

Dietary Guidelines Advisory Committee Meeting 2

Sponsored by the
U.S. Department of Health and Human Services (HHS)
U.S. Department of Agriculture (USDA)

Held at the
National Institutes of Health
Building 35, Porter Building
9000 Rockville Pike
Bethesda, MD 20892

January 13-14, 2014

Day 1 Meeting Summary

Thursday, January 13, 2014

(8:00 a.m.)

Participants

Dietary Guidelines Advisory Committee (DGAC): Dr. Barbara Millen (Chair), Dr. Alice H. Lichtenstein (Vice-Chair), Dr. Steven Abrams, Dr. Lucile Adams-Campbell, Dr. Cheryl Anderson (*not present*), Dr. J. Thomas Brenna, Dr. Wayne Campbell, Dr. Steven Clinton, Dr. Frank Hu, Dr. Miriam Nelson, Dr. Marian Neuhouser (*not present*), Dr. Rafael Pérez-Escamilla, Dr. Anna Maria Siega-Riz, Dr. Mary Story (*not present, participated by phone*)

Co-Executive Secretaries: Dr. Richard Olson, Ms. Colette Rihane, Dr. Kellie Casavale (*not present*), Dr. Shanthy Bowman

Others: Dr. Don Wright, Ms. Jackie Haven, Dr. J. Michael McGinnis, Dr. Kate Clancy, Dr. Susan Krebs-Smith

Welcome and Introduction of Expert Speakers

Dr. Richard Olson, Designated Federal Officer, Office of Disease Prevention and Health Promotion (HHS), called the second meeting of the 2015 Dietary Guidelines Advisory Committee (DGAC) to order at 8:00 am. Dr. Olson welcomed the meeting participants and opened the meeting noting that due to rescheduling this meeting from October 2013, two Committee members, Drs. Marian Neuhouser and Cheryl Anderson, were not able to attend the meeting, and one member, Dr. Steven Abrams, was attending on January 13th only. In addition, Dr. Mary Story would be participating remotely due to illness. Dr. Olson announced that Committee member, Dr. Gary Foster, accepted a new position and due to new responsibilities stepped down from his position on the DGAC in August 2013. A quorum was met. Dr. Olson briefly reviewed the agenda for the two-day public meeting and reminded the public that the

public comments database is open throughout the Committee's work. The Committee will be asking for public comments on specific issues to be posted at the public comments database at <http://www.DietaryGuidelines.gov>. A webcast recording of this meeting will also be available at this website.

Invited Expert Presentations

Dietary Guidelines: Responsibilities and Opportunities

Dr. J. Michael McGinnis, Senior Scholar at the Institute of Medicine, began his presentation by thanking the Committee for its service and the HHS and USDA staff for their work. He stated he was not speaking on behalf of the Institute of Medicine (IOM) or the National Academies of Science. Dr. McGinnis provided a historical perspective of the *Dietary Guidelines*, which began in 1894 under the W.O. Atwater Administration when the first Federal dietary guidance, titled the *Farmer's Bulletin*, was provided. In 1956 USDA recommended the "Basic Four" food groups and in 1977 the McGovern Committee published the *Dietary Goals for the American People*, which led to the first official edition of the *Dietary Guidelines* in 1980. Dr. McGinnis was employed at HHS at this time when he worked with USDA in the development of the 1980 *Guidelines*. He reviewed the primary aims of the 1980 edition which he stated were to 1) shift the focus of guidance from nutrient deficiency to dietary patterns and chronic disease, 2) harmonize messages from both health and agriculture, and 3) provide policy alignment reference points. The early editions of the *Guidelines* were relatively simple and were not scientific documents. He reviewed the key recommendations of the inaugural edition which were to eat a variety of foods; maintain ideal weight; avoid too much fat, saturated fat, and cholesterol; eat foods with adequate starch and fiber; avoid too much sugar; avoid too much sodium; and if you drink alcohol, do so in moderation. He noted that the key recommendation to eat foods with adequate starch and fiber went on to describe increasing carbohydrates to decrease fat intake. Although the differences between complex and simple carbohydrates were acknowledged, Dr. McGinnis felt that with a better science base this guidance could have been stated more clearly. In addition, he noted that at the time "the major health hazard from eating too much sugar [was] tooth decay," and there was not adequate evidence to associate intake with any other chronic diseases, including obesity.

Dr. McGinnis discussed the food and nutrition policy levers that have been available since 1980, indicating that the *Dietary Guidelines* can shape the food and nutrition landscape for Americans. *Dietary Guidelines* should affect food growth and supply, safety, and pricing. Of specific importance, *Dietary Guidelines* should influence nutrition labels, food marketing, and food assistance and have substantial influence on nutrition education and nutrition monitoring and research.

Dr. McGinnis reviewed the 2010 edition of the *Dietary Guidelines* which recommends to balance calories to manage weight, addresses foods and food components to reduce and foods and nutrients to increase, and describes how to build healthy eating patterns. He provided a set of examples of public and private sector nutrition and health-related programs that can and should be using the *Dietary Guidelines* in a deliberate and systematic way to implement their programs.

He provided examples of the kinds of nutrition policy initiatives that are levers making a difference. These include Federal agencies that specifically address food safety (e.g., USDA's Food Safety and Inspection Service and HHS's Center for Food Safety and Nutrition), nutrition education (e.g., USDA's Center for Nutrition Policy and Promotion), nutrition labeling (e.g., HHS's Food and Drug Administration), food marketing (e.g., Federal Communications Commission), food assistance (e.g., USDA's Food and Nutrition Service), and nutrition monitoring and research (e.g., HHS's Food and Drug Administration) and Federal assistance and research programs such as the Supplemental Nutrition Assistance Program (SNAP); the Supplemental Program for Women, Infants, and Children (WIC); the National Health and Nutrition Examination Survey (NHANES); and the Healthy Eating Index (HEI).

Dr. McGinnis reviewed what he sees as “lessons learned” as to why Americans consume the foods and beverages that currently make up dietary patterns in the U.S. He stated that the following matter: science, health, culture, hunger, price, convenience, access, taste, specificity of guidance, and the food experience. *Dietary Guidelines* “should offer the anchor reference point around which all food and nutrition policy activities can orient.” The Committee should update the science through its findings and conclusions, identifying where uncertainties exist. The 2015 *Dietary Guidelines* should provide guidance that is specific, yet simple with clear expectations and strategies for implementation to ensure accountability. Finally, tools are needed that change the culture and provide support for nutrition and physical activity decisions. He suggested that an interagency agenda on human nutrition research can be created as a public-private strategy for cooperative research to address areas of scientific uncertainty. He concluded providing his support for the creation of two potential groups that could work synergistically, a Federal Interagency Council on Dietary Guidelines Implementation and a National Council on Dietary Guidelines Implementation comprised of Federal agencies and non-Federal organizations and companies, respectively, which could ensure accountability in planning and reporting contributions in implementing the *Dietary Guidelines*.

Discussion

Dr. Pérez-Escamilla asked Dr. McGinnis how to engage and involve the primary healthcare system in implementation of the *Dietary Guidelines*. Dr. McGinnis responded that the creation of accountable care organizations should help ensure that the broad set of factors impacting long-term health be coordinated to connect what happens behind clinic doors to what happens in the family unit.

Dr. Hu asked how to balance the level of specificity of recommendations so that they are meaningful. Dr. McGinnis gave his perspective that there should be “headline” type messages with underlying implementation elements that provide the greater specificity of numeric recommendations (e.g., calories, grams of saturated fat, etc.). Tools are emerging to assist in the implementation of quantified recommendations, giving the example of a pedometer used on a phone. He suggested that implementation strategies should not be limited to what is available now but should look to the future. Dr. Lichtenstein added that more emphasis on food-based recommendations over nutrients-based recommendation can resonate with the American public.

Dr. Nelson clarified that the Committee is charged to write the technical report; however, does not develop the actual policy document. The 2010 DGAC identified four overarching recommendations, and she encouraged the current Committee to do the same to increase the likelihood recommendations carry over into the policy document. Dr. McGinnis added that the Committee can use its collective wisdom to suggest the most responsible way to provide dietary guidance to the American people.

Dr. Campbell asked for Dr. McGinnis's perspective on the use of the *Dietary Guidelines* for health promotion and disease prevention compared to treatment, particularly in relation to obesity. Dr. McGinnis responded that there is a spectrum rather than a dichotomy for the occurrence of disease. The *Dietary Guidelines* should focus on the healthy population and determine how to prevent disease; however, it can be used for individuals who have illness to prevent acceleration of disease. Dr. McGinnis responded that the fundamental obligation of the *Dietary Guidelines* is to address the healthy population, and its recommendations can apply to the obese population. However, for this population medical interventions are also needed that are rightfully not addressed by the *Dietary Guidelines*. Dr. Barbara Millen reminded the Committee that looking to best practices for models of prevention can contribute to the strength of their report.

Dr. Siega-Riz asked about the continuum of accountability for the food industry in partnering to improve the food supply. Dr. McGinnis responded that the food industry wants to do the right thing but responds to public demand. The DGAC's responsibility is to review the science to shape public demand for healthier foods and beverages and enlist the support of the food industry in driving the demand.

Dr. Lichtenstein noted the interagency and private-public partnerships that Dr. McGinnis suggested and asked how feasible it would be to see more synergy within the Federal government on these issues. Dr. McGinnis said that what is most important is to first charge each agency to develop a plan over a specified number of years to implement the *Dietary Guidelines* through their programs.

Dietary Guidelines and Sustainability

Dr. Kate Clancy, Food Systems Consultant, began her presentation by thanking the DGAC for including a Subcommittee that is considering the topic of sustainability; she indicated that she has been a longtime advocate for including sustainability in the *Dietary Guidelines*. Dr. Clancy addressed three questions developed by the DGAC: 1) Does the pattern of foods Americans currently consume affect long-term food security?; 2) What pattern of eating best contributes to food security and sustainability of land, air, and water?; and 3) Are there best practices for local, regional, and/or national food systems that are sustainable and have evidence of improving eating behaviors?

To address the first question, Dr. Clancy first defined food security to include the ability of a country/region to produce a significant proportion of its staple crop and to maintain its natural resource base for farming and ranching and the ability of local food agriculture to contribute small or large amounts (depending on location) and urban agriculture to contribute modest

amounts of food while taking into account climate change adaptation. She also reminded the DGAC to keep health in mind, as sustainability is a systems issue and includes both human safety and environmental concerns. Dr. Clancy provided an overview of negative long-term issues of food security and resilience, including farmland loss, especially at the regional level, soil quantities (erosion, silting), soil qualities (lower tilth, altered soil microorganisms), water quantities (aquifer depletion), water and air qualities (dead zones), energy resources (fertilizer production, air-freight), climate change (greenhouse gases, water effects, planting zones), and biodiversity (plant, animal, and marine).

To address the second question, Dr. Clancy recommended a plant-based diet with smaller ecological impacts, noting this is not a new concept and that plant-based diets are linked to a lower risk of cardiovascular disease. She elaborated that although this includes reducing meat consumption, especially beef, and considering corn production, Dr. Clancy clarified that there are reasons other than nutrition to include animal protein in the diet. Plant-based diets do not include only plants; sustainable, healthy diets can include both animal protein and dairy products.

She went on to discuss that fish consumption poses a conflict between dietary guidance and sustainability. Dietary advice recommends eating fish for positive effects such as intake of long chain omega-3 fatty acids, as a quality protein source, and to support the livelihood of fishers. However, the negative aspects of fish consumption include reduced stocks, reduced biodiversity, contamination in the diet, and climate change. Dr. Clancy recommended that more comprehensive advice be developed to describe the multiple impacts of fish consumption and more specific advice be provided to people on what fish they should be consuming.

Dr. Clancy discussed three troubling trends in food biodiversity: dietary simplification, high-energy diets, and loss of biodiversity of food sources. There has been an increase in diverse food products, but people are still not consuming a variety of foods. “Eat a variety of foods” can be good for a healthy diet as well as increasing biodiversity. Dr. Clancy asked the DGAC to consider adding back this concept across their recommendations as it will encompass a healthy and sustainable diet.

To answer the third question, Dr. Clancy provided examples from the School Food FOCUS, Bon Appétit, GSA/CDC Health and Sustainability Guidelines for Federal Concessions and Vending Operations, and European precedents. She concluded with the following quote from the 2010 Food and Agriculture Organization report *Sustainable Diets and Biodiversity. Directions and Solutions for Policy, Research and Action*, “Sustainable diets are those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable, nutritionally adequate, safe, and healthy, while optimizing natural and human resources.”

Discussion

Dr. Millen asked how closely the 42 diet models from the work in New York mimic dietary patterns found in the literature or those that are known to be common among Americans.

Dr. Clancy responded that the different diets ranged from those similar to the average American diet to those that would be vegetarian examples. The 42 diets had varying amounts of the major food groups, and nutrient requirements were imposed on each diet so that intakes were met. Dr. Clancy responded that the low meat diets overlapped with vegetarian diets because as meat was decreased in the dietary pattern, more oils were needed to be nutritionally adequate and oil seed requires a substantial amount of land to produce. Dr. Clancy reiterated that it would be practical to suggest that meat be reduced but not eliminated.

Dr. Nelson commented that if Americans ate a diet that followed the current *Dietary Guidelines*, with the exception of fish, it seems there would be a smaller carbon footprint, adding that there may be opportunities for individuals to become motivated to make improvements in their diet through public interest in sustainability and companies could respond to demand for healthier and sustainable foods.

Dr. Nelson asked what type of evidence the Committee should be reviewing in the area of sustainability to help guide their conclusions in their technical report. Dr. Clancy responded that the environmental/sustainability area is a systems exercise that is not a straight line of single pieces of evidence but rather radiating lines, giving the example of nitrates. Nitrates are an issue at eight different levels, including cancer causation, climate change and greenhouse gas emissions related fertilizers, a medical issue related to use in medicines for heart disease, etc. When you are looking at evidence of decreasing nitrates, therefore, you have many sources of evidence, but the evidence is not linear. Dr. Clancy recommended that the Committee apply a lens people are comfortable with that would allow the Committee to use the evidence that is available. In regard to animal proteins, Dr. Clancy noted that there is evidence related to hogs and particularly to beef, which is why there is emphasis on decreasing meat intake; however, there may not be evidence in other areas yet. Dr. Nelson noted modeling in those areas may be useful.

Dr. Nelson asked if there are labeling systems available for understanding if a food is sustainable at the consumer purchase level. Dr. Clancy responded that the stewardship criteria for fish is an area where the most work has been done, but there isn't a good labeling system in general.

Dr. Lichtenstein asked Dr. Clancy to comment on dairy since it is a protein source widely available in lower fat versions, asking if there are specific issues different from those of meat related to sustainability. Dr. Clancy noted that in her opinion the environmental dairy issues are the same as for other cattle products in general.

Dr. Hu asked if the Committee should differentiate between different types of meat related to their environmental impacts, for example meat and poultry. Dr. Clancy answered that there is a distinction between different species of animal sources as they are fed differently, etc.

Dr. Hu asked what kind of shift in eating practices and culture would be needed for beef to be considered a condiment or side dish, as Dr. Clancy previously suggested in her presentation, rather than a main dish. Dr. