

**Focus Groups with Caucasian, African American, and Latino  
Target Audiences to Freshen the  
5 A Day for Better Health Program Message**

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# 1. Executive Summary

## 1.1 Introduction and Methodology

A series of 12 focus groups was conducted with 110 members of the 5 A Day target audience in July 2000 to gain insight into promising new concepts for future communications materials. Four groups were conducted for each of three racial/ethnic groups (Caucasian, African American, and Latino), two of each gender. The following were the objectives of this research study:

- To identify topics to “freshen” 5 A Day program messages for the target audience;
- To update NCI’s knowledge of audience awareness, attitudes, and behaviors about nutrition and chronic disease prevention; and
- To explore the appeal of new concepts and methods which may potentially be integrated into the program.

Focus group participants were selected using the following eligibility criteria:

- moderate consumption of fruits and vegetables:
  - Caucasian and African American groups included persons who reported eating two to three servings of fruits and vegetables daily and trying to consume more;
  - Latino groups included persons who reported eating *one* to three servings of fruits and vegetables daily and trying to eat more, reflecting this group’s overall lower rate of fruit and vegetable consumption. (Latino participants were also only selected if Spanish appeared to be their primary language.);
- 25-50 years of age: half ages 25-40 and half ages 41-50;
- half with children in the 8<sup>th</sup> grade (13 years) or younger;
- low to middle income and education levels (defined separately for each racial/ethnic group);<sup>1</sup>
- primary food shoppers (women); primary or equivalent food shoppers (men); and
- not health professionals (e.g., doctors, nurses, dietitians), vegetarians, or persons eating a prescribed diet or diagnosed with certain diet-related diseases in their households.

Each group was led by a woman moderator matched to participants' race/ethnicity who had experience in conducting similar studies. Moderators followed a semi-structured discussion guide designed to determine the key benefits and barriers to fruit and vegetable consumption, explore ways to overcome barriers, and gauge reactions to new concepts not currently included in the 5 A Day program (e.g., nutritional value, antioxidants). In addition, the African American and Latino groups briefly discussed the role of culture in determining attitudes and behavior with regard to fruits and vegetables. (The Transtheoretical “Stages of Change,” Health Belief, and Diffusion of Innovations models, as well as the Social Cognitive Theory, helped to shape the moderator’s guide.)

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<sup>1</sup>Education and household income criteria were modified to reflect data indicating that Latinos in the general population tend to be slightly less educated and report lower annual household incomes (U.S. Census Bureau, 1998). For the Caucasian and African American groups, a minimum of a high school degree and a maximum college degree and a household income of \$20,000 - \$75,000 were required for participation. For Latino participants, the maximum education was lowered to some college but no degree, and the household income requirements were lowered to \$10,000 - \$50,000 per year.

The research staff conducted a systematic content analysis of transcripts and audiotapes. They summarized findings for each set of focus groups, segmented by race/ethnicity, using both coding sheets and transcripts. Common themes raised by all racial/ethnic groups were identified, followed by key findings unique to each racial/ethnic group. Researchers also took note of the implications of their findings for targeting consumers.

## **1.2 Summary of Findings Common to All Groups**

Caucasian, African American, and Latino participants are improving their eating habits but increased fruit and vegetable consumption will require larger changes in day-to-day habits:

- The majority of participants reported making healthier changes in their eating habits during the last five to 10 years, including healthier preparation methods (e.g., baking more, using less salt). A few reported less healthy changes, the most common of which was an increase of fast food consumption. Common reasons for positive changes included the influence of family and friends, greater awareness through the media, changes in lifestyle (e.g., recent marriage, divorce, job change), and efforts at weight control.
- Participants generally viewed disease prevention and “better overall health” as important benefits of eating fruits and vegetables. Colon cancer and heart disease were most frequently mentioned as diseases that fruit and vegetable consumption could help prevent. Other commonly mentioned benefits were regular bowel movements, increased energy, feeling good, weight control, and nutrition.
- Common barriers to consumption were preparation time for vegetables, lack of availability of fruits during certain seasons, and poor taste or quality. Family was frequently mentioned as a way to overcome these barriers (e.g., have children select fruits and vegetables that they like, involve children in meal preparation).
- In general, women tended to speak of their children when discussing benefits, barriers, and tips for overcoming barriers to eating fruits and vegetables. Women were also more likely to choose a restaurant based on fruit and vegetable menu options. Men were more likely to mention weight control as a benefit of eating fruits and vegetables.

Other findings common to all groups included:

- Little awareness of the guidelines for fruit and vegetable consumption, including what constitutes a serving;
- Strong preference for fresh fruits and vegetables over canned, frozen, or dried, except when convenience is a concern;
- Nutritional supplements taken only to obtain vitamins and minerals missed in daily diets, not as a replacement for fruits and vegetables;
- Low awareness of antioxidants and the link between color and nutritional value, despite a desire to know more about the connection;

- A strong interest in messages that include physical attractiveness, health benefits, and tips to make it easier to eat fruits and vegetables; and
- Receptivity to grocery store strategies encouraging consumption through recipes, cooking demonstrations, pre-cut fruits and vegetables, and improved quality and presentation of items.

### **1.3 Key Findings from the Caucasian Groups**

#### **1.3.1 Trends in Eating**

- The majority of Caucasian participants recognized the relationship between diet and good health, and have made changes in recent years to improve their eating habits.
  - Many Caucasian participants have altered the way they prepare their foods and have selected healthier foods in an effort to eat better.
  - Reasons for these changes included greater awareness through the media, concerns about personal health, lifestyle changes, and the influence of family and friends.
- Caucasian men were more likely than women to state that weight control, doctors or health professionals' advice, and the influence of spouses acted as catalysts to healthier eating.

#### **1.3.2 Knowledge, Attitudes, and Perceptions of Fruits and Vegetables**

- Caucasian participants generally held a very favorable view of fruits and vegetables, often due to positive familial influences that began in childhood.

#### **1.3.3 Benefits**

- When asked about benefits of eating fruits and vegetables, Caucasian participants frequently mentioned taste, disease prevention, and roughage. Less frequently mentioned were weight control, increased energy, feeling good, sensory appeal (e.g., appearance, taste, texture, color), convenience, and nutrition (e.g., substitute for junk food).
- First-mentioned or "top of mind," benefits were typically short-term health benefits (e.g., solid nutrition, substitution for junk food). However, Caucasian participants' top-ranked benefits tended to be *long-term* benefits (e.g., keeps body healthy, disease prevention, longer life).
- Caucasian women and men clearly viewed disease prevention as a very important benefit of eating fruits and vegetables. Three out of the four groups ranked it as the top benefit.

#### **1.3.4 Barriers**

- Caucasian participants frequently spoke of the difficulty of preparing vegetables (e.g., time, messiness, troublesome disposal, and falling into a rut with recipes). Inconvenience

(e.g., bringing for lunch) and availability (e.g., at home or during the work day) were also often mentioned as barriers to vegetable consumption. Other obstacles noted by participants were concerns over quality and freshness, family issues (e.g., not part of family tradition, kids demand junk food), sensory appeal (e.g., taste, texture, color, appearance), and cost.

- Common barriers to fruit consumption included concerns about freshness, quality, lack of availability during certain seasons, preparation difficulty, sensory appeal (e.g., taste, texture, color, appearance), health-related concerns (e.g., fruits having a high sugar content), cost, and family's eating habits.

### **1.3.5 *Overcoming Barriers***

- Barriers to fruit consumption were generally perceived as easier to overcome than barriers for vegetables.
- When asked how to overcome barriers to eating fruits and vegetables, Caucasian participants focused on the benefits of eating fruits and vegetables (e.g., feeling better, weight control, longer life). Caucasian men, in particular, also mentioned the importance of being role models for their children by eating more fruits and vegetables themselves.
- To overcome obstacles to eating fruit, participants suggested eating a variety of types of fruit and providing tips to prolong freshness (e.g., freezing).
- Suggestions to overcome barriers to eating vegetables included novel preparation methods, purchasing pre-packaged items, and planning ahead. Specific examples included cutting up and preparing extra vegetable dishes on weekends and freezing these for use during the week. Caucasian men, in particular, suggested providing information sources on how to prepare vegetables, such as cookbooks, cooking television shows, and Internet sites.

### **1.3.6 *Other Recurrent Themes among Caucasian Participants***

- Most Caucasian participants felt that three to five daily servings of fruits and vegetables are necessary for good health, although participants gave a range of answers, from two to as many as one wants. In general, participants were unclear about the details or even the existence of official guidelines for eating fruits and vegetables.
- The majority of Caucasian participants felt that they could increase their consumption of fruits and vegetables to five servings each day and maintain this change over time, if they wanted to. However, they would need to be sufficiently motivated by a catalyst, such as a personal health crisis.
- Fresh produce is overwhelmingly preferred to frozen, canned, and dried fruits and vegetables, due to perceptions of better taste and greater nutritional value. However, frozen, and to a lesser extent canned, fruits and vegetables are used on occasion for reasons of convenience.

- A few Caucasian participants mentioned using nutritional supplements, although most felt that it is better to obtain vitamins by eating fruits and vegetables than by taking tablets.

### **1.3.7 *Reactions to Different Ways of Encouraging Greater Consumption of Fruits and Vegetables***

- In general, Caucasian participants preferred that the 5 A Day message include the multiple *benefits* of eating five fruits and vegetables a day (e.g., eating fruits and vegetables helps prevent cancer and heart attacks, helps control weight). The emphasis on benefits, especially long-term prevention ones, struck participants as reinforcing and persuasive (e.g., reduced likelihood of cancer and heart attack).
- Fewer Caucasian participants preferred messages that combine the 5 A Day message with *other health messages* (e.g., exercise, getting enough sleep). They feared the 5 A Day message would get lost, or that people would conclude that since they could not incorporate the other health activities into their lives, they should ignore the dietary message too.
- Some Caucasian women preferred messages that focused on fun and entertainment instead of health benefits because involving their children in selection and preparation brings the family together.
- Participants generally understood that different fruits and vegetables offer different nutritional benefits, yet most were unaware of the link between color and nutritional value.
- Although some Caucasian participants were familiar with the term “antioxidants,” few were able to explain their function in any detail. Most participants expressed interest in these concepts, however, and in obtaining more information both about what antioxidants are and what they do.
- When given the opportunity to create their own messages, the majority of Caucasian participants emphasized the benefits of eating fruits and vegetables (e.g., good nutrition, quality of life). Several of their messages focused on the need to be around for their children and grandchildren, and a few addressed barriers to fruit and vegetable consumption. Other messages showed fruits and vegetables as fun and entertaining, emphasized physical attractiveness, and provided preparation tips.

### **1.3.8 *Restaurants, Grocery Stores, and Workplaces***

- While some Caucasian participants, usually women, said that they would choose a restaurant based on fruit and vegetable selections, others felt that restaurants are a place to indulge and do not consider fruits and vegetables when choosing a restaurant. Many participants, however, desire a larger selection of fruits and vegetables at the restaurants they frequent.

- Caucasian participants suggested that grocery stores could encourage fruit and vegetable consumption by offering recipe cards, preparing fruits and vegetables (e.g., pre-cut washed and packaged fruits and vegetables), providing salad bars and marinades, as well as improving the presentation and quality of fruit and vegetable displays.
- Some Caucasian participants perceive their workplace as already promoting fruits and vegetables, and responded favorably to the idea of workplace discounts on local vendors' fruits and vegetables.

### **1.3.9 *Looking Back, Looking Forward***

- As in earlier 5 A Day focus groups conducted in 1992, perceived benefits and barriers, as well as difficulties in accurately identifying the desired number of daily servings, remain similar among Caucasian participants.
  - However, Caucasian participants in these focus groups (2000) expressed greater awareness of the link between their eating habits and good health, and saw disease prevention and a longer life as greater motivators.
  - Compared to 1992, Caucasian men in 2000 appeared more proactive about their health, more concerned with weight control, and more active in food planning and preparation.
- Future 5 A Day promotions for fruit and vegetable consumption among Caucasians should:
  - Emphasize health benefits, particularly long-term health benefits;
  - Focus on the appearance and good taste of fruit and vegetables;
  - Provide tips and recipes for novel preparation methods;
  - Include ideas on how to involve the whole family in eating fruits and vegetables; and
  - Capitalize on opportunities in grocery stores (e.g., recipe cards, prepared vegetables).

## **1.4 Key Findings from the African American Groups**

### **1.4.1 *Trends in Eating***

- Most African American participants recognized the relationship between diet and good health, and the vast majority have made healthy changes in their eating habits in recent years.
  - Commonly reported changes included eating more vegetables and less red meat, and steaming and baking foods instead of frying.
  - The dominant reason for changing diet was the influence of



family and friends. A number of participants also made changes because of reports in the media, doctors' advice, and the desire to live longer and healthier, particularly to be around for their families.

- African American men were more likely to mention feeling better and weight control as reasons for dietary changes, while African American women mentioned a wider range of reasons (live longer, be around for their children).

#### **1.4.2 *Knowledge, Attitudes, and Perceptions of Fruits and Vegetables***

- African American participants indicated that while fruits and vegetables were a common part of their diets as children, they now tend to prepare them in healthier ways than their families did when growing up.
- While African American men did not feel their African American backgrounds contributed anything unique to their current fruit and vegetable selections or preparation methods, some African American women noted that their culture influences the way they use and prepare certain fruits and vegetables, particularly on holidays.

#### **1.4.3 *Benefits***

- When asked about the benefits of eating fruits and vegetables, African American participants most frequently mentioned “cleansing the system,” having greater energy, and feeling good. Some participants mentioned overall good health, weight control (particularly men), nutrition, and personal appearance.
- “Top-of-mind” benefits were typically short-term benefits (e.g., better elimination, greater energy, and feeling better), whereas top-ranked benefits tended to be a mix of both short and long-term benefits (e.g., disease prevention, longer life).
- While some African American participants viewed disease prevention as a top-ranked benefit, African American men tended to be somewhat skeptical of this notion, believing that other factors (e.g., genetics, lifestyle) play greater roles in determining one's chances of developing a disease. African American men expressed an overall cynicism toward health messages because of conflicting reports given by the media.

#### **1.4.4 *Barriers***

- African American participants said that taste, cost, and preference for other foods were barriers to both fruit and vegetable consumption.
- African American participants cited preparation time as the key barrier to vegetable consumption. Taste was another significant barrier. A few participants mentioned cost (especially for prepared vegetables), lack of knowledge about what the body needs, and simply overlooking vegetables when preparing a meal.

- The key barrier to fruit consumption mentioned by most African American participants was cost, including both the out-of-pocket cost and the cost of throwing away fruit that is past its prime. Other barriers mentioned by a number of participants were the quality or freshness of fruit, the availability of fruits (related to seasonal issues), and forgetting to purchase fruit at the store.

#### **1.4.5 *Overcoming Barriers***

- Because the key barrier to fruit consumption for African Americans was cost, many suggestions for overcoming barriers addressed cost, such as buying fruit that is on sale. Other suggestions focused on the benefits of eating fruit, such as looking and feeling better and living longer. Participants also provided a few tips that focused on making fruit consumption more fun for the family.
- As the key barrier for vegetable consumption was preparation time, many of the suggestions focused on tips for preparing vegetables in a quick, easy, and appetizing way. Others focused on the importance of eating vegetables.

#### **1.4.6 *Other Recurrent Themes among African American Participants***

- When African American participants were asked if they could increase their consumption of fruits and vegetables to five servings daily and maintain this change over time, reactions were mixed. Some felt they could eat five fruits and vegetables a day for a sustained period of time; others felt that they would be unable to sustain this behavior. Of those who felt they could eat “5 A Day,” the need for discipline was often mentioned.
- None of the participants could correctly define a "serving" of fruits and vegetables.
- Fresh fruits and vegetables were generally preferred over frozen, canned or dried; however, the preference for fresh is often outweighed by the convenience of frozen. For the most part, African American participants agreed that the intended use affects their choice of whether to use fresh, frozen, or canned fruits or vegetables. For example, fresh fruits and vegetables are required for special occasions while frozen is acceptable for blended drinks.
- A few African American participants reported using vitamin supplements as a way to ensure they are taking in the vitamins and minerals they need but may not be receiving in their diets.

#### **1.4.7 *Reactions to Different Ways of Encouraging Greater Consumption of Fruits and Vegetables***

- Most African American participants preferred that the 5 A Day message be combined with information about the *benefits* of eating five fruits and vegetables each day (e.g., source of energy, roughage, disease prevention). Fewer participants liked the idea of combining the 5 A Day message with *other health messages* because the message would get lost.

- A few African American participants felt that neither the bundling of the 5 A Day message with the health benefits of fruit and vegetable consumption, nor in combination with other health messages, would motivate them to eat more. They believed that they would have to change their attitude in order to eat more fruit and vegetables or be motivated by a personal health crisis.
- Although a few African American participants, including several African American men, knew there were different nutritional values for different fruits and vegetables, none of the participants recognized a link between color and the nutrient value of fruits and vegetables.
- Only a few African American participants recognized the term "antioxidants," and none could explain their function. However, they were interested in learning about the specific health benefits of particular fruits and vegetables as well as antioxidants.
- In general, messages constructed by African American participants focused on ideas mentioned in the discussions on overcoming barriers and recent changes in eating habits. Participant-generated messages often emphasized the benefits of looking good, feeling good, and living a longer life, as well as the need for discipline.

#### **1.4.8 *Restaurants, Grocery Stores, and Workplaces***

- African American participants said they do not typically consider fruits and vegetables when selecting restaurants, but might be more likely to return to restaurants offering a good salad bar.
- African American participants seemed to see grocery stores as a suitable venue in which to encourage fruit and vegetable consumption. They had many suggestions for how grocery stores could encourage consumption. These suggestions centered around offering recipes, selling prepared fruits and vegetables, providing cooking demonstrations, lowering prices, issuing coupons, providing salad bars, improving presentation, and displaying information explaining the benefits of specific fruits and vegetables.
- African American participants found it difficult to provide suggestions for how the workplace can encourage fruit and vegetable consumption.

#### **1.4.9 *Looking Back, Looking Forward***

- Many of the findings from this current study (2000) are similar to those from the African American focus groups conducted in 1992:
  - African American participants remain unaware of what constitutes a serving and continue to view preparation time, cost, and taste as major barriers to eating more fruits and vegetables; and
  - Family, friends, and doctors continue to be the biggest motivators for African American participants to eat more healthfully.

- African American participants in this study (2000) placed a greater emphasis on preparing foods in healthy ways, and recent changes in their eating habits reflect this.
  - They were more aware of the importance of fiber and roughage, and put more focus on the diet-disease prevention link, than did participants in 1992.
- Future 5 A Day promotions for fruit and vegetable consumption among African Americans should:
  - Emphasize the benefits of looking and feeling good, living a longer life, enjoying the taste of fruits and vegetables, and increasing roughage;
  - Provide quick and easy tips and resources for planning meals;
  - Promote the health benefits of eating “5 A Day;”
  - Include ideas on how to get the whole family more involved in eating fruit and vegetables; and
  - Capitalize on opportunities in grocery stores (e.g., recipe cards, prepared vegetables).

## **1.5 Key Findings from the Latino Groups**

### **1.5.1 *Trends in Eating***

- In general, Latino participants recognized the link between diet and good health, and have made changes in recent years to improve their eating habits.
  - Common changes included eating more fruits and vegetables, eating less red meat, and steaming food instead of frying.
  - Reasons for these changes included: greater awareness of the need to eat healthier due to media exposure; fear of developing health problems; the influence of family and friends; weight control; and the desire to set a good example for children.
  - Lifestyle changes since moving to the United States were also mentioned as catalysts to changes in eating habits. Some of these changes were positive and some were negative.

### **1.5.2 *Knowledge, Attitudes, and Perceptions of Fruits and Vegetables***

- In general, Latino participants held a very favorable view of fruits and vegetables. When asked about fruits and vegetables, they spontaneously discussed the benefits of overall good health, nutrition, lower cholesterol, and improved circulation.
- Some barriers surfaced early in the discussion, such as the unavailability in the United States of fruits and vegetables Latino participants enjoyed in their home countries, quick spoilage, cost, lack of convenience, and children's preferences for other less healthy foods.

- Making fruit juices and smoothies with mangoes, papaya, guanabana, and pineapple appears to be an important part of Latino participants' diets. In addition, several Latino participants mentioned using lemon as a condiment when preparing fruits and vegetables.
- Latino participants' positive attitudes toward fruits and vegetables seem to be the product of background and media exposure. Participants of Mexican descent felt that their fruit and vegetable eating habits have been much improved due to their increased awareness and responsibilities as parents. In contrast, participants of South American descent tend to find it harder to eat fruits and vegetables today than it was in their childhood, despite positive attitudes ingrained by their parents and the media.

### **1.5.3 *Benefits***

- When asked about the benefits of eating fruits and vegetables, Latino participants most often spoke about overall good health. Participants mentioned that fruits and vegetables help body systems (e.g., bones, nervous system, immune system, digestion), aid elimination, and provide a source of fiber. They noted the benefits of greater energy, feeling good, and weight control. Other benefits included better nutrition, prevention of specific illnesses (e.g., cancer, diabetes), cost (less expensive than meat), convenience, and sensory appeal (e.g., taste, color, texture, appearance).
- In some cases, Latino participants appeared to be misinformed about the benefits of fruit and vegetable consumption, sometimes attributing benefits that have not been proven in the scientific literature (e.g., eating fruits and vegetables "prevents Alzheimer's").
- "Top-of-mind" benefits were typically short-term benefits of overall good health and nutrition (e.g., provides vitamins and minerals). However, the top-ranked or most important benefits mentioned by Latino participants tended to be longer term benefits, such as disease prevention, overall good health, better body functioning, and a longer life.
- Participants clearly saw disease prevention as a very important benefit of eating fruits and vegetables, ranking it as a top benefit in all four focus groups and mentioning a long list of diseases that fruits and vegetables can prevent (e.g., cancer, diabetes, and heart disease).

### **1.5.4 *Barriers***

- When asked about barriers to vegetable consumption, Latino participants often mentioned safety concerns over the handling methods used with fruits and vegetables in the United States (e.g., chemicals, pesticides). This concern was unique to the Latino focus groups; it was not mentioned in the groups with Caucasian and African American participants.
- Some Latino men indicated that fear of ridicule from friends was an obstacle to eating more vegetables, since vegetables are seen as "rabbit food."

- Other barriers included seasonal unavailability, lack of sensory appeal (e.g., taste, color, texture, appearance), too much preparation time, family issues (e.g., children's taste preferences), and a belief that eating more is not necessary.
- For fruit consumption, the key barrier was the unavailability in the United States of certain fruits that Latinos are accustomed to eating in Mexico and Central and South America (e.g., guayabana, maracuya). Safety concerns, as noted with vegetables, were also mentioned for fruit. Other common barriers to fruit consumption included unavailability at work or restaurants, seasonal unavailability, lack of sensory appeal (e.g., taste), spoilage, health concerns (e.g., high sugar content), and messiness.

### **1.5.5 *Overcoming Barriers***

- When Latino participants were asked about ways to overcome barriers to eating fruits or vegetables, most suggestions focused on easy tips, rather than on highlighting health benefits. Tips from women included preparing fruits and vegetables in ways the whole family will like, while tips mentioned by men took more of a "just do it" attitude emphasizing discipline and habit.

### **1.5.6 *Other Recurrent Themes among Latino Participants***

- Latino participants' assessments of their ability to eat five servings of fruits and vegetables daily were mixed. In general, Latinos were more confident than Latinas about their ability to eat and sustain eating five or more servings of fruits and vegetables each day. They tended to believe that once you made it a habit, it would be easy to continue.
- The majority of Latino participants were unclear about serving size, and many did not believe in one strict guideline for the number of servings a person should eat each day. Several participants felt that the number of servings required depends on the individual.
- All groups preferred to eat fresh fruits and vegetables for reasons of nutrition, taste, and custom, but convenience and/or lack of availability often lead them to purchase frozen or canned.
- A few Latino participants reported using nutritional supplements in order to get the vitamins and minerals they lacked in their diets.
- When asked to construct their own messages, many of the Latino participants focused on overcoming barriers, such as taste and appearance, safety concerns, and preparation difficulty. Other messages highlighted the specific vitamins and health benefits offered by each fruit and vegetable, and a few messages addressed the benefits of better overall health and disease prevention. Most Latino participants expressed a desire for Spanish-language messages.

### **1.5.7 *Reactions to Different Ways of Encouraging Greater Consumption of Fruits and Vegetables***

- Initial reactions were positive to the bundling of the 5 A Day message with either health benefits or other health messages. However, after further discussion, most Latino participants expressed a preference for combining the 5 A Day message with benefits of fruit and vegetable consumption (e.g., fruits and vegetables are an excellent source of vitamins and minerals, provide greater energy, make you feel good, prevent disease, help you live a longer life).
- Latino participants generally appeared eager for any sort of health information.
- Few Latino participants understood the relationship between color and nutritional value, and very few knew anything about antioxidants. However, Latino participants were eager to learn about the different nutrients contained in various fruits and vegetables.

### **1.5.8 *Restaurants, Grocery Stores, and Workplaces***

- Latinas were more likely to consider fruits and vegetables when choosing a restaurant than Latinos, who see eating out as a time to indulge. Some participants felt they would be too embarrassed or intimidated to ask for fruits and vegetables as a substitute to a menu selection, while others saw this as a viable option.
- While some Latino participants reacted positively to the suggestion of grocery stores offering prepared fruits and vegetables, others feared such options would cost more. Latino participants generated several suggestions for ways that grocery stores could encourage consumption, including offering fruits and vegetables without pesticides or other chemicals, lowering the cost, improving the quality and presentation, offering free samples of unfamiliar fruits and vegetables, showing videos of creative preparation methods, and including displays listing the specific vitamins and health benefits provided by fruits and vegetables.
- Latino participants responded positively to the concept of employer discounts on fruits and vegetables at nearby farmers' markets.

