NATIONAL DAIRY COUNCIL®

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July 14, 2011

The Honorable Donald S. Clark
Secretary
Federal Trade Commission
Room H-113 (Annex W)
600 Pennsylvania Ave., NW
Washington, DC 20580

RE: Interagency Working Group on Food Marketed to Children: Proposed Nutrition Principles: FTC Project No. P094513

Dear Secretary Clark:

The National Dairy Council (NDC) commends the Interagency Working Group (WG) for its vested interest in child nutrition and appreciates the opportunity to present written comments.

The NDC is a non-profit organization that initiates and administers nutrition research, develops nutrition education programs, and provides information on nutrition to health professionals and others concerned about good nutrition. The NDC has been a leader in nutrition research, education and communications since 1915. Through its affiliated Dairy Council units, the NDC is recognized throughout the nation as a leader in nutrition research, innovation and education.

NDC's longstanding experience with nutrition education and dietary guidance lead us to agree with a voluntary approach to marketing foods to children. NDC submits the following science-based information to inform the WG about the nutrition principles related to the role of dairy foods in children's dietary patterns.

Introduction

The WG nutrition principles are aimed at encouraging children, through advertising and marketing, to choose foods that make a meaningful contribution to a healthful diet. These foods are described in "Principle A," with two options proposed to identify these foods, Options 1 and 2. In addition, the recommendations are designed to minimize consumption of foods with significant amounts of nutrients that could have a negative impact on health or weight – specifically sodium, saturated fat, *trans* fat, and added sugars, which are outlined in "Principle B."

The WG identifies the different roles of federal recommendations and regulations about food and nutrition in the *2010 Dietary Guidelines for Americans* (DGA),[1] which focuses on building a healthy dietary pattern considered over time, in food nutrition labeling, and in the WG's nutrition principles for marketing food to children. The purpose of the WG's proposed nutrition principles is to "guide the industry in determining which foods would be appropriate and desirable to market to children to encourage a healthful diet and which foods industry should voluntarily refrain from marketing to children." The goal of the principles is also, in part, to "improve the nutritional quality of foods marketed to children." Though the principles apply to individual foods, main dishes and meals, the overall goals are consistent with the DGA recommendations for dietary patterns to consume a variety of nutrient-dense foods while managing calories and intakes of solid fats, added sugars and sodium. By including members of the agencies responsible for these multiple guidelines and regulations, the WG principles, as expected, focus on goals common to these agencies.

To address the nutrition principles in comments, NDC has considered them within the context of the DGA, because food and nutrition guidance requires more information than can be conveyed in marketing and advertising or food labeling. To teach children about healthy eating, concepts in addition to choosing certain types of foods for a healthful eating pattern are important, such as calorie balance, nutrient density, variety, and moderation, which are an integral part of the DGA. Though the WG's nutrition principles may serve to support certain aspects of the DGA, the DGA is the basis of national nutrition guidance. Currently, compliance with the DGA is low, and typical American diets are not energy-balanced and nutrient-dense.[2] Coordinated efforts are needed to support children's and families' efforts to take small steps to gradually improve the quality of their dietary patterns. According to the DGA,[1] helping individuals meet daily intake recommendations for nutrient-dense foods, including low-fat or fat-free dairy foods, is a key public health goal. The DGA notes that eating patterns established in childhood often track into later life, making early intervention on adopting healthy nutrition and physical activity behaviors a priority. The DGA states it is "especially important to establish the habit of drinking milk in young children, as those who consume milk at an early age are more likely to do so as adults."

Altering some of the environmental cues that children get from marketing and advertising may have a positive impact on eating behavior. However, food intake behavior is complex,[3,4] and it is not clear from the Request for Comments whether the WG fully evaluated that complexity before proposing these particular principles. For example, NDC is not aware of scientific research that demonstrates the application of the WG's proposed nutrition principles would lead to the desired shifts in dietary intakes, or that potential unintended consequences of these principles are well understood. In addition, this proposal focuses only on children, but not on the family and other caregivers who serve as primary food providers, and how these principles would affect the environment in which they all operate. Since dietary behavior can be influenced by many factors including taste, availability, access, parental influence and/or cost of food,[4,5,6] food guidance that takes these factors into account may be more successful. Practical and flexible approaches are needed, and such a far-reaching proposal as defined by the WG should be based on solid evidence of benefit.

Proposed Nutrition Principles: General

Expanding the list of foods to reflect the Dietary Guidelines for Americans: food guidance, food groups, and nutrients to encourage

The 2010 DGA provides strategies to increase consumption of a variety of nutrient-dense foods while minimizing intakes of solid fats, added sugars and sodium *to build a healthy eating pattern*.[1] It includes guidance about calorie balance as well as the amount and types of foods and food groups to meet nutrient needs.

