANES data, obesity is more prevalent among Hispanic males aged 6 to 19 years

BMI-for-age percentile.

- Overweight is defined as a BMI at or above the 85th percentile and lower than the 95th percentile.
- Obesity is defined as a BMI at or above the 95th percentile for children of the same age and sex.

These definitions are based on the 2000 CDC Growth Charts for the United States and expert committee. A child’s weight status is determined based on an age- and sex-

WEIGHT STATUS	PERCENTILE RANGE
Underweight	Less than the 5th percentile
Healthy weight	5th percentile to less than the 85th percentile
Overweight	85th percentile to less than the 95th percentile
Obese	Equal to or greater than the 95th percentile

(27%) than among non-Hispanic white (18%) and non-Hispanic African American (19%) males in that same age group. For females, obesity is more prevalent among non-Hispanic African American females (26%) than among non-Hispanic white females (16%). No significant differences in prevalence of overweight by race and ethnicity were observed among either males or females aged 6 to 19 years (31).

Definition of Overweight and Obesity

For children and adolescents (aged 2 to 19 years), the BMI value is plotted on the CDC’s growth charts to determine the corresponding

specific percentile for BMI rather than by the BMI categories used for adults. Classification of overweight and obesity for children and adolescents are age- and sex-specific because children’s body composition varies between boys and girls and by age.

For more information, see Prevalence of Obesity Among Children and Adolescents: United States, Trends 1963-1965 Through 2007-2008 by Cynthia Ogden, Ph.D., and Margaret Carroll, M.S.P.H., Division of Health and Nutrition Examination Surveys (www.cdc.gov/mmwr/preview/mmwrhtml/mm5940a7.htm). ■

“The data say that soda is the number one contributor of sugar in children’s diets, yet flavored milks, which are often the nutritional scapegoat, don’t even make the list of the top five sources.”

Elizabeth M. Ward, MS, RD,
Nutrition Consultant and Author

daily calorie intake without contributing valuable nutrients (10,21,32). Substituting nutrient-dense foods, such as vegetables, fruits, low-fat and nonfat dairy and non-dessert whole grain foods, would benefit calorie balance and diet quality.

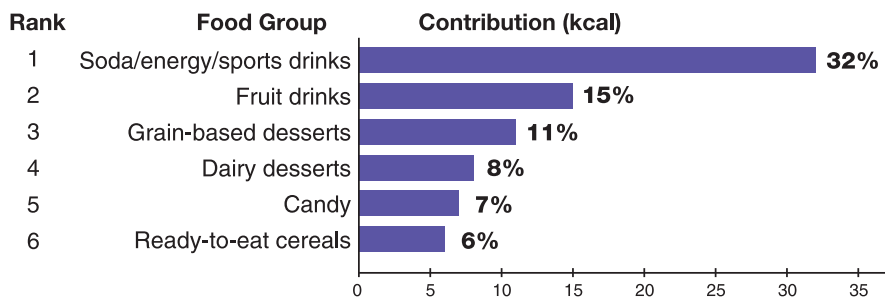
The chart on this page lists foods that represent the largest source of calories from sugar in kids’ diets. The results vary slightly by race/ethnicity and income levels but are generally consistent among all groups of kids (32). Dominating the list are soda/energy/sports drinks, which contribute nearly one-third of the calories in children’s diets (21,32).

than 5% to 15% of total calories come from solid fats and added sugar to allow for more nutrient-dense foods and maintain caloric balance.

To both meet recommended nutrients and limit added sugar and solid fat, major changes to eating patterns will be required. Changing the foods kids eat requires attention to taste-appeal. Because taste drives eating habits, modifying favorite foods to improve kids’ total diet is a key prevention strategy, especially when those preferred foods are also a good source of nutrition. For example, popular “kids foods” like pizza and whole milk provide Vitamin D, calcium and potassium, although because kids eat these at higher frequency, they are also a source of saturated fat. Reduced-fat and fat-free alternatives to whole milk are available, and many school lunch programs now serve pizzas made with whole grain crusts and lower fat cheese. On the other hand, some of the sources of saturated fat, like grain-based desserts, do not provide beneficial nutrients. Focusing on increasing the foods and drinks that supply missing nutrients could displace foods that provide a high amount of “nutrient-poor calories” (33).

The chronic nature of low nutrient consumption combined with higher intake of sugar and solid fats is cause for alarm. Poor nutrition from the over-consumption of foods high in calories and low in required nutrients can result in weight gain along with low nutrient intake. However, it is important to note that, whatever a child’s weight, it is likely that the child is not consuming the recommended servings from all required food groups (21,31).

Percent Contribution of Foods to Calories from Added Sugar in Kids’ Diets



Source: Mean Intake of Added Sugar & Percentage Contribution (kcal) of Various Foods Among US Children & Adolescents, by Race/Ethnicity & Family Income, NHANES 2005-06. National Cancer Institute. See http://riskfactor.cancer.gov/diet/foodsources/added_sugars/table4a.html. Accessed Oct. 11, 2010.

Foods that provide the most calories from saturated fat include the grain-based desserts (11% calories from solid fat), regular cheese (8%), sausage, franks, ribs and bacon (together 7%), pizza (6%), French fries (6%) and dairy-based desserts (5%). Kids ages 14 to 18 get more solid fat calories from French fries and beef (9,10,21). The Advisory Committee recommends that no more

Children's and Parents' Beliefs about Nutrition and Weight

“In general, people think they eat better than they do.” So says Gayle Coleman, MS, RD, nutrition educator, University of Wisconsin-Extension, Cooperative Extension.

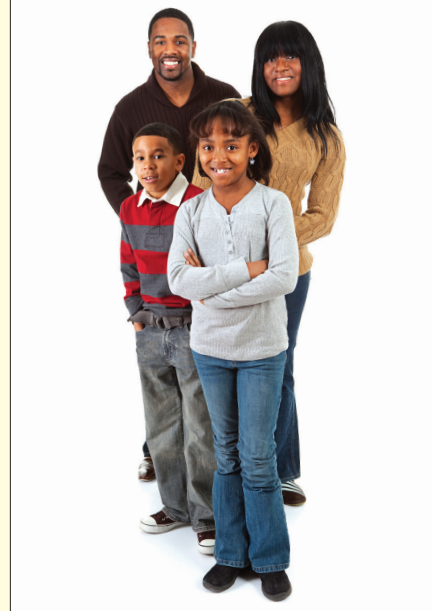
The *Family Nutrition and Physical Activity Survey* confirms Coleman's claim. Both children and their parents report that children are eating nutritious foods. In fact, the majority of children (59%) perceive themselves as eating healthy foods (up from 46% in 2003). In 2010, kids rank their food intake as being significantly more nutritious ($p < .001$) than they did in 2003, and in 2010, parents are more aligned with ranking the healthfulness of their children's diets than they were in 2003. However, while children report that they are eating nutritious foods, studies demonstrate that children's diets have serious nutrient shortfalls.

Children also have misperceptions of their body size. Significantly more children in 2010 report being at the “right weight” than in 2003, with 22% of the surveyed children reporting that they are overweight, down from 32% in 2003. Registered Dietitians interviewed explained that many overweight adults underreport their weight; this is happening with some kids too. The national data do not agree that kids are slimming down quite like kids tell us: over the 2003-2010 period, weight was still increasing, though in some categories it was starting to stabilize (13,14,31).

These disconnects may reflect a shift in what is perceived as “normal” food intake and body weight.

Because high-calorie, low-nutrient foods are more available than high-nutrient options, poor food choices have become the standard. At the same time, society in general has become desensitized to overweight. Lucille Beseler, MS, RD, LD/N, CDE, president and founder of the Family Nutrition Center of South Florida, points out that televi-

“A big piece of prevention is educating parents and communities and having the trickle-down effect.”



sion commercials now more often feature overweight children. Seeing overweight kids, she says, has become “the norm.”

Yet despite these gaps, registered dietitians find that parents

want to help their children eat healthier foods and maintain appropriate body weight. “It's not that parents don't understand their child is overweight,” Beseler says. “They're busy and overwhelmed without a lot of time or a lot of resources.” Coleman agrees. People have a “general sense of what's healthy and what they should do,” she says, but they may need help putting that information into action.