### **1.5.9 *Looking Back, Looking Forward***

- Since Latinos were not part of the 1992 focus groups, the attitudes, perceptions, and knowledge conveyed by Latinos in this focus group study (2000) are of special interest. These findings clearly indicate that Latinos are eager for health information. Considerable potential exists to reach this target audience with 5 A Day messages and activities.
- Future 5 A Day promotions targeting Latinos should:
  - Include both Spanish and English versions;
  - Provide suggestions for overcoming barriers, particularly fears about safety and handling, and preparation tips that take into account family members' diverse preferences; and
  - List specific vitamins and health benefits of particular fruits and vegetables.

## 2. Introduction and Methodology

### 2.1 Background

In 1991, the National Cancer Institute (NCI) and the Produce for Better Health Foundation (PBH) established the 5 A Day for Better Health Program to increase the number of fruits and vegetables Americans eat to five or more servings a day by the year 2000. Although awareness of the need to eat five or more servings has increased since the program's inception, evidence suggests that awareness has leveled off in recent years (NCI, 2000). Despite increased media coverage on the connection between health and nutrition, the majority of Americans still do not consume five or more servings of fruits and vegetables on a daily basis (NCI, 2000).

To explore and identify issues that may present new opportunities for 5 A Day communications, NCI undertook formative research with the 5 A Day target audience -- adults currently eating two or three servings of fruits and vegetables daily and desiring to increase their intake. (Please see Appendix for an explanation for why this 5 A Day target audience was selected.)

The research program pursued the following objectives:

- To identify topics to “freshen” 5 A Day program messages for the target audience;
- To update NCI’s knowledge of audience awareness, attitudes, and behaviors about nutrition and chronic disease prevention; and
- To explore the appeal of new concepts and methods which may potentially be integrated into the program.

### 2.2 Methodology

#### 2.2.1 *Description of Participants*

Twelve (12) focus groups (seven to 10 individuals per group) were conducted with 110 members of the target audience (adults who report eating two or three servings of fruits and vegetables daily<sup>2</sup> and would like to increase their consumption). Based on previous research that suggests racial and gender differences in fruit and vegetable consumption (Ruowei, Serdula, Bland, Mokdad, Bowman, & Nelson, 2000; NCI, 2000) and attitudes toward 5 A Day messages (NCI, 1995), the groups were segmented by gender and race/ethnicity.

Four focus groups were conducted with each of three racial/ethnic groups (Caucasian, African American, and Latino). Within each racial/ethnic group, two groups were conducted with women and two with men. The groups were conducted at Martin Research in Richmond, Virginia, on July 18 and 19, 2000, Focus Scope, Inc. in Oak Park, Illinois, on July 25 and 26, 2000 (a suburb of Chicago), and Creative Consumer Research in San Antonio, Texas, on July 27, 2000. These sites were selected on the basis of regional diversity and racial/ethnic representation. A summary of group composition is presented below.

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<sup>2</sup>Latino focus group participants were required to eat *one* to three servings of fruits and vegetables daily. The reasons for this difference are discussed under the heading “Latino Groups.”



CITY	RACE/ETHNICITY	GENDER
Richmond, VA	Caucasian	Women
		Men
	African American	Women
		Men
Chicago, IL	Caucasian	Women
		Men
	African American	Women
		Men
	Latino	Women
		Men
San Antonio, TX	Latino	Women
		Men

### 2.2.2 *Recruiting Specifications*

Staff at the focus group facilities recruited all participants using demographic and psychographic criteria corresponding to the target audience profile. These criteria were incorporated into a screening questionnaire administered by the facilities.

#### Caucasian and African American Groups

As in previous research (NCI, 1995; NCI, 1992), participants for the Caucasian and African American groups were selected based on demographic criteria most common among the target audience:

- ages 25-50 years (half ages 25-40 and half ages 41-50)
- 50% per group with children in the 8<sup>th</sup> grade or younger
- education ranging from high school graduate to college degree
- household incomes ranging from \$20,000 to \$75,000 per year

In addition to the above criteria, all participants in the Caucasian and African American groups reported eating two to three fruits and vegetables each day, and expressed a desire to eat more. All women who participated were required to be the primary food shoppers for their households, while men who participated were required to be primary or equal food shoppers (i.e., they shop at least every one-to-two weeks).

Individuals who had participated in a focus group within the previous six months were excluded. Potential participants were also disqualified if they or people in their household fell into any of the following occupational, dietary, or medical categories:

- doctor, nurse, or other health professional
- nutritionist or dietitian
- employed in marketing research or advertising
- vegetarian or following a special medical diet, or
- diagnosed with heart disease, high cholesterol, cancer, diabetes, or stomach ulcers.

The screening instruments used to recruit men and women for the Caucasian and African American groups are included in the Appendix. The following table summarizes the demographic characteristics of participants in the Caucasian and African American groups. (Demographic characteristics of participants in the Latino groups are reported in Table 2.)

**Table 1. Caucasian and African American Group Demographic Characteristics**

Location (gender)	Race/ Ethnicity	N	Age		Education			Household Income			Children < 8 <sup>th</sup> grade
			25- 40	41- 50	H.S. or GED	Some College	College Degree	\$20K - \$34.9K	\$35K - \$59.9K	\$60K - \$75K	Yes
Richmond (women)	Caucasian	9	5	4	4	3	2	4	4	1	6
Richmond (men)	Caucasian	9	6	3	1	2	6	1	5	3	7
Chicago (women)	Caucasian	9	4	5	2	3	4	1	4	4	4
Chicago (men)	Caucasian	10	6	4	2	3	5	1	3	6	5
Richmond (women)	African American	9	4	5	1	4	4	2	5	2	4
Richmond (men)	African American	10	6	4	3	4	3	1	5	4	5
Chicago (women)	African American	10	5	5	5	3	2	3	5	2	5
Chicago (men)	African American	9	4	5	2	2	5	2	4	3	5
<b>Totals</b>		<b>75</b>	<b>40</b>	<b>35</b>	<b>20</b>	<b>24</b>	<b>31</b>	<b>15</b>	<b>35</b>	<b>25</b>	<b>41</b>

## Latino Groups

To explore the reach and relevance of the 5 A Day program to a wider audience, four focus groups were conducted with Latino participants.

Latino participants were recruited according to the same demographic criteria for age (25-50 years, with half ages 25-40 and half ages 41-50) and family composition (50% per group with children in the 8<sup>th</sup> grade or younger). However, the minimum education requirement for Latinos was dropped, and the maximum educational level was lowered to some college but no degree. Household incomes were allowed to fall between \$10,000 and \$50,000 per year. These modifications in education and household income criteria were made to reflect data indicating that in the general population, Latinos tend to be slightly less educated and report lower annual household incomes (U.S. Census Bureau, 1998).

Findings from previous research, moreover, indicate that Latinos report eating fewer fruits and vegetables than Caucasians and African Americans (NCI, 1996). Thus, the Latino groups included individuals currently eating one to three servings of fruits and vegetables and wanting to eat more. (Future research is needed to disentangle the influence of race/ethnicity, education level, and household income level on fruit and vegetable consumption.) As in the Caucasian and African American groups, eligible Latinas included primary food shoppers while eligible Latinos included primary or equal food shoppers (i.e., those who shop at least every one to two weeks).

Because all Latino groups were conducted solely in Spanish, Spanish language ability was another screening criterion. To be eligible, participants had to:

- speak Spanish at home more than half of the time
- watch 10 or more hours of Spanish television per week
- listen to at least five hours of Spanish radio per week, and
- prefer to receive information from companies in Spanish.

Assimilation was an additional screening criterion used for recruiting Latinos. An attempt was made to recruit Latinos who had been living in the United States for at least three years, including some second generation Latinos.<sup>3</sup> This criterion was implemented because it was thought that Latinos who have recently immigrated may have considerably different diets and lifestyles than more assimilated Latinos living in the United States.

Potential Latino participants were also excluded if they or anyone in their household reported having the medical conditions and/or occupations discussed above in the recruitment criteria for Caucasian and African American participants.

The screening instruments used to recruit men and women for the Latino groups are included in the Appendix. The following table summarizes the demographic characteristics of the participants in the Latino groups.

### **Table 2. Latino Group Demographic Distributions**

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<sup>3</sup>Limited recruiting time required the inclusion of three Latino participants who reported living in the U.S. for fewer than three years.

Location (gender)	N	Age		Education		Income		Children < 8 <sup>th</sup> grade  Yes	Country of Origin				Years in U.S.		
		25- 40	41- 50	H.S. or GED	Some college	10K - 29K	30K - 50K		Mexico	Cent. Am.	So. Am.	Puerto Rico	< 3	3- 10	>10
Chicago (women)	9	5	4	4	5	2	7	5	3	0	4	2	2	1	6
Chicago (men)	7	3	4	2	5	5	2	6	2	0	5	0	1	2	4
San Antonio (women)	10	6	4	8	2	7	3	3	10	0	0	0	0	5	5
San Antonio (men)	9	5	4	5	4	7	2	6	7	1	1	0	0	5	4
<b>Totals</b>	<b>35</b>	<b>19</b>	<b>16</b>	<b>19</b>	<b>16</b>	<b>21</b>	<b>14</b>	<b>20</b>	<b>22</b>	<b>1</b>	<b>10</b>	<b>2</b>	<b>3</b>	<b>13</b>	<b>19</b>

### 2.2.3 Data Collection

Three trained women moderators conducted four groups each. The moderators were selected based on their expertise in doing similar studies. Each group was led by a moderator whose racial/ethnic background was the same as the participants in the group she was moderating. During each two-hour focus group, the moderators followed a semi-structured discussion guide that covered the following topics:

- the purpose and "rules" of the focus group discussion;
- a brief warm-up exercise for participants to introduce themselves;
- changes that participants have made in their eating habits in the last five to 10 years;
- benefits of consuming fruits and vegetables;
- barriers to fruit and vegetable consumption;
- suggestions for ways to overcome barriers to eating fruit and vegetables;
- reactions to bundling the 5 A Day message with other health messages compared to combining the message with the health benefits of eating five fruits and vegetables a day;
- reactions to "new" concepts, such as color as an indicator of nutritional value and antioxidants;
- ways to motivate increased consumption of fruits and vegetables through the "environment" such as restaurants, grocery stores, and the workplace; and
- participant-generated 5 A Day messages.

In addition, the African American and Latino groups included a brief discussion on the role of culture in determining attitudes and behavior with regard to fruit and vegetable consumption. (The Transtheoretical "Stages of Change," Health Belief, and Diffusion of Innovations models, as well as the Social Cognitive Theory, helped to shape the moderator's guide.)

After the first two Caucasian groups in Richmond, the discussion guide was modified slightly to improve the flow of the discussion. The main change was that the section on barriers was revised so that participants generated their own list of barriers instead of adding to a prepared list based on previous 5 A Day research. Minor changes were made with regard to question order. (The final version of the discussion guide is included in the Appendix.)

#### **2.2.4 Analysis**

**Caucasian and African American Groups.** All groups were videotaped, audiotaped, and transcribed. Shortly after each group, the moderators and observers shared impressions and notes. Each moderator also prepared a brief topline report for the four groups she conducted. Project staff attended several of the groups in-person, and reviewed all videotapes, audiotapes, and transcripts.

**Latino Groups.** As with the Caucasian and African American groups, the Latino groups were videotaped and audiotaped, and English-translated transcripts were created. Additional project staff, fluent in Spanish, attended the Latino groups, recorded detailed notes, and debriefed the report-writing staff on the proceedings of these groups. The report-writing staff reviewed the transcripts for all groups and listened to the real-time translations of the audiotapes when available.

**Content Analysis and Report Preparation.** One or more staff attended each of the 12 focus groups. The three staff involved in preparing the report watched the videotapes, listened to the audiotapes, and read the transcripts. In addition, staff preparing the report debriefed with staff present during the actual focus group taping. Based on overall impressions and categories that became apparent upon reviewing these materials, the staff worked together to create a coding scheme. The coding scheme was used by staff to perform a systematic content analysis of the transcripts and audiotapes, in which each group was coded by at least two researchers. Upon completion of the coding, the researchers met to resolve conflicting items by directly consulting and discussing the transcripts until agreement was reached.

Once consensus in coding was reached, each researcher was assigned to summarize findings for one set of four focus groups, segmented by race/ethnicity (i.e., one researcher wrote a chapter for the Caucasian groups, one wrote a chapter for the African American groups, and one for the Latino groups). Both the information found in the coding sheets as well as that from the actual transcripts were integrated when summarizing the findings for the groups for each race/ethnicity. The coding sheets were useful in forming general classifications of findings and tallying votes, while transcripts were used to provide a more detailed description of the findings, and to support these findings with participant quotes. All chapters were reviewed and edited by several members of the project staff, including the Spanish-fluent staff member who attended the Latino groups.

#### **Limitations**

The limitations of this particular study include those inherent in all focus group research. The limited number of focus group participants and inevitable recruiting biases prevent generalization of findings to the larger population. Although the findings provide insight about the target

audience and direction for message development, they should not be viewed as precise quantitative measures; nor should they be generalized to a population of similar participants.

### 3. Themes Common to All Groups

Several common themes surfaced across the 12 focus groups. These are summarized below.

#### 3.1 Trends in Eating

**The majority of participants reported making healthier changes in their diets during the last five to 10 years.** Many participants reported preparing foods in healthier ways (e.g., steaming, grilling, and baking instead of frying; using less salt and more vegetable and monounsaturated oils). Spontaneously mentioned reasons for positive changes included the influence of family and friends, greater awareness through the media, changes in lifestyle (e.g., recent marriage, divorce, or job change), and weight management.

A few participants reported less healthy diet changes. The most common change in this direction was an increase in the consumption of fast food.

Most participants reported that the importance of eating fruits and vegetables was instilled in them by their parents when they were children.

#### 3.2 Perceived Health Benefits

**Participants listed many benefits of eating fruits and vegetables – they help to “cleanse the system, maintain overall good health, increase energy levels, make you feel good, and improve your nutrition.”**

Participants generally linked healthy eating with overall better health. Furthermore, most participants connected the term “overall better health” with preventing disease. Two specific diseases thought to be preventable by fruit and vegetable consumption were colon cancer and heart disease.

#### 3.3 Perceived Barriers and Tips for Overcoming Barriers

**Preparation time** was the barrier most frequently mentioned in all groups for **vegetables**, while **seasonality** was the main barrier for **fruit** consumption. **Lack of sensory appeal (poor taste, color, texture, and/or appearance)** was a barrier for both **fruits and vegetables**.

**Family** was frequently mentioned as **both an impediment and a facilitator** to consuming more fruits and vegetables. While children’s preferences for certain foods sometimes pose challenges to getting them to eat fruits and vegetables, involving children in the selection and preparation of fruits and vegetables can also motivate them to eat more.

Suggestions for overcoming barriers to eating more fruits and vegetables included informing the public about the range of health benefits fruits and vegetables provide, as well as providing practical tips (such as involving family members in fruit and vegetable selection and meal preparation).

### 3.4 Other Knowledge, Attitudes, and Perceptions

**In general, participants were unaware of “official” guidelines for eating fruits and vegetables including basic information like the size of a serving.**

An overwhelming number of participants reported that they **preferred to eat fresh** fruits and vegetables compared to frozen, canned, or dried. However, **convenience** often leads many participants to purchase **frozen**.

A few participants mentioned that they take **nutritional supplements** not as a substitute for eating fruits and vegetables, but as a way to obtain the vitamins and minerals that they may be missing in their daily diets.

Some participants recognized the term “antioxidant,” but **few were able to explain the benefits of antioxidants** in any detail. Many participants expressed great interest in knowing which fruits and vegetables contain antioxidants and which specific health benefits are associated with particular fruits and vegetables.

**Only a few participants were aware of the relationship between color and the nutritional value that a fruit or vegetable offers.**

Common suggestions for how grocery stores could help consumers eat more fruits and vegetables included offering **recipes, cooking demonstrations, and pre-cut fruits and vegetables**. Other recommendations included improving the quality and presentation of fresh fruits and vegetables.

Participant-constructed messages included the recurring themes of **highlighting the physical attractiveness of fruits and vegetables, overcoming barriers to consuming them, and placing emphasis on their health benefits**.

### 3.5 Gender Differences

**Women tended to refer to their children** when speaking about the health benefits of consuming more fruits and vegetables (e.g., “living longer *for my children*”) as well as the barriers confronted (e.g., children’s preferences for other foods) and the tips for overcoming such barriers (particularly those related to preparing fruits and vegetables in ways the whole family will enjoy). This suggests that women are primarily responsible for meal preparation and initiation of dietary change among household family members.

**Men** were also concerned about children’s eating behaviors, but they tended to focus on **concrete suggestions for overcoming family members’ resistance to fruits and vegetables** and to emphasize the **importance of being an adult role model**.

Counter to the gender stereotype, **men** were more likely than women in these focus groups to mention **weight control** as a benefit of eating fruits and vegetables.



Although most participants agreed that they do not choose a restaurant based on its fruit and vegetable menu options, **women were more likely than men to say that they would choose and/or return to a restaurant based on its fruit and vegetable availability.**

## 4. Detailed Findings from the Caucasian Groups

This section reviews the findings from four focus groups, two of each gender, conducted with Caucasian participants in Richmond, VA and Oak Park, IL (a suburb of Chicago). (Please see Section 2.2 for a discussion of the methodology and eligibility criteria.)

### 4.1 Trends in Eating Among Caucasian Groups

As a warm-up exercise, the moderator asked Caucasian participants to discuss the types of changes they had made in their eating habits in the last five to 10 years. She also requested that they talk about the reasons behind these recent changes.

**The majority of Caucasian participants recognized the relationship between diet and good health and reported making changes in recent years to improve eating habits.** Commonly reported changes included eating less red meat and more fish (uniformly mentioned across the four groups), reducing salt, decreasing portion size, drinking more water, and increasing the consumption of fruits and vegetables (all four groups mentioned eating more fruit; two groups mentioned eating more vegetables). Participants also mentioned altering the way they prepare their foods, such as taking the skin off chicken and baking instead of frying and using apple sauce or yogurt as substitutes for oil when baking.

Caucasian participants cited various reasons for their positive changes including greater awareness of healthy eating due to media exposure, the influence of family and friends, concerns about personal health, and lifestyle changes such as recent marriage, divorce, or job change.

**Caucasian men more often than women cited their physicians or other health professionals and their spouses as catalysts behind their positive changes.** Women seemed to have developed their awareness of the importance of eating fruits and vegetables from reading and through a concern about ensuring healthy diets for their children. Men, in comparison, were likely to attribute their awareness to conversations with doctors who had told them they had to change their eating habits -- including increasing the number of fruits and vegetables they ate -- to remain healthy through middle age and into retirement years.

*"Changed my eating habits, changed a lot of thoughts. I put some serious thought [after talking with] my doctor. My one doctor told me, 'you're 520 pounds,' and he looks at my chart he goes 'I can't believe it ... you should be like 180 pounds for your height ...but that's all going to change soon.' He says things are starting to turn around for me. I had a little bit of a medical problem with one of my legs. I had to make some serious changes. I've got 3 kids and a wife, so I had to do some major rethinking." (Caucasian man, Chicago)*

*"My wife's doing it for me." (Caucasian man, Richmond)*

A few Caucasian participants mentioned engaging in less healthy diet changes in recent years, such as eating more fast food (and having gained weight).

**Caucasian men, overall, appeared to be more concerned with weight issues than Caucasian women.** More often than women, these men mentioned weight management as their primary motivation for eating healthier in recent years.

*"After I hit about 36-37 years old, it doesn't seem like the weight really goes off."*  
(Caucasian man, Chicago)

*"About 4 years ago I was getting really, really big, and not 300 but 280-290."*  
(Caucasian man, Chicago)

*"I come from this Italian family and we like pasta, and I realized that I'm going to keep putting weight on unless I watch it, so even though I still eat pasta, I'll cut out some of the other things, the red meat."* (Caucasian man, Chicago)

*"Trying to eat smaller portions..... So I can continue to eat the things I want and not gain any weight."* (Caucasian man, Richmond)

*"Weight management for one, low calories and also fruit seem to agree well with my system as opposed to a lot of snack foods."* (Caucasian man, Richmond)

## **4.2 Knowledge, Attitudes, and Perceptions of Fruits and Vegetables Among Caucasian Groups**

### **4.2.1 General Orientation**

While the moderator did not explicitly probe the Caucasian groups on the role of their background and traditions in influencing their fruit and vegetable consumption, they **generally held a very favorable view of fruits and vegetables.**

*"I've cut out a lot of red meats and started eating certain vegetables and fruits in combination."* (Caucasian man, Chicago)

*"I think I feel better, you need some more fruit in your diet every day, you know, a couple servings each day helps."* (Caucasian man, Richmond)

Caucasian participants spontaneously mentioned **positive familial influences** throughout the discussions. For example, participants remembered first learning about the benefits of fruits and vegetables from their parents when they were children.

*"And mother started right out telling us, eat your vegetables and fruit, they're good for you."* (Caucasian woman, Chicago)

### **4.2.2 Benefits**

The moderator elicited the benefits Caucasian participants associated with consuming fruits and vegetables through a role-playing exercise.<sup>4</sup> After participants provided a lengthy list of benefits, ranging from 10 to 12 in number, participants rank-ordered their top two benefits.

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<sup>4</sup>To elicit the perceived benefits of eating fruits and vegetables from Caucasian participants, the moderator set up a scenario in which she was a visitor from another planet that does not have fruits and vegetables. Caucasian

## Specific Benefits of Eating Fruits and Vegetables

The "top of mind" benefits listed by three of the four Caucasian focus groups can be broadly characterized as **short-term health benefits**. These included "natural, not processed," "solid nutrition," and "substitution for junk food." The fourth group listed a long-term health benefit, disease prevention, as their "top of mind" benefit.

A top-ranked benefit cited by all four Caucasian groups can be broadly characterized as **long-term health benefits** (e.g., fruits and vegetables "keep the body healthy," "help prevent cancer and heart attacks," "lessen the chance of disease," "prolong life").

*"It's going to help prevent certain diseases. To maintain your good health." (Caucasian woman, Richmond)*

*"They say broccoli spears and broccoli, raw broccoli helps fight cancer." (Caucasian man, Chicago)*

However, the vast majority of all benefits that participants generated for fruits and vegetables can be categorized as "positive features" (e.g., "easily prepared," "tastes good") or short-term benefits (e.g., "provides energy," "satisfies a craving for sweets").

Some of the benefits that Caucasian participants mentioned can be subsumed under a larger "**overall good health**" category -- fruits and vegetables help to "lower cholesterol levels" and "strengthen the immune system." Caucasian participants in three groups had the notion that fruits and vegetables "help cleanse the system" and "are good for the digestive tract" because of their fiber content and roughage.

*"It's good for your digestive tract...provides roughage...keeps the pipes clean." (Caucasian man, Chicago)*

**Caucasian participants thought that fruits and vegetables are low in calories and can help in weight loss and weight maintenance.** Caucasian men frequently mentioned weight issues in the earlier discussion on recent health and dietary changes, while only one group with women (in Chicago) spontaneously mentioned losing weight as a benefit of eating fruits and vegetables.

*"It fills you up with low calories." (Caucasian man, Richmond)*

*"The benefit of that [elimination] is you could lose weight." (Caucasian woman, Chicago)*

**Caucasian participants mentioned that since fruits and vegetables are "not filling" and are a source of "quick energy," they allow you to "feel good, lighter, and not tired."** Although all Caucasian groups mentioned "having more energy" as a benefit associated with eating fruits and vegetables, women were more likely than men to mention it earlier on their list of benefits.

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participants were asked to explain to the moderator what she was missing, or to communicate to her the benefits of consuming fruits and vegetables.

*"You feel so energetic when you eat those kinds of light foods." (Caucasian woman, Chicago)*

*"Whenever I eat a lot of vegetables, I don't have that full feeling that I get when I eat a lot of junk food. If you eat a lot of them they're satisfying without feeling...sick, stuffed, the stuffed feeling." (Caucasian man, Chicago)*

Several Caucasian participants mentioned **characteristics appealing to the senses** including fruits and vegetables' sweet or pleasant taste and ability to substitute the craving for sweets (and also to complement a meal so well). (Participants in all four groups said that fruits and vegetables "taste good.")

Caucasian participants also listed various traits related to the **convenience and utility of eating fruits and vegetables** including that they do not necessarily need to be cooked to be consumed, are easily prepared and inexpensive, and come in a wide variety.

*"You don't need to cook them. Most of them you can eat raw." (Caucasian woman, Richmond)*

*"Convenience from the standpoint that it's easier to pick up some fruit than go to the fast food place and get a hamburger. I usually buy fruit every time I go to the store, and it's kind of easy to pick up an apple as you go out the door." (Caucasian man, Richmond)*

Caucasian participants reported **key nutritional benefits** of eating fruits and vegetables such as that they are rich in vitamins and minerals, not processed, a substitute for junk food, and a natural source of vitamins.

*"Fruits and vegetables have almost nothing wasted nutritionally ... they're solid nutrition." (Caucasian woman, Chicago)*

### Disease Prevention

All four Caucasian groups spontaneously mentioned **preventing diseases**, specifically colon cancer, heart disease, and osteoporosis, as a **long-term benefit** associated with eating fruits and vegetables. Three of the four Caucasian groups ranked disease prevention as one of their top two perceived benefits.

*"The good thing, especially with green vegetables is that, it's a cancer fighter. It will definitely build up your immune system." (Caucasian man, Chicago)*

*"I guess it does help prevent osteoporosis and other diseases ...." (Caucasian woman, Richmond)*

*"The reason that I picked 'feel better' is that because it is for now. While disease prevention is for when I get old. I was eating those bananas for today..., and I wasn't real worried about in 15-20 years, but when I think of disease prevention I think of down the road." (Caucasian woman, Richmond)*

### 4.2.3 Barriers

The moderator asked Caucasian participants to list their perceived barriers to eating more fruits and vegetables.<sup>5</sup>

#### Vegetables

Early in the discussion, Caucasian participants mentioned ease of preparation and convenience as benefits of eating vegetables. However, while participants thought of barriers to vegetable consumption, they reported that they **take too much time to prepare**, and are **messy and annoying to dispose**. A few also felt it was too easy to exhaust their repertoire of creative vegetable recipes (“you get in a rut with recipes”). Because participants thought vegetables are not necessarily available, or are difficult to keep fresh, during the work day (e.g., during lunch) or at restaurants and even at home (e.g., lack of storage space), they denounced the notion that vegetables are all that convenient after all.

*"Preparation would be the main word. It's time consuming and messy, even just to cut up lettuce, it's all over the place." (Caucasian woman, Chicago)*

*"It's not convenient to have vegetables with my lunch. For dinner, of course, but for lunch I just want to take something that I can quickly throw together in the lunch box, like a sandwich." (Caucasian man, Chicago)*

Caucasian participants thought that vegetables, especially when they are fresh, are often **low quality** and **quick-to-spoil**, claiming that these factors prevent them from consuming larger quantities. Some participants felt that they are restricted by what grocery stores offer, limiting their choice of vegetables. Others admitted that they may not know “how to choose the good ones.”

*"Quality of fresh ... vegetables in the store is very poor. They just don't have that fresh, just-picked taste." (Caucasian man, Richmond)*

*"Maybe I just don't know how to properly pick ... or just not well-educated enough to pick the right type of ... vegetables." (Caucasian man, Richmond)*

Caucasian participants in all four groups talked about how **family issues such as traditions and customs** can affect the quantity and type of vegetables consumed. Caucasian women were more likely than men to mention children’s preferences (e.g., for fast food, especially if a promotional toy is involved) as a principal barrier to eating more vegetables. Some men mentioned that they only eat vegetables when their wives prepare them.

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<sup>5</sup>Probing on this topic was different between Richmond and Chicago. The two Caucasian groups in Richmond were shown a list of barriers identified in previous research as blocking the increased consumption of vegetables and another list of factors blocking the increased consumption of fruits. It was difficult for Caucasian participants in Richmond to identify *additional* barriers. To increase the two Chicago groups’ involvement in identifying barriers, they were not shown the lists and were asked to list the top five reasons why they do not consume more vegetables, then the top five reasons why they do not consume more fruit.

*"My nephew is five years old, he watches TV, and wants whatever McDonald's is pushing in toys. He doesn't even eat the food half the time." (Caucasian woman, Chicago)*

*"I'll cook two to three different vegetables to get the kids to eat them, but they only like green beans and corn." (Caucasian woman, Richmond)*

Although Caucasian participants cited **qualities appealing to the senses (e.g., good taste, texture, and color)** as a benefit, they stated that these are also often **lacking in vegetables**. They also described other undesirable characteristics of vegetables such as that they are **not emotionally satisfying**, especially when you are craving something else (both Chicago groups pointed out that vegetables are not “comfort foods”). A few participants did not think restaurants prepare vegetables in appealing ways, while others could not conceive of vegetables alone comprising a main course.

*"Just cravings. It's still very hard to walk into a fast food place and order a salad. Or when you get home from the grocery store and have all your desserts, snack food, fruits and vegetables in front of you. You know what you're going to go to first." (Caucasian man, Chicago)*

*"You know, I never eat vegetables at those types of restaurants because they're always over-cooked." (Caucasian woman, Richmond)*

Because “junk food” tends to be less expensive than vegetables, Caucasian participants also noted that **cost** can sometimes be a barrier to eating vegetables.

## Fruit

To an even greater extent than with vegetables, Caucasian participants said they find it **difficult to find fresh, high-quality fruit**. Participants repeatedly referred to fruits’ **inconsistent quality** and **short shelf-life**. They also noted that fruit does **not taste good** or stay fresh for a long enough period and is difficult to maintain in edible form when packing it for work or travel. Participants complained about the quality and **appearance** of fruit in grocery stores, especially when fruit flies and bugs are flying near it (comment made by two participants), and about not knowing when certain fruit is ripe, “especially tropical fruits.”

*"I'm only going to buy fruits that I know I can eat. I've thrown away probably seven bananas in the last week and a half because I just can't eat them fast enough... I'm buying all this stuff and I can't eat it fast enough, so I waste it." (Caucasian woman, Chicago)*

*"It's just nasty when you go into the grocery store and half the stores have fruit flies everywhere."*

*"I won't look at [grocery stores'] fruit counters because it's disgusting to see bugs." (Caucasian women, Richmond)*

*"I can't stand like mushy grapes, like they've got to be hard and crisp." (Caucasian woman, Richmond)*

Caucasian participants said they also find it **difficult to find fruit they like during certain seasons**, and tend to eat fruit less often during seasons other than summer.

*"I'll eat fruit in the summertime, but once winter hits, I won't eat much fruit at all."*  
(Caucasian man, Chicago)

Caucasian participants felt that preparation of fruit tends to be **time-consuming** (though not as much as with vegetables) and eating fruit can be **messy**. Participants additionally complained that disposal of fruit is burdensome and that it is too easy to deplete their repertoire of fruit dishes. One comment related to the physical difficulty of eating certain fruits such as coconuts.

*"You cut into a nectarine and you might as well have double bibs on, it dribbles all over ...."* (Caucasian woman, Chicago)

*"There's more you can do with vegetables than you can with fruits. A pear is a pear. But with vegetables there is more of a variety of vegetables and, more things you can do with them."* (Caucasian man, Chicago)

As with vegetables, Caucasian participants commented on **fruits' lack of sensory appeal** such as their often unappealing appearance, texture (e.g., "the fuzz on peach skin"), and taste (which can be inconsistent depending on how fresh the fruit is). Participants remarked that fruit does not taste as good as it did years ago and others admitted to hesitating to try new fruit (e.g., star fruit) for fear of not liking its unfamiliar taste.

*"Fruits don't taste as good as they used to. I won't even touch the peaches anymore because they haven't tasted good for years."* (Caucasian woman, Chicago)

*"I keep hearing that mangoes are pretty good, but I just have that fear of yuckiness. Like you buy it and take a big bite and go yuck. What if I pay for it and I don't like it? So I'll just get the nectarines because I know they're good."* (Caucasian woman, Richmond)

*"I think appearance [is also important] too because like a kiwi looks awful but it's really, really good."* (Caucasian woman, Richmond)

Some Caucasian participants were concerned about **health problems** (e.g., diabetes, headaches, and digestive problems) they thought may occur from eating fruit because of their high sugar content for example. Another area of apprehension was the possible health effects from, or lack of nutritional value in, gene-altered fruits.

*"If I eat a lot of grapes, I get a lot of headaches, and if I eat bananas I get the same thing, so I had to kind of taper down how much I eat."* (Caucasian woman, Richmond)

*"My daughter has a girlfriend who's diabetic. Just to give the kid a banana seems not like a big deal. So that made me more conscious of what I offered, or had available around the house."* (Caucasian woman, Richmond)



*"The only other [barrier] I can think of and it might be for both [fruits and vegetables] is, now the new concern is genetically altered fruits and vegetables, people are afraid to give it a try or whatever." (Caucasian man, Richmond)*

To a lesser extent than with vegetables, some Caucasian participants felt that fruits are **expensive**, preventing them from consuming greater quantities, particularly out-of-season ones (i.e., during winter).

*"I don't think that fruits are all that cheap. ...I mean like bing cherries, I love them. The only time I even get them is when they're on sale. I mean they're \$2.00 and something a pound." (Caucasian woman, Richmond)*

Some Caucasian participants explained that eating a lot of fruit was **not a habit in their families** and that **societal influences** (e.g., television, marketing of fast food restaurants) also made it more difficult for them to eat more fruit.

#### Comparison of Fruit and Vegetable Barriers

Although many of the barriers listed were similar for both fruits and vegetables, **seasonal availability** was more often listed for **fruits** while **preparation time** was more often listed for **vegetables**. Barriers associated with fruit were generally not perceived as difficult to overcome as those related to consuming vegetables.

*"I think people just generally eat more fruits than vegetables. That's why the list is so much shorter." (Caucasian woman, Chicago)*

#### **4.2.4 Other Knowledge, Attitudes, and Perceptions**

##### Awareness of and Ability to Eat 5 A Day

**The majority of Caucasian participants said they could consistently eat five or more servings of fruits and vegetables a day if they were sufficiently motivated. This translated into the need for a catalyst, such as a personal health crisis,** to occur for participants to have enough confidence that this behavior change could be sustained over time.<sup>6</sup> In general, Caucasian men were more likely than women to evoke a "just do it" attitude in making this lifestyle change. (Caucasian men in Chicago pointed out that they already eat nearly the recommended five servings of fruits and vegetables every day, but they continue to struggle with cutting back on the unhealthy foods in their diets.)

*"If most men in their forties went for a blood check, and heard their numbers, that's their wake-up call that makes them think. Day to day, you don't really take it seriously, but*

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<sup>6</sup>After the Richmond groups, a question was added to the moderator's guide that probed the likelihood that participants would eat at least five servings of fruits and vegetables a day if they were told that this was the recommendation for good health. These findings are thus reported only from the discussions among Caucasian participants in Chicago.

*when you're really confronted with your mortality, that's when you get scared straight."* (Caucasian man, Chicago)

*"It's a personal commitment that you have to make to change."* (Caucasian man, Chicago)

*"I think it isn't something you just do for week or two. I think you ... have to focus."* (Caucasian man, Chicago)

*"I don't know if any advertisement would [change my eating habits]. I think it's a lot of what got me going and changing and that was my sister having cancer. I think people bring to the table a lot of different things that have happened in their lives, depending on who's touched their lives and they change some of their eating habits permanently. Just like a diet; people will go on a fad diet for three months, but they have to change their eating habits for life or they're going to go back to where they were and the weight they were."* (Caucasian woman, Chicago)

### Knowledge of Servings

The number of daily servings of fruits and vegetables Caucasian participants thought was necessary for good health ranged from two to "as much as you want," with most indicating numbers in the range of *three to five servings*. **In general, however, Caucasian participants did not have a clear sense of the size of one serving and whether specific guidelines for eating fruits and vegetables existed at all.** Some believed there should not be one strict guideline that applies to everyone, but rather, the recommendation should be determined on an individual basis. Others who thought there are general guidelines about a recommended number of servings were uncertain about the definition of a serving.

*"I guess it depends on your definition of a serving."* (Caucasian man, Chicago)

*"I think it's personal for each person."* (Caucasian man, Chicago)

*"USDA says three to four fruits and five vegetables. I'm a little confused about what is a serving because I think like a bowl of broccoli may be 4 servings. But I'm not really sure."* (Caucasian woman, Richmond)

### Perceptions of Frozen, Fresh, Canned, and Dried Fruits and Vegetables

All Caucasian groups **preferred fresh** over frozen, canned, or dried fruits and vegetables, even if it means having to pay extra for them in the winter. Participants indicated that fresh tastes better (e.g., broccoli, asparagus, corn, spinach, tomatoes, bananas, grapes, cantaloupe) and contains more vitamins compared to non-fresh fruits and vegetables.

Furthermore, frozen was generally preferred over canned. Participants believed frozen fruits and vegetables have more vitamins than canned but are generally "mushier/soggier" when thawed, especially fruits (e.g., frozen strawberries).

Caucasian participants thought canned fruits and vegetables are more processed and have more salt and preservatives added. Participants primarily use frozen (e.g., peas) and/or canned (e.g.,

peaches, apple sauce, mandarin oranges, green beans, peas, carrots, tomato paste, tomato sauce) when convenience and preparation time are an issue.

Only a few Caucasian participants mentioned eating dried fruits (e.g., dried banana chips, dried apricots), especially when “on a road trip.” No one said they ate dried vegetables.

*"It kind of goes down the chain for me. I'll aim for the fresh because the vitamins are still in it." (Caucasian woman, Chicago)*

*"I read somewhere that frozen locks in more vitamins than the canned." (Caucasian woman, Richmond)*

*"Sometimes I have to try canned because I don't have the time to go to the store." (Caucasian woman, Chicago)*

*"I used canned tomato paste and tomato sauce, ... once a week. I mean that would be the most. Fresh stuff, you can't beat fresh stuff." (Caucasian man, Chicago)*

### Nutritional Supplements

The moderator raised the topic of nutritional supplements only with Caucasian men in Chicago. This topic was raised spontaneously by Caucasian women in Richmond. **The majority of Caucasian participants believed that vitamin supplements are not a substitute for eating fruits and vegetables** – when possible, participants prefer to obtain vitamins directly from fruits and vegetables than from tablets.

*"It's definitely better to eat fresh fruits than getting [vitamins and minerals] from tablets. Tablets are a supplement, which have all the vitamins and minerals that you might not get from the variety of foods that you eat." (Caucasian man, Chicago)*

*"I know that now I'm more vitamin-conscious than I've ever been, and in studying vitamins, I've learned that the more natural the source, the easier it is to process." (Caucasian woman, Richmond)*

## **4.3 Overcoming Barriers Among Caucasian Groups**

Caucasian participants in each focus group were divided into two sides, A and B. Participants in Side B were asked to provide Side A participants with reasons for including more vegetables in their diet. Their suggestions were to be intended as tips for overcoming the previously listed barriers to eating vegetables. After Side B spoke, the moderator asked Side A participants whether they had heard anything that might cause them to eat more vegetables, and what could have been said to motivate them even further. This group exercise was repeated for fruit, with teams switching roles.

### **4.3.1 Fruit**

Caucasian participants focused their suggestions for overcoming barriers to fruit consumption on the *benefits* associated with eating fruit. Their tips included trying a variety of fruits and

considering new ways to keep fruit fresh. Participants also referred to the convenience of eating fruit.

*"I would suggest that everyone eat plenty of fruits because it tastes good, it's convenient, and there are so many health benefits."* (Caucasian woman, Chicago)

*"I think that fruits contain a lot of fiber and help you feel better."* (Caucasian woman, Richmond)

*"There's more availability in stores today than ever before. I mean you can go in a store today and find just about any kind of fruit that you want, pretty much all year around."* (Caucasian man, Chicago)

*"[You] can freeze fruits [to prevent spoilage]."* (Caucasian woman, Chicago)

*"They can be very convenient to prepare. You can have one apple ... all you do is reach in and throw it on your plate."* (Caucasian woman, Richmond)

Caucasian men were more likely than women to provide concrete suggestions for encouraging children to eat more fruits (e.g., "fruits can be fun foods, like frozen grapes"). In addition, men were more likely to mention eating more fruit themselves to set a good example for their children.

*"We do this sometimes in our house when people in the household don't like the same fruit. We take the kids to the market and have them pick their own fruit."* (Caucasian man, Richmond)

*"... as we eat more fruits, I think the kids will follow, especially the little ones."* (Caucasian man, Chicago)

#### **4.3.2 Vegetables**

Rather than providing concrete tips as a way to convince others to eat more vegetables, Caucasian participants focused mostly on health benefits, such as longevity. In general, participants could conjure up more health benefits for vegetables than for fruit.

*"Vegetables will also make you regular."* (Caucasian man, Chicago)

*"Plus they're good for you, plus it's an energy boost if you're doing physical labor. Vegetables are good all day, not just dinnertime."* (Caucasian man, Chicago)

*"Compared to junk food, you'll feel better."* (Caucasian woman, Chicago)

*"I guess I also want to maintain my health. I want to live a long time to see my daughter grow up...."* (Caucasian woman, Richmond)

*"That whole messy thing is not an issue because if you're going to live longer, so what's a little more time to clean up afterwards."* (Caucasian man, Richmond)

Those tips that Caucasian participants did provide included **planning ahead (e.g., freezing dishes on the weekends for use during the week), purchasing pre-packaged items (e.g., baby carrots), and preparing vegetables in new and creative ways (e.g., stir-fry, marinade, and grill)**, all of which seemed convincing to the groups.

*“You know, if you guys planned your meals better, they wouldn't go bad as quickly, so think about that when you buy vegetables next time.”* (Caucasian man, Richmond)

*“Those bagged salads, and baby carrots, I get those all the time now. It really helps to just pour the salad in the bowl, and have the pre-cut carrots, pre-cut onions, and everything in there. I eat salads now because of that.”* (Caucasian man, Chicago)

*“If you make them the night before, you take them to work and pop them in the microwave ... or you can buy them in the store all cut-up and ready to go.”* (Caucasian woman, Chicago)

*“It's not as boring as when your mother made them. Now there are so many things you can do with vegetables. You can marinade, stir fry, put them on the grill with different marinades to get different flavors. ...if you have a vegetable that you don't really like, you just over-marinade that one so you can't really taste it, but you get all the goodies from it.”* (Caucasian woman, Chicago)

*“I think what he said about planning your meals would tend to have you eat healthier.”* (Caucasian man, Richmond)

*“A good point about the variety and versatility of vegetables, is how you can dress them up, dress them down, use them so many ways. They can be a glamorous dish with cheese, with all those goodies at a dinner party as well as just plain good every day eating. If I were not already a vegetable eater, I would probably become more interested.”* (Caucasian woman, Chicago)

Caucasian men in Richmond, in particular, provided ideas for **sources on methods for preparing vegetables such as cookbooks, cooking shows, and Internet sites.**

*“If you guys don't know how to prepare your food, maybe you should go out and get a cookbook, or give your wife a new cookbook for her birthday.”* (Caucasian man, Richmond)

*“Amazon.com, [for cookbooks] there you go.”* (Caucasian man, Richmond)

*“There's plenty of good [cooking] shows on the channels.”* (Caucasian man, Richmond)

#### **4.4 Reactions to Different Ways of Encouraging Greater Consumption of Fruits and Vegetables Among Caucasian Groups**

##### **4.4.1 Ways to Construct the Message**

The moderator asked Caucasian groups about the relative appeal, or motivational clout, of the 5 A Day message if it (a) combined multiple behaviors one should do to stay healthy (e.g., exercise, reduce stress, eat less fat, get enough sleep, and eat at least five servings of fruits and

vegetables a day) or (b) combined multiple reasons for increasing fruit and vegetable consumption (e.g., disease prevention, source of energy, and tastes good).

Caucasian participants had mixed reactions to bundling the 5 A Day message with other health behavior messages. Some participants liked it because they felt they could choose from a range of healthy behaviors. However, **many thought the message of eating fruits and vegetables would get lost when combined with other health messages**. They feared that people would conclude that if they could not incorporate the other health activities into their lives (e.g., no time for exercise, family demands preclude getting more sleep), they should ignore the dietary suggestions, too.

*"It makes the message more acceptable because you have all these choices." (Caucasian woman, Richmond)*

*"I think there might be a tendency for me to look at all of this and say I can't do any of it, when they say ride a bike, do this, do that. But if they said, having an apple instead of potato chips, cannot only improve your life, but slow down the deterioration, I would think I can do that and have an apple instead." (Caucasian man, Richmond)*

**The majority of Caucasian participants in each group preferred that the 5 A Day message be bundled with the benefits of eating five fruits and vegetables a day.** The bundling of benefits struck them as reinforcing and persuasive, especially if it included mention of long-term prevention benefits (e.g., reduced likelihood of cancer and heart attack).

*"Instead of giving four separate, scattered, sort of a shotgun approach, you're more or less concentrating on this as the main message, this is why you should follow the main message. It's like bolstering the initial message." (Caucasian man, Chicago)*

Caucasian women in Chicago, however, did not want any type of health benefit associated with eating fruits and vegetables. They felt the health benefits were well known and the focus of the message should be that **eating fruits and vegetables is fun** (e.g., involving children in selection and preparation in a fun way brings the family together).

*"It's not presented as fun, it's always presented as something you need to do to increase your health." (Caucasian woman, Chicago)*

*"It's not as glamorous. Fruits and vegetables aren't glamorous, they're basic nutrients. You need this because you know it's just been drilled in our head to be healthy. It's kind of more negative than it is positive." (Caucasian woman, Chicago)*

#### **4.4.2 Ways to Motivate Through New Concepts**

##### Nutritional Value

The moderator probed Caucasian participants on whether they knew that some fruits and vegetables have greater nutritional value than others, and that color helped identify nutritious fruits and vegetables.

**Caucasian participants generally understood that different fruits and vegetables offer different nutritional benefits.** The majority of participants were aware that the quantity and quality of vitamins and minerals varies from fruit to fruit and from vegetable to vegetable.

*"Some [fruits or vegetables] maybe have more vitamins and minerals, or different vitamins than others." (Caucasian woman, Richmond)*

*"Like oranges have a lot of vitamin C." (Caucasian woman, Chicago)*

*"Bananas, potassium. Oranges, vitamin C." (Caucasian man, Chicago)*

*"Carrots are high in beta-carotene." (Caucasian man, Richmond)*

**Only some Caucasian participants were aware of the relationship between the nutritional value of a fruit or vegetable and its color.**

*"I read somewhere that green grapes are void of any nutritional value, but that red grapes are very good for you for the same idea that red wine is very good for you; whatever creates the redness in it is good for cancer prevention." (Caucasian woman, Richmond)*

*"I heard ... if I make a plate, don't have chicken and cauliflower – it's all white. That's probably the only way I've heard of color."*

*"Use a variety of colors so you're sure to get all these different groups of vitamins and minerals, and enzymes – that fruits and vegetables are rich in. We need enzymes for many, many processes in the body."*

*"Orange is beta-carotene, and green is, I think, Vitamin K."*

*"Yeah, they so go for color, a lot of color variety." (Caucasian women, Chicago)*

### Health Benefits and Antioxidants

Caucasian participants were generally aware that oranges are high in Vitamin C, bananas have potassium, spinach is high in iron, and carrots strengthen eyesight, but they had little knowledge about antioxidants. Only one or two persons in each Caucasian group, at most, knew or had heard of antioxidants; no one had heard about phytochemicals or flavonoids.

*"Oranges have beta-carotene, the cancer antioxidant stuff." (Caucasian woman, Chicago)*

*"Well like when you hear 'antioxidants' it's kind of intimidating; it's more complex, so make it more simple to understand. So, instead of saying a fruit has antioxidants, you can say it's 'cancer preventative,' or something like that." (Caucasian woman, Chicago)*

*"[Antioxidants] slow the process of the chemical reaction between oxygen and the tissue, and the speed of this reaction regulates the process of aging, so antioxidants would slow, inhibit this reaction and would make you age slower." (Caucasian woman, Richmond)*

*"Fruits and vegetables help you stay healthy, but different vitamins do different things, minerals, antioxidants." (Caucasian woman, Richmond)*

The majority of Caucasian participants across all four groups wanted to know more about antioxidants -- which fruits and vegetables are better sources of antioxidants, what specific health problems they help to prevent, and how they do this.

*"I want to know which ones are the good ones. Like you're saying white grapes really aren't going to do much for me, well then I don't want to waste my time eating them, but I would concentrate more on stuff that maybe was better for me if I knew what that was. If you're saying red grapes are better for me, I'd rather know that." (Caucasian woman, Richmond)*

*"I would want it to be more detailed. Disease is so vague, just too vague. So if people have certain things, they would be more interested in certain products." (Caucasian woman, Chicago)*

*"Whatever you know, I want to know. The more information, the more informed decisions I can make." (Caucasian man, Chicago)*

#### **4.4.3 Ways to Motivate Using the Environment**

##### Restaurants

Caucasian participants had mixed views on whether fruit and vegetable menu offerings influenced their choice of restaurants. Some felt that under certain circumstances, they would be more likely to return to a restaurant that offered a variety of well-prepared fruits and vegetables (e.g., good lunch-time salad bar). However, **many viewed restaurants as places to indulge and therefore, were not concerned about eating fruits and vegetables when eating out.** The majority of participants in all four groups said they are likely to treat themselves to food they rarely eat at home, like steak, when they eat at a restaurant, and thus usually do not order fruits and vegetables beyond those that accompany their dinners. Both Caucasian women and men, however, expressed a **desire for restaurants to offer a wider selection of fruits and vegetables.** More Caucasian women than men said that they would choose a restaurant based on fruit and vegetable options.

*"I go back to restaurants because of the vegetables." (Caucasian woman, Chicago)*

*"But I'm not going out to eat fruits and vegetables. I mean I'm either going out to eat seafood or steak." (Caucasian man, Richmond)*

*"Don't get me wrong, it's rare that we've gone back specifically to have the salad." (Caucasian man, Chicago)*

*"It seems like every time you go to a restaurant, the vegetable of the day is one thing, there's no choice. If they had two or three choices it would make a bigger difference to me. I'd probably eat it if I actually had a better choice of vegetables." (Caucasian woman, Richmond)*

*"It's nice to have that selection. Oh man, they've got more than green beans and broccoli." (Caucasian man, Richmond)*



## Grocery Stores

Caucasian participants in both Richmond and Chicago generally felt that their neighborhood grocery stores are already making improvements to encourage them to eat more fruits and vegetables.<sup>7</sup>

*"...They've [Dominick's] got a place that's set up like a mini-deli, with five to six stations where you can buy anything. Healthy salads, whole grain breads, lean meats, fruit bars. ...They prepare them for you ... I was surprised. It was very impressive." (Caucasian man, Chicago)*

*"They actually have something like that in U Crops. It's a large book that has every vegetable and every fruit, and if you don't know how to cook it, you can look it up." (Caucasian man, Richmond)*

Caucasian participants added that they thought grocery stores could do *more* to make buying and preparing fruits and vegetables more convenient. Suggestions included:

- placing recipe cards in the produce section;
- offering pre-cut and –chopped washed and packaged fruits and vegetables;
- displaying marinades near the produce section;
- offering prepared vegetable kabobs with marinades at salad bars; and
- positioning fruits ready for eating (e.g., apples, oranges) close to the check-out lanes.

*"...little recipe cards are convenient. A card I could grab that has an interesting dip to make with strawberries or whatever." (Caucasian man, Richmond)*

*"A little high tech, but a little computer kiosk, touch screen. Yeah I want the recipe, zzzp ... just print it out, tear it off, and take it home." (Caucasian man, Richmond)*

All Caucasian groups stressed the advantage of having fresh, clean, attractive, and convenient fruit and vegetable displays in grocery stores, as these aesthetic qualities invite greater fruit and vegetable consumption.

*"I've noticed that some people respond more when the water starts coming down and misting the fruits and vegetables. But at other stores where they all look dried up and it's not well lit ... that makes a big difference." (Caucasian woman, Chicago)*

*"If I go to the supermarket and get a cantaloupe, and it appears from the outside to look good, but I take it home and cut it up and take the seeds out and it's bad, or it tastes bad. It's hard to sway me back into that same store's fruit and vegetable area." (Caucasian man, Richmond)*

## Workplace

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<sup>7</sup>Caucasian women in Richmond did not discuss ways that grocery stores and workplaces could encourage fruit and vegetable consumption.

Almost all Caucasian participants reacted favorably to the idea of workplaces providing employer-negotiated discounts on local vendors' fruits and vegetables.

*"I think an employee benefit would be a good idea if you could offer 10% or 15% off, I think the employees would buy that product if they knew they could get a deal."*  
(Caucasian man, Chicago)

Some participants responded positively to the possibility of having vending machines that offer fruits and vegetables at work, while others resisted the idea given their concerns about the freshness and safety of fruits and vegetables stored in vending machines. Several participants said they would consider machine-dispensed fruit if it were packaged and labeled as washed. One popular idea was to encourage workplaces to invest in refrigerators so that employees can properly store their fruits and vegetables.

*"Vending machines are constantly packed with the candy bars...why not have fruit."*  
(Caucasian woman, Chicago)

*"When I picture fruit in the vending machines, it's not a good buy."*  
(Caucasian man, Richmond)

A few participants shared that their workplaces already encourage fruit and vegetable consumption by making them readily available.

*"My employer has a basket on the door ... and they fill it with fresh fruit once a week, and you just take what you want."* (Caucasian woman, Chicago)

#### **4.4.4 Caucasian Participant-Constructed Messages**

The moderator divided Caucasian participants into groups of three or four and asked them to develop television or magazine advertisements that would encourage people like themselves to eat more fruits and vegetables.

Most of the messages generated by Caucasian participants underscored the **long-term benefits** of eating fruits and vegetables. Several participant-generated messages emphasized that eating fruits and vegetables will result in living a long and "high quality" life, allowing one to be able to spend more time with one's children and grandchildren. A few messages, especially those created by Caucasian women, addressed some of the short-term barriers.

*"Get your nutrition from the real thing with no fuss or mess. We'll prepare your fruits and veggies, and you never have to confess."* (Caucasian woman, Chicago)

Various Caucasian groups recommended creating messages that evoke images of fruits and vegetables as **fun and entertaining**. One group of Caucasian women in Chicago took this idea further by suggesting that the health benefits associated with fruits and vegetables be de-emphasized in messages. Both Caucasian groups with women generated messages that included recipes or teach interesting ways to prepare fruits and vegetables.

*“Show on TV how glamorous it is to make fruit slushies and aim one towards kids and one towards adults. Make it look like a fun thing, at a party or in the yard.” (Caucasian woman, Chicago)*

All Caucasian groups developed at least one message that integrated the theme of **physical attractiveness or sex appeal**. Some groups generated messages that featured popular figures such as Austin Powers, Greg Lamonde, Lance Armstrong, Tiger Woods, and Ricky Martin. Below are some of their creative ideas:

- Caucasian men in Chicago proposed creating a commercial showing the back of a woman who looks like she might be in her 20s and then turns around to tell the audience that she is in her 50s and her figure is the way it is from having consumed fruits and vegetables throughout her life. Another idea was to “show a guy like Tiger Woods who says ‘I eat fruits and vegetables, that’s why I’m so good [at golf].’”
- Caucasian men in Richmond proposed creating a commercial about a party with many beautiful, possibly famous, people dancing and eating fruits and vegetables. One scene could depict an overweight man who cannot fit through the door when he tries to enter the party and must walk through a beautifully laid-out produce section of a grocery store to get into the party. Another idea was to have children talking to adults communicating messages such as: “Dad, I want you to live a long time, eat more fruits and vegetables,” or “Grandpa, it’s me 10 years from now. Grandpa, I want you to take care of your health so you can see me play ball in 10 years.” A third idea was to use the same concept as the commercials for “Got Milk?” where people are featured drinking milk with a white mustache but instead of milk, have “people of all walks of life eating fruits and vegetables.”
- Caucasian women in Chicago proposed marketing fruits and vegetables in a “cartoonish manner, like how they did the Raisin Bran and the grapevine, and make little people out of them, and then gear them towards kids.” These participants also thought it was critical to connect good music to any ad.
- Caucasian women in Richmond proposed creating a commercial focusing on an elderly couple feeding each other fruit using sexy gestures while a younger couple walks by eating cake or French fries.

#### **4.5 Comparisons with Previous Focus Groups**

The following summarizes some of the key similarities and differences in findings between these focus groups (2000) and those conducted in 1992 with Caucasians.

In general, **the same major barriers (e.g., preparation time, seasonality) and benefits (e.g., increased energy, weight reduction) for eating fruits and vegetables continue to influence Caucasians.**

**In both 1992 and 2000, general health issues and disease prevention surfaced as important benefits to eating fruits and vegetables.** However, Year 2000 findings suggest that Caucasians

are more aware of the relationship between their eating habits and health than in 1992. Moreover, long-term health benefits such as disease prevention and a longer and healthier life appear to be more of a potential motivator than previously thought.

**Caucasians in both 1992 and 2000 had difficulty defining a serving and stating the recommended number of daily servings** of fruits and vegetables needed for good health.

Findings from the Year 2000 focus groups with Caucasians suggest that **men are both more interested and more involved in food planning, shopping, and preparation than in 1992.** Men are now also more likely to mention how the presentation of produce at grocery stores influences their shopping behavior.

**Caucasian men in 2000 appeared more active on behalf of their own health than they did in 1992.** While these men are still currently struggling to reduce their consumption of junk food, they were not singled out -- as they were in 1992 -- as the one family member in need of most improvement. Men in 2000 were more conscious of their weight, and more likely to eat fruits and vegetables as a way to manage their weight, compared to those in 1992.

## 5. Detailed Findings from the African American Groups

This section reviews findings from four focus groups, two of each gender, conducted with African American participants in Richmond, VA and Oak Park, IL (a suburb of Chicago). (Please see Section 2.2 for a discussion of the methodology and eligibility criteria.)

### 5.1 Trends in Eating Among African American Groups

As a warm-up exercise, the moderator asked African American participants to discuss the types of changes they had made in their eating habits in the last five to 10 years. She also requested that they talk about the reasons behind these recent changes.

**All African American participants reported having made changes in their eating habits in recent years.** Eliminating certain foods and modifying portion sizes were two general areas of change in the positive direction. Specific examples included eating more vegetables, using less or no sodium, eating less red meat and no pork, eating fewer fried foods, steaming, grilling, or baking instead of frying, and drinking more water. Many participants clarified that they eat the same foods they ate as children but they now prepare foods in healthier ways, such as steaming and baking instead of frying, and using less salt. Another area of change that participants said they were engaging in more frequently over time was reading labels on food products.

*"On the labels, I used to not do that at all, but now I find myself looking at that to see how much protein in particular." (African American woman, Chicago)*

Although the majority of African American participants reported healthy changes, a few described less healthy diet changes such as eating more sugar, sweets, and more fast food.

**The dominant reason for making diet changes was the influence of friends and family.** Participants desired to be healthier and live longer in order to be around for their families. Other reasons for making diet changes included awareness of certain health reports, advice from doctors, the desire to feel better, the need for weight management, and lifestyle changes (e.g., new job, marriage).

*"I'm trying to eat healthy so I can be around for my children." (African American woman, Chicago)*

*"I've seen so many friends die of cancer, diabetes, that it made me aware of what I'm eating and how I should eat." (African American woman, Chicago)*

*"Yeah, what's happened is that I've taken on a new job so my time is not my own as much so I do a lot of, not so much fast food, but I live off cereals. Thank God they have cereal. It's so easy to come in on a late night and instead of frying bologna or eggs, you just have a bowl of cereal." (African American woman, Richmond)*

*"I think when my kids were at home, financially we weren't able to go out [to restaurants] ... now I'm married and my financial situation and everything [including eating habits] has changed." (African American woman, Richmond)*

*“My wife ... she stopped eating red meat and pork about seven years ago. I followed suit.”* (African American man, Richmond)

*“I look at a lot of news and health programs on television. Just getting more in tune with what’s going on in your body and what you’re putting in your body.”* (African American man, Richmond)

*“Some of my changes were influenced by doctor's advice, you know, from time to time, you know, because when we get to a certain age, we become a little more susceptible to certain types of diseases and things, and you know, so through the years, I will say in the last ten year limit that you were talking about, you know, I'm not saying I listen to everything they said, but some of the changes that I did make did have something to do with some of the advice that [doctors] were giving me.”* (African American man, Chicago)

African American men were more likely than women to emphasize eating healthier to feel better and to manage their weight, especially with advancing age. African American women were more likely to list a variety of reasons for their recent dietary changes (e.g., live longer, be around for their children).

*“When I eat lighter I feel better.”* (African American man, Richmond)

*“When I eat more healthy stuff ... I feel very energized.”* (African American man, Chicago)

*“I'm trying to eat more healthy so I can be around for my children.”* (African American woman, Chicago)

## **5.2 Knowledge, Attitudes, and Perceptions of Fruits and Vegetables Among African American Groups**

**In general, African American participant attitudes toward fruits and vegetables were favorable.** Most participants reported having increased their consumption of vegetables, and stated that they had always consumed an abundance of fruit. Although generally aware of the benefits of eating fruits and vegetables, many participants considered it challenging to eat five servings each day and none knew how to define a “serving.” Only a few could explain the benefits of individual fruits and vegetables.

### **5.2.1 General Orientation**

**Cultural differences did not generally present a barrier to consuming fruits and vegetables for African American participants.** All reported being introduced to fruits and vegetables as children, and most indicated they prepared vegetables and other foods that are healthier than was the case for their families when they were growing up. Examples of healthier cooking methods included using different seasonings and steaming, grilling, and baking instead of frying.

*“As far as vegetables, I think I've taken what they have introduced me to and expanded. When I fry corn now, I'll put curry powder and other things in it, but basically I start off with the same basic concept of my parents when they fry corn, but I'll put different seasonings and stuff.”* (African American woman, Richmond)

When the moderator asked African American participants to complete the sentence, “In my house fruits are...,” the responses were mixed including “eaten every day,” “likable,” “enjoyed but not eaten often,” and “eaten, but not a must.”

When the moderator asked African American participants to complete the same sentence replacing “fruits” with “vegetables” (“In my house vegetables are...”), the varied sentence-completers were mostly positive such as “a must,” “eaten with every meal,” and “important.” A few participants indicated less positive attitudes including “eaten but not a must” and “scarce.” Although many participants expressed not liking vegetables as children, they found it important to have vegetables in their households now.

In general, African American participants did not explicitly indicate that their African American heritage influenced their fruit and vegetable behavior. Many of the African American men said they had the ability to purchase the same fruits and vegetables as their Caucasian friends and always had fruits and vegetables as children. In other words, they did not feel their African American backgrounds contributed anything unique to their current fruit and vegetable selections or preparation methods.

The moderator asked African American participants whether they thought it would be easy to tell that they were African Americans by the fruits and vegetables they kept in their kitchens. The responses were mixed. African American men were more likely to respond that one could not know automatically that they were African Americans because the fruits and vegetables found in their kitchens are similar to those found in the kitchens of their Caucasian friends. However, many women noted that one could tell that they were African Americans by the way they prepare their foods and by their use of certain fruits and vegetables – for example, cooked peaches or apples in cobblers, black-eyed peas cooked with salt pork, and the use of sweet potatoes.

*"I probably eat just as many vegetables and different kinds as the next white gentleman my age." (African American man, Richmond)*

*"I have sweet potatoes on my counter. I lay them right there with the tomatoes, and they'll sit out." (African American woman, Chicago)*

*"Maybe watermelon, because a lot of African Americans are into watermelon. I don't like it." (African American woman, Chicago)*

*"Stewed tomatoes on top of black-eyed peas." (African American woman, Richmond)*

**The role of family and tradition on fruit and vegetable consumption surfaced when African American participants made reference to the holidays.** A few participants from each of the groups stated that it was a tradition for them to prepare black-eyed peas and greens such as collards and kale on New Year’s eve, even if they were not consumed.

**In general, African American women did the majority of the cooking in the household.** However, some African American men mentioned cooking, such as barbecuing, on occasion or on the weekends. A few men were very vocal about cooking and trying new recipes. One African American man from Richmond encouraged participants to use [www.recipe.com](http://www.recipe.com), a Web

site that explains how to prepare a variety of foods, with a special section dedicated to encouraging African Americans to practice healthier ways of cooking.

### 5.2.2 *Benefits*

The moderator used a role-playing exercise to identify benefits associated with consuming fruits and vegetables from African American participants.<sup>8</sup> After participants provided a lengthy list of benefits, participants rank-ordered their top two benefits.

#### Specific Benefits of Eating Fruits and Vegetables

The first two benefits of eating fruits and vegetables mentioned by the African American groups can be characterized as **short-term health benefits**, including **better elimination** and **feeling better**. African American participants felt that one of the main benefits of fruit and vegetable consumption was “**cleansing the system.**” Specifically, they thought fruits and vegetables “balance and regulate the system,” “aid digestion,” “make the body function better,” “serve as a good source of fiber,” “control intestines,” and “are easy to digest.” In other words, fruits and vegetables assure that bowel movements are regular. Participants also mentioned **stamina** as a benefit related to having more energy and feeling good (which results from eating fruits and vegetables).

*“I can play basketball longer when I eat fruit.”* (African American man, Chicago)

African American participants then commented on **long-term benefits** that can be subsumed under the broad category of “**overall good health and nutrition.**” Fruits and vegetables “keep you healthy,” “allow you to live longer,” “strengthen your internal organs and bones,” “improve your eyesight,” “prevent disease,” “build iron,” “protect you from clogged arteries,” “contain high nutrient value,” “have no additives,” “have vitamins,” “are more natural,” “have beta-carotene,” “contain protein to strengthen muscles,” and “are a substitute to eating meat.”

Participants added another important benefit of eating fruits and vegetables -- they are not fattening and can aid in controlling **weight**. They mentioned benefits of fruit and vegetable consumption related to one’s **physical appearance** – fruits and vegetables will “make you look better,” “are good for the skin,” and “will improve your personal attractiveness.”

**Characteristics appealing to the senses** was another benefit cited – fruits and vegetables are “tasty,” “have an appealing texture,” and “are enjoyable to eat.”

#### Disease Prevention

African American participants did not explicitly use the term “disease prevention.” In most cases, the moderator needed to probe participants to elicit discussion on disease prevention as a benefit of eating fruits and vegetables. Once probed, however, participants explained that they link a healthier diet with living longer, and therefore with preventing diseases. Many participants

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<sup>8</sup>To elicit the perceived benefits of eating fruits and vegetables from focus group participants, the moderator set up a scenario in which she was a visitor from another planet that does not have fruits and vegetables on it. She asked participants to explain to her what she was missing, or what fruits and vegetables could do for her.



believed that not only is there a connection between eating fruits and vegetables and preventing diseases, but also with strengthening the immune system. Examples included eating onions and drinking orange juice to reduce the risk of getting colds, eating carrots to prevent cataracts, and taking Vitamin C (e.g., from orange juice) to reduce the risk of cancer. Other health concerns African Americans thought fruits and vegetables could help to prevent included heart attacks, high blood pressure, and high cholesterol.

*“If I’m eating healthier like I should, there are a lot of diseases that I am avoiding.”*  
(African American man, Richmond)

*“If I can keep my system clean, and keep my system balanced and if I keep everything in check, and keep my system flowing, and things are going along right, I have less chance of having risks.”* (African American man, Richmond)

*“I drink a gallon of orange juice a week. It’s just a health thing. I used to work outside so it helped me fight colds and it still does. I haven’t had a cold in about nine to 10 years.”* (African American man, Richmond)

**In general, African American women were more inclined than African American men to believe that fruits and vegetables can decrease the risk of, and even prevent, certain diseases such as colon cancer.** African American women credited this mainly to fruits because of their “natural fiber” and their role in aiding efficient elimination. A few of the African American women believed that fruits and vegetables also help to prevent breast and lung cancer. Although most of the African American men acknowledged a connection between certain vegetables and the prevention of disease, several had difficulty connecting fruit and vegetable consumption with cancer prevention. They tended to be somewhat skeptical of this notion, believing that other factors (e.g., genetics, lifestyle) play greater roles in determining one’s chances of developing certain diseases like cancer. For example, they found it hard to believe that any amount of fruits and vegetables could cancel out the harmful effects of smoking cigarettes.

*“I’m saying [fruits and vegetables] might prevent colon cancer, but if you’re smoking five packs a day, it’s not going to [protect you from] lung cancer.”* (African American man, Richmond)

*“I know as far as diseases go, your diet has something to do with it, but your genetic makeup has a lot to do with it, too.”* (African American man, Chicago)

### 5.2.3 *Barriers*

The moderator asked African American participants to list their perceived barriers to eating more fruit, and to separately list the barriers to eating more vegetables.

#### Vegetables

Most African American participants listed **preparation time** as the main barrier to consuming greater quantities of vegetables. Some African American men added that if their wives or girlfriends do not prepare vegetables, then they do not consume them.

*"What prevents me from preparing vegetables is the time." (African American woman, Chicago)*

*"Sometimes, you're tired and just grab something to eat quick and sit in front of the TV and watch a game, and go to sleep." (African American man, Richmond)*

Some African American participants said they did “not like the **taste** of vegetables.” Several stated that the **cost** of vegetables is too high, especially for already prepared vegetables. Others mentioned “preferring other foods,” “lack of knowledge as to what the body needs,” and “forgetting to cook vegetables when preparing meals” as additional barriers. A few felt that “vegetables do not go well as a side dish with less healthy meals” such as fast food, pizza, and hamburgers.

*"Well, it was fast food, and if I'm doing pizza, like I say I'm not going to have a side of broccoli." (African American woman, Chicago)*

*"I don't like to combine if I'm eating fast food, just a greasy burger and then a salad. I feel like I'm defeating it. Either I'm going to eat healthy all the way or I'm just going to do junk all the way. I don't like to mix the two because I feel like I'm cheating." (African American woman, Chicago)*

## Fruit

For African American participants, **cost** was the principle barrier to consuming additional quantities of fruit.

*"The cost of fruit. Although you don't let go of health for cost, my wife is not going to buy it if it's not on sale." (African American man, Chicago)*

Other barriers that African American participants listed can be classified as relating to the **quality** and the **availability of fruit**: “not liking the taste of fruit,” “not being able to always count that fruit will be fresh,” “preference for other foods,” “fruit not being filling,” “seasonality of fruit,” “forgetting to purchase fruit,” and “saving fruit for children so there isn’t anything left for the adults.” **Quick spoilage** that leads to having to throw away fruit before having had a chance to eat it was another negative characteristic unique to fruit, according to the participants.

No gender differences were apparent when African American participants discussed the barriers to consuming fruits and vegetables. Busy lifestyles prevent both African American men and women from preparing more vegetables on a daily basis, and the high cost of fruit prevents both of them from including more in their diet.

Common barriers for both fruit and vegetables were taste, cost, and preference for other foods.

### **5.2.4 Other Knowledge, Attitudes, and Perceptions**

#### Awareness of and Ability to Eat 5 A Day

African American participants' responses were equally mixed when the moderator asked if they thought they could eat five servings of fruits and vegetables per day for a sustained period. Some

said that they could -- that it was just a matter of discipline and sacrifice. Others admitted they could do it only for a short time. To encourage each other, participants suggested including a different fruit or vegetable at every meal and not overlooking juices as tips for meeting the "5 A Day" goal.

*"You got to work on discipline."* (African American man, Richmond)

*"It kind of wears you out ... eating the same fruits over and over again."* (African American woman, Chicago)

*"I think if you had the fruits and vegetables in a liquid form, we'd readily have some vegetables ... I just bought a juicer."* (African American woman, Chicago)

The moderator asked African American participants if they would eat five servings daily of fruits and vegetables if a reputable source such as the Surgeon General asked them to do so. A few participants said that this would get their attention, but they probably still would not "eat 5 A Day."

### Knowledge of Servings

When the moderator asked African American participants how many servings of fruits and vegetables a day they would need to be healthy, responses ranged from one serving to "as many as you would like." When the moderator probed further to assess the size of servings to which participants were referring, it was obvious that participants had different definitions for "one serving."

**None of the African American participants could correctly define a "serving" of fruits and vegetables.** For some, a serving was one piece of fruit, while for others, it was three pieces of fruit. Several thought five servings a day was too much. One perception was that a serving was tied to satisfying hunger.

*"A serving is as much as I want at that particular time."* (African American man, Chicago)

*"You know a big spoon, you get out a spoonful of corn or potatoes, that's a serving basically."*

*"I guess I measure it by my cup or whatever."*  
(African American women, Chicago)

One African American woman in Chicago seemed annoyed about the prospect of having to measure serving sizes each time she ate a meal in order to tally the number of fruit and vegetable servings she had consumed in one day.

*"I'm not personally buying it because I'm not going to get out a measuring cup."*  
(African American woman, Chicago)

### Perceptions of Frozen, Fresh, Canned, and Dried Fruits and Vegetables

In general, African American participants **preferred fresh** fruits and vegetables to frozen, canned, or dried. However, the preference for fresh is often outweighed by the convenience of frozen or canned. Canned fruits and vegetables, however, were perceived as unhealthy because of their high sodium content. Only a few participants said they snack on dried fruit.

*"A lot of times it's faster and easier to get canned vegetables." (African American woman, Richmond)*

*"I like fresh greens compared to frozen okra. So, yesterday my lady and I fixed fresh cabbage, with frozen spinach in it. I'll buy it but she doesn't eat okra and I like okra. I've never bought it fresh. I always buy the frozen because of convenience. I prefer fresh string beans, but she doesn't like to fix it like that, so I have canned rather than frozen. So it depends on the type of vegetable." (African American man, Chicago)*

African American participants agreed that **certain occasions** and **intended uses** affect their choice of fruits or vegetables. Fresh was considered a must for special occasions (e.g., holidays). Frozen was acceptable for blended drinks. A few mentioned specific items (e.g., "greens have to be fresh;" canned peaches were preferred to the inconsistent texture of fresh peaches).

*"During holidays you have to have fresh." (African American woman, Richmond)*

*"In the summer time I have fresh vegetables, they're more available in the summer time." (African American man, Richmond)*

Both African American men and women preferred fresh over frozen, canned, or dried. Again, busy schedules greatly influence both men and women's decisions when selecting certain types of fruits and vegetables.

### Nutritional Supplements

A few African American participants mentioned that they were taking vitamin supplements. **Participants did not view nutritional supplements as a substitute for fruits and vegetables**, but rather saw them as a way of getting vitamins and minerals they may have missed in daily diets.

## **5.3 Overcoming Barriers Among African American Groups**

African American participants in each focus group were divided into two sides, A and B. Participants in Side B were asked to provide Side A participants with reasons for including more vegetables in their diet. Their suggestions were intended to be tips for overcoming the previously listed barriers to eating vegetables. After Side B spoke, the moderator asked Side A participants whether they had heard anything that might cause them to eat more vegetables, and what could have been said to motivate them even further. This group exercise was repeated for fruit, with teams switching roles.

### **5.3.1 Fruit**

**When African American participants added both the cost of purchasing fruit and the cost of throwing away spoiled fruit, they concluded that cost was the main barrier to eating**

**fruit.** Several of their suggestions for overcoming barriers to eating fruit addressed this cost issue, such as buying fruit only when it is on sale.

Recommendations for consuming more fruit included:

- preparing fruit snacks at night
- choosing fruit at salad bars
- taking advantage of convenient packaging (e.g., fruit cups)
- purchasing a blender to make fruit juices
- varying the types of fruit purchased (e.g., papaya, pineapple)
- keeping a fruit basket on the table
- putting dried fruit in your purse or backpack to eat during the day

African American participants framed other ways for overcoming barriers in terms of health benefits and fun tips, such as “fruits make you look and feel better and allow you to live longer” and “have each family member choose the fruit that they like.”

*“Try an alternative, the fruit that is on sale, there is usually some fruit on sale.”*  
(African American woman, Chicago)

*“There’s no price on good health.”* (African American man, Richmond)

*“Try different things. Get fresh pineapples, papayas, and avocados, make a fruit salad. They’re delicious.”* (African American man, Richmond)

*“Fruits help me feel better.”* (African American woman, Richmond)

### 5.3.2 Vegetables

**The main barrier to consuming vegetables for African American participants was preparation time.** Several of their suggestions for overcoming this time issue included tips for preparing vegetables in a quick and easy way:

- prepare vegetables on the weekend for the entire week
- cut vegetables into pieces and place them in the freezer
- put lettuce and tomatoes on a sandwich
- bake potatoes in the microwave or crock-pot
- cook early in the morning while “doing your hair”
- start a garden to have your own vegetables
- reverse the menu preparation -- focus on the vegetable dish first or substitute meat with vegetables

Participants also stressed the importance of placing emphasis on the health benefits of vegetables and making them more appealing.

*“When you get up in the morning before you do your hair or whatever, put something in the microwave, put something in boiling water while you’re doing your hair.”* (African American woman, Richmond)

*“As far as other foods getting in the way, reverse the menu. Don't focus on meat, focus on a vegetable dish, and make the other stuff as sides, as opposed to the main course.”*  
(African American man, Chicago)

## **5.4 Reactions to Different Ways of Encouraging Greater Consumption of Fruits and Vegetables Among African American Groups**

### **5.4.1 Ways to Construct the Message**

The moderator asked African American groups about the relative appeal, or motivational clout, of the 5 A Day message if it (a) combined multiple behaviors one should do to stay healthy (e.g., exercise, reduce stress, eat less fat, get enough sleep, and eat at least five servings of fruits and vegetables a day) or (b) combined multiple reasons for increasing fruit and vegetable consumption (e.g., disease prevention, source of energy, and tastes good).

**Most African American participants felt that the 5 A Day message would become diluted if it were combined with other health messages.** African American men in Chicago had especially negative comments about combining the 5 A Day message with other health messages, especially because they thought the newsworthiness of the 5 A Day message would get lost in the less pressing context of overall healthy behavior. A few participants, however, liked the idea of combining the 5 A Day message with other health messages because this would give them a range of health behaviors from which to practice.

**Many African American participants preferred bundling the health benefits of fruit and vegetable consumption with the 5 A Day message.**

*“That would catch your attention.”* (African American man, Richmond)

*“I want to hear that fruits and vegetables will give me better nutrition, and a better life span.”* (African American man, Chicago)

Several African American participants stated that neither of the message-bundling options would motivate them to eat more fruits and vegetables, but rather, they would have to change their attitude in order to truly consume more. Therefore, a message that would lead to a change in attitude would be most effective in their opinion.

*“I think even though we know all this, it doesn't matter what you say, I'm still going to do what I want to do. Until I can change that, I won't take that step to make a change. See, I've got to change my attitude.”* (African American woman, Richmond)

A few African American participants talked about "discipline" and "making a commitment" as necessary in any kind of diet change. Others said that only a personal health crisis would motivate them.

### **5.4.2 Ways to Motivate Through New Concepts**

#### Nutritional Value

The moderator probed African American participants on whether they knew that some fruits and vegetables have greater nutritional value than others, and that color helped identify nutritious fruits and vegetables.

Some African American participants, especially men in Richmond, reported awareness of the concept of different nutritional values for different fruits and vegetables.

*“Garlic for heart problems and cholesterol.”*

*“Oranges have Vitamin C.”*

*“Potatoes for protein, you know energy.”*

*“Onions for colds.”*

*“Carrots for cataracts in the eyes.”*

*“Celery for increased fiber.”*

*“Bananas have potassium.”* (African American men, Richmond)

Several participants thought preparation method affects the quality of nutrients that would be retained, leading some to avoid overcooking. These participants believed that fruits, because they are typically eaten raw and not cooked with foods that might reduce their nutritional value, are more nutrient dense than some vegetables.

*“The fruits you eat are natural, they’re nutritional – it’s more than if you were to get some greens, cabbage, or string beans because you can change them. A lot of folks don’t cook them natural and bland.”* (African American man, Richmond)

*“I think it’s more in the way that [vegetables] are prepared. If it’s a cooked vegetable as compared to a raw vegetable, that may influence whether I’d eat it because I know any kind of preparation when you’re using anything that’s going to preserve them is going to take some of the nutritional things away.”* (African American man, Chicago)

A few African American participants recognized the link between color and nutrients. Most participants, rather, used color as a way of determining freshness and taste.

*“The more yellow and brown a banana gets, the more potassium it produces.”* (African American man, Richmond)

*“You know a fresh peach has a different color than a peach that’s not so fresh.”*

*“As soon as you walk in, you see those big old yellow bell peppers. I get them right away just because they’re yellow.”*

*“It’s not nutrients, it’s a taste thing. I mean, the dark cherries and the dark apples are going to be sweeter. The green bananas are bitter. The golden pears are nice and soft and sweet, and the green parts are like really hard, and not so sweet. I mean, you get the same amount of nutrition out of them, but some of them just taste better.”*

(African American man, Chicago)

### Health Benefits and Antioxidants

The moderator asked African American participants what they knew about “antioxidants.” Only a few participants from each of the four focus groups said they were familiar with the term but

none could explain the specific meaning or function of antioxidants. One African American participant in Chicago was skeptical about placing too much faith on plant chemicals.

*"I think I've read or heard that [antioxidants] are supposed to basically keep you young, and okay, I'm like, you know, it's just another fountain of youth." (African American man, Chicago)*

African American participants were interested in learning which fruits and vegetables have antioxidants, as well as their specific health benefits. They indicated that knowledge of the link between certain health benefits and individual fruits and vegetables could influence their fruit and vegetable selections.

*"I was in the hospital and my white blood cells were very low, and they couldn't figure it out so the doctor said I should have more potassium. He said stock up on bananas. So I thought that was good advice so I started eating more and feeling better. I think it's better if you tell me what I need." (African American woman, Chicago)*

*"When the Surgeon General stamps the side of an apple in writing with a good seal of approval [that apples have antioxidants], then I'll start to pay attention." (African American man, Chicago)*

African American women in Chicago made the point that being deluged with information would be counter-productive. Rather, a brief description about each fruit and vegetable and its health benefits would be sufficient.

*"If it's a banana, tell us, don't overload us with information but tell us briefly what is that banana going to do to benefit me."*

*"For example, broccoli: possible cancer prevention...."*

*"More than two sentences...."*

*"Would be too detailed." (African American women, Chicago)*

### **5.4.3 Ways to Motivate Using the Environment**

#### **Restaurants**

Overall, African American participants said they do not consider fruit and vegetable menu options when selecting restaurants. A few participants, however, mentioned that they may be more likely to return to restaurants offering good salad bars. Participants thought the proliferation of consumption of fast food has further minimized the opportunities for eating fruits and vegetables.

*"I don't choose restaurants based on fruits and salads, I choose them based on the way they prepare food." (African American woman, Chicago)*

*"A great salad bar with vegetables in it. My husband and I would drive all the way to this restaurant because they have seafood and they have a good salad bar as well as Chinese food." (African American woman, Chicago)*

#### **Grocery Stores**



African American participants saw grocery stores as a suitable venue in which to encourage fruit and vegetable consumption, offering a variety of suggestions for how grocery stores can encourage consumption:

- provide coupons
- offer recipes
- display signs over fruits and vegetables explaining their health benefits
- lower prices
- sell fruits and vegetables already cut-up
- use smaller packages
- make displays more appealing
- provide fruits and vegetables in already pre-prepared serving sizes
- provide cooking demonstrations on how to prepare fruits and vegetables in creative ways
- place food items around fruits and vegetables that can be prepared with them, for variety
- show pictures of a sample meal to help with purchasing decisions
- offer appealing salad bars
- offer gourmet cooking classes

*“They had these cards that had two different recipes for squash and eggplant. I made some eggplant and shrimp with some cheese and, oh, it was great. When you see the presentation, you might try it. I had never tried eggplant. And I have been buying eggplant every time I go shopping now.”* (African American man, Richmond)

*“They can make it look so enticing that it will make you want to try anything.”* (African American man, Richmond)

### Workplace<sup>9</sup>

African American participants found it challenging to think of recommendations to encourage fruit and vegetable consumption in the workplace. African American women in Chicago reported that their employers already provide fruits and vegetables at meetings. A few African American men in Chicago shared what is already taking place at their companies, as well as discussed some of the barriers including cost and quality.

*“My workplace has influenced me a lot with my intake of vegetables because they’re always around and they’re always fresh. My workplace plays a major part in my intake of fruits and vegetables.”* (African American man, Chicago)

*“In our cafeteria, ... I bought a banana and they charged me 75 cents, whereas in the store, you can get a whole bunch of bananas for the same price or less.”* (African American man, Chicago)

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<sup>9</sup>Participants in Richmond did not discuss the workplace.

*“They put a fruit machine in, and for the first couple of weeks it was great, then you go there and you have the same apple that’s been there for three weeks that no one wants.”*  
(African American man, Chicago)

#### **5.4.4 African American Participant-Constructed Messages**

The moderator divided African American participants into groups of three or four and asked them to develop television or magazine advertisements that would encourage people like themselves to eat more fruits and vegetables.

The messages African American participants generated reflected many of the thoughts that they expressed during the discussion on overcoming barriers and the reasons behind recent dietary changes. The benefits of **feeling good (improved health and longevity)** and **looking good (improved personal physical appearance)** were common themes, as well as the need for **discipline**, when trying to incorporate more fruits and vegetables. African American women in Chicago also suggested that comparative nutritional values be communicated, particularly among less healthy choices such as fast food. Participants also recommended using **bright, vivid colors, visuals, music, and animated fruits and vegetables** in advertisements.

*“Eat right or die.”* (African American woman, Richmond)

*“Fruits and vegetables do the body good.”* (African American woman, Richmond)

*“Eat right, look right, feel right.”* (African American woman, Richmond)

*“Eating fruits and vegetables are one of the most important keys to a longer and healthier life.”* (African American man, Richmond)

*“Fruits and vegetables are the tools for building a longer and healthier life.”* (African American man, Richmond)

*“Fruit, just eat it.”* (African American man, Richmond)

*“Not only does it taste good, it makes you feel good and look good. Basically the eyes, the hair, and health.”* (African American woman, Chicago)

*“Compare a bagel with a really attractive big bowl of fruits and vegetables.”* (African American woman, Chicago)

*“Provide color, music, and animation.”* (African American man, Chicago)

*“Show two skeletons, one eating not so healthy, and another eating fruits and vegetables. And as they are taking in the food, say a carrot, then you can see the eyes light up. If they eat broccoli, the heart is pumping. Then you can show the comparison of the two bodies, the carbohydrates are breaking down. So which is healthier? So eat more fruits and vegetables.”* (African American woman, Chicago)

*“A billboard showing a big yellow banana, with the words ‘Eat Fruit.’”* (African American man, Chicago)

*“Fruits and vegetables look good, taste good, and they make you want to go.”* (African American man, Chicago)

## 5.5 Comparisons with Previous Focus Groups

The following summarizes some of the key similarities and differences in findings between the focus groups with African Americans conducted in 2000 (described in this report) and those conducted in 1992.

Within the past several years, **a notable number of positive changes have occurred among African Americans’ dietary habits.** Many of the educational efforts developed as a result of the 5 A Day program have had an important impact on African Americans’ knowledge, attitudes, and behaviors.

Compared to 1992, **African Americans are currently placing greater emphasis on the method of food preparation** (e.g., baking instead of frying chicken). African Americans are now making a greater effort to decrease fat in their diets by reducing their intake of or eliminating red meat, pork, and fried foods.

Compared to 1992, **African Americans are now more aware of the importance of fiber** in their diets. Many report eating fruits often because they are a natural source of fiber and roughage.

**African Americans are more likely now to focus on how certain foods can help to *prevent* certain diseases, rather than on how certain foods can *cause* diseases.** They are placing more attention on the diet-disease link than in 1992.

**Family and friends continue to play an important role in influencing dietary changes made by African Americans.** Advice from doctors also continues to motivate African Americans to modify their eating habits. Body image and weight control are stronger motivational factors now than in 1992.

Compared to 1992, **no change was observed in African Americans’ knowledge of the size of “one serving.”** African Americans remain unaware of what constitutes a serving.

For African Americans, **preparation time, cost, and taste** continue to be major **barriers** to eating fruits and vegetables.

African American men continue to be **cynical of health messages because of conflicting health reports** received from the media.

## 6. Detailed Findings from the Latino Groups

To expand the 5 A Day for Better Health Program to include Latinos as part of the target audience, NCI conducted four focus groups, two of each gender, with Latino participants. (Please see Section 2.2 for a discussion of the methodology and eligibility criteria.)

### 6.1 Trends in Eating Among Latino Groups

As a warm-up exercise, the moderator asked Latino participants to discuss the types of changes they had made in their eating habits in the last five to 10 years. She also requested that they talk about the reasons behind these recent changes.

**In general, Latino participants recognized the link between diet and good health. The vast majority professed making changes in recent years toward a healthier regimen.** Very few reported changes toward a less healthy diet. An even smaller number confided that their diets had not changed at all in recent years even though they had tried to eat healthier from time to time, albeit unsuccessfully.

**All Latino groups reported eating more fruits and vegetables.** Some participants reported changes in the way they prepare their food, such as steaming instead of frying, or cooking with healthier types of oil. Other reported changes included eating more chicken, fish, and grains, and drinking more water. Also, many participants have been trying to avoid red meat, fat, wheat or starch products, caffeine, sugar, and alcohol (e.g., beer).

*"I've changed the way that I cook. Before, I used a lot of fat and lard and now I use canola oil and olive oil -- they say it is much better for you ... I have read that those oils have less cholesterol and they are better to use." (Latina, Chicago)*

*"In my country they fry and here that has changed because we eat less fat and we eat more vegetables because they do not have fat." (Latino, Chicago)*

Catalysts serving as an impetus for these positive diet changes included fear of developing health problems after **witnessing friends and family suffer from diet-related diseases** (such as diabetes) and the **desire to control weight**. Latino participants in all groups mentioned a desire to **set a good example for their children and loved ones**. Although Latinos were excluded from participating if they reported certain medical conditions, a few participants reported that they had made healthy changes in their diets because of **personal health problems** (e.g., diabetes, high cholesterol, hypertension) – suggesting that **physicians and other health professionals** played a role in participants' dietary changes.

*"My father died of diabetes and I was able to see what his eating habits got him. Then we found out that my brother is diabetic and again I am seeing it, and that is what has driven me to stop eating things that are not beneficial to my health." (Latina, San Antonio)*

*“Well I can tell you my eating habits have changed some because I have noticed for example diabetic people or people with high cholesterol have a lot of health problems.”* (Latina, San Antonio)

*“A lot of times the doctor will tell you [that] you have a problem and you ask how to avoid it and they tell you by eating certain things and it becomes more preventative.”* (Latino, San Antonio)

*“One of the reasons that I have changed [my eating habits] is also seeing things that have happened to my family members.”* (Latino, San Antonio)

*“About five years ago I had hypertension so I made changes – I lowered my salt and sugar and I eat a lot of greens.”* (Latina, Chicago)

*“When I was younger I could eat a lot more French fries and pastries, and since I was 27 or 28 I cannot any longer because I gain a lot more weight and it is a lot harder to lose it when you are older.”* (Latina, Chicago)

Two Latino participants’ reported unhealthy diet changes that included overeating and an increase in fast food, sometimes accusing the media for manipulating their desire for this type of food.

*“I have tried to stop eating red meat, but I always go back. I love sweets and pastries, and for example, I will lose 10 pounds, and the following week I have already gained them back.”* (Latina, Chicago)

*“I have realized you tend to eat more of what you are served.”* (Latino, San Antonio)

*“For example, the soups in my country – I knew what went into them because I made them and here that does not happen. The kids tend to want fast food and that is due to the time, life, the routine, what they see in advertising...so many things.”* (Latina, Chicago)

*“I think that part of these changes to eat healthier are because of advertising and society. They are always putting ideas in our heads that we conserve our figures. I think society really goes by what advertising says.”* (Latino, San Antonio)

Some Latino participants noted that **changes since living in the United States** have led them to change their eating habits, both in the positive and negative direction.

*“We are eating less fat and more vegetables because we are in a country where the habits are completely different. All we do is work and even though we like sports and sometimes want to play, we do not always have the time. If we lower our fat intake it will help our health. Now we have to do it for better health.”* (Latino, Chicago)

*“In my country I had a lot of time to dedicate to making food, but here I am busy because of school, kids, and work, so it has changed the routine I had in my country for food. Over there I think we ate much better because we had more time.”* (Latina, Chicago)

*“In Colombia, everything you buy is fresh ... when you go buy the meat it is fresh and here it is not the case; here it has been sitting there for a while.”* (Latina, Chicago)

*“You have more satisfaction eating a chicken raised on a farm in your own country compared to here where chickens are injected with proteins and complex chemicals which are not good for your health.”* (Latino, Chicago)

## **6.2 Knowledge, Attitudes, and Perceptions of Fruits and Vegetables Among Latino Groups**

### **6.2.1 General Orientation**

The moderator asked Latino participants to complete the sentences, "In my home, fruits are..." and "In my home, vegetables are..." The moderator also requested information on the role that Latino participants' background and traditions may play in influencing their fruit and vegetable consumption behavior.

**All Latino focus groups held generally positive views of fruits and vegetables.** During the sentence-completion exercise, Latino participants frequently mentioned health benefits of fruits and vegetables – for example, they are good for one's overall health because they provide “proper nutrition and vitamins,” “lower cholesterol,” and “improve circulation.”

*"For me, vegetables are indispensable for our health because of the vitamins they have, and they fill our bodies with energy and are good for blood circulation."* (Latina, San Antonio)

*"In my house, vegetables play a very important role in our nutrition because they contain essential vitamins and minerals."* (Latino, Chicago)

Although the majority of Latino participants viewed fruits and vegetables favorably and saw them as an important part of their diets, the sentence-completion exercise also prompted some discussion about barriers they encounter to eating fruits and vegetables.

**All Latino groups compared their current fruit and vegetable eating habits with those during their childhood.** Participants' experiences varied greatly.

Many participants in both San Antonio groups (primarily of Mexican descent) felt that their fruit and vegetable eating habits are better today because of their responsibilities as parents (e.g., concern for their children's health) and an increased awareness gained through media reports and physicians' advice. However, participants of Mexican heritage also claimed that once they arrived in this country, the changes in lifestyle were drastic – because they have less time to prepare home-cooked meals, they often opt for alternatives such as fast food and already prepared meals.

Most Latino participants in the Chicago groups (primarily of South American descent, most from Colombia and Chile) felt that the need to eat fruits and vegetables was instilled in them by their parents in their home countries (especially because fresh fruits and vegetables are abundant and easy to find and purchase in their native countries). Despite positive attitudes ingrained by their parents and the media, Latinos' busy schedules present many challenges to incorporating fruits and vegetables regularly in their diets.

*"Once you are a mother, you tend to tell them they need to eat more vegetables for their vision. Also as we get older you look for ways to improve your health ... you cannot be telling your children to eat vegetables and then you do not eat them yourself." (Latina, San Antonio)*

*"The education in Latin America is different. Kids always leave for school with breakfast, and always fruit is very important. However, here kids leave for school without having eaten breakfast, and if they do sometimes, it is just cereal, but fruits are not of importance for them." (Latino, Chicago)*

*"I think our method of thinking has changed, because as a child, my mother always cooked with vegetables and we ate fresh fruit, but this generation has gotten away from that. Now we are hearing much more information and are more educated." (Latina, Chicago)*

*"My husband and I have tried to make this a daily thing. Because our lives have changed, at least once a day I want them to have a nutritional meal because the kids eat so much garbage." (Latina, Chicago)*

**Some Latino groups said that the fruits or vegetables they enjoyed in their home countries are not readily available in the United States.** Several participants spontaneously listed barriers such as children's preferences for other, less healthy foods, quick spoilage of fruits, and cost of vegetables. They also referred to the greater convenience of other, less healthy food options.

*"[Fruits and vegetables] are part of a meal and my family loves them, because they give our bodies the vitamins we need. ...Here there are many fruits that are from my country, but there are some that they do not have here, like guanabanas, but we eat what we can and enjoy it." (Latino, Chicago)*

*"In my house vegetables are very important, even though I battle with the children to eat them. I have to cook them a certain way." (Latina, Chicago)*

The discussion of attitudes toward fruit revealed insights into the different types of fruit that Latinos commonly eat. Latinas in both groups and Latinos in one group responded to the sentence-completion exercise for fruits by citing how they routinely make **juices or smoothies from fresh fruit, commonly using mangoes, guanabana, pineapple, strawberries, and papaya** in their concoctions. (These particular fruits were never mentioned in either the Caucasian or African American focus groups.) In addition, several participants mentioned using lemon as a condiment when preparing fruits and vegetables.

Latino groups attributed their diet modifications to knowledge gained from information they receive either through health campaigns via **television, radio**, and/or billboards, and through word-of-mouth. Some of the Latinas felt that the media does not help them to provide a balanced meal for their children. Fast food advertising is perceived as a culprit that entices children to desire fast foods. It is difficult not to succumb to children's meal requests, according to these mothers.

*"Television and radio commercials say there are a lot of diets that people do, and they are eating more fruits and vegetables and not eating as much red meat." (Latino, Chicago)*

*"I have heard on the news that they have had diabetics eat a lot of vegetables and fruits and they have not needed their medications." (Latina, Chicago)*

## **6.2.2 Benefits**

The moderator led a discussion on the benefits associated with consuming fruits and vegetables. Latino participants provided a lengthy list of benefits and rank-ordered their top two benefits.

### Specific Benefits of Eating Fruits and Vegetables

When the moderator asked Latino participants to name the benefits of eating fruits and vegetables, three of the four Latino groups' first responses related the concept of "overall good health." The first response among Latinas in Chicago related to nutrition, specifically vitamins.

Top-ranked benefits tended to be longer-term ones: disease prevention (four groups), overall good health (two groups), better body functioning (one group), and longer life (one group).

**Latino participants narrated many benefits relating to "overall good health,"** stating that fruits and vegetables help to "maintain one's health," "prevent illness," and "assure children's proper development." Nutrition-specific factors were credited with benefiting one's health: fruits and vegetables are loaded with "vitamins," "minerals," "protein," "calcium," "iron," "potassium," and "good sugars" that the body needs for proper growth and development. Latino participants often referred to specific **body parts and systems**, including "bones," "brain," "skin," "hair," and "nervous and immune systems," which fruit and vegetable consumption benefits.

*"[Fruits and vegetables] contain vitamins and minerals, which are necessary to maintain health and help growth." (Latina, Chicago)*

Both spontaneously and with some probing, Latino participants spoke of the **diseases, ailments, or conditions they correctly, and incorrectly, believed fruits and vegetables could help prevent**, such as "cancer (unspecified)," "colon cancer," "ulcers," "arthritis," "heart disease," "high cholesterol," "stroke," "diabetes," "anemia," "flu," "high blood pressure," "Alzheimer's," and "malaria."

Many of the benefits listed by Latino participants related to the maintenance of regular bowel movements – because fruits and vegetables have "fiber," they are "good for the system" and help "intestines and stomach function better." Fruits and vegetables also aid "metabolism," "digestion," "elimination," as well as in "purifying blood and eliminating toxins."

*"If you eat vegetables and consume fiber, then you will have a good metabolism, which will help quite a bit. You will not have problems with digestion." (Latina, San Antonio)*



Latino participants named several benefits related to **having more energy and feeling good** stating that fruits and vegetables make you feel “more energetic,” “better,” “strong,” “lighter,” “not bloated,” and “more active.” One Latino participant offered an explanation for why fruits and vegetables “provide quick energy” – i.e., “because there is no fat to break down.”

*"You feel lighter. When you eat meat or bread you feel bloated, and with fruit you do not." (Latina, Chicago)*

Latino participants felt that fruits and vegetables are “not fattening” and may act as “fat blockers,” thus helping them to **maintain weight**. Although this benefit surfaced spontaneously among all four groups, Latinos appeared more concerned than Latinas with weight management.

Two Latino groups specified **cost as an advantage** to eating more fruits and vegetables – they thought fruits and vegetables are often less expensive than meat, for example.

*"It gives you an economical benefit, because if you are going to buy meat it will be much more expensive than if you buy fruits or vegetables." (Latina, San Antonio)*

Latino participants presented two additional advantages to eating greater quantities of fruits and vegetables – they are “**easy to prepare**” and have “**natural flavors.**”

**Latino participants were often misinformed about certain dietary facts.** They sometimes incorrectly attributed benefits to fruit and vegetable consumption that have not been shown by scientific research (e.g., fruits and vegetables “prevent Alzheimer's,” “eliminate toxins in the blood,” and “do not allow fat to get into the organism because they are like oil and water – the oil does not stick”). Many also believed that certain fruits are fattening or unhealthy if eaten in large quantities.

*"The better ones are fattening."  
"Sugar, some [fruits] contain too much sugar."  
"There are fruits like bananas that are very fattening."  
(Latinas, Chicago)*

## Disease Prevention

**Disease prevention was an important reason for why Latino participants eat fruits and vegetables.** Three of the four Latino groups spoke about the benefits of disease prevention spontaneously, and all four chose disease prevention as one of the top two benefits of eating fruits and vegetables. Participants in all groups listed a variety of diseases that eating fruits and vegetables can help to prevent, the most common of which included **cancer, heart disease, diabetes, and high cholesterol.**<sup>10</sup> (When Latino participants spontaneously discussed disease prevention as a benefit, it came up at varying points in the discussion for each of the three groups. In other words, no consistent pattern developed regarding how “top-of-mind” this benefit was across the groups.)

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<sup>10</sup>Latinas in Chicago were given the option of choosing their top two benefits from a list that included the prevention of specific diseases (cancer, arthritis, diabetes, and hypertension) as a top benefit. More participants chose prevention of cancer as a top benefit than any other disease or other type of benefit.

Upon probing in one focus group on the difference between “disease prevention” and “overall good health” as the top two benefits, participants conceded that they viewed them as the same concept (i.e., fruits and vegetables help prolong life because they help to thwart disease). (The moderator did not investigate whether the other group, which also ranked these two benefits as their top ones, thought these concepts were different or similar.)

### 6.2.3 Barriers

#### Vegetables

Latino participants across all four focus groups reported a variety of barriers they experience to eating more vegetables.<sup>11</sup>

Latino participants frequently raised **concerns about the safety** of vegetables, specifically the way they are handled, the bugs to which they might have been exposed, and the chemicals used to preserve them (which differ from practices in Latin America). Because of these concerns, some of the participants wondered if they are truly receiving additional health benefits or further jeopardizing their health when they eat fruits and vegetables in the United States. (This concern was not mentioned by either Caucasian or African American focus group participants.)

*“Sometimes, if you go to buy fruits or vegetables and you see one in bad shape, you may not buy any because of the fear of bugs, or whatever it may carry.”* (Latino, San Antonio)

Latino participants complained that oftentimes the vegetables they prefer to eat are **not available or are more expensive during certain seasons**, which prevents them from eating more.

Some Latino groups felt that vegetables are **neither satisfying nor filling** and as a result, do not consume them in large quantities. They also stated that **lengthy preparation time, poor taste, preference for other foods, and lack of variety** were others barriers to increasing consumption. Furthermore, participants feared that unknown vegetables would not be appealing to their palates. **Unfamiliarity with the types of, and methods for preparing, vegetables available in the United States (e.g., eggplant, artichokes, asparagus)** recurred throughout the discussions.

*“Another thing is the education. There are certain vegetables that I would like to consume and I do not know how to prepare them. For example, I have heard of eggplant and no one knows how to prepare it.”* (Latino, Chicago)

**A couple of Latinos in the San Antonio group felt that it is embarrassing to eat vegetables (e.g., salads) because it is perceived as not macho, or because vegetables are considered by their peers to be “rabbit food.”** This is especially the case when eating with co-workers who eat meat or other gender stereotyped native foods. Other Latinos in San Antonio commented that offering fruits and vegetables instead of meat to guests would be considered insulting and a sign of being “cheap.” (This attitude might be explained by noting that most participants in the San

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<sup>11</sup>The moderator unintentionally diverged from the discussion guide in two of the groups, asking first for barriers to fruit and vegetable consumption (together) and then for barriers to fruit consumption. As a result, Latino participants discussed fewer vegetable-specific barriers. In most cases, NCI staff was able to easily discern whether participants were referring to fruit, vegetables, or both, the results of which are summarized accordingly.

Antonio groups were originally from Mexico, a country where meat is expensive and less widely eaten, especially by those in lower socioeconomic levels.)

*"In my case, I don't [eat fruits and vegetables] because I'm embarrassed." (Latino, San Antonio)*

*"A lot of times when you eat vegetables, they say 'Oh, they had to put you on a diet, why are you eating that?'" (Latino, San Antonio)*

*"Like at a party, they usually have meats and stuff, and if you only lay out fruits, people will leave." (Latino, San Antonio)*

Some Latinas spoke about their **children's taste preferences** when asked to name barriers to vegetable consumption.

*"If you place in front of a child a burger, potatoes, and vegetables they are going to go for the burger because it is tastier." (Latina, San Antonio)*

## Fruit

Many of the barriers discussed for vegetables were also noted for fruit, including their **unavailability, safety concerns, seasonality, and qualities appealing to the senses** (such as taste and appearance).

Latino participants felt it is **difficult to find certain fruits in the United States** that they enjoyed in their home countries (e.g., guanabana, maracuya).

*"There are many fruits you simply just do not find here." (Latino, San Antonio)*

A few Latino participants felt that they do not eat more fruit because it is **not readily available at work or at restaurants**.

*"When you are working, it is hard to get [fruit]. You do not have fruit at restaurants." (Latino, San Antonio)*

As with vegetables, Latino participants felt that fruits in the United States undergo a lot of **handling**, including being **sprayed with chemicals** that may not be good for one's health. Many also felt that fruits in the United States are not "truly fresh" because of this type of handling.

*"It is more attractive to eat a fruit from your country because you have the satisfaction of eating it right off the tree and here you do not." (Latino, Chicago)*

*"Pesticides they use, the chemicals." (Latina, Chicago)*

Many Latino participants cited **seasonality** as a barrier to fruit consumption, specifically when fruits are **unavailable** and more **expensive** because they are out-of-season. (Although mentioned for both fruits and vegetables, seasonality and related higher prices appeared to be greater barriers for fruits than for vegetables.)

*"In the summer, fruit is in season and it is cheaper, but in the winter the same fruit is much more expensive." (Latina, Chicago)*

*"What prevents me from eating more fruits, at least the ones I like, is not being able to find them, maybe they are not in season." (Latino, San Antonio)*

As with vegetables, all Latino groups complained that fruit does **not taste good** and is **not filling**. Sometimes participants stated they simply **prefer other options**. Others felt that the taste of canned or frozen fruit, which they sometimes have to resort to given the unavailability of certain fresh fruits in the United States, do not taste as good and thus inhibits their consumption.

*"I would say for me it is habit. Instead of having fruit, I have a sandwich because fruit does not satisfy me, but it is not really in the stomach but in the mind." (Latina, Chicago)*

Several Latino participants felt that the **quick spoilage** of fruit required their having to shop too often to keep them available in the home – a luxury of time too few can enjoy.

*"On the weekend you do not want to buy too much fruit so they go bad, but then you do not have time to go during the week and buy them fresh." (Latina, Chicago)*

A few Latinas cited concern over some fruits' **high sugar content** and others thought that some fruits are too **messy** to eat.

#### **6.2.4 Other Knowledge, Attitudes, and Perceptions**

##### Awareness of and Ability to Eat 5 A Day

**Most Latino participants were not aware of the 5 A Day guidelines.** In general, Latino participants had mixed opinions on whether they could eat five servings of fruits and vegetables every day. A few Latinos felt that they were currently eating a sufficient quantity of fruits and vegetables and that it is not necessary to eat at least five servings of fruits and vegetables a day.

*"I do not think it is necessary to eat five servings of fruits and vegetables when there are other things you need to eat as well." (Latino, Chicago)*

Latinos were more confident than Latinas about their ability to eat five servings each day, and thought that once they started doing it it would become a habit and would be easy to continue.

*"I think it is about habit. I have been here four years, and my breakfast is fruit. At lunch I eat lettuce, avocado, like I used to in Mexico. It is all about habits." (Latino, San Antonio)*

*"If you start doing it, it will become a habit and then it is harder to go back than to continue." (Latino, Chicago)*

After learning the precise definition of a serving, many Latinas changed their minds and thought it would be easy to eat five servings each day (at least for a short while).

*"It's easy ... considering that a portion is 1/2 cup, because we eat more than that."*  
(Latina, San Antonio)

Upon further probing by the moderator, however, Latinas were less confident about their ability to sustain this eating pattern. A few thought they could eat five a day for a while, but once they lost weight or some time had passed, they would not be able to keep it up. Others answered the question in terms of their children, and said it would be difficult to make sure their children ate five a day without interruptions.

*"I would say I could do it from Monday to Friday but the weekends would be very tough."* (Latina, San Antonio)

*"Until I lost weight."* (Latina, Chicago)

*"With my daughter, it would be really hard."* (Latina, Chicago)

### Knowledge of Servings

Latino participants' opinions varied greatly on how many fruits and vegetables should be eaten to reap health benefits, showing little awareness of the 5 A Day message. In two groups, the most frequent response was three daily servings. In another group, the most frequent response was five servings, with a low of three and a high of six. In the fourth group, the most frequent response was four to five servings of each, or eight to 10 servings a day total.

**Latino participants were generally unclear about the size of one serving of a fruit or vegetable.** When groups were asked what constitutes a serving, three of the four groups responded that one banana equals a serving. One cup and four to six ounces of juice were also mentioned in two groups as meeting the definition of a serving. But, a whole can of vegetables or a large salad were also considered a single serving.

Even though participants were surprised to learn that one serving is smaller than they originally thought, most Latino groups did not embrace the idea of one, rigid guideline. They believed, instead, that the amount recommended should be individually tailored.

*"It depends on height, weight, the temperature, and work that you do ... the colder it is, you have to consume more to warm up. Then the servings will increase."* (Latino, San Antonio)

*"I think that it depends on what you like."* (Latina, San Antonio)

### Perceptions of Frozen, Fresh, Canned, and Dried Fruits and Vegetables

All Latino groups overwhelmingly **preferred fresh** over frozen, canned, or dried fruits and vegetables. Larger quantities are consumed when their preferred fruits are in season. A few Latinos in Chicago would not even consider trying frozen or canned fruits or vegetables. **Convenience** and **availability**, however, often lead some to purchase frozen or canned fruits and vegetables. When the participants' favorite fruit or vegetable is not in season, for example, some purchase canned for its convenience rather than frozen which they believe requires more preparation time.

*"With fruit I love guanabana, I cannot find it fresh, but they send it to me frozen."*  
(Latino, Chicago)

*"I buy the fruit cocktail canned because I cannot buy all the fruits. I just open the can and they have all the fruits, and I think it is tastier."* (Latina, San Antonio)

*"The fruit I buy fresh, and the vegetables fresh and frozen because it is easier. It is ready to go."* (Latina, San Antonio)

Although Latino participants were unyielding about their preference for fresh, they did not spontaneously discuss the reasons underlying their preference. When probed, participants revealed that they believed canned and frozen are not as nutritious as fresh because of preservatives and lost vitamins. Some cited taste and custom as other reasons for preferring fresh.

*"Canned and frozen lose the vitamins, because in order to keep them, they have to add ingredients, such as preservatives, and they kill the vitamins."* (Latino, Chicago)

*"When fruits are frozen, they have too much sugar. They have to do something for them to keep."* (Latina, Chicago)

### Nutritional Supplements

Three of the four Latino focus groups discussed nutritional supplements only after the moderator addressed this topic. Only one participant (Latino in Chicago) mentioned nutritional supplements spontaneously (in the opening discussion on changes in eating patterns over the last five to 10 years). Typically, two to three participants in each group reported using supplements, mostly as compensation for vitamins and minerals not obtained from regular diets.

*"Vitamins are a complement, like compensating what you are not consuming."*

*"I think that the vitamins from fruits and vegetables are better than the condensed ones ... because they are natural."*

*"The vitamins that come in tablets ... it is possible that you do not digest them as easily ... and they are chemical products."*

*"It depends on the ones you buy; if you buy the good vitamins they are natural."*

*"Some vitamins look like they have plastic on them that is bad."*

(Latinos, Chicago)

*"I take Calcium and B12 supplements which is something that is not easy to get from fruits and vegetables."* (Latina, San Antonio)

### **6.3 Overcoming Barriers Among Latino Groups**

Latino participants in each focus group were divided into two sides, A and B. Participants in Side B were asked to provide Side A participants with reasons for including more vegetables in their diet. Their suggestions were to be intended as tips for overcoming the previously listed barriers to eating vegetables. After Side B spoke, the moderator asked Side A participants whether they had heard anything that might cause them to eat more vegetables, and what could

have been said to motivate them even further. This group exercise was repeated for fruit, with teams switching roles.

### 6.3.1 Fruit

Latinas were more likely than Latinos to suggest practical tips for increasing fruit consumption, often suggesting ways to prepare fruits that family members would enjoy. These included:

- making juices, smoothies, and popsicles
- using lemon as a condiment
- adding fruit to cereal or oatmeal
- not eating snacks other than fruit
- carrying “compact” fruit while “on the go”
- purchasing organic fruits if worried about chemicals and pesticides
- finding fruits in season to reduce cost

*“Most people like the taste of lemon, so for the kids, cut the fruit up in little pieces and add a little bit of lemon and that way they will eat it, and it is very good. I like mango a lot and make popsicles with it. I give it to the kids as well.”* (Latina, San Antonio)

*“Make carrot juice and squeeze three oranges in it and it is delicious.”* (Latina, Chicago)

*“My sister is small and I always tell her when she goes out, take a banana with you. For the kids you can peel them, cut them, and put them in a ziploc.”* (Latina, San Antonio)

Some Latinos made suggestions that focused on the need to adapt their fruit-eating habits, just as they have adapted to other aspects of their lives since moving to the United States. These suggestions displayed a “just do it” attitude emphasizing discipline (also observed in discussions with Caucasian and African American men). A few Latinas concurred with Latinos about the need to make eating more fruit a habit.

*“What he said about the specific fruits not being available in the United States -- you have to adapt. If they do not have the fruit you are used to, substitute it for another that has the same nutritional quality and eliminate the problem.”* (Latino, San Antonio)

*“The taste is important. It is almost impossible, in my opinion, to not find a fruit that exists in the market that you will like. If you do not like citrus ones, then do not eat those. Eat a banana.”* (Latino, Chicago)

*“Another suggestion is that it becomes a habit, that you are no longer conscious of what you are doing; we are programmed to go to the other food. That is why you have to be conscious and make it a new habit to choose the fruit.”* (Latina, Chicago)

Latino participants acknowledged both short-term (e.g., good taste) and long-term (e.g., weight control) benefits.

*“About the taste, I do not think there is any fruit that is not good. I think all fruits are good and I do not think that should be a barrier.”* (Latina, San Antonio)

*“You think of serious things. If I eat this I will gain 10 pounds, you have to go to the extreme to control yourselves.”* (Latina, Chicago)

### **6.3.2 Vegetables**

Although all Latino groups produced tips for overcoming barriers rather than emphasizing the health benefits of eating more vegetables, the “listening” groups had the most positive reaction when the “convincing” groups underscored the health benefits.

**Latinos spent more time talking about health benefits as reasons for eating more vegetables than they did discussing specific tips for increasing consumption.** Men, again, assumed a “just do it” attitude, saying that people should just make eating more vegetables a priority regardless of barriers. A few Latinos tried to refute the barriers altogether, denying that they were “true” barriers.

*“About the cost, I do not care what they cost. What is important is that you are healthy.”* (Latino, San Antonio)

*“If you have money for beer, you can buy vegetables.”* (Latino, San Antonio)

*“There are also meals that help to burn fat ... meat without vegetables gives you bad digestion, and thus you are not eating properly. So you must learn to eat vegetables....”* (Latino, Chicago)

Latinas were more likely than Latinos to generate practical tips for increasing fruit and vegetable consumption, many of which focused on preparing vegetables in tasty, interesting ways that would appeal to the whole family. These included:

- adding seasoning to vegetables
- substituting a regular side dish with a salad
- carry “compact” vegetables while “on the go”
- purchase organic vegetables if worried about chemicals and pesticides
- find vegetables in season to reduce cost

*“If you are going to cook broccoli and carrots, place the carrots on top and it will give them a sweet flavor and that will compliment it ... add a little butter.”* (Latina, San Antonio)

*“You keep the children entertained while you prepare the meal.... Cut vegetables that they like -- carrots, cucumbers. Cut them up and have dressing with them and have them munch on that while you prepare the meal.”* (Latina, San Antonio)

*“The same vegetables you can prepare with different condiments so it does not taste the same....”* (Latina, Chicago)

## **6.4 Reactions to Different Ways of Encouraging Greater Consumption of Fruits and Vegetables Among Latino Groups**



### 6.4.1 Ways to Construct the Message

The moderator asked Latino groups about the relative appeal, or motivational clout, of the 5 A Day message if it (a) combined multiple behaviors one should do to stay healthy (e.g., exercise, reduce stress, eat less fat, get enough sleep, and eat at least five servings of fruits and vegetables a day) or (b) combined multiple reasons for increasing fruit and vegetable consumption (e.g., disease prevention, source of energy, and tastes good).

**Latino participants' initial reactions to both the concept of bundling the 5 A Day message with other health messages and with the health benefits of eating five fruits and vegetables a day were generally positive.** Most groups were eager for any sort of health information that may improve their quality of life.

*"The more information you get, the better." (Latina, San Antonio)*

Most Latino participants initially felt that because other healthy behaviors, in addition to eating fruits and vegetables, are necessary for optimal health, the bundling of health messages was a good idea.

*"Combined ... you are telling the people what they need to do. If you do not eat a lot of fat but do not exercise, that will not help you. You need to do both." (Latino, Chicago)*

One Latina in Chicago suggested bundling the 5 A Day message with the benefits of eating fruits and vegetables before the moderator presented this concept as another message option to explore.

*"With other things, because sometimes people say 'healthier.' Why? Many people won't understand why they should want to eat more fruit and vegetables." (Latina, Chicago)*

After the moderator introduced the concept of **bundling the health benefits of eating fruits and vegetables** with the 5 A Day message (e.g., provides vitamins and minerals, produces greater energy, feeling good, disease prevention, a longer life), **most Latino participants indicated they preferred this method of bundling**, particularly the women.<sup>12</sup> Because most were already aware of the basics of keeping healthy (e.g., exercise, decrease fat, reduce stress), the approach of providing people with reasons why they should consume more fruits and vegetables seemed more newsworthy and therefore more influential.

*"The more concrete the message, the better, because you are educating the public. If you give them all the information about what can happen – that's much better." (Latino, Chicago)*

*"I think the message should be more direct so you remember to eat more fruits and vegetables." (Latina, Chicago)*

*"It becomes more motivating." (Latina, San Antonio)*

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<sup>12</sup>This topic was not probed in-depth with Latino men in San Antonio because they had difficulty distinguishing between the two proposed concepts.

## 6.4.2 Ways to Motivate Through New Concepts<sup>13</sup>

### Nutritional Value

The moderator probed Latino participants on whether they knew that some fruits and vegetables have greater nutritional value than others, and that color helps identify nutritious fruits and vegetables.

**Few Latino participants knew that the color of fruits and vegetables provides an indication of their nutritional value.** One Latino in Chicago correctly believed that yellow vegetables contain carotene, but incorrectly thought that “carotene serves as a source of energy.” A Latina participant also incorrectly believed that vegetables lose their nutritional value when they “turn from green to yellow.”

*“For example, broccoli – you know when it starts turning a little yellow, the doctor says it’s not convenient because it will not give you the same content of vitamins and nutrients as a completely green one would.”* (Latina, San Antonio)

*“It’s important to know [about color] because for example spinach is green and has a lot of iron, yet lettuce is green as well and has no iron.”* (Latino, Chicago)

### Health Benefits and Antioxidants

In all Latino groups, antioxidants were only discussed after the moderator raised the topic. **Of those few Latino participants in every group that had heard of antioxidants, none knew much about their correct function or benefits.** A few said that this term has been overused and others thought skin products contain antioxidants.

*“I think [antioxidants] rejuvenates the skin.”* (Latina, San Antonio)

*“[Antioxidants] help your muscles to function better.”* (Latino, Chicago)

**The majority of Latino participants in all groups indicated that they were very interested in learning more about how different fruits and vegetables contain different nutrients, and what these specific nutrients can do for their bodies.** Participants repeatedly said that the more information they are given, the better. They suggested adding this type of information to the nutrition facts on product labels. Many believed that the knowledge of specific health benefits would entice them to consume more of a particular fruit or vegetable.

*“Colors and pigmentation mean certain things, and every group has a job to do within the organism, so it would be great if you would let us know what it is they do.”* (Latino, Chicago)

*“An example for what you just asked, if we men have problems with our prostates as we get older and they tell us tomatoes will help prevent it, I think we will eat them.”*  
(Latino, Chicago)

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<sup>13</sup>The discussion of new concepts was brief in all Latino groups, and the focus of the discussion varied across the Latino groups.

*"The key is to have information. For example, they say tomatoes are good but you have to know that the skin of a tomato has tomatina and it exits your body the same way it goes in because the body does not have the capacity to metabolize that. There are things you need to know." (Latino, Chicago)*

*"I would like to know what each fruit and vegetable helps. I have heard that a banana is good to prevent cancer in men. I go to the market and the only thing I see is the price, and I do not know what it does. If my husband sees the information on the bananas, then he would eat it, but if you do not know, you will not eat it." (Latina, San Antonio)*

### **6.4.3 Ways to Motivate Using the Environment**

#### Restaurants

The majority of Latinos indicated that they usually do not choose restaurants based on fruit and vegetable menu options. Most said that they are more concerned about how meals taste rather than whether they feature fruit and vegetable selections.

Most agreed that the experience of eating out is a reward for their hard work; so, when they go out to dine, they are specifically looking forward to indulging and are not usually health conscious when they order. A few even questioned how healthy a vegetable dish is when certain sauces or dressings are used, adding calories and fat to the diet.

*"I do not go because it is healthy. I go for the craving." (Latino, Chicago)*

*"If we are going to talk about benefits, vitamins and such, I think it is very few times that you go out for that. For that you stay home, get the variety, and it is much cheaper. But if I am with my family, we go to a Colombian restaurant or a Chinese one or Italian. But I would not say, let's go to a restaurant where their specialty is fruits or dishes that are invented overnight with vegetables -- I will not." (Latino, Chicago)*

During the discussion on overcoming barriers to fruit consumption, however, a Latino participant in San Antonio spontaneously talked about the **unavailability of fruit at restaurants**. He suggested choosing only those restaurants that offer fruit, asking for fruit in restaurants that do not currently offer them, and requesting substitutions (i.e., fruit or vegetable instead of another food). Participants from all Latino groups gave mixed responses to these suggestions. Some participants, for example, stated that they would not ask for fruits and vegetables as substitutes, either because eating fruits and vegetables is not important to them when eating out, they believed you are not allowed to substitute, or they believed they would be asked to pay extra for substitutions. Some Latinos in San Antonio said that they would be embarrassed to ask for fruits and vegetables as substitutes to other foods on the menu, while others felt they would be comfortable doing so. One Latino participant noted he would feel comfortable asking for fruits and vegetables as a substitute in an American restaurant but not in a Latino restaurant.

*"If I like fruits and I know they do not have them in a restaurant, I go elsewhere. I will go where I find them. If you go to restaurants and start asking for them, eventually they will get them if the demand is high enough." (Latino, San Antonio)*

*"Sometimes on the menu it says no substitutes, so that intimidates you not to substitute."*  
(Latina, Chicago)

*"I think if you are going to pay, you have the right to ask for whatever you want."*  
(Latina, San Antonio)

Some Latina participants said they consider fruits and vegetables, and the general healthiness of menu options, when choosing restaurants. A few indicated that other factors, such as degree of variety, quality of service, and level of family-friendliness, were more important than fruit and vegetable options.

*"Golden Crab, because they have salads and they have everything."* (Latina, San Antonio)

*"Service is how I decide where to go."* (Latina, Chicago)

*"We just typically tend to go to kid-friendly place."* (Latina, San Antonio)

### Grocery Stores

Some Latino groups were responsive to the idea that grocery stores could prepare fruits and vegetables for them (e.g., at a salad bar), saying that this would help them try unfamiliar fruits and vegetables and would also cut down on preparation time.

*"As mentioned, he does not know how to prepare asparagus, but if it is prepared by the grocery store you can eat something you typically would not eat."* (Latino, Chicago)

*"Well, yes, because if they have prepared foods similar to what you make at home, then people would be influenced because it saves them time."* (Latina, Chicago)

Other groups feared that in order to prepare fruits and vegetables, grocery stores would have to raise prices or the freshness and quality of fruits and vegetables would be compromised.

*"I would doubt the quality of what I am buying, sometimes those seasoned meats are seasoned because the expiration date has passed and they try to sell them. I have had that experience."* (Latino, Chicago)

A few Latino participants suggested that grocery stores could offer inexpensive fruits and vegetables that do not contain pesticides, fertilizers, or other chemicals as alternatives to the typical fruits and vegetables offered.

Other suggestions for ways that grocery stores can make it easier for people to consume fruits and vegetables included:

- lowering the price of all fruits and vegetables
- improving the quality and presentation of fresh fruits and vegetables
- offering shoppers the opportunity to taste fruits and vegetables not familiar to them
- showing videos on new fruit and vegetable preparation methods

- creating displays depicting the vitamins and specific health benefits each fruit and vegetable contains

*"In many places where the meat and fish are, they have labels telling you about the benefits. With the vegetables they never do that ... they should say what vitamin it contains." (Latina, San Antonio)*

## Workplace

All Latino groups responded positively to the suggestion that employers provide discounts on fruits and vegetables at nearby farmers' markets, especially during the winter when produce prices seem to skyrocket. A few noted that this idea is especially attractive because farmers' markets often sell "organic" fruits and vegetables that do not contain pesticides and other chemicals.

*"One thing you mentioned about the farmers market -- I would prefer to walk to one of those because they do not use chemicals." (Latina, Chicago)*

Some participants responded favorably to vending machines in the workplace that sell fruits and vegetables, while others did not think they would buy the fruit and vegetables from a vending machine.

A Latina participant in San Antonio suggested that employers sell baskets of fruits and vegetables on-site for employees to eat at lunch.

*"Sometimes you have very little time to grab lunch. They should sell a little basket with lettuce, carrot, etc. That would be good." (Latina, San Antonio)*

### **6.4.4 Latino Participant-Constructed Messages<sup>14</sup>**

The moderator divided Latino participants into groups of three or four and asked them to develop television or magazine advertisements that would encourage people like themselves to eat more fruits and vegetables.

Many of the messages suggested by Latino participants included overcoming important barriers to fruit and vegetable consumption:

- Latinas in San Antonio emphasized the need to make fruits and vegetables appear visually appetizing, addressing the taste and appearance barriers cited earlier in the group.
- Latinos in both Chicago and San Antonio wanted messages to include information about how particular fruits and vegetables are picked, handled, and preserved, addressing participants' concerns about the safety of eating fruits and vegetables.

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<sup>14</sup>Because of time constraints, Latinas in the Chicago group did not discuss potential messages to encourage fruit and vegetable consumption. Participants in the remaining three groups struggled to construct actual advertisements to encourage fruit and vegetables consumption. However, the moderator was able to elicit limited discussion about the types of information that should be included, and how this information should be communicated.

- Latinos in Chicago expressed a desire for a video showing how fruits and vegetables are “picked” from farms, addressing their uncertainty about trying fruits and vegetables not available to their native countries.

**Latinas in San Antonio felt that messages encouraging fruit and vegetable consumption should be communicated in Spanish.** Language preference was not discussed in this portion of the discussion in the other three focus groups. However, participants indicated earlier in some groups that they routinely hear about health information in both Spanish and English.

One Latino participant in Chicago mentioned a desire for more information to be provided in **schools** about fruits and vegetables. Latinos in San Antonio mentioned the need to use actors that **represent the ideal body type for Latinos** in advertisements -- “strong,” “solid,” and “healthy-looking.” Two groups mentioned a desire for messages that **communicate the specific nutrients that individual fruits and vegetables contain, as well as their specific health benefits** (this message concept addressed several Latino groups' top-ranked benefits -- i.e., better overall health and disease prevention).

## **6.5 Comparisons with Previous Focus Groups**

Because this is the first 5 A Day research study to conduct focus groups with Latinos, comparisons with comparable 5 A Day research with Latinos are not possible.

## 7. Conclusions and Implications

Twelve focus groups were conducted with 110 members of the 5 A Day target audience in July 2000 to gain insight into promising new concepts for future communications materials. Four groups were conducted for each of three racial/ethnic groups (Caucasian, African American, and Latino), two of each gender. Based on the findings from these focus groups, the following conclusions and implications can be drawn:

### *Fruits and vegetables are seen as part of a healthy diet*

Across racial and ethnic lines, all focus group participants knew that fruit and vegetable consumption is important to health, and most reported improving their diet in recent years to include more fruits and vegetables. Compared with the focus group study conducted in 1992, participants were more aware of the need to make fruits and vegetables a central part of their diet. They were also more likely to recognize the positive role fruits and vegetables play in preserving their health and extending their livelihood, rather than simply focusing on the negative qualities of unhealthy foods. This improved awareness was reflected in their reported behaviors: African American participants were more likely to prepare foods by steaming or baking rather than by frying, and Caucasian participants, especially men, were more likely to plan for fruit and vegetable shopping and preparation than was the case in 1992. Although focus groups were not conducted with Latinos in 1992, Latino participants in this study also acknowledged having made changes toward a healthier regimen that included eating more fruits and vegetables.

### *Participants' limits are instructive*

Yet there are some instructive limits to participants' grasp of the healthfulness of fruit and vegetable consumption. Few understood the practical implications of the basic "5 A Day" instruction because of their uncertainty regarding the definition of a "serving." Many also misunderstood the recommended amount – a combination of five servings of fruits and vegetables a day – and thus felt it was beyond their ability to consume "5 A Day." Such basic misconceptions confused and discouraged some participants, leaving them feeling that they could not attain the recommended levels of fruit and vegetable consumption, or, alternatively, leaving them to invent their own standards for serving size. Furthermore, none of the participants realized that legumes are considered "vegetables." Future 5 A Day messages need to communicate that lentils and beans, for example, qualify as part of "5 A Day."

### *Barriers to fruit and vegetable consumption continue to be a reality*

Barriers such as busy lifestyles frequently impede greater consumption of fruits and vegetables among the target audience. Participants in all groups indicated that convenience is a major factor in determining their fruit and vegetable intake. Few could find the time in their schedules to learn more about how to incorporate new fruits and vegetables into their diets, and many admitted that considerations such as preparation time (especially for vegetables), seasonal availability and cost (especially for fruits), and family habits often outweigh their desire to improve their diets even further. Many participants felt reluctant to try new and unfamiliar fruits. For Caucasian and African American participants, this resulted in a limited selection of produce incorporated into

their diet, while Latinos – who found certain vegetables to be “unfamiliar” to them (e.g., eggplant, asparagus, artichoke) – had to search for stores that sell produce found in their native countries.

### ***Influencers continue to be the obvious ones, except media has mixed reactions***

Family and friends, doctors or other health professionals, and media were named as sources of positive information that helped participants improve their eating habits over time. However, media was also blamed for causing a decline in the quality of family members’ diets, especially because it creates a demand for fast food. African American participants, in particular, displayed marked cynicism about health messages they receive via the media which they often consider to be contradictory.

### ***Culture plays a role in fruit and vegetable consumption***

Culture shaped participants’ acceptance of the importance of a diet rich in fruits and vegetables. African American participants (especially women) mentioned the importance of paying tribute to their heritage by serving specific fruits and vegetables (that also have to be fresh) during holidays. Latino participants expressed a strong concern regarding the taste and quality of American produce and complained that they could not find certain fruits native to their countries of origin here in the United States (e.g., guanabana, maracuya). However, Latinos’ common practice of making smoothies assures that they are consuming at least some fruits and vegetables on a regular basis.

The strong concerns voiced uniquely by Latino participants regarding the chemicals, pesticides, and fertilizers used to grow American produce, and the frustrations articulated by Caucasian and African American participants regarding the difficulty of locating high-quality fresh fruit, indicate that people of all backgrounds are increasingly adopting a proactive stance toward fruit and vegetable consumption. Latinos, in particular, could benefit from outreach focusing on “myths” versus “facts” given the level of misinformation exhibited (e.g., the belief that fruit and vegetable consumption can help to prevent Alzheimer’s and malaria). (This level of misinformation may be due, in part, to the fact that little or no 5 A Day efforts have been channeled as of yet toward reaching the Latino population specifically.)

### ***Gender must be addressed in future 5 A Day activities***

Gender was fundamental in determining participants’ reactions and approach to fruit and vegetable consumption. Despite a noticeable change in men’s awareness, attitudes, and consumption of fruits and vegetables since 1992, women remain the primary food preparers in families of all backgrounds.

Women were more likely than men to identify obstacles to fruit and vegetable consumption produced by family dynamics. This difference is the result of both practical experience and gender outlooks. Where men were more likely than before to emphasize the importance of adding fruits and vegetables into their diet by sheer willpower (“just do it”), women commented on the difficulty of changing dietary habits when spouses and children object to new foods. Like African American and Caucasian women, Latinas were more interested in learning practical tips to make fruit and vegetable preparation easier and more palatable to their families. In many focus groups, most notably those with Caucasian participants, men expressed a new attention to fruit and vegetable consumption that reflects an increasing concern with appearance and weight control (a



stereotypically woman-focused concern). Of interest, a couple of Latino men were concerned that a conspicuous increase in their intake of fruits and vegetables (food they referred to as “rabbit food”) might make them appear unmasculine, given the association of meat with virility.

Both men and women stressed the importance of fruit and vegetable consumption, and indicated their intention to improve their family diet. They differed considerably, however, in their sense of whether and how more fruits and vegetables could be incorporated into their lives. Women, for example, highlighted the difficulty of encouraging children to eat fruits and vegetables when so many commercial outlets promote fast food, candy, and soda. Men were also concerned about children’s eating behaviors, but they tended to focus on concrete suggestions to overcome people’s resistance to fruits and vegetables and to emphasize the importance of being an adult role model.

Considering the continuing tendency of families in all groups to rely largely on women to prepare meals, it makes sense to target items such as recipes and tips for involving the whole family in meal preparation to women. However, men are a promising new “target audience” given the level of enthusiasm they displayed in their desire to become more engaged in affecting their families’ diets.

### ***There are ways to “freshen” the 5 A Day message***

Considered together, the strengths and weaknesses of focus group participants’ approach to fruit and vegetable consumption suggest that messages emphasizing the importance of fruits and vegetables as part of a healthy diet have succeeded in reaching Americans of all backgrounds, and now require a more focused information strategy to accomplish future improvements in diet and outlook.

Members of all racial and ethnic groups require new practical information to act more effectively on their basic grasp of the 5 A Day message. The most immediate information needs concern sharpening the specific meaning of the 5 A Day message. Future messages should present concrete examples of what is meant by five servings of fruits and vegetables a day, perhaps with a reassuring tag line that implies “it’s not as much as you think.” This approach could also be used to address another area in need of greater specificity – the nutritional value of individual fruits and vegetables. An effective ad might involve examining a healthy day’s diet, discussing the nutritional value of each meal, and underscoring the connection between the color of a fruit or vegetable and its dietary contribution. Focusing on individual fruits or vegetables would also allow for combining detailed information on the benefits of fruits and vegetables with the general 5 A Day message, a recommendation participants preferred over bundling the 5 A Day message with other health behavior suggestions.

Focus group participants pointed to the usefulness of cookbooks, brochures, and meal guides. They also showed interest in having grocery stores provide signs posting the nutritional value of produce, which suggests that they might benefit from shoppers’ guides to fruits and vegetables.

### ***It is important to highlight health benefits and disease prevention***

Taking into account the near-universal agreement participants expressed regarding the importance of fruit and vegetable consumption, it seems less important to focus resources on attempts to “sell” fruits and vegetables as “good for you.” Participants in most groups recognized the benefits of

fruits and vegetables – they listed a number of positive reasons to eat them such as improved health, feeling more energetic and “cleansed,” disease prevention, and weight control.

***Changes in social norms and individuals’ “environment” are critical for the institutionalization of increased fruit and vegetable consumption***

If social norms around fruit and vegetable consumption are truly going to evolve, the focus group findings suggest that 5 A Day efforts would be most effective if they combined visually and aurally (e.g., catchy music) compelling imagery of ripe, fresh, and vividly colored produce being eaten by healthy, energetic individuals and families. If possible, such images should make eating fruits and vegetables appear not only fun, but easy, emphasizing the convenience, for example, of snacking on carrots.

Among many other useful suggestions, participants thought the following “environmental” modifications would be helpful in advancing the social norm adoption cycle: offering cooking demonstrations, samples, salad bars, and packages of pre-cut fruits and vegetables in grocery store produce sections; providing fresh and dried fruits and vegetables at check-out lanes; offering recipes for unfamiliar fruits and vegetables in brochures, pamphlets, and other print publications; providing tips on how best to prolong the freshness and quickly prepare specific fruits and vegetables (including juices and smoothies); insisting that restaurants offer more fruit and vegetable menu options; and requiring workplaces to supply on-site refrigerators and microwave ovens, vending machines containing fresh fruit and/or 100% juices, and farmers’ market discounts for fruits and vegetables.

***Consumers are proactive and eager for more detailed information on how to improve their diet***

Perhaps the most important finding of this study is the active interest and practical concerns participants displayed toward fruit and vegetable consumption. Clearly, individuals across ethnic and racial groups are eager to take a more active role in their diets and search for any feasible way to improve their knowledge of fruit and vegetables’ nutritional value. Participants in all groups revealed a widely shared interest in learning more about all aspects of fruits and vegetables in the diet, including information about the connection between color and nutrient value for specific fruits and vegetables, and new methods of presentation. Across focus groups, participants were also concerned about the obstacles they encounter in improving their diets, and used their imaginations for creative ideas to overcome these barriers.

This mindset indicates both that nutrition-related messages have successfully raised people’s awareness of the importance of fruit and vegetable consumption to their well-being, and that this success has created a broad-based demand for more detailed nutritional information about fruit and vegetable consumption which consumers are ready to incorporate into their knowledge, attitudes, and behaviors.

## 8. Appendices

## 8.1 Appendix A: Bibliography

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## 8.2 Appendix B: Selection of the 5 A Day Target Audience

What do we need to do to communicate effectively with the public to achieve the objective of increasing Americans' consumption of fruits and vegetables to five or more servings a day?

We could tell everyone in the United States to consume "5 A Day," but this strategy would be prohibitively expensive. Besides, not everyone needs to hear the message equally – some already eat enough fruits and vegetables; some may never eat five or more fruits and vegetables a day; some may be more influenceable than others; and some may be more influential than others.

To make the best use of our limited resources, we want first to influence the largest number of people possible who are open to this message (i.e., most ready to increase their fruit and vegetable intake) and who have not yet reached the objective of eating five or more fruits and vegetables a day. A nationally representative baseline survey conducted in 1991 indicated that the average number of servings a day of fruits and vegetables consumed was about 3.5. Since this average intake is a point around which most people cluster, we have looked to this group in selecting a target audience for the 5 A Day for Better Health Program.

Rather than spreading the National Cancer Institute's limited resources across all consumers and run the risk of diluting the impact of the 5 A Day for Better Health Program, we have chosen to follow the current marketing practice of target marketing to maximize impact. This starts with segmenting (grouping) the market by commonalities that are most important to the marketing objective. Except for the special case of customized marketing, segments are never perfectly homogeneous. What matters most, however, is that they are homogeneous on the most important marketing factors and that target segments are measurable, substantial, effectively reachable, and effectively servable. It is also usually better for a target segment to be large and growing, as well as consistent with the organization's objectives.

The core target audience of the 5 A Day for Better Health Program consists of adults who are already eating more fruits and vegetables than they used to, but who still fall short of eating five or more servings a day. This audience accounts for approximately 14% of the national sample of adults surveyed. It contains both men and women, with a broad range of incomes and occupations. With the strategy selected, moreover, the 5 A Day for Better Health Program should reach a much wider audience than the core target audience.

The target audience has been based on a psychographic profile, not a demographic one. This means that we are more interested in what people do, not what demographic attributes they have. The focus is to change a behavior – i.e., eating more fruits and vegetables. The selection of a psychographic profile does not assume or preclude any particular type of person based on demographics. The "picture" created is a composite of audience attributes. What binds target audience members together is their psychology and lifestyle, not age, race, household size, etc.

Most important, the commonalities in our target audience are very attractive – this target allows us to work with momentum. These are people who are already moving in the desired direction. What 5 A Day is intended to do is to change a social norm, since 80% of Americans currently eat less than the recommended five or more daily servings. Not only are social norms a barrier to change, but resistance to new ideas is often found in norms that relate to food habits. The need to build on the momentum already created in the first 10 years of the 5 A Day campaign is

therefore all the more critical. Hence, our limited resources should not be consumed to persuade people to contemplate action or make a decision but should concentrate on motivating people to act so that quicker progress can be achieved.

As they move, these people are also likely to move others. They are also more likely than the general population to have children, whose early habits they influence. Targeting this group with a media campaign is like a rolling snowball down a hill – as it descends, it accelerates and grows. Additional targets (e.g., Latinos) will be included as the practice of eating five or more servings of fruits and vegetables daily moves along the adoption cycle.

### 8.3 Appendix C: Screening Questionnaires

NATIONAL CANCER INSTITUTE  
5 A DAY FOCUS GROUPS  
**SCREENER FOR WHITE MALES (GROUP 1)  
AND BLACK MALES (GROUP 2)**

- Inclusion/Exclusion Criteria:
  - White or Black [RECRUIT 12 FOR EACH GROUP]
  - Male
  - Eats 2-3 fruits and vegetables per day and is trying to increase the number eaten each day
  - Ages 25 – 40 and 41 – 50 [EQUAL NUMBERS IN EACH CATEGORY]
  - Primary food shopper -- **Always or Usually** buys the food [RECRUIT 6 ]
  - Sharer food shopper - **Sometimes** buys the food AND shops once a week or every one to two weeks [RECRUIT 6 ]
  - Middle Income Categories [EXCLUDE WEALTHY & POOR RESPONDENTS]
  - Education = At least a high school diploma/GED; No more than an undergraduate degree
  - 50% have children 8<sup>th</sup> grade and below; 50% do not
  
- For each group, recruit 12 respondents to get 8-10 participants.

Hello, my name is \_\_\_\_\_ from \_\_\_\_\_, a consumer research firm. We are conducting a study on health issues with individuals who are 25 to 50 years of age. Is now a convenient time to answer a few questions?

1. Gender

Female .....1 [IF FEMALE, PROCEED TO FEMALE GROUP SCREENER]

Male .....2 [CONTINUE]

2. And may I have your age, please?

[Note: 50% of each group should be 25-40 years of age and the other 50% should be 41-50 years of age.]

Younger than 25.....1 [THANK & END]

25 through 40.....2 [RECRUIT 6 PER GROUP]

41 through 50.....3 [RECRUIT 6 PER GROUP]

Older than 50.....4 [THANK & END]

3. We want to make sure we represent different groups in our study. Would you describe yourself as:

White, not of Hispanic origin.....1	[RECRUIT 12 FOR GROUP 1]
Black, not of Hispanic origin.....2	[RECRUIT 12 FOR GROUP 2]
Hispanic or Latino.....3	[THANK & END]
Asian.....4	[THANK & END]
Native Hawaiian or other Pacific Islander.....5	[THANK & END]
American Indian or Alaskan Native.....6	[THANK & END]
Other.....7	[THANK & END]

4. Which of the following statements best describes how much you participate in the food shopping for your household?

I ALWAYS or USUALLY buy the food.....1	[RECRUIT 6 AND GO TO QUESTION 5]
I SOMETIMES buy the food.....2	[GO TO QUESTION 4A.]
I RARELY or NEVER buy the food.....3	[THANK & END]

4A. How often would you say you do the food shopping for your household? Would you say it's:

At least once a week.....1	[RECRUIT 6; A MIX FROM THESE TWO CATEGORIES]
Every one to two weeks.....2	
About every three weeks.....3	[THANK & END]
Once a month or less.....4	[THANK & END]

5. Please tell me if you are currently trying to eat more, less, or the same of the following food types:

	<u>Less</u>	<u>Same</u>	<u>More</u>	
Red Meat	1	2	3	[CONTINUE]
Breads & Grain Products	1	2	3	[CONTINUE]
Fruits & Vegetables	1	2	3	[IF MORE F/V, RECRUIT 12 IN EACH GROUP; OTHERWISE, THANK & END]

6. About how many servings of fruits and vegetables would you say you eat in an average day? A glass of 100% juice counts as one fruit or vegetable.

Eats less than 2 fruits and vegetables.....1	[THANK & END]
Eats 2-3 fruits and vegetables.....2	[CONTINUE]



Eats 4 or more fruits and vegetables.....3 [THANK & END]

7. Please tell me if any of the following describe you or anyone living in your household:

	<u>Yes</u>	<u>No</u>	
Is anyone a vegetarian?	1	2	[IF YES, THANK & END]
Is anyone on a medically prescribed diet or on a special diet for health reasons? [Note: Weight loss programs initiated by participant are OK]	1	2	[IF YES, THANK & END]
Has anyone been diagnosed by a physician as having heart disease, high cholesterol, cancer, diabetes, or stomach ulcers?	1	2	[IF YES, THANK & END]

8. Does anyone living in your household work in any of the following professions:

	<u>Yes</u>	<u>No</u>	
Is anyone a doctor, nurse, or other health professional?	1	2	[IF YES, THANK & END]
Is anyone a nutritionist or dietitian?	1	2	[IF YES, THANK & END]
Does anyone work in marketing research or advertising?	1	2	[IF YES, THANK & END]

9. What is the highest level of education you have completed?  
[NOTE: ATTEMPT TO RECRUIT GROUPS WITH AN EVEN DISTRIBUTION OF EDUCATION LEVELS.]

- Less than high school grad.....1 [THANK & END]
- High school graduate/GED.....2 [CONTINUE]
- Some College.....3 [CONTINUE]
- College Degree.....4 [CONTINUE]
- Graduate or Professional Degree.....5 [THANK & END]

10. Which of the following categories contains your household's annual income?  
[NOTE: ATTEMPT TO RECRUIT GROUPS WITH AN EVEN DISTRIBUTION OF INCOME LEVELS.]

- Less than \$19,999 .....1 [THANK & END]
- \$20,000 -- \$34,999.....2 [CONTINUE]
- \$35,000 -- \$59,999.....3 [CONTINUE]
- \$60,000 – \$75,000 .....4 [CONTINUE]
- Greater than \$75,000.....5 [THANK & END]

11. Are there any children in the eighth grade or below living in your household?

- Yes.....1 [RECRUIT 6 PER GROUP]
- No.....2 [RECRUIT 6 PER GROUP]

12. Have you ever been paid to participate in a focus group or other group discussion in the past 6 months?

- Yes.....1 [THANK & END]
- No.....2 [CONTINUE]

NATIONAL CANCER INSTITUTE  
 5 A DAY FOCUS GROUPS  
**SCREENER FOR WHITE FEMALES (GROUP 1)  
 AND BLACK FEMALES (GROUP 2)**

- Inclusion/Exclusion Criteria:
  - White or Black [RECRUIT 12 FOR EACH GROUP]
  - Female
  - Eats 2-3 fruits and vegetables per day and is trying to increase the number eaten each day
  - Ages 25 – 40 and 41 – 50 [EQUAL NUMBERS IN EACH CATEGORY]
  - Primary Food Buyer or Decision Maker
  - Middle Income Categories [EXCLUDE WEALTHY & POOR RESPONDENTS]
  - Education = At least a high school diploma/GED; No more than an undergraduate degree
  - 50% have children 8<sup>th</sup> grade and below; 50% do not
  
- For each group, recruit 12 respondents to get 8-10 participants.

Hello, my name is \_\_\_\_\_ from \_\_\_\_\_, a consumer research firm. We are conducting a study on health issues with individuals who are 25 to 50 years of age. Is now a convenient time to answer a few questions?

1. Gender

Female .....1 [CONTINUE]

Male .....2 [IF MALE, PROCEED TO MALE GROUP SCREENER]

2. May I have your age, please?

[Note: 50% of each group should be 25-40 years of age and the other 50% should be 41-50 years of age.]

Younger than 25.....1 [THANK & END]

25 through 40.....2 [RECRUIT 6 PER GROUP]

41 through 50.....3 [RECRUIT 6 PER GROUP]

Older than 50.....4 [THANK & END]

3. We want to make sure we represent different groups in our study. Would you describe yourself as:

White, not of Hispanic origin.....1	[RECRUIT 12 FOR GROUP 1]
Black, not of Hispanic origin.....2	[RECRUIT 12 FOR GROUP 2]
Hispanic.....3	[THANK & END]
Asian.....4	[THANK & END]
Native Hawaiian or other Pacific Islander.....5	[THANK & END]
American Indian or Alaskan Native.....6	[THANK & END]
Other.....7	[THANK & END]

4. Which of the following statements best describes how much you participate in the food shopping for your household?

I ALWAYS or USUALLY buy the food.....1	[CONTINUE]
I SOMETIMES buy the food.....2	[THANK & END]
I RARELY or NEVER buy the food.....3	[THANK & END]

5. Please tell me if you are currently trying to eat more, less, or the same of the following food types:

	<u>Less</u>	<u>Same</u>	<u>More</u>	
Red Meat	1	2	3	[CONTINUE]
Breads & Grain Products	1	2	3	[CONTINUE]
Fruits & Vegetables	1	2	3	[IF MORE F/V, RECRUIT 12 IN EACH GROUP; OTHERWISE, THANK & END]

6. About how many servings of fruits and vegetables would you say you eat in an average day? A glass of 100% juice counts as one fruit or vegetable.

Eats less than 2 fruits and vegetables.....1	[THANK & END]
Eats 2-3 fruits and vegetables.....2	[CONTINUE]
Eats 4 or more fruits and vegetables.....3	[THANK & END]

7. Please tell me if any of the following describe you or anyone living in your household:

Is anyone a vegetarian?	<u>Yes</u>	<u>No</u>	
	1	2	[IF YES, THANK & END]

Is anyone on a medically prescribed diet or on a special diet for health reasons? [Note: Weight loss programs initiated by participant are OK]	1	2	[IF YES, THANK & END]
--	---	---	-----------------------

Has anyone been diagnosed by a physician as having heart disease, high cholesterol, cancer, diabetes, or stomach ulcers?	1	2	[IF YES, THANK & END]
--	---	---	-----------------------

8. Does anyone living in your household work in any of the following professions:

	<u>Yes</u>	<u>No</u>	
Is anyone a doctor, nurse, or other health professional?	1	2	[IF YES, THANK & END]

Is anyone a nutritionist or dietitian?	1	2	[IF YES, THANK & END]
--	---	---	-----------------------

Does anyone work in marketing research or advertising?	1	2	[IF YES, THANK & END]
--	---	---	-----------------------

9. What is the highest level of education you have completed?

[NOTE: ATTEMPT TO RECRUIT GROUPS WITH AN EVEN DISTRIBUTION OF EDUCATION LEVELS.]

Less than high school grad.....	1	[THANK & END]
High school graduate/GED.....	2	[CONTINUE]
Some College.....	3	[CONTINUE]
College Degree.....	4	[CONTINUE]
Graduate or Professional Degree.....	5	[THANK & END]

10. Which of the following categories contains your household's annual income?

[NOTE: ATTEMPT TO RECRUIT GROUPS WITH AN EVEN DISTRIBUTION OF INCOME LEVELS.]

Less than \$20,000.....	1	[THANK & END]
\$20,000 -- < \$34,999.....	2	[CONTINUE]
\$35,000 -- < \$59,999.....	3	[CONTINUE]
\$60,000 – \$74,999.....	4	[CONTINUE]

Greater than \$75,000.....5 [THANK & END]

11. Are there any children in the eighth grade or below living in your household?

Yes.....1 [RECRUIT 6 PER GROUP]

No.....2 [RECRUIT 6 PER GROUP]

12. Have you ever been paid to participate in a focus group or other group discussion in the past 6 months?

Yes.....1 [THANK & END]

No.....2 [CONTINUE]

NATIONAL CANCER INSTITUTE  
5 A DAY FOCUS GROUPS  
**SCREENER FOR HISPANIC, SPANISH-SPEAKING MALES**

- Inclusion/Exclusion Criteria:
  - Hispanic, speak Spanish primarily [RECRUIT 12]
  - Male
  - Eats 1-3 fruits and vegetables per day and is trying to increase the number eaten each day
  - Ages 25-40 and 41-50 [EQUAL NUMBERS IN EACH CATEGORY]
  - Primary food shopper -- **Always or Usually** buys the food [RECRUIT 6 ]
  - Sharer food shopper - **Sometimes** buys the food AND shops once a week or every one to two weeks [RECRUIT 6 ]
  - Middle Income Categories [EXCLUDE VERY POOR & WEALTHY]
  - Education = Exclude those with college or graduate degrees
  - 50% have children 8<sup>th</sup> grade and below; 50% do not
  
- For each group, recruit 12 respondents to get 8-10 participants.

Hello, my name is \_\_\_\_\_ from \_\_\_\_\_, a consumer research firm. We are conducting a study on health issues with individuals who are 25 to 50 years of age. Is now a convenient time to answer a few questions?

1. Gender

- Female.....1 [IF FEMALE, PROCEED TO FEMALE SCREENER]  
Male.....2 [CONTINUE]

2. May I have your age, please?

[Note: 50% of each group should be 25-40 years of age and the other 50% should be 41-50 years of age.]

- Younger than 25.....1 [THANK & END]  
25 through 40.....2 [RECRUIT 6]  
41 through 50.....3 [RECRUIT 6]  
Older than 50.....4 [THANK & END]

3. We want to make sure we represent different groups in our study. Would you describe yourself as Hispanic or Latino:

Yes.....1 [CONTINUE]

No.....2 [THANK & END]

4. What is your country of origin or ethnicity? Are you: (check as many as apply) [TRY TO RECRUIT A MIX]

South American.....1

Central American.....2

Cuban.....3

Dominican.....4

Mexican.....5

Puerto Rican.....6

Other (Please specify).....7

5. How often do you speak Spanish at home? Would you say you speak Spanish:

All of the time.....1 [CONTINUE]

More than half the time.....2 [CONTINUE]

Less than half the time.....3 [THANK & END]

6. Do you watch Hispanic television and listen to Hispanic radio?

Yes.....1 [CONTINUE]

No.....2 [THANK & END]

7. How many hours of Spanish television do you watch per week? Would you say it is:

10 or more hours.....1 [CONTINUE]

Less than 10 hours.....2 [THANK & END]

8. How many hours of Spanish radio do you listen to per week? Would you say it is:

5 or more hours.....1 [CONTINUE]

Less than 5 hours.....2 [THANK & END]

9. Thinking about the information you receive from a variety of companies, do you prefer to receive information in Spanish or English?



Spanish.....1 [CONTINUE]  
 English.....2 [THANK & END]

10. Which of the following statements best describes how much you participate in the food shopping for your household?

I ALWAYS or USUALLY buy the food.....1 [RECRUIT 6 AND GO TO QUESTION 11]  
 I SOMETIMES buy the food.....2 [GO TO QUESTION 10A.]  
 I RARELY or NEVER buy the food.....3 [THANK & END]

10A. How often would you say you do the food shopping for your household? Would you say it's...?

At least once a week.....1 [RECRUIT 6; A MIX FROM THESE TWO CATEGORIES]  
 Every one to two weeks.....2  
 About every three weeks.....3 [THANK & END]  
 Once a month or less.....4 [THANK & END]

11. Please tell me if you are currently trying to eat more, less, or the same of the following food types:

	<u>Less</u>	<u>Same</u>	<u>More</u>	
Red Meat	1	2	3	[CONTINUE]
Breads & Grain Products	1	2	3	[CONTINUE]
Fruits & Vegetables	1	2	3	[IF MORE F/V, RECRUIT 12 IN EACH GROUP; OTHERWISE, THANK & END]

12. About how many servings of fruits and vegetables would you say you eat in an average day? A glass of 100% juice counts as one fruit or vegetable. Other examples of vegetables include beans and salsa.

Eats less than 1 serving of fruits and vegetables.....1 [THANK & END]  
 Eats 1-3 servings of fruits and vegetables.....2 [CONTINUE]  
 Eats 4 or more servings of fruits and vegetables.....3 [THANK & END]

13. Please tell me if any of the following describe you or anyone living in your household:

	<u>Yes</u>	<u>No</u>	
Is anyone a vegetarian?	1	2	[IF YES, THANK & END]

Is anyone on a medically prescribed diet or on a special diet for health reasons? [Note: Weight loss programs initiated by participant are OK]                    1                    2                    [IF YES, THANK & END]

Has anyone been diagnosed by a physician as having heart disease, high cholesterol, cancer, diabetes, or stomach ulcers?                    1                    2                    [IF YES, THANK & END]

14. Does anyone living in your household work in any of the following professions:

	<u>Yes</u>	<u>No</u>	
Is anyone a doctor, nurse, or other health professional?	1	2	[IF YES, THANK & END]

Is anyone a nutritionist or dietitian?	1	2	[IF YES, THANK & END]
--	---	---	-----------------------

Does anyone work in marketing research or advertising?	1	2	[IF YES, THANK & END]
--	---	---	-----------------------

15. Have you been paid to participate in a focus group or other group discussion in the past 6 months?

Yes.....	1	[THANK & END]
No.....	2	[CONTINUE]

16. Which of the following categories contains your household's annual income?

<\$10,000.....	1	[THANK & END]
\$10,000 -- <\$29,999.....	2	[CONTINUE]
\$30,000 – \$50,000.....	3	[CONTINUE]
>\$50,000.....	4	[THANK & END]

17. What is the highest education level you have completed? [RECRUIT A MIX]

- Less than high school.....1 [CONTINUE]
- High school diploma, GED, or technical school....2 [CONTINUE]
- Some college.....3 [CONTINUE]
- College degree.....4 [THANK & END]
- Graduate or professional degree.....5 [THANK & END]

18. Are there any children in the eighth grade or below living in your household?

- Yes.....1 [RECRUIT 6]
- No.....2 [RECRUIT 6]

NATIONAL CANCER INSTITUTE  
5 A DAY FOCUS GROUPS  
**SCREENER FOR HISPANIC, SPANISH-SPEAKING FEMALES**

- Inclusion/Exclusion Criteria:
  - Hispanic, speak Spanish primarily [RECRUIT 12]
  - Female
  - Eats 1-3 fruits and vegetables per day and is trying to increase the number eaten each day
  - Ages 25-40 and 41-50 [EQUAL NUMBERS IN EACH CATEGORY]
  - Primary Food Buyer or Decision Maker
  - Middle Income Categories [EXCLUDE VERY POOR & WEALTHY]
  - Education = Exclude those with college or graduate degrees
  - 50% have children 8<sup>th</sup> grade and below; 50% do not
  
- Recruit 12 respondents to get 8-10 participants.

Hello, my name is \_\_\_\_\_ from \_\_\_\_\_, a consumer research firm. We are conducting a study on health issues with individuals who are 25 to 50 years of age. Is now a convenient time to answer a few questions?

1. Gender

- Female .....1      [CONTINUE]  
 Male .....2      [IF MALE, PROCEED TO MALE GROUP SCREENER]

2. May I have your age, please?

[Note: 50% of each group should be 25-40 years of age and the other 50% should be 41-50 years of age.]

- Younger than 25.....1      [THANK & END]  
 25 through 40.....2      [RECRUIT 6]  
 41 through 50.....3      [RECRUIT 6]  
 Older than 50.....4      [THANK & END]

3. We want to make sure we represent different groups in our study. Would you describe yourself as Hispanic or Latino:

Yes.....1 [CONTINUE]

No.....2 [THANK & END]

4. What is your country of origin or ethnicity? Are you: (check as many as apply) [TRY TO RECRUIT A MIX]

South American.....1

Central American.....2

Cuban.....3

Dominican.....4

Mexican.....5

Puerto Rican.....6

Other (Please specify).....7

5. How often do you speak Spanish at home? Would you say you speak Spanish:

All of the time.....1 [CONTINUE]

More than half the time.....2 [CONTINUE]

Less than half the time.....3 [THANK & END]

6. Do you watch Hispanic television and listen to Hispanic radio?

Yes.....1 [CONTINUE]

No.....2 [THANK & END]

7. How many hours of Spanish television do you watch per week? Would you say it is:

10 or more hours.....1 [CONTINUE]

Less than 10 hours.....2 [THANK & END]

8. How many hours of Spanish radio do you listen to per week? Would you say it is:

5 or more hours.....1 [CONTINUE]

Less than 5 hours.....2 [THANK & END]

9. Thinking about the information you receive from a variety of companies, do you prefer to receive information in Spanish or English?

Spanish.....1 [CONTINUE]

English.....2 [THANK & END]

10. Which of the following statements best describes how much you participate in the food shopping for your household?

I ALWAYS or USUALLY buy the food.....1 [CONTINUE]

I SOMETIMES buy the food.....2 [THANK & END]

I RARELY or NEVER buy the food.....3 [THANK & END]

11. Please tell me if you are currently trying to eat more, less, or the same of the following food types:

	<u>Less</u>	<u>Same</u>	<u>More</u>	
Red Meat	1	2	3	[CONTINUE]
Breads & Grain Products	1	2	3	[CONTINUE]
Fruits & Vegetables	1	2	3	[IF MORE F/V, RECRUIT 12 IN EACH GROUP; OTHERWISE, THANK & END]

12. About how many servings of fruits and vegetables would you say you eat in an average day? A glass of 100% juice counts as one fruit or vegetable. Other examples of vegetables include beans and salsa.

Eats less than 1 serving of fruits and vegetables.....1 [THANK & END]

Eats 1-3 servings of fruits and vegetables.....2 [CONTINUE]

Eats 4 or more servings of fruits and vegetables.....3 [THANK & END]

13. Please tell me if any of the following describe you or anyone living in your household:

	<u>Yes</u>	<u>No</u>	
Is anyone a vegetarian?	1	2	[IF YES, THANK & END]
Is anyone on a medically prescribed diet or on a special diet for health reasons? [Note: Weight loss programs initiated by participant are OK]	1	2	[IF YES, THANK & END]
Has anyone been diagnosed by a physician as having heart disease, high cholesterol, cancer, diabetes, or stomach ulcers?	1	2	[IF YES, THANK & END]

14. Does anyone living in your household work in any of the following professions:

	<u>Yes</u>	<u>No</u>	
Is anyone a doctor, nurse, or other health professional?	1	2	[IF YES, THANK & END]
Is anyone a nutritionist or dietitian?	1	2	[IF YES, THANK & END]
Does anyone work in marketing research or advertising?	1	2	[IF YES, THANK & END]

15. Have you been paid to participate in a focus group or other group discussion in the past 6 months?

Yes.....	1	[THANK & END]
No.....	2	[CONTINUE]

16. Which of the following categories contains your household’s annual income?

<\$10,000.....	1	[THANK & END]
\$10,000 -- <\$29,999.....	2	[CONTINUE]
\$30,000 – \$50,000.....	3	[CONTINUE]
>\$50,000.....	4	[THANK & END]

17. What is the highest education level you have completed? [RECRUIT A MIX]

- Less than high school.....1 [CONTINUE]
- High school diploma, GED, or technical school....2 [CONTINUE]
- Some college.....3 [CONTINUE]
- College degree.....4 [THANK & END]
- Graduate or professional degree.....5 [THANK & END]

18. Are there any children in the eighth grade or below living in your household?

- Yes.....1 [RECRUIT 6]
- No.....2 [RECRUIT 6]



## 8.4 Appendix D: Moderator's Guide

JULY 24, 2000 - 11:00 a.m.

**Asterisk (\*) and/or underline = priority topic**

### I. Explanation and Self-introductions (10 mins.)

#### A. Introduction

1. Welcome. Thank you all for coming. My name is \_\_\_\_\_ and I work for a health communications/research company. Your presence and participation tonight are important.

#### B. Purpose

1. What we're doing here tonight is called a focus group. It's a discussion to find out your opinions -- like a survey but with broad, general questions. This evening we'll be talking about some health related issues -- particularly about health and nutrition.

#### C. Procedure

1. I'm interested in all your ideas, comments and suggestions. There are no right or wrong answers, only your opinions. Also, you do not have to agree with each other; in fact, if you agree or disagree with something that is said, please let us know.
2. Feel free to speak to one another. You do not need to speak directly to me. However, please try to talk one at a time.
3. I want you to know that I am not an expert on the topics we'll discuss tonight. I'm here to listen to your ideas and comments and to keep the discussion moving so we finish on time.
4. One of my responsibilities is to write a report about what I hear from this group & others. I've asked for the group to be audiotaped and videotaped because I'll need to use the tapes to remember what was said. I won't be interested in who says what, so this discussion will be confidential. Do I have your permission to tape this group, now that you understand the purposes for doing this?
5. I want you to know that the glass behind me is actually a one-way mirror, and some of my research colleagues are there. They'll be observing the group. Towards the end of the group discussion, I will step out of the room and go back to ask them if they have any final questions for you.

D. Self-introductions

1. Before we get started, I'd like everyone to introduce themselves to the group -- first names only. Please tell us a little bit about yourself, your first name, where you are from, and one thing you like to do in your spare time.

II Warm-up (5-10 mins.)

A. Thinking back over the last 5-10 years, what changes have you made in what you eat? (WRITE CHANGES ON EASEL) Why have you made these changes?

III. Fruits and Vegetables (F/V) (25 mins. for white groups; 40 mins. for Black and Hispanic)

A. \* (FOR BLACK AND HISPANIC GROUPS) I'd like to better understand how you think and feel about F/V.

1. SENTENCE COMPLETION (OPTIONAL):

In my home, vegetables are \_\_\_\_\_.

In my home, fruits are \_\_\_\_\_.

2. FOR EACH, ASK: Have you always felt that way? Do you think our background (i.e., being Black or Hispanic) has anything to do with how we think about or use F/V? How?

3. ALSO ASK: Have you made any changes to eat more F/V? What prompted these changes?

\* (PROBE: Role of traditional diet, family support, motivations to change diet, beliefs/ values, control over one's own health.)

B. [MOVE THROUGH THIS QUESTION QUICKLY] Some/many of you brought up F/V [FOR BLACK AND HISPANIC GROUPS, BYPASS THE FIRST STATEMENT.] How many servings of F/V do you think a person should eat each day for good health? (MODERATOR PROVIDES EXAMPLES OF A SERVING IF SOMEONE ASKS WHAT COUNTS AS A SERVING. EXAMPLES INCLUDE: 1 piece of fresh fruit, ¾ cup of 100% juice, ½ cup of cooked vegetables or canned fruit)

C. \* [EXPLORATION OF BENEFITS] Pretend for a moment that I'm a visitor from outer space, and we start talking to each other about what foods we eat -- our diet. You find out there are no F/V on the planet I come from. How do you explain to me what I'm missing? What F/V can do for me? Why they are important or good for me? Why would I want to bring back a spaceship full of F/V back to my planet? (\*EMPHASIZE BENEFITS - LIST AND NUMBER BENEFITS ON EASEL).

PROBE ON FOLLOWING BENEFITS, ADDING TO LIST IF NOT ALREADY THERE:

- \* Disease prevention. Do you think eating more F/V can play any part in helping to lower the chance of your getting diseases or getting sick? What types of diseases? \*(PROBE: heart disease, cancer) Why? How?
  - Weight loss. Can eating more F/V play a part in losing weight? How?
  - Feel better. Can eating more F/V help you feel better? In what way? How does that happen?
  - More energy. Can eating more F/V give a person more energy? How?
  - More fiber. Can eating more F/V put more fiber in a person's diet? How?
- (BE SURE TO ADD PROBED BENEFITS TO LIST ON EASEL)

D. Looking at the list of benefits on the easel, please write down the numbers of the 2 benefits that speak to you the most, or mean the most to you. [MODERATOR RECORDS A TALLY ON THE EASEL FOR EACH BENEFIT AND THEN PROBES ON TOP 2 AND BOTTOM 2 BENEFITS, MAKING SURE TO PROBE ON WHAT PEOPLE ARE THINKING ABOUT WHEN THEY SELECT DISEASE PREVENTION.]

E. Let's talk for a minute about fresh, frozen, dried, and canned F/V. Which do you purchase/eat most frequently -- fresh, frozen or canned F/V? Do you think there are differences between fresh, frozen, and canned F/V? [benefits/nutritional value, cost, availability, taste, ease of preparation] What? \*Why do you choose one over the other? \*Are there certain situations where you would use one over the other?

#### IV. Overcoming Barriers to Eating More F/V (45 mins.)

A. Now I'd like us to talk about some of the barriers or roadblocks to eating more F/V.

1. (SPEND NO MORE THAN 5-6 MINUTES ON IDENTIFICATION OF BARRIERS) What would you say are the top 5 reasons why you don't eat more vegetables [LIST ON EASEL]? What are the top 5 reasons why you don't eat more fruit? [LIST ON EASEL, SEPARATE FROM LIST FOR VEGETABLES]

B. Group Exercise: MODERATOR DIVIDES THE TABLE IN HALF, WITH INDIVIDUALS ON ONE SIDE OF THE TABLE FORMING ONE GROUP (GROUP A) AND INDIVIDUALS ON THE OTHER SIDE OF THE TABLE FORMING THE OTHER GROUP (GROUP B).

1. Let's suppose that everyone in Group A has the same exact eating habits and are not eating enough vegetables in their diet. In just a minute, I would like Group B to encourage Group A as a whole to include more vegetables in their diet. Group A, while Group B is encouraging you to eat more vegetables, please remain quiet and just listen to their arguments and suggestions. You will have a chance in a few minutes to tell us what you think about their arguments and suggestions. Group B, what would you say to Group A to encourage them to eat more vegetables? How can they overcome the roadblocks that were mentioned?

[ONLY IF AN EXAMPLE OF OVERCOMING BARRIERS TO EATING F/V HAS ALREADY BEEN MENTIONED BY THE GROUP, MODERATOR REFERS TO THIS EXAMPLE. IF NO EXAMPLE HAS BEEN MENTIONED, MODERATOR COULD USE AN EXAMPLE UNRELATED TO F/V: "If you had trouble remembering to bring sunscreen to the beach, you could store the sunscreen in your beach bag or near the beach towels and toys."]

[IF MODERATOR FEELS THAT GROUP B HAS NOT SAID ENOUGH OR IS NOT OFFERING SUGGESTIONS FOR OVERCOMING BARRIERS]:

PROBES:

- What else can Group A do to make it easier to eat more vegetables each day?
- Can you provide tips for how they can increase the number of vegetables they eat each day?
- What are some other arguments that might convince them to eat more vegetables?

2. \* AFTER THE ARGUMENTS FOR MORE VEGETABLES HAVE BEEN GIVEN, ASK GROUP A: What if anything did you hear that might cause you to eat more VEGETABLES? What makes that matter to you? What could have been said about vegetables that might have been even more motivating?

3. MODERATOR NOW TELLS GROUP A THAT THE MEMBERS OF GROUP B DO NOT EAT ENOUGH FRUIT, AND IT IS GROUP A'S TURN TO TRY TO CONVINCING GROUP B TO EAT MORE FRUIT: Okay, now we are going to switch roles. Let's suppose that everyone in Group B has exactly the same eating habits, and are not eating enough fruit. In just a minute, I would like Group A to try to get Group B as a whole to include more fruit in their diet. Group B, while Group A is encouraging you to eat more fruit, please remain quiet and just listen to their arguments and suggestions. You will have a chance in a few minutes to tell us what you think about their arguments and suggestions. Group A, what would you say to Group B to encourage them to eat more fruit? How can they overcome the barriers that were mentioned?

[IF MODERATOR FEELS THAT GROUP A HAS NOT SAID ENOUGH OR IS NOT OFFERING SUGGESTIONS FOR OVERCOMING BARRIERS]:

PROBES:

- What else can Group B do to make it easier to eat more fruit each day?
- Can you provide tips for how they can increase the number of fruit they eat each day?
- What are some other arguments that might convince them to eat more fruit?

4. \* AFTER THE ARGUMENTS FOR MORE FRUIT HAVE BEEN GIVEN, ASK GROUP B: What if anything did you hear that might cause you to eat more fruit? What makes that matter to you? What could have been said about fruit that might have been even more motivating?

C. Okay, we've had a nice discussion so far on benefits and barriers. Now, if someone you respect said to you that you should eat at least 5 F/V a day, how sure are you that you could do it? Could you do it for more than a short period of time? Tell me more.

D. [COMBINING 5-A-DAY MESSAGE WITH NON 5-A-DAY MESSAGES] Now I'm just curious about something...would it help you to eat more F/V if we mentioned F/V together with other things you can do to stay healthy - like exercising, eating less fat, and reducing some of the stress in your life? For example, what if we said: "To help your overall health, exercise regularly, eat less fat, eat more fruits and vegetables, and try to reduce the stress in your life." Does the message to eat more F/V work better or get lost when combined with other messages? Would that have any effect on your eating more F/V? Why or why not?

[COMBINING 5-A-DAY BENEFITS] Now let me ask you something a little different. Going back to the benefits you've talked about, what if we combined some of these benefits and said to you something like: "Eating more F/V can help you **[insert their top 2 short-term benefits, followed by one long-term benefit - e.g., "feel more energetic, look better, and help prevent certain diseases."]** Would combining benefits this way help you eat more F/V?

Now, which is more effective - putting together (bundling) the benefits of eating F/V, or talking about F/V in the context of other things you can do to stay healthy?

E. (ONLY IF NUTRITIONAL SUPPLEMENTS HAVE COME UP) How many of you take nutrient supplements or vitamins? Do you think taking supplements is as good as or even better than getting the same nutrients from food? Do you take supplements instead of eating certain foods or do you think of supplements like a safety net to make sure you're covered?)

F. Eating out/Restaurants: Now I'd like to spend a few minutes addressing eating out.

1. How often do you eat out? When you eat out, how do you decide which restaurant to go to?

PROBES:

- If a restaurant offers a menu that has a wide variety of more healthy options, including F/V, are you more likely to eat there? More likely to eat F/V there?
- Some people say they like to treat themselves when they go out to eat. Would you regard it as a "treat" if you went to a restaurant and enjoyed F/V prepared in an interesting or creative way?
- \* Do you feel comfortable asking for fruits and vegetables as a substitute?

G. [MOVE THROUGH THIS QUICKLY] Grocery Stores/Shopping: Let's move onto the grocery stores where you shop.

1. Are there any ways the supermarket/grocery store where you shop could help you buy and eat more F/V? (PROVIDE EXAMPLE IF NEEDED: Think for a minute about your meat section. Have you noticed how much pre-prepared foods there are? The meats are marinated, stuffed, or rolled and all you have to do is cook it... What if your local supermarket offered fruits and vegetables in this way – like a prepared vegetable section? If they had pre- cut, pre-washed fresh F/V in a package that included spices, condiments, and cooking instructions, would you buy and eat more of them?)

[IF THE GROCERY STORE PROVIDING RECIPES IS MENTIONED]: Would the rest of you be more likely to eat F/V if the grocery store provided you with recipes?

H. [MOVE THROUGH THIS QUICKLY] Workplace: Next, I'd like to focus your attention on where you work.

1. Can you think of anything that could be done differently at the place where you work that would help you eat more F/V?

(PROVIDE EXAMPLE IF NEEDED: If your employer had an arrangement with a local grocery store or "farmer's market" so you could purchase F/V at a discount on designated days, would you take advantage of it?)

V. Reaction to New Concepts – Nutritional Value and Phytochemicals (15 mins. for white groups; 5 mins. for Blacks and Hispanics). Now, let's switch our attention to some new topics.

A. Nutritional Value

1. Do you think that some fruits and vegetables have greater nutritional value (i.e., are more nutrient rich, nutritious or healthy) than others? Can you give me any examples? (NOTE: REFER BACK POCKET EXAMPLE SHEET-NUTRITIONAL VALUE SECTION AS NEEDED)
2. Does knowing that a particular F/V is especially rich in something, like Vitamin C for example, influence your choice to buy or eat it?
3. Is nutrient rich something you would be interested in finding out more about? Do you care about eating more nutritious F/V?
4. \*Have you ever heard of choosing F/V by color - that colors can be one way to identify nutrient rich F/V? Do you ever use color to decide which F/V has a higher nutritional value? Or can you think of some other way to determine which F/V are higher in nutritional value?

B. Fruits and Vegetables with Health Benefits

1. \* Have you heard that some F/V may contain antioxidants or special plant substances that may be beneficial to people in terms of disease prevention? What have you heard? (PROBE: Role of plant substances in the prevention of stroke or coronary heart disease? Role as disease fighters?)
2. \* Would you like to know more about the health benefits of these special plant substances? What would you like to know?

\*PROBE: Is it enough to know that F/V have these antioxidants, or do you want to know they have these things AND what they do?

Examples: tomatoes contain lycopene that may help prevent prostate cancer in men, grapes contain flavonoids that may help ward off heart disease.

3. Would you be more likely to eat F/V that are high in these plant substances if you knew they helped to prevent disease? (e.g., everyday wear and tear on your cells?)

VI. Communication of 5 A Day Messages (10-15 mins.)

- A. (DIVIDE PARTICIPANTS INTO GROUPS OF 3) So far, we've talked a lot about F/V and reasons to eat them. Now I'd like you to take 5 minutes and pretend you were ad writers and your assignment is to come up with a TV or magazine ad to help people like yourselves to eat more F/V. Feel free to use your own experiences as well as anything we have discussed here tonight. Take 5 minutes to discuss it in your groups and then we'll hear what you come up with.

While you're discussing this in your groups, I'm going to check with the observers to see if they have any questions. I will return in a few minutes. (MODERATOR CHECKS WITH OBSERVERS FOR ADDITIONAL QUESTIONS AND SEES IF ANY INTERESTING DISCUSSION DEVELOPS WHILE MODERATOR IS OUT OF THE ROOM).

(MODERATOR RETURNS) Okay, let's discuss the ads you have developed.

- B. Questions from observers (if any).

VII. Close

- A. We've come to the end of our discussion. Is there anything else you'd like to add on the topics we've discussed tonight?
- B. Thank you for coming. Your comments will be very helpful to the National Cancer Institute (NCI), part of the federal government's National Cancer Institutes of Health, in developing effective messages on F/V for people like yourselves. NCI has been the sponsor of this research.
- C. Please see the person at the desk on your way out for your incentive for participating. Also, we have a booklet for you on eating more F/V to take with you.