The USDA food groups represented in MyPyramid and the new MyPlate icons combine foods in groups based on their similar content of essential nutrients and/or the biological source of the foods.[7] Because children eat food, not nutrients, food groups are an important tool for guiding children to choose the right foods. For example, milk, the basis of the dairy food group, provides 9 essential nutrients[8] and is the number one food source of calcium, vitamin D and potassium in children's diets.[9] Fruits and vegetables provide vitamins A and C, fiber, magnesium and potassium.[1] The grains group contains whole and fortified grain foods, providing key B vitamins, fiber and minerals.[1] Protein foods contribute a variety of nutrients above and beyond protein including B vitamins, iron, zinc and magnesium.[1] The key food groups identified as those under consumed by Americans – fruits, vegetables, whole grains and dairy foods – supply the "nutrients of concern" Americans under consume: calcium, vitamin D, potassium and fiber.[1] Thus, the food groups provide simplified information about the basic foods needed to build healthy eating patterns, and can serve as "shorthand" for nutrients needed in a healthy eating pattern. NDC's extensive experience in nutrition science and education support the approach in the WG principles to use a food-based approach to the principles, focused on foods and food groups that make meaningful nutrient contributions to children's diets, rather than specific contents of nutrients to encourage.

In some cases however, the principles exclude foods that either make significant nutrient contributions to children's diets, and/or are under consumed in their own right, because they do not meet the proposed targets for nutrients to limit described in Principle B. For such foods, an additional consideration of "nutrients of concern" or "nutrients to encourage" may be warranted to help to ensure adequate foods that are key sources of these nutrients are promoted to children. Otherwise, the proposal may discourage consumption of certain foods that supply substantial amounts of beneficial nutrients.

The key DGA recommendation for dairy foods is to increase intakes of low-fat and fat-free milk and milk products. In addition, establishing milk drinking as a habit among children is a priority. The DGA recommends 3 cups or cup equivalents per day of low-fat or fat-free milk or milk products (milk, yogurt or cheese) for those 9 years and older, 2.5 cup equivalents for those 4-8 years, and 2 cup equivalents for those 2-3 years.[1] Serving sizes are defined based on the equivalent amount of calcium in a glass of milk. One cup (8 ounces) of milk, yogurt, or fortified soy beverage, 1.5 ounces of natural cheese and 2 ounces of process cheese contain approximately 300 mg calcium and are considered cup equivalents of milk and milk products. Milk, cheese and yogurt are excellent sources of calcium and provide nearly 2/3 of the calcium and ¾ of the vitamin D in the diets of children 2-18 years, yet only 1/7 of the calories and 1/3 of the saturated fat.[9] Americans 2 years and older are consuming on average 1.8 cups of milk and milk equivalents per day, which includes less than one serving of cheese.[9] Children ages 2-8 years are consuming on average 2.3 cups of milk and equivalent milk products per day, including 0.6 servings of cheese, and children ages 9-18 years are consuming 2.2 cups of milk and equivalent milk products per

day which includes 0.9 servings of cheese.[9] Because the gap between actual and recommended dairy servings involves both the type and amount of dairy foods, a flexible approach to meeting dairy servings can help improve nutrient intake without compromising dietary goals for nutrients to limit.

Including a variety of foods that are nutrient dense, appealing, available and affordable are important aspects of this proposal to consider. Including reduced-fat and part skim cheeses as well as low-fat or fat-free flavored milk and yogurt that contain moderate amounts of sugar as options for foods to be marketed to children may help children improve diet quality by taking steps to meet daily dairy recommendations and lower intakes of nutrients to limit. This would be more likely to help make a meaningful shift in dietary intakes of children without unexpected, negative consequences.

Cheese contributes about 1/5 of the calcium in children's diets.[9] The DGA included choosing *reduced-fat* cheese as a strategy to help meet dairy food recommendations.[1] While there are many low-fat and fat-free milk and yogurt options on the market, it has been challenging to develop functional, flavorful cheeses that meet low-fat and fat-free label claims. Currently, only 2% of the cheeses available at retail are low-fat or fat-free.[10] However, cheeses that are labeled reduced-fat, (i.e. contain at least 25% less fat with corresponding reductions in saturated fat than the regular version) and part skim cheeses make up a significant share of the retail market (22%)[10] and can help individuals decrease their saturated fat intake while providing the attributes consumers expect in cheese including taste, texture and functionality.

According to the DGA, Americans, including children, should aim to reduce intakes of added sugars, and when planning eating patterns, added sugars are best used to increase palatability of nutrient-dense foods.[1] In illustration of this concept, the DGA included fat-free chocolate milk as an example of a nutrient dense food that contains some added sugars. Flavored low-fat or fat-free milk and yogurt can make significant nutrient contributions to children's diets.

Analysis of beverage intakes from national survey data (NHANES 2001-2006) found that, for those children who drink flavored milk, flavored milk makes a significant contribution to daily nutrient intakes.[11] Fourteen percent of children 5 years old and younger, 22% of children 6-12 years old, and 10% of children 13-17 years old reported drinking flavored milk. The average daily intakes of flavored milk in these children were 12, 11 and 12 ounces, respectively. Flavored milk contributed 36%, 32% and 31% of calcium in their diets while contributing only 16%, 12% and 11% of the calories and 21%, 16% and 15% of the saturated fat. If all the flavored milk were low-fat and fat-free, the saturated fat intakes would be even lower.