“Many, if not the majority of, parents want to know what they can do to improve their families' diets,” says Beseler. This desire for greater nutrition literacy gives registered dietitians a real opportunity to help parents understand the most healthful food choices and recognize healthy weights.

“A big piece of prevention is educating parents and communities and having the trickle-down effect,” Beseler remarked about her experiences working with families for over 20 years.

Parents are the behavior leaders at home, and as the Let's Move! initiative also calls for, we must empower parents to be the best role models possible. Registered dietitians can help to improve parents' self-efficacy by teaching skills and information essential for putting a balanced meal on the table. We need to help parents see the immediate benefits of eating and serving healthier options consistently. ■

Between 2003 and 2010, there was a significant increase in the percentage of kids being physically active with their parents, according to the *Family Nutrition and Physical Activity Survey* results.



Physical Activity Stagnates

Nutrition and physical activity are addressed simultaneously for healthy weights and overall health. As with nutrition, time kids spend being physically active and their fitness levels are important determinants of health; higher fitness levels are also correlated with better moods, behaviors, concentration and learning.

The 2009 Youth Risk Behavior Surveillance Study (YRBSS) found that the percentage of high school students who had been physically active for a total of at least 60 minutes per day on seven days has not significantly changed in the past half decade (19). In the 2005 YRBSS, only 18% of high school students were active at least 60 minutes on all seven days, and in 2009, 18% of students reported seven days of activity (19). Additionally, the percentage of students who do not participate in 60 minutes of physical activity on any day decreased from 25% in 2005 to 23% in 2009, although this too was not statistically significant (19).

Inactivity is just as important to monitor as activity. YRBSS data show a significant increase in the percentage of students using computers three or more hours a day for non-school work such as video games: 22% fit this description in 2003 while the figure increased to 25% in 2009 (19). Concurrent with this increase in computer time has been a significant decrease in the percentage of students who watch three or more hours per day of television, from 43% in the 1999 YRBSS to 33% in the 2009 YRBSS (19). It may be that sedentary activities are traded one for another and that it is harder for youth to switch to being physically active on

most, if not all, days of the week.

Similarly, the ADAF *Family Nutrition and Physical Activity Survey* finds mixed results to questions about physical activity. For example, between 2003 and 2010, there was a significant increase in the percentage of kids being physically active with their parents three or more days a week (from 16% in 2003 up to 31% in 2010). However, during the same time period, there also was a significant increase (from 57% in 2003 to 64% in 2010) in the number of kids and parents spending time watching TV, viewing a movie or playing a video game together three or more days a week.

In 2010, the percentage of kids who played on a sports team or participated in group physical activity decreased a few percentage points, although not significantly (from 63% in 2003 to 60% in 2010). Also in 2010, there was an increase in the number of kids preferring outdoor activities to sedentary indoor activities (21% preferring outdoor activities in 2010 compared to 15% in 2003), although it was also not statistically significant. The *Family Nutrition and Physical Activity Survey* also finds that the percentage of children having 60 minutes of physical activity seven days a week was similar to the national YRBSS findings. The survey further finds that parents' knowledge of their kids' activity level is consistent with their children's self-report, with no differences by race: 17% white, 17% Hispanic and 16% African American kids report getting 60 minutes of activity daily. ■

Ready for Change

The *Family Nutrition and Physical Activity Survey* results provide a new level of confidence that changes are occurring and will continue to occur. Perhaps the most compelling survey finding is that children and their parents are at a different place in awareness and that they are even trying new behaviors, more so than they were in 2003.

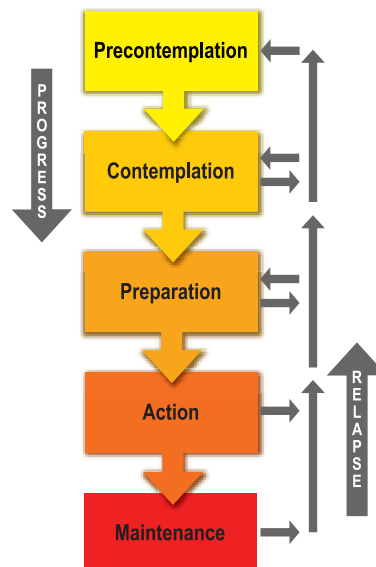
When the *Family Nutrition and Physical Activity Survey* was first conducted in 2003, a primary aim was to understand the child-parent connection as it related to activity and eating attitudes and behaviors. The big news in 2003 was the disconnect that existed between parents and their children.

This year's survey results show a marked improvement in the parents' connection to eating and activity patterns for their kids. Child-parent pairs are much more aligned, showing an awareness that was not there in 2003. Changes in kids' behaviors cannot take place without parents being aware and making nutrition and activity important priorities for the family. There was statistically significant agreement in the child-parent pairs in 2010 on nearly every question. This alignment signals a shift in children's and parents' connectedness on these topics. This higher awareness relates to a new stage of "readiness" to make healthy changes (36).

The "Stages of Change Model" is a framework that can help visualize the process or sequence of behavior states or stages that occur between not knowing there is a problem to a changed behavior that has now become a habit. This framework can help explain changes in population samples too. As the model shows, until there is an awareness of a behavior — pre-contemplation — there is not a

move forward (36,37). Pre-contemplation moves to contemplation once there is an awareness of the problem.

Stages of Change Model



Source: Adapted from Baton Rouge Counseling, Baton Rouge, LA, <http://batonrougencounseling.net/blog/substance-use/stages-change/>

The Family Factor

For youth to experience lasting changes in nutrition and physical activity, the entire family system needs to change (38). Generational habits and behaviors can prevent change from happening, so it's important to have buy-in from the family system (40). As such, slow and gradual changes usually are more effective. It is also important to identify which family behaviors can help meet

“Both parents and children are aware that there is a problem and that they need to be eating healthier and they’re willing to think about eating healthier. I think this is a major step. In my experience over the decades in treating overweight children and their families, a lot of times the hardest thing is to move a person from a stage of inaction to a stage of contemplation, to saying ‘Gee, maybe I want to do something.’ I think that this is the opportunity for dietitians to help patients.”

Nancy Copperman, MS, RD, CDN,
Director of Public Health Initiatives, North
Shore Long Island Jewish Health System

“It seems like parents are more aware of what the kids are doing. And I think that’s good. That’s the first little mini-step into trying to do something differently.”

Aida Miles, MMSc, RD, CSP, LD, CNSD,
Director of the Coordinated MPH Program,
Division of Epidemiology and Community
Health, University of Minnesota School
of Public Health

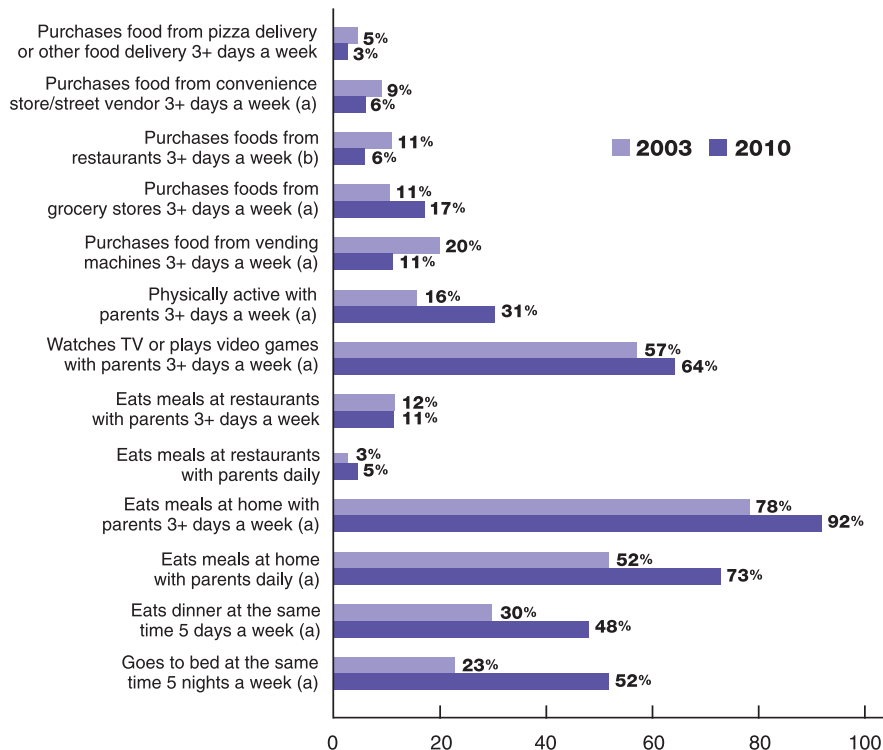
the goals of healthy weights and quality nutrition (38,39,40). Research over the past decade has identified child-parent interactions that can promote healthy or unhealthy weights (38,39,40,41). Eating family meals at home has positive benefits, while eating away from home can have a negative effect on the quality of kids’ diets (42,43,44,45). Other positive effects on healthy eating habits are seen with regular daily routines and with children and parents spending time together (46,47).

More family meals. Many benefits are found in sharing meals as a family (42,43,44,45). Studies of teens who regularly have meals with their families find that these teens are at lower risk of using drugs and that they experience

better connectedness at home, enjoy improved mental health and exhibit better eating patterns, including higher consumption of fruits and vegetables (46,47,48,49). Data indicate that when kids eat meals with their parents/families, without watching television, this meal time is an important opportunity for bonding and teaching good nutrition and eating behaviors (42,44,49,50,51). The *Family Nutrition and Physical Activity Survey* finds a significant increase in family meals, with 73% of families eating at home daily in 2010 up from 52% of families in 2003. A closer look at 2010 data reveals significant racial/ethnic differences in the percentage of children eating with their parents at home daily. African American children (61%) eat dinner with their parents daily, significantly less often than white (72%) and Hispanic children (72%).

While the percentage of families eating dinner at home has increased since 2003, the percentage of children reporting that they eat out with their parents has remained constant and much less than the percentage eating at home. Children’s and parents’ responses to these questions are significantly correlated across all racial groups, indicating a high level of parental awareness and validation of children’s responses in 2010.

Changes Between 2003 and 2010: Percent of Children Reporting Behaviors



a: Behaviors are different with statistical significance between 2003 and 2010, $p < 0.001$.

b: Behaviors are different with statistical significance between 2003 and 2010, $p < 0.05$.

Source: ADAF Family Nutrition and Physical Activity Survey, 2003 and 2010

Increase in regular routines. Another family factor correlated with healthy behaviors is the existence of family routines. Routines — or regular daily activities — are important in organizing daily life and reflect family characteristics (41,46,47). Family routines, including regular family meals and regular bedtimes, are positively linked

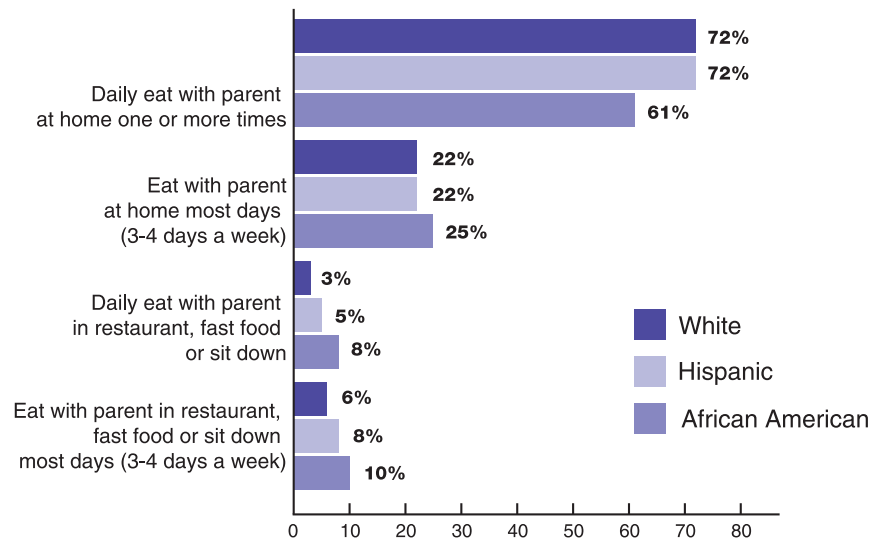
to multiple positive child outcomes, including academic achievement, self-esteem and both behavioral and psychosocial adjustment. Families that are organized and have predictable routines produce children with more positive outcomes (46,47,52).

Many more children report eating dinner at or about the same time five nights a week in the 2010 *Family Nutrition and Physical Activity Survey* (48%) than they did in 2003 (30%). The 2010 survey also shows a significant increase in the percentage of children going to bed about the same time five nights a week; over 50% of kids in 2010 report regular bedtimes on all school nights compared to only 23% of children in 2003.

There are, however, racial differences observed in 2010 survey results. Significantly more white children report regular meal times five nights a week (52%) than do African American children (40%); the difference is not significant between white and Hispanic children at 48%. The 2010 survey also finds significantly more white children (55%) than Hispanic (46%) and African American (45%) children reporting regular bed time five days a week. But overall, daily routines are up — a step in the right direction for healthy eating habits and proper nutrition (42,46,47).

More time together. Time parents spend with children is an important factor affecting children's health and nutrition for a variety of reasons (51,52,53). Parents model behaviors, good or bad, and children in both the 2003 and 2010 surveys name their mothers as their number one role model and their fathers as number two. What parents eat, whether they value being physically active and whether they spend time

Percent of Kids Reporting Eating with Parents



There are differences among races in the frequency of children and parents eating meals at home, with African Americans having meals together significantly less often than Hispanic and white parent-child pairs, $p < 0.05$.

Source: ADAF Family Nutrition and Physical Activity Survey, 2010

with their children engaged in healthy behaviors — all are examples of positive, powerful role modeling that can shape children's eating and activity behaviors (43). The quality of the time parents and children spend together is critical. As parents are stretched for time, they can convey all-important lessons by preparing meals with their children, shopping for foods and cleaning up after the meal (46,47,52,53).

The good news is that, according to the *Family Nutrition and Physical Activity Survey* results, parents are spending time with their children. Children and parents enjoy activities together — such as eating and watching movies or TV — on a daily basis. The increase in parents spending time being physically active three or more days a week is sizable, moving from 16% in 2003 to 31% in 2010. However, as noted above, more children and their parents are watching

Another family factor correlated with healthy behaviors is the existence of family routines. Routines — or regular daily activities — are important in organizing daily life and reflect family characteristics.

Race and income have an effect on where children purchase foods, and the general decrease in poor purchase habits from 2003 to 2010 was not uniform across race and income levels.

TV and playing video games together three or more days a week, a significant increase in this behavior from 2003 (57% of children and parents) to 2010 (64%).

Where and When Kids Eat

Despite the positive trends, there is still room for improvement. From skipping meals and frequent snacking to buying food and drinks from a variety of places, troubling patterns stand in the way of children consuming adequate nutrients. By understanding behaviors related to kids' eating and activity, decision makers, health professionals and families are better

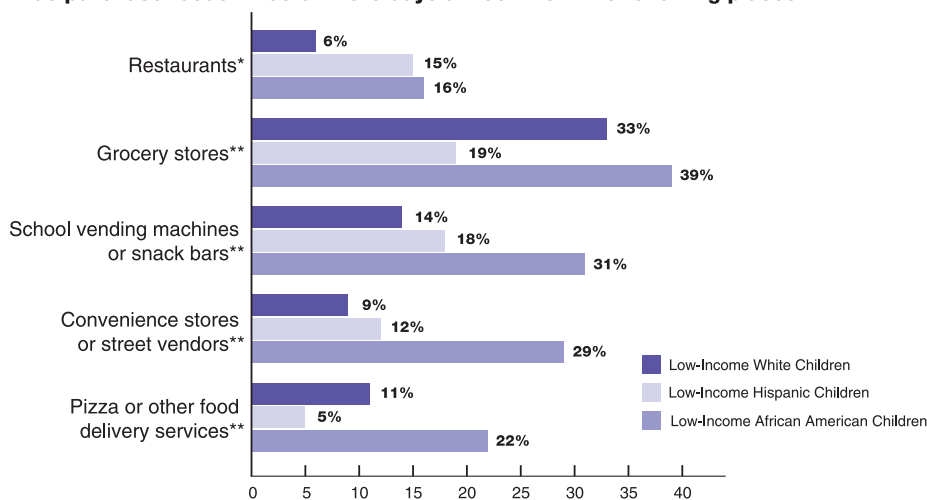
shows that away-from-home eating increases caloric consumption and decreases dietary quality in kids aged 6 to 18 (45). Food consumption data from 2007-2008 show on average that one-third of children's calorie intake is away-from-home food; in 1977, it was less than one-fourth of calorie intake in children (45,54,56). This is an area where educational efforts are necessary to help improve children's choices of away-from-home foods and beverages (54).

The 2010 ADAF *Family Nutrition and Physical Activity Survey* indicates that parents and children are infrequently eating meals at restaurants. Survey results show that only 9% to 18% of children and parents eat away-from-home foods three or more days a week. A significant difference between 2003 and 2010 is the decrease in the percentage of kids buying food or drink from school vending machines and snack bars, convenience stores and restaurants. It is worth noting that the survey found a statistically significant increase in the percentage of kids buying from grocery stores three or more days per week, from 11% in 2003 to 17% in 2010. Purchase data are not available, making it unclear if an improvement in nutrition follows this trend. However, this is a sign that kids have access to nutrient-dense foods, and this could mean new opportunities for healthier snacking.

Race and income have an effect on where children purchase foods and the general decrease in poor purchase habits from 2003 to 2010 was not uniform across race and income levels. Significantly more African American children from low-income homes (less than \$25,000 a year) report buying

Percent of Low-Income Kids Purchasing Snacks and Meals

Kids purchase foods three or more days a week from the following places...



* Statistically significant differences by race, $p < 0.05$

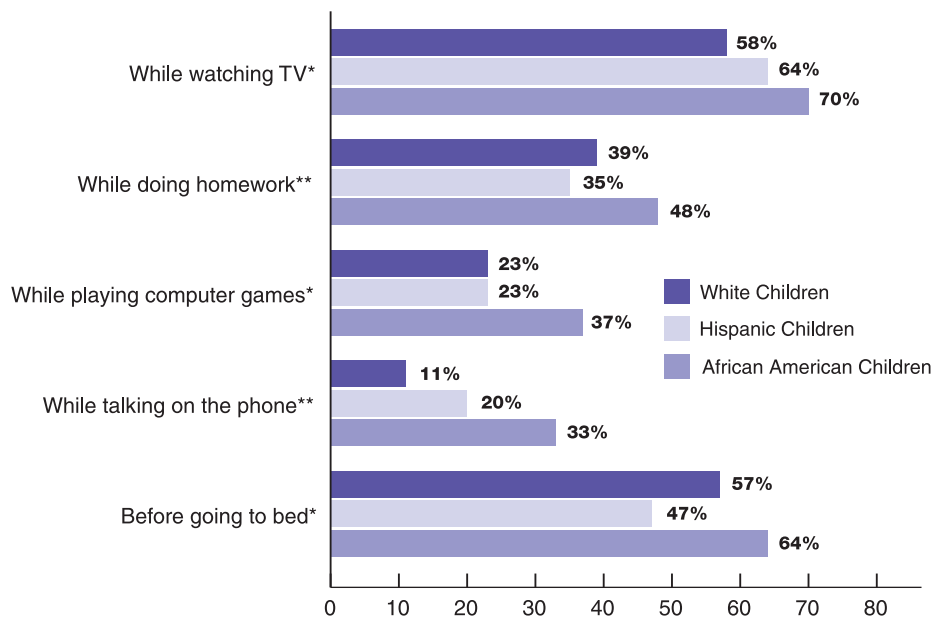
**Statistically significant differences by race, $p < 0.001$

Source: ADAF Family Nutrition and Physical Activity Survey, 2010

equipped to make changes that have an impact on the lives of children.

A recent U.S. Department of Agriculture (USDA) report concluded that foods eaten from fast food outlets, restaurants and other commercial sources negatively affect the quality of kids' diets (45). The study

Percent of Kids Eating All, Most or Some of the Time...



* Statistically significant differences by race, $p < 0.05$

**Statistically significant differences by race, $p < 0.001$

Source: ADAF Family Nutrition and Physical Activity Survey, 2010

“The [Family Nutrition and Physical Activity] study tells us that for children to eat healthier foods, they have to look and taste good. Schools have financial, time and other resource-related limitations. We need new approaches, such as partnerships with local restaurants, farmers, food producers and local dietetic associations, especially to address cultural preferences and nutritional issues of the children attending schools in those communities.

“For example, restaurateurs, chefs and registered dietitians in the community could help schools make culturally relevant tasty meals that also meet dietary guidelines for the children. Help in the area of food and nutrition has to be continuous if it is going to make a positive difference in the children’s nutritional status and their acceptance of school foods.”

*Judith Rodriguez, PhD, RD, FADA, LDN,
President, American Dietetic Association*

foods from vending and snack bars at school, convenience stores and restaurants. Low-income African American children buy food three or more days a week from pizza or other food delivery (22%), significantly more often than Hispanic children at all income levels (5-7%) and white children in medium- (1%) and high-income (2%) households.

Kids eat day and night. Meals aside, most kids report eating several times throughout the day. The majority of kids eat snacks after school at least some of the time (81% white, 88% Hispanic and 87% African American). Kids eat while watching TV, doing homework, playing computer games and talking on the phone; however, some kids do so more than others. African American children report

snacking more often — while watching TV (significantly more than white children), while doing homework, while playing computer games, while talking on the phone (significantly more than white and Hispanic) and before bedtime (significantly more than Hispanic children).

Recently published data on kids’ snacking patterns find that the overall quality of the diet, or nutrient density, lowers as snacking increases (11,12,32). Foods eaten as snacks provide more sugar and saturated fat and fewer vitamins and minerals (9,10,11,12). Since the late 1970s, the percentage of 12- to 19-year-olds who snack increased from 61% to 83%, the number of snacks increased from 1.0 to 1.7 snacks per day, and daily calories from snacks increased from 300 to 526 (12,57).

“A lot of people only look at macronutrients when thinking about nutrient standards and stop there. They feel that if we meet our macronutrient goals, then the food is okay. I think the public needs to look at guidelines that are based on meeting micronutrient standards as well.

“In order to meet micronutrient and macronutrient standards, schools would then be supported in offering more fruits, vegetables and low-fat dairy products that are high in folic acid, Vitamin C, Vitamin A, calcium and fiber. One way of meeting this goal is to fund schools so that they can incorporate more whole foods into their menus.”

Nancy Copperman, MS, RD, CDN,
Director of Public Health Initiatives, North
Shore Long Island Jewish Health System

Three Square Meals a Day — Not Always

The meal kids skip most frequently is breakfast, probably the worst meal to miss given the connection between breakfast and learning and given that after a night's sleep immediate energy stores in the body are running low. The *Family Nutrition and Physical Activity Survey* asked kids if they eat breakfast all of the time and results indicate that many children do not do so. Significantly more African American children do not eat breakfast all of the time (59%) compared to white and Hispanic children (42%). Even higher numbers of low-income whites and medium-income African Americans (both at 67%) do not eat breakfast all of the time. It is of particular concern when lower income children miss breakfast, as many would be eligible for the free or reduced price School Breakfast Program if their school offered it.

The USDA School Breakfast Program provides one-fourth of the Recommended Dietary Allowance for protein, calcium, iron, Vitamin A, Vitamin C and calories (58,59). Studies have shown that children who eat breakfast on a regular basis are less likely to be overweight (58). Schools that provide breakfast in the classroom to all students have shown decreases in tardiness and suspensions as well as improved student behavior and attentiveness (28). Which foods are eaten for breakfast also has an impact on learning (60). One study showed that eating foods high in fiber and low in sugar helped students sustain the cognitive effects of breakfast (61).

Children also have an opportunity to participate in the National School

Lunch Program, which is available at most schools. While school lunch often gets a “bad rap,” it offers the most nutritious foods available at school. The *Family Nutrition and Physical Activity Survey* results reveal that 44% of white children, 35% of Hispanic children and 25% of African American children do not eat from the school lunch line on most days. Kids report not eating school lunch because they “do not like what is served or how it tastes” (50% white, 59% Hispanic and 63% African American) or because “their parents want them to bring lunch from home” (56% white, 45% Hispanic and 37% African American). Of those not eating the school lunch, most bring their lunch from home (88% white, 70% Hispanic and 60% African American).

One of the few areas in which parents are disconnected from what their kids are doing is that of alternative lunch sources. For kids who do not eat from the school lunch line each day, African American children more than white or Hispanic children buy food from vending machines (27%) or from stores or restaurants close to school (29%). And of those African American children who do not eat lunch from the school lunch line, more than a third — 34% — do not eat lunch at all.

Dinner is a meal many parents and kids say is their healthiest because it is eaten at home. Despite the high numbers reporting regular meal times and eating at home with parents, a good percentage of kids report they do not eat dinner all of the time: 22% of white children, 38% of Hispanic children and 34% of African American children report not eating dinner every night. ■

Taste Matters

“Food has to look good and taste good,” says Lucille Beseler, MS, RD, LD/N, CDE, president and founder of the Family Nutrition Center of South Florida. “If it doesn’t look good and taste good, kids are not going to eat it.”

In other words, kids eat for taste. But while taste can be a potential barrier to eating nutrient-rich foods, it can also be a draw if we help kids develop a taste for these healthier foods. To meet kids’ taste expectations while also providing healthy foods, registered dietitians say we need to think about cultural preferences, work gradually to help kids change their taste buds and prepare healthier versions of the foods kids like.

Again and again, the *Family Nutrition and Physical Activity Survey* found that kids eat — or don’t eat — based on taste. When asked why they ate, the majority of children selected hunger and taste over other reasons. Eating “all of the time” because “food tastes good” significantly increased, from 23% in 2003 to 31% in 2010. Likewise, a majority of kids who don’t eat from the school lunch line said they do not do so because they don’t like how the school meal tastes. And an overwhelming majority of kids (89% white, 90% Hispanic and 94% African American) reported that they’d eat healthier foods if those foods tasted better.

However, trying to decipher what kids mean by “taste” can be challenging.

One key factor in taste is cultural preference, says Nancy Copperman, MS, RD, CDN, director of Public Health Initiatives at North Shore Long Island Jewish Health System. Kids are used to certain flavors that

are associated with particular cultural foods. As we prepare school meals, she asks, “are we really bringing in the cultural foods that these particular ethnicities enjoy as taste?”

Just as they are accustomed to certain cultural flavors, kids also become accustomed to certain tastes from processed foods. “As

When asked why they ate, the majority of children selected hunger and taste over other reasons.



we help kids shift to healthier foods with lower sugar and salt content,” says Gayle Coleman, MS, RD, nutrition educator, University of Wisconsin-Extension, Cooperative Extension, “we need to realize that taste for many foods is acquired. Healthier foods, like vegetables, may not meet kids’ taste needs initially, but they can learn to like them.” Thus, change needs to be gradual.

Judith Rodriguez, PhD, RD, FADA, LDN, President, American Dietetic Association, notes that taste has always been an important factor. “It may be because of an increased availability of sweet and saltier foods that choice for those

foods is impacted,” she says. “If a child has a greater access to foods that are high in sugar, fat and sodium and also has preference for it, he or she is likely to select it. Over time, if other foods do not have that sweet and salty taste, they will not taste as good as what is now preferred. It is an interesting research question: does the taste take on greater significance because there is more choice? Also, how does the exposure to a variety of flavors and tastes impact choices and preferences? The data seem to indicate that it does, so early education and modeling are important.”

Finally, it’s important to give kids great-tasting, healthier versions of their favorite foods, argues Elizabeth M. Ward, MS, RD, nutrition consultant, mother of three and author of several books about feeding children. For example, Ward says, “Pizza is the number one food on kids’ plates, and that’s a good thing because pizza supplies several nutrients, such as protein, calcium and magnesium. However, there are ways to reduce the calories, total fat and saturated fat in pizza that preserve the important nutrients while better promoting good health.”

As we work with cultural food preferences and help kids get used to new tastes and create healthier versions of kids’ favorite foods, we need to remember that change won’t come overnight, Copperman says. “It’s kind of retraining the taste buds.” ■

Perspectives from the Field

Registered dietitians from around the country were interviewed about their reactions to the *Family Nutrition and Physical Activity Survey*. These leading professionals reflected on the survey and shared their observations of the current nutrition environment.

“People have general knowledge, but they need skills, techniques, tips they can use within their lifestyle. They need to know how to make changes that work with the way they live. The survey data on why children eat were striking relative to hunger and taste. Taste is always a primary factor, and it may seem more important because of greater access to tasty foods. The increase in hunger needs to be looked at because hunger is a physiological response, where taste or appetite is a sociological phenomenon because something looks appealing.”

Judith Rodriguez, PhD, RD, FADA, LDN, President, American Dietetic Association

“We need strategies that are flexible enough to accommodate different types of families and culture.”

Gayle Coleman, MS, RD, University of Wisconsin-Extension, Cooperative Extension

“There seems to be a need and a readiness. Both parents and children have a new level of awareness that there is a problem and a willingness or desire to make changes. This is the opportune time for registered dietitians to help families.”

Nancy Copperman, MS, RD, CDN, Director of Public Health Initiatives, North Shore Long Island Jewish Health System

“A big piece of prevention is educating families and communities. All health professionals have to be saying the same thing when addressing healthy eating and healthy weights for children. It is imperative to find a way for registered dietitians to share their expertise while educating other professionals. This could be a vital role for dietitians — training other health professionals. Getting more dietitians into the community does require us to be innovative, creative educators. As part of my business, I have had great response to registered dietitians being part of sports events, health fairs and festivals. There are tremendous opportunities to reach parents where they are, even in health fairs in retail outlets.”

Lucille Beseler, MS, RD, LD/N, CDE, President and Founder of the Family Nutrition Center of South Florida

“Staying positive about healthy eating means focusing on what kids should include in their diets on a daily basis, rather than what to avoid. Taking that approach typically displaces high-calorie foods that offer little in the way of nutrients that kids need to grow and develop to their fullest potential. The data say that soda is the number one contributor of sugar in children’s diets, yet flavored milks, which are often the nutritional scapegoat, don’t even make the list of the top five sources. Any type of milk provides vital nutrients, including calcium, potassium and vitamin D, three nutrients that experts say kids do not get enough of. We want kids to drink milk, and their preference for flavored milk should be taken into consideration at home and at school.”

Elizabeth M. Ward, MS, RD, Nutrition Consultant and Author

“Staying positive about healthy eating means focusing on what kids should include in their diets on a daily basis, rather than what to avoid.”

“We’re looking at prevention and we’re looking at what’s going to make a difference 20 years from now, but we still have the now. Policy and environmental change efforts may be a bit longer term. We need short-term strategies that help parents or schools immediately too. Students are working with local grocery chains and chefs to collaborate in developing nutritious meals that match the weekly food sales; cooking demonstrations are given by the chef, and the student dietetic professionals walk people through the menu for that week.”

Aida Miles, MMSc, RD, CSP, LD, CNSD, Director of the Coordinated MPH Program, Division of Epidemiology and Community Health, University of Minnesota School of Public Health ■

Moving Forward: Opportunity Areas

The *Family Nutrition and Physical Activity Survey* finds several key “opportunity areas” – family habits and children’s behaviors. Parents’ increased connectedness with their children on wellness as well as parents’ improved understanding and awareness of their children’s behaviors signal a shift in “readiness” to change eating and physical activity habits. Additionally, the majority of children responded positively to approaches that would help them eat healthier.