The percentage of children who drink milk decreases as children get older.[11] Seventy-seven percent of children 5 years old and younger drink milk (white, flavored or both) and 74% of children 6-12 years old drink milk, while 56% of children 13-17 years drink milk.[11] As children age, intakes of other beverages begin to increase, for example, the percentage of children who drink carbonated beverages increased from 30% of those 5 years and younger to 57% of those 6-12 years old and 68% of those 13-17 years old.[11] This pattern of decreasing milk intakes with age accompanied by increased intakes of less nutrient-dense beverages has been observed in other studies.[12,13] Flavored milk is an appealing beverage for many children that contains the same essential nutrients as white milk.[8]

Table 1. Average Contribution of Flavored Milk to Nutrient Intake in Children Who Drink Flavored Milk

Nutrient	<1 to 5 Years of Age	6 to 12 Years of Age	13 to 17 Years of Age
Calcium	36	32	31
Phosphorus	29	23	22
Potassium	25	23	21
Protein	20	15	13
Calories	16	12	11
Total Fat	14	10	9
Saturated Fat	21	16	15

Source: Dairy Research Institute™, NHANES (2001-2006). Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health and Nutrition Examination Survey. Hyattsville, MD: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, [2001-2002; 2003-2004; 2005-2006]. [http://www.cdc.gov/nchs/nhanes.htm]

Low-fat and fat-free flavored milks are popular offerings in school meals and provide an important vehicle for improving dairy intake. Data from the School Nutrition Dietary Assessment III (SNDA-III) found that the majority of milk selected during school lunch in 2005 (79%) was low-fat or fat-free.[14] In addition, approximately two-thirds (66%) of school milk selected by students was flavored. Flavored milk in schools was more likely to be low-fat or fat-free than unflavored milk: 92% of flavored milk fell into one of these two categories. This suggests that flavored milk can help children move toward choosing lower-fat milk varieties.

Among children who consume yogurt, it can be an important source of nutrients. More children 2-17 years old drink milk than consume yogurt, and for those who consume yogurt, the average daily intake is 5.4 ounces.[15] Yogurt contributes an average of 22% of the calcium, 21% of the vitamin D and 14% of the potassium per day in the diet of these children. Their average total sugar intake from yogurt is 26 grams per day and saturated fat from yogurt is 6% of total daily intake.[15]

To advance efforts to improve children and families' diet quality and meet the DGA recommendations, including milk and milk equivalents that are nutrient-dense, appealing, available and affordable would support the WG's goals.

Main Dishes/Meals

Considering the variety of main dishes and meals that are possible to prepare and are available to children, evaluating the implications for children, families, food companies and restaurants would require more resources than NDC has at its disposal to address this question. Simple ways to determine the naturally occurring nutrients in meals and main dishes are needed.

Milk and cheese are used extensively in food mixtures, main dishes and meals in addition to individually as dairy foods. Thirteen percent of milk consumed by children 2-18 years old is used in mixtures such as puddings, frozen dairy desserts, milk shakes and smoothies, macaroni and cheese, sauces and soups.[9] Nearly two-thirds (62%) of cheese consumed by children 2-18 years old is used in food mixtures and

main dishes such as pizza, Italian pasta dishes, macaroni and cheese, Mexican-style mixtures, sandwiches, sauces and soups.[9]

Nutrition Principle A

To shift children's consumption to a more healthful eating pattern, children and families should be encouraged to eat a variety of nutrient-dense foods daily including, according to the DGA, low-fat and fat-free milk, yogurt and cheese.

Three daily cups of low-fat or fat-free milk or milk products are recommended for those 9 years and older, 2.5 cup equivalents for children 4-8 years of age and 2 for children 2-3 years of age.[1] On average, Americans 2 years and older consume 1.8 daily servings of dairy foods, primarily as milk (1.0 cups) and cheese (0.7 cup equivalents).[9] As Americans shift their eating patterns to meet DGA recommendations, many people will need to increase dairy intakes by about one serving each day at the same time as modifying their intakes of nutrients to limit.

Cheese

The development of acceptable low-fat cheeses is an area of active research and innovation.[16] Despite extensive research and development efforts, very few cheeses in the market are low-fat or fat-free.[10] Because the reference amount customarily consumed (RACC) for cheese is small, defined by FDA as 30 grams or less, a cheese must contain no more than 3 grams of fat per 50 gram to qualify for a low-fat claim[17,18]. This is only 1.8 grams of fat per 30 grams of cheese, a more strict standard than foods with larger reference amounts. Cheddar, for example, would require a fat reduction of more than 80%, an amount that is difficult to achieve while maintaining consumer expectations of flavor and texture. Reduced-fat cheeses include those that contain at least 25% less fat than regular versions, as defined by FDA, and can contain up to about 80% less. Part skim cheeses similarly fall within this range.

Most cheeses are an excellent source of calcium and a good source of phosphorus and protein, three nutrients particularly important for helping to attain and maintain healthy bones.[19] Cheese provides 19% of the calcium, yet only 5% of the calories, 8% of the sodium, 9% of the total fat and 16% of the saturated fat in children's diets.[9] Additionally, some cheeses have begun fortifying with vitamin D, another important bone-building nutrient.[20]

When eaten in moderation and with attention to portion size, cheese can fit into a healthy diet that meets current dietary guidance regarding sodium and fat intakes as exemplified by the Dietary Approaches to Stop Hypertension (DASH) clinical trial[21] and the National Heart, Lung and Blood Institute's DASH Eating Plan.[22] The DASH Eating Plan is consistent with the DGA recommendations for a healthful eating plan and includes reduced-fat cheese on five out of seven days of the week.[22]

Cheese is also a well-liked, versatile food that may help children increase consumption of other nutrient-rich foods. Results from a study conducted among middle school children indicate that the visible addition of cheese to various menu offerings may help increase the consumption of fruits, vegetables and whole grains collectively compared to consumption when cheese is not paired with these foods.[23] Because cheese can make other nutrient-rich foods more appealing, encouraging the moderate consumption of cheese may lead to increased overall nutrient intake and improved diet quality.

Reduced-fat and part-skim cheeses are increasingly being used in school meals. Preliminary numbers for the 2010 school year show that nearly two-thirds of all cheese collectively distributed to the USDA's School Meals Program, Child and Adult Care Food Program and the Summer Food Service Program will be reduced-fat, light or part-skim; that's an increase from 58% in 2008[24]. In addition, the 2009 Institute of Medicine's School Meals: Building Blocks for Healthy Children report included reduced-fat Cheddar and pizza regularly in modeled lunch meals while staying within weekly calorie and 10% saturated fat targets.[25]

The current principles could be interpreted to mean that only low-fat and fat-free cheeses that are also low-sodium could be marketed to children. Including reduced-fat cheeses under Principle A will provide additional lower fat and lower sodium cheeses to be marketed to children, broadening the types of cheese from just 2% to about 25% of those available at retail,[10] and would support the ongoing innovation in the dairy industry to reduce fat content in cheese. Reduced-fat cheeses are defined by the FDA and are included in the DGA as a strategy to meet dairy recommendations.[1]

Principle A, Option 1 vs. 2

NDC agrees with the view from USDA (page 9 of Request for Comments) that foods containing at least 50% of one or more of the listed food groups foods could be reasonably expected to make meaningful nutrient contributions to children's diets. Option 2 raises the following concerns:

- USDA data shows that Americans do not eat in the pattern described in Option 2 (3 meals plus 1 snack).
    - What We Eat in America data, based on NHANES 2007-2008, indicate that of the 76% of 6-11 year olds who consume 3 meals per day, more than 76% of them consume 2 or more snacks daily. Only about half of 12-19 year olds consume 3 meals per day with more than 73% consuming 2 or more snacks daily[26].
    - The percentage of adolescents who snack has increased in recent years to 83%; higher frequency of snacking is associated with increased calorie intake but not higher BMI; many foods that made the largest contributions to adolescent's intakes at snacks were also high in added sugars, solid fats or both.[27]
- Option 2 introduces confusing fractions. For example, USDA typically uses ½ cup serving for any kind of juice, so it may be confusing to have 0.5 cups of fruit juice yet 0.6 cups vegetable juice meet the principles. For dairy foods, the USDA standard for calculating milk equivalents is one cup,[1] and the new MyPlate includes a dairy serving with each meal.[7] The ¾ cup for milk outlined in Option 2 may mis-communicate ¾ cup is the standard for milk.
- The amount of food in a 2000 calorie diet would be too much for some of the younger age groups targeted in this proposal.[7] Alternatively, developing multiple calorie levels for more than one age range of children would multiply the complexity of the proposed principles without demonstrated benefits.
- Application of the "50 gram rule" to foods with small serving sizes would unnecessarily limit many foods, including lower fat cheeses that could be marketed to children (see below for discussion of "50 gram rule").

<u>Nutrition Principle B: Nutrients to Limit</u>

The nutrients to limit included in Principle B are consistent with the nutrients to decrease outlined in the DGA. Not including cholesterol is consistent with current research showing that the effect of dietary cholesterol on serum LDL-cholesterol is far less than the effect of dietary saturated and *trans* fat.[2,28] In

combination with the list of foods in Principle A, these nutrients may help identify foods to consume to build healthy dietary patterns. However, children's eating behavior is complex and taste is a primary driver.[3,4] While the list of nutrients in Principle B is consistent with the DGA, NDC is aware of no research that indicates that the application of the *amounts* of the nutrients as proposed will lead to the desired outcome of shifting children's food choices to be closer to the DGA.

Eliminating the use of the term one percent (1%) fat to describe low-fat milk, yogurt and cheese, and instead using the descriptor "low-fat" is consistent with the DGA recommendations for milk and milk products, and applies to milk, yogurt and cheese.

Naturally Occurring Nutrients

NDC commends the WG proposal for not counting naturally occurring nutrients to limit in foods that make a meaningful contribution to a healthful diet as a way to ameliorate the elimination of some nutrient-dense foods from Principle A. The proposal addresses an important aspect of the tentative proposed nutrition standards released by the WG in December 2009 in which many of the nutrient-dense foods listed in Standard II as foods to be marketed to children were eliminated when the targets for nutrients to limit in Standard III were applied, leaving few foods remaining that could be marketed to children. The current proposal better acknowledges the full nutrient package present in many foods that make significant nutrient contributions to children's eating patterns. Without the proposed revision, foods that provide important nutrients in children's diets such as peanut butter, low-fat milk and yogurt, and eggs would exceed limits in Principle B.[8]

Low-fat milk naturally contains 2.4 grams total fat/cup, of which 1.5 grams is saturated fat, 12 grams lactose and 107 mg sodium per cup.[8] The saturated fat in dairy foods is an integral part of milk fat, which is made up of approximately 2/3 saturated fatty acids and 1/3 unsaturated.[29] Therefore, it is not possible to remove saturated fat separately from total fat.

NDC identified some considerations for the WG when determining how to characterize the naturally occurring nutrients in dairy foods:

- Flavored, sweetened dairy foods: The content of added sugars is not possible to determine in all sweetened dairy products from the information on the food label because the lactose in dairy, and added sugars included for sweetness/flavor, are included together as part of total sugar on the food label. To utilize the concept of added sugars, an approach to address this issue in dairy products may be required.
    - Flavored milk: Any lactose in flavored milk that is contributed by ingredients that are part of the standard of identity for milk is not considered added sugars. Yogurt: Any lactose in yogurt that is contributed by ingredients that are part of the standard of identity for yogurt is not considered added sugars.
- Cheese: Including reduced-fat cheese in Principle A in addition to low-fat and fat-free provides an alternative to using a single gram value for saturated fat that would include a variety of lower fat cheeses and has an FDA definition. If the principle is maintained as written, the naturally occurring saturated fat and sodium present in low fat milk would provide standards for these nutrients to limit. Lower fat cheeses would be allowed on a per reference amount basis (30 grams), but not if the "50 gram rule" was applied (see below).

Implications of requiring foods with small serving sizes (30 grams or less) to meet nutrient limits under Principle B per 50 grams of food

This approach uses the weight-based criteria ("50 gram rule") established by FDA for application to nutrient content and health claims in food labeling. Applying this approach to individual foods with a small RACC in the guidelines for foods marketed to children, instead of on a per reference or labeled serving basis, would 1) preclude many foods with smaller serving sizes* that make meaningful nutrient contributions to children's diets from being marketed to children; and 2) discourage reformulation of such products to meet the proposed principles.

Without the "50 gram rule" requirement for foods with smaller serving sizes, meaningful steps could be made toward helping children choose more healthful products and decreasing the amount of saturated fat, sodium, added sugar and trans fat in children's diets – goals of the proposed guidelines. In the dairy category, dietary guidance from USDA and other government agencies encourages consumers, including children, to not only choose low-fat or fat-free, but also "reduced-fat" and part skim cheeses (see examples, below). Without the "50 gram rule," more varieties of lower fat cheese could be marketed to children that may help them make food choices to help them achieve lower saturated fat intakes.

To meet the "low-fat" label claim, all cheese must contain 3 grams fat per 50 gram RACC, or 1.8 grams per 30 grams cheese.[17,18] Lower fat cheeses include not only low-fat and fat-free, but also cheeses labeled "reduced-fat" and cheeses made with skim, 2% milk or part-skim milk as for example some varieties of mozzarella.[8] Cheeses that are labeled "reduced-fat" contain a wide range of reductions in total fat *and* saturated fat.[8] Total fat reductions range from 25%, the minimum to qualify for a ''reduced-fat" food label claim, up to nearly an 80% reduction, which is the percent reduction needed to meet the criteria for a "low-fat" label claim for many cheeses (e.g. Cheddar).[18] The percent reductions in saturated fat generally correspond to reductions in total fat; however, few if any, products make "low saturated fat" label claims.

Under the proposed principles only cheeses with very high reductions in fat and, correspondingly, saturated fat could be marketed to children. For example Cheddar, which is among the top 3 most popular cheeses in the U.S.,[10] must reduce fat 80% to meet the low-fat label claim under the 50 gram rule.[8,17,18] Industry efforts to reduce the fat (and concurrently saturated fat) in cheese are ongoing and progress is being made. However, such large reductions while maintaining consumer acceptability are technologically challenging, especially when also reducing sodium. Maintaining the "50 gram rule" in Principle B will discourage reformulation efforts by cheese makers.

The proposed principles recognize that ingredients that provide a meaningful contribution to a healthful diet under Principle A also contain naturally occurring amounts of the nutrients to limit under Principle B. Milk, for example, the main ingredient in cheese, makes meaningful contributions of the bone building nutrients (calcium, phosphorus, protein) and other essential nutrients to children's diets,[9] but also contains naturally occurring amounts of saturated fat, sodium and trans fat.

If the WG principles are not revised to include reduced-fat cheeses in Principle A, applying the proposed version under the 50 gram rule will severely limit the types of lower fat cheeses that would be allowed. The proposed principle states that naturally occurring nutrients in foods that count toward a meaningful contribution under Principle A do not need to be counted toward proposed limits under Principle B.

* Including breakfast cereals, many lower fat cheeses, some crackers and all varieties of snacks (chips, pretzels, popcorn, extruded snacks, fruit based snacks (e.g. fruit chips) and grain based snack mixes.

According to the principle, this would include meals, recipes and formulations. Milk is the principle ingredient in the formulation of cheese, therefore, the saturated fat and sodium[†] naturally present in low-fat milk (1%) would not be counted toward the proposed limits under principle B. Part skim cheeses such as low moisture part skim (LMPS) mozzarella would fall within these criteria under Principle B and could be marketed to children, but only if the "50 gram rule" is not required. LMPS mozzarella has about 40% lower fat and saturated fat than its full fat counterpart.[8] Allowing part skim cheeses to be marketed to children would be a meaningful step toward helping children choose more healthful products. Fifty percent reduced-fat Cheddar would also fall within the limiting criteria for Principle B if the "50 gram rule" is not required and instead the cheese is evaluated per 30 gram reference serving.

In summary, eliminating the use of the "50 gram rule" under Principle B has the advantages of 1) promoting more varieties of appealing, available, lower fat cheeses, 2) helping children meet dairy recommendations while reducing the saturated fat in their diets, and 3) continuing to encourage reformulation by industry of lower fat cheeses. This approach is supported in dietary guidance from USDA and other government agencies through encouraged consumption not only of "low-fat" cheeses, but also part skim mozzarella and "reduced-fat" cheeses:

- MyPlate sample recipes provide an example from USDA dietary guidance that points consumers to part skim mozzarella. [LINK: http://www.choosemyplate.gov/downloads/Sample_Menus-2000Cals-DG2010.pdf]

- The National Diabetes Education Program sponsored by NIH and CDC similarly promotes string cheese (the majority of which is low-moisture part skim mozzarella) as a snack option to help kids/teens consume the recommended amounts of calcium and other essential nutrients. [LINK: http://ndep.nih.gov/media/ten-healthy-snacks-for-teens.pdf].

- MyPlate 10 tips Nutrition Education Series recommends choosing cheeses with less fat to reduce saturated fat in the diet: "Many cheeses are high in saturated fat. Look for "reduced-fat" or "low-fat" on the label. Try different brands or types to find the one that you like." [LINK: http://www.choosemyplate.gov/downloads/TenTips/DGTipsheet5GotYourDairyToday.pdf]

- Educational materials for students from the National Institute for Child Health and Development, National Institute of Health similarly point to lower fat cheeses: http://www.nichd.nih.gov/msy/pdf/MSY_take_home_new_idea.pdf http://www.nichd.nih.gov/msy/pdf/MSY_Lesson_8.pdf

RACC vs. labeled serving size for determining Principle B recommendations

The RACC (reference amount) provides reference amounts customarily consumed per eating occasion for over 130 foods for Americans four years and older.[30] The reference amounts are used in FDA food labeling regulations to determine whether a product meets the criteria for nutrient content claims, such as "low-fat", or for health claims.

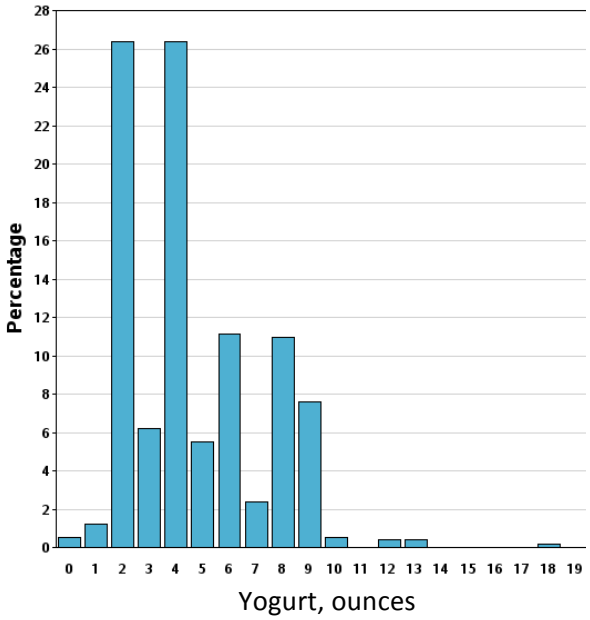
Tying Principle B recommendations to RACC has several disadvantages. The RACC are not based on current food consumption patterns and are not age-specific to children's consumption amounts with the

[†] The sodium naturally present in milk is removed in making cheese and is added back through the cheese making process.

exception of the reference amounts for children less than 4 years old. Tying Principle B recommendations to labeled serving size has the advantage of encouraging age-appropriate serving sizes for foods marketed to children.

The reference amounts are based on national consumption surveys from 30-40 years ago and are provided for all people 4 years and older and children less than 4 years old.[30] The RACC for people 4 years and older for yogurt, for example, is 225 grams (8 ounces); however, many yogurts today are available in single serve 4 ounce or 6 ounce containers with many yogurts marketed to kids sold in 4 ounce single serve containers. National survey data indicate that the average amount of yogurt consumed *per eating occasion* is 4.4 ounces for children 2-11 years old and 6.1 ounces for children 12-17 years old.[15] This is further illustrated in Figure 1, which shows that only a low percentage of children 4-18 years old consume 8 ounces of yogurt in an eating occasion.

Figure 1. Frequency Distribution of Yogurt Consumption by Amount per Eating Occasion (ages 4-18 years)



Source: Dairy Research Institute™, NHANES (2001-2008). Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health and Nutrition Examination Survey. Hyattsville, MD: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, [2001-2002; 2003-2004; 2005-2006; 2007-2008]. [http://www.cdc.gov/nchs/nhanes.htm

Another disadvantage is that RACC are a general reference amount for people 4 years and older or children less than 4 years. These reference amounts do not distinguish across multiple age groups for children or genders. Thus, using RACC will misrepresent the amount of food consumed by most children.

Tying Principle B recommendations to labeled serving size would have the advantage of supporting age-appropriate single-serve packaging in today's marketplace. The amount of food consumed in an eating occasion is highly influenced by environmental cues, such as the package size for foods. In a 2006 *Research to Practice Series* paper on portion size,[31] the Centers for Disease Control and Prevention noted that controlling portion size helps people eat less, and the larger the package, the more people consume from it without realizing it. In multiple regression models that examined calorie intake among

2-5 year olds who participated in the CSF II 1992-1994, 1996, portion size as a single predictor explained the greatest amount of the variance in calorie intake.[32] In a study with preschool children, doubling of an age-appropriate entrée portion resulted in a significant increase in calories consumed.[33]

Others have examined the many external factors (including package size) that can lead to changes in food intake and consumption volume. In a review published in the Annual Reviews of Nutrition in 2004[34], Wansink states, "Package size, plate shape, lighting, socializing, and variety are only a few of the environmental factors that can influence the consumption volume of food for more than most people realize," and … "underscores how small structural changes in personal environments can reduce the unknowing over-consumption of food." The advantage of using labeled serving size instead of RACC is that labeled serving size reflects consumption patterns today and would better encourage age-appropriate packaging for foods marketed to children.

Considerations regarding the proposal for added sugars

The DGA recommends increasing intakes of low-fat and fat-free milk and milk products because they are currently under consumed, and to encourage milk consumption by children to help develop good habits into adulthood.[1] The DGA also focuses on reducing added sugars in the diet rather than total sugars;[1] the WG approach is consistent with the DGA on this topic. Focusing on added sugars instead of total sugars supports recommendations to consume more fruit and milk, foods that naturally contain fructose and lactose, respectively, as well as essential nutrients that children need. Plain low-fat and fat-free milk and yogurt, as well as flavored versions containing moderate amounts of sugar, can help Americans meet dairy food group recommendations and replace empty calorie foods while staying within daily calorie limits needed to maintain a healthy weight.

According to the DGA, when planning eating patterns, added sugars are best used to increase palatability of nutrient-dense foods.[1] The American Heart Association (AHA), in its 2009 scientific statement,[35] "Dietary Sugars Intake and Cardiovascular Health," notes that "…when sugars are added to otherwise nutrient-rich foods, such as sugar-sweetened dairy products like flavored milk and yogurt and sugar-sweetened cereals, the quality of children's and adolescent's diets improves, and in the case of flavored milk, no adverse effects on weight status were found." The DGA included fat-free chocolate milk as an example of a nutrient dense food that contains some added sugars.

In children and adolescents, consuming sweetened dairy products has been shown to improve calcium intakes, while consuming sugar-sweetened beverages such as soda and fruit drinks is associated with decreased consumption of calcium.[36] Research shows that school-aged children who drink flavored milk do not have higher added sugars intakes compared to children who do not drink flavored milk.[37] In addition, children who drink flavored milk have higher total milk intakes compared to those who exclusively drink plain milk.[38] Milk drinkers, including flavored milk drinkers, have higher intakes of calcium, vitamin A, phosphorus, magnesium and potassium, yet their BMIs are less than or similar to those of non milk-drinkers.[38] Nutrient consumption patterns are slightly different among flavored milk-drinking preschool-aged children. Although preschoolers who drink flavored milk consume slightly more added sugars and calories than plain milk drinkers and more calories than non-milk drinkers, they do not consume more total fat than either group.[38] Furthermore, they have higher phosphorus intakes than plain milk drinkers and consume more calcium, phosphorus, magnesium, potassium and vitamin A than non-milk drinkers.[38] Similar results can be found in research on added sugars intakes among Americans which shows that diets containing the lowest amounts of added sugars may not be the most nutrient-dense, and diets containing foods with moderate amounts of added sugars may help individuals

get the nutrients they need.[36,39,40] A study published in 2010 found that the highest average intake of select nutrients such as calcium and phosphorus occurred in diets with an amount of added sugars of 5-10% of total calories instead of the lowest amount (0-5%).[40]

A recent NHANES analysis of added sugars in children's diets found that flavored milk and yogurt contribute about 3% and 1% of average total added sugars intake respectively of children ages 2 to 18 years, while soft drinks and sodas contribute 30% of the added sugars.[9] For children who consume flavored milk and sweetened yogurt, it contributes significantly to their nutrient intakes and should be encouraged.

For flavored milk, 13 grams added sugars per 8 ounce cup corresponds with added sugars levels that the dairy industry has developed to meet demand for lower sugar flavored milk in schools. This proposed level would allow the industry to build on their experience developing lower calorie and lower sugar flavored milk for schools and encourage continued innovation and renovation in the category. Many yogurts contain added sugars to help counter their natural acidity. Non-nutritive sweeteners in combination with added sugars may be needed to meet the proposed amount under Principle B and maintain acceptance.

Rationale for alternate interim or final goals for sodium

The proposed guidelines have the final goal for sodium at 140 mg/RACC (or per 50 gram when RACC is 30 grams or less). This large reduction in sodium is expected to be particularly challenging for many products, including cheeses, especially lower fat cheeses. Salt in cheese, as in many products, reduces the rate of growth of spoilage and pathogenic microorganisms, which is important not only in the manufacture of the cheese but also in the safe distribution and serving of cheese.[41]

Progress continues to be made on sodium reduction by the dairy industry. However, the timelines to achieve sodium reductions that maintain expected flavor, body, texture, shelf life and food safety and meet with consumer acceptance are uncertain (see *Technological Challenges to Reducing the Sodium* below*)*. A critical benchmark of success must include consumer acceptance of lower sodium cheeses, including cheese marketed to children.

An alternate final goal would be one that is consistent with the National Salt Reduction Initiative target of 600 mg/100 grams for natural cheeses (Cheddar, Colby, Jack, mozzarella, Muenster, provolone, and Swiss cheese)[42], corresponding to 180 mg/RACC.

Technological Challenges to Reducing the Sodium in Cheese and Cheese Products[41]
Sodium (salt) is needed for numerous functions in the manufacture of cheese. In addition to its well-known role in enhancing flavor, salt helps control the activities of enzymes and microorganisms throughout the cheese making process, which in turn influences the body, texture, and shelf life of the cheese.

Consumer acceptance is critical for sodium reduction in foods.
Over the past 20 years, taste consistently is the number one factor influencing food and beverage purchasing decisions[43]. The International Food and Information Council's annual survey of about 1,000 U.S consumers, for example, consistently finds taste as the number one factor in food purchasing decisions. Convenience, healthfulness, and price rank lower.

The food industry is working to reduce the amount of sodium in products incrementally and often silently because consumers tend to shy away from products advertised as low- or reduced-sodium. According to a survey by the International Foods Information Council, only 13 percent of consumers say they would choose a product indicating "low-sodium" on the label compared to other front-of-pack claims or no claims.[43] These data show that consumer perception based on the label only can have a major impact on consumer acceptance of a product labeled as lower in sodium.

Sodium reductions in cheese must also consider federal food regulations.
There are 72 standards of identity for cheeses and cheese products in the Code of Federal Regulations (CFR).[44] All food products with a standard of identity must adhere to the requirements of the standard including compositional requirements (e.g. moisture levels, fat content) and the presence or absence of ingredients that are permitted or banned. Product names that are commonly used and understood by consumers are protected under the standards. The use of salt substitutes may result in a cheese or cheese product no longer being able to maintain the usual and common name such as, for example, Cheddar cheese. Without the ability to use salt substitutes, solutions to technical challenges for sodium reduction are limited.

There is an allowance for a standardized product to deviate from the standard's requirements. If the product makes an approved nutrient content claim, such as "reduced sodium Cheddar cheese," ingredients that are not normally allowed in the standard could be used. The four nutrient content claims related to sodium or salt are "sodium free," "low sodium," "reduced sodium" and "no salt added."[18] To qualify for a "reduced sodium" claim, the cheese or cheese product would need 25% less sodium than the regular cheese.[18] To qualify for the other nutrient claims above, significantly larger sodium reduction would be required.

Consumer perceptions of label changes on foods that deviate from the standard of identity could negatively impact consumer acceptance. For example, low sodium natural Cheddar cheeses have been in the U.S. market for decades. The lack of consumer acceptance is indicated by the lack of market growth of the *low sodium cheese* category. These products continue to account for only a trivial percentage of total retail sales of Cheddar cheese.

Many technological issues to address for sodium reduction in cheese include[41]*:*
Flavor – All Cheeses. Functionally, salt encourages the lysing of the starter bacteria which is critical in the flavor development in all cheeses - especially Cheddar-type cheeses. Lower salt cheeses often have off-flavors that are characterized as burnt, brothy, meaty or bitter - typically undesirable to consumers. These flavors are the result of uncontrolled growth of microorganisms (both starter and non-starter). Potassium chloride can be used as a partial replacement for sodium chloride, but excess use gives a metallic off-flavor. As noted above, the use of potassium chloride and other salt substitutes must take into consideration cheese-specific standards of identity.

Natural Cheese. The sodium in natural cheese varies depending on the type of cheese. Many studies in Cheddar manufacturing countries have indicated that the optimum salt concentration for Cheddar is 4% to 6% of the moisture content of the cheese[45]. This would translate to about 600 mg to 880 mg of sodium per 100 grams of cheese. In this example Cheddar would have higher sodium than the proposed targets. Technical solutions for individual cheeses would need to consider the cheese-specific standard of identity.

Lower Fat Cheeses. The function of sodium in cheese making is related to the concentration of salt in the moisture phase of the cheese. When fat is reduced in cheese, it is replaced with water to maintain texture, and this increase in water also requires an increase in salt to maintain the ratio of salt to moisture. Lower fat cheeses pose additional challenges for a fixed target for sodium content. Similarly, technical solutions would need to consider the standards of identity. Research in non-aqueous fat-replacers is continuing.

Spoilage and Shelf Life – All Cheeses. Finally, salt reduces the rate of growth of spoilage and pathogenic microorganisms, which is important not only in the manufacture of the cheese but also in the safe distribution and serving of the cheese. A critical quality assurance aspect when reducing sodium in cheese is to understand the potential for increased growth of spoilage and pathogenic microorganisms, not only under manufacturing practices but also under conditions of normal use by consumers including time without refrigeration. While it is always desirable for the consumer to refrigerate cheeses, this does not always happen. Salt delays the growth of pathogenic organisms. Finding an alternative to replace salt as a preservative has proven difficult. Adequate evaluation of the risk for overgrowth of and spoilage by pathogenic microorganisms under both typical manufacturing processes and conditions of use by the consumer is an important step in sodium reduction for cheeses.

We appreciate the opportunity to provide these comments to the Working Group.

Sincerely,

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