Parents also responded positively toward seeing a registered dietitian to get help with making better food choices and preparing healthier meals for their children. These drivers to positive change should be at the forefront of efforts to educate, support and work with children and their parents to improve kids’ healthy eating and activity habits.

Opportunity #1: Parent Power

The majority of children identified their parents as their number one role model, with mothers as the first choice and fathers as the second choice. If parents display healthful

Parents have many opportunities to set a good example when it comes to healthy habits. According to the *Family Nutrition and Physical Activity Survey* results from 2010, parents spend time with their children in numerous ways and thus have many opportunities to have an impact on children’s health behaviors, especially when they eat together. Despite the prevalent belief that children and parents do not eat at home any more, the 2010 survey shows that more than 80% of white, Hispanic and African American children and parents say they eat meals at home together at least three days a week. Families that

Kids name their parents as the number one role model. More than 70% of kids said that, if parents ate healthy at home, this would help them do the same.

KIDS WHO SAY THEIR NUMBER ONE ROLE MODEL IS...	WHITE	HISPANIC	AFRICAN AMERICAN
Their Mother	18%	23%	30%
Their Father	17%	18%	16%

eating and activity habits themselves, children are likely to emulate those behaviors. Indeed, children say that it would help them eat healthier foods if their parents ate these foods at home, with significantly more Hispanic and African American children reporting that this would help them.

eat at home daily comprise the largest segment of this group, with 72% of white and Hispanic children and 61% of African American children reporting eating at home with family at least once a day. Not only does eating together as a family lead to lower rates of overweight and obesity as

Nearly all parents base purchases on nutrition, fat and calorie content. Parents report that health attributes are important determinants to foods brought home.

well as higher quality, more nutrient-dense diets (42); mealtimes are also an excellent time to demonstrate healthy eating choices. Even the away-from-home eating could be improved with education, especially the times, although infrequent, that parents and kids are eating out together (40,43,45).

The *Family Nutrition and Physical Activity Survey* finds that, in the majority of households, mothers have primary responsibility for meals. Moreover, in their role as primary food preparer, mothers buy food for the family's meals and snacks. As the number

healthy dietary habits to young people.

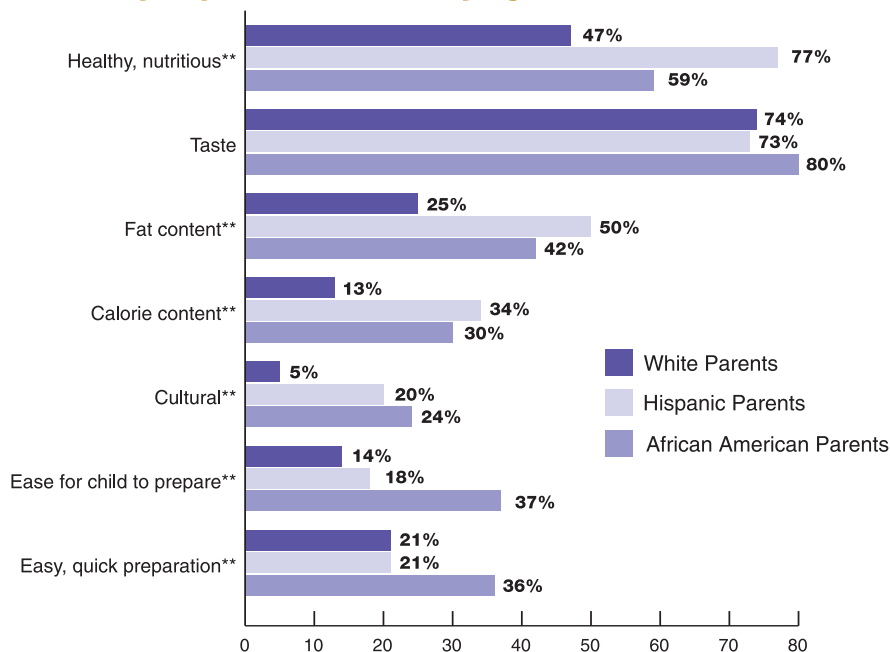
Parents play an especially important role as they make decisions about which foods to purchase — both for the nutrient quality of food that is available in the home and for the example they set as they select foods. Although not statistically different than others, more African American parents selected taste as a very important reason for buying foods. Parents have other “very important” reasons for purchasing foods, reasons that differ significantly by race (see chart on this page). For example, a significantly higher percentage of African American parents reported ease of preparation for their child and ease in general more than for white or Hispanic. Even more important to parents, however, are the health attributes of the foods they purchase, with significantly more Hispanic parents ranking the nutritious aspects of a food as a “very important” determinant. Similarly, fat and calorie content is significantly less important to white parents than to Hispanic or African American parents — yet when combining responses for “somewhat important” and “very important,” nearly all parents use nutrition, fat and calorie content to determine which foods are purchased.

Overall, parents have a powerful opportunity to model healthy behaviors for their children. Whether they're shopping for nutritious groceries or playing with their kids outside, parents set the tone for their families. Thus, parent education can be a key factor in improving children's healthy eating and activity habits.

Opportunity #2: The Rhythm of Family Routines

As noted throughout this report, children exhibit a range of healthy behav-

Percent of Parents Finding Health Attributes as “Very Important” When Buying Food



**Statistically significant differences by race, $p < 0.001$

Source: ADAF Family Nutrition and Physical Activity Survey, 2010

one role model and primary meal provider, mothers have a great responsibility to model healthy behaviors. Thus, working with mothers through nutrition and health education efforts should pay dividends in teaching

iors when their families observe regular routines (46,47). When kids eat meals at home, when they eat with their parents regularly, when they spend time with their parents and when they go to bed at about the same time each night, they are more likely to have healthier behaviors, including eating behaviors (38,42,47).

Sharing meals as a family improves mental health and leads to better eating patterns; this important bonding time can be a great opportunity to teach good nutrition and eating behaviors (40,42,43,44). Quality time spent together as a family — whether cooking a meal or playing outside — can enhance children's well-being; new research shows it may be protective against higher than normal weight gain (45,53,55). And family routines — such as regular bedtimes — can lead to stronger academic achievement and higher self-esteem (46,47,52).

The *Family Nutrition and Physical Activity Survey* results indicate there are differences in the percentage of families that practice these behaviors by race and income. Regular schedules may be more difficult for lower and middle-income parents; some may have several jobs, varying work schedules and longer transportation times to and from work (51,52). Families could benefit from learning cooking techniques and skills for parents and older children (51,55). Overall, the trend for all races is quite promising, though significantly fewer Hispanic and African American families have the same regularity of routines as white families. These regular rhythms can provide a strong foundation as we seek to improve children's healthy eating and activity habits.

Hispanic Families: Positive Signs

Maria C. Alamo, MPH, RD, is president and founder of Salud Consulting Inc. She works with clients to develop culturally relevant communications, translate nutrition and health information into Spanish and develop recipes for nutritious meals for Hispanic families. Alamo explains that the primary characteristics of Hispanic meals are flavor, color and presentation of the foods. Hispanic cooks, she says, “are used to lengthier recipes with many ingredients including a variety of spices and longer cooking times. They are not afraid of a long recipe. The freshness of the ingredient is very important, so going to the grocery store several times a week is not unusual.”

The Hispanic parents' responses to survey questions about talking to a registered dietitian are good to see, says Alamo, although not that much of a surprise. “The Hispanic culture has a lot of respect for medical professionals,” she says, “so it is easy to see why they want to meet with a registered dietitian.”

Alamo comments that the overall responses by Hispanic children and parents are encouraging. She points to several very positive behaviors revealed in the survey: the higher frequency of meals eaten at home, the pattern of eating at regular meal times and the practice of eating as a family. Hispanics “are health conscious and want to learn how to make the most nutritious meals for their family,” Alamo observes. “The gaps in nutrition and foods that are missing from kids' diets can be addressed with the Hispanic community because there is an openness and readiness.”

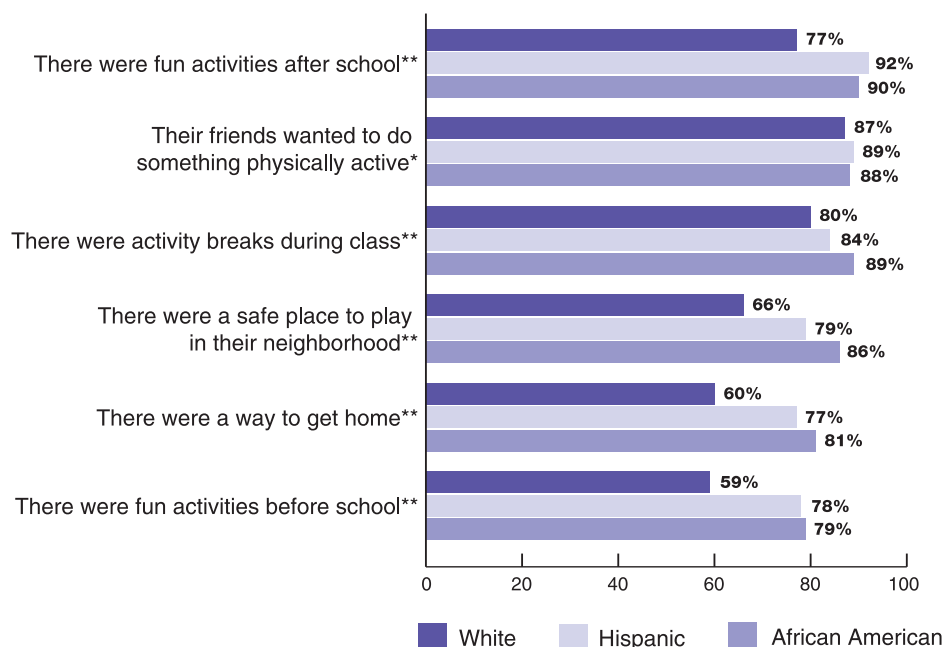
Alamo concludes that the survey findings indicate unmet needs that can specifically be addressed by registered dietitians due to their background in food and nutrition. ■

Opportunity #3: Kids' Desire to Move More

We know that the majority of children don't get the recommended 60 minutes of physical activity each day — but kids tell us they would move more if they had more opportunities to do so (19).

In the *Family Nutrition and Physical Activity Survey*, children report that they would be more physically active if there were fun activities after school. Other motivations they mention for being more physically active are: if their friends wanted to do something physically active, if there were activity breaks during class, if there were a safe place to play in their neighbor-

Percent of Children Who Would Be More Active If...



* Statistically significant differences by race, $p < 0.05$

**Statistically significant differences by race, $p < 0.001$

Source: ADAF Family Nutrition and Physical Activity Survey, 2010

hood, if there were a way to get home after staying late after school and if there were fun activities before school.

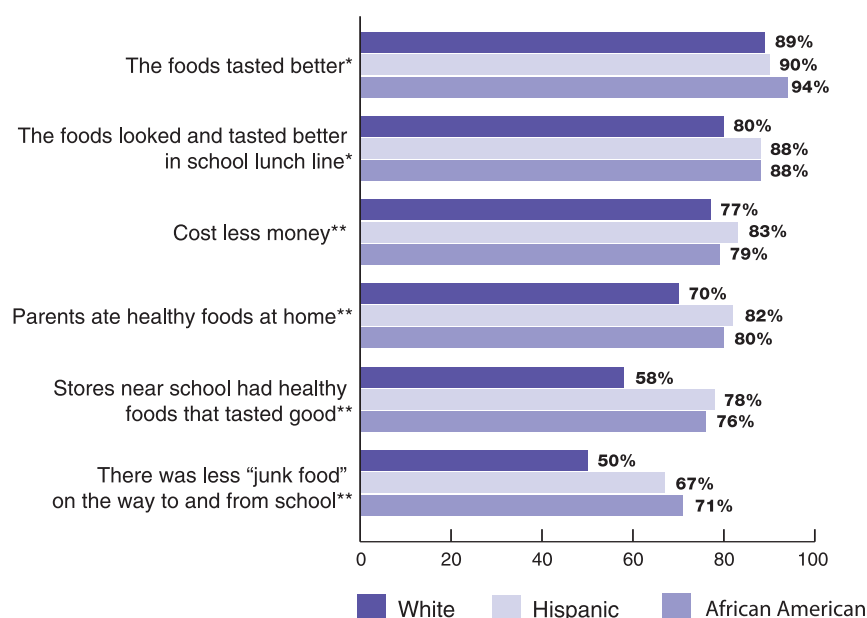
Significantly more minority children than white children express an interest in opportunities to be physically active before, during and after school. Other motivators include transportation home from afterschool activities and safe places to play; these motivators are significantly less important to whites than to Hispanic and African American children. These findings show that children want to be more physically active, and they need encouragement and support to do so.

Opportunity #4: Quality Nutrition, Wherever Kids Eat

The *Family Nutrition and Physical Activity Survey* results from 2010 indicate a decrease in kids purchasing foods at restaurants, vending and other commercial locations from 2003 survey results. However, a large majority of kids are purchasing foods away from home at least some of the time each week. Children say that they would eat healthier foods at school and other locations if the foods tasted better. Additionally, results show it would help kids eat healthier if healthy food and drinks cost less money, if their parents ate healthy foods at home and if there were less "junk food" in stores on the way to and from school.

Because kids do eat at school and do purchase foods away from home, we need to ensure that these foods are both healthy and kid-appealing (45,57). Kids want foods that taste good — and public/private partnerships can take steps to enhance the flavor of the foods kids need to con-

Percent of Children Who Would Eat Healthier If...



* Statistically significant differences by race, $p < 0.05$

**Statistically significant differences by race, $p < 0.001$

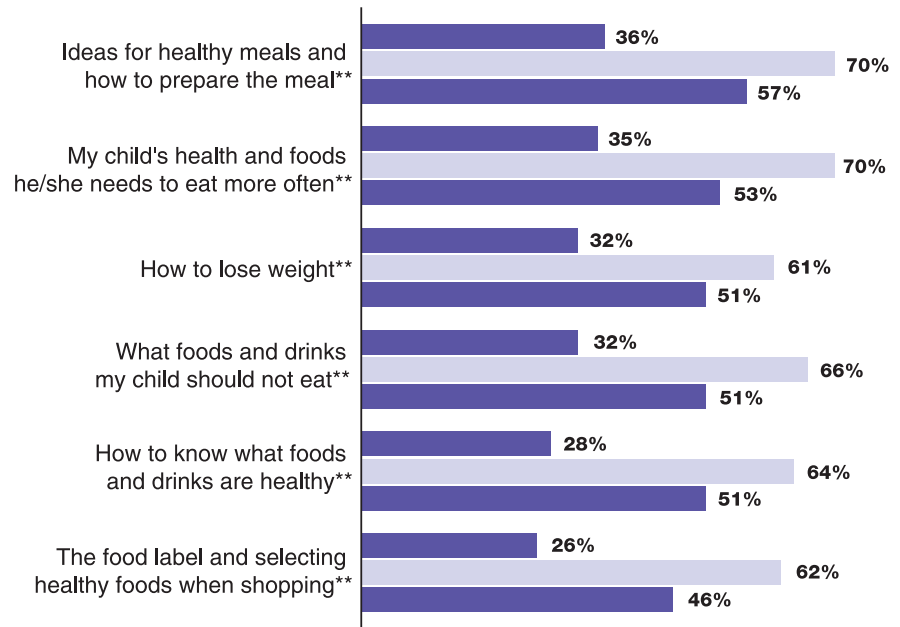
Source: ADAF Family Nutrition and Physical Activity Survey, 2010

sume more of. Working together, community restaurants, registered dietitians and chefs can help schools improve the flavor and presentation of the foods they offer through their meal programs. Local funding could be made available so that schools could purchase fresh ingredients, use more scratch cooking and reduce dependence on processed foods. Local stores and restaurants — especially those near schools — can be encouraged to carry healthier foods that kids will eat.

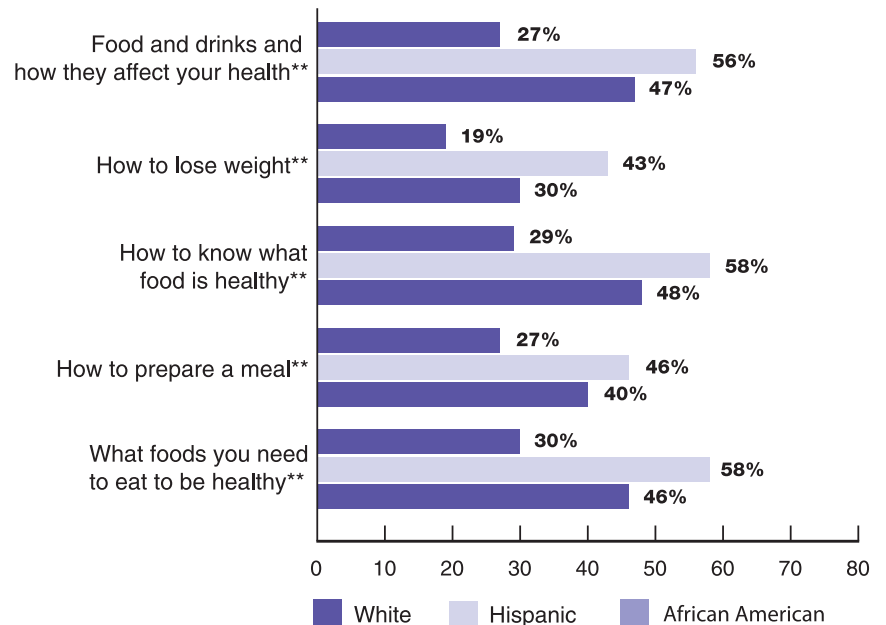
Along with where the food is prepared, when kids eat is also an important consideration. Survey findings indicate that kids snack throughout the day. Current snacking patterns are problematic because of the food choices; however, snacking can be an opportunity to increase kids' consumption of the foods they need to eat more of — the nutrient-dense options.

If we focus on providing access to the nutrient-dense foods kids need to eat, making them look and taste great, these foods may displace high-sugar, high-calorie, low-nutrient foods (33). This “displacement theory” may work in reverse too, unfortunately, as high-calorie, low-nutrient foods may displace nutrient-dense foods. In short, eating snacks does not have to mean eating high-calorie, low-nutrient foods (33). Instead, kids can be encouraged to snack on foods that are good for them. ■

Percent of Parents Wanting to Meet with a Registered Dietitian to Discuss...



Percent of Children Wanting to Meet with a Registered Dietitian to Discuss...



**Statistically significant differences by race, $p < 0.001$

Source: ADAF Family Nutrition and Physical Activity Survey, 2010

The gap between children's recommended and actual intake of key nutrients remains alarmingly wide, regardless of weight status.



Poised for Healthy Change

It has been nearly a decade since the release of the Surgeon General's pivotal report on the obesity epidemic. Now is the time to ask: Are we making progress? This question must look beyond weight to nutrition and physical activity patterns in children. We also must ask: Are we addressing this comprehensively?

On one level, it would seem that we're making few, if any, strides. Looking at the current landscape, epidemic numbers of kids are overweight or obese, and the majority of kids' diets are deficient in one or more nutrients needed for growth and development (4,6,21). The gap between children's recommended and actual intake of key nutrients remains alarmingly wide, regardless of weight status. Along with low intake of vital nutrients, data show that kids continue to consume a large percentage of calories from foods with sugar and saturated fat (9,10).

Additionally, the *Family Nutrition and Physical Activity Survey* shows kids' eating behaviors are inconsistent. Kids are grazing on foods throughout the day; frequent snacking throughout the day and evening is the norm, and there are less consistent patterns for meals for some kids, especially when race and income are factors. Recent food consumption data from NHANES found that increased snacking leads to lower quality of children's diet based on snack food choices high in calories and low in nutrients (11,12). Snacking still occurs during school, with food purchased from school snack bars and vending machines. There are more kids who could benefit from school meal programs, so there are opportunities to increase participation. To do

this, more attention on the taste and kid-appealing qualities of the foods is necessary, especially considering cultural differences in flavor and presentation of foods.

At the same time that kids' eating behaviors are less than optimal, activity levels are not adequate either (19). In fact, the vast majority of youth are not achieving the national recommendation of 60 minutes of physical activity daily. This was the finding from the *Family Nutrition and Physical Activity Survey* and from the YRBSS 2009 results (19).

Despite these real trouble spots, the *Family Nutrition and Physical Activity Survey* also reveals that on a deeper level the news about children's eating and activity behaviors may be more promising than first appears. Representing a crucial move forward, the survey findings suggest that a significant percentage of children and their parents are making or are ready to make changes in eating and activity patterns. How did we get to this new readiness for change, and how can we make the most out of this occurrence and not miss an opportunity?

The nation's attention to obesity and its causes has steadily increased over the last ten years, resulting in new policies, practices, food products and healthcare priorities. Although slight with respect to the magnitude of

the problem, it seems that the national attention and subsequent changes have translated into more children and parents making changes in nutrition and physical activity on multiple levels. For example, compared to the 2003 report, children are engaging in healthier behaviors, such as maintaining more regular schedules and purchasing meals and snacks from vending machines and convenience stores less frequently. Children also say they want to eat healthier and be physically active. Both children and their parents indicate their trust in registered dietitians as credible sources as well as their desire to see them for guidance on what to eat and drink for health and wellness. All of this suggests that parents and children are ready to be supported as they work toward healthier behaviors.

Bottom line, the 2010 survey indicates new areas for intervention and support from registered dietitians. It also points to a shift in children's and parents' readiness for change that must be taken advantage of by efforts currently underway.

We must focus renewed attention on the total diet, ensuring that nutrient requirements are met as part of obesity prevention and health promotion efforts. The chronic poor eating habits have become intertwined with the problems of undernourishment and overweight. Kids' diets need to be shaped around eating the nutrient-dense food first. This approach can help to ensure kids consume the more than 50 nutrients necessary for proper growth, development and good health while simultaneously addressing obesity and undernourishment (17,62). We need to encourage them not only

to avoid unhealthy foods but also to eat plenty of nutrient-rich foods: fruits, vegetables, whole grains and low-fat and fat-free dairy foods, meat and beans.

As we work together to educate parents, support schools, reach out to children and take a "total diet" approach, we must call upon the expertise of registered dietitians, who are uniquely qualified to apply the science of food and nutrition to increase health and to prevent and treat disease.

The *Family Nutrition and Physical Activity Survey* makes clear that children and their parents are poised for healthy change. It's time to build on this readiness for change, to seize this positive momentum. Together, we can tackle the twin problems of obesity and undernourishment — and help *Kids Eat Right*. ■



***Kids Eat Right* is the American Dietetic Association and Foundation platform of childhood obesity prevention initiatives. As part of *Kids Eat Right*, registered dietitians are mobilizing to support First Lady Michelle Obama's Let's Move! campaign and are working to ensure that childhood obesity prevention efforts are taking a quality nutrition approach.**

***Kids Eat Right* recognizes that registered dietitians can provide evidence-based nutrition guidance supporting quality nutrition and healthy weights. Registered dietitians are uniquely qualified — through years of education and training — to advocate, educate and demonstrate the importance of meeting the total nutrient needs of all youth.**

The public outreach effort brings more registered dietitians into community and school settings with tools and resources for shaping positive, lifelong habits of good nutrition and physical activity in youth. As part of this effort, registered dietitians are providing families with the tips they need to "Shop Cook Eat" to support quality nutrition and healthy weights in children.

The public education component shines a light on the deficiencies in nutrients that have become a common occurrence in children's diets along with unhealthy weights. Research shows that, while childhood obesity is at epidemic proportions, even higher numbers of youth are not eating the recommended number of servings from all food groups and therefore are missing nutrients vital to normal growth and development. ADA members are fighting these trends by working with families, parents, children, schools, community settings and media. ■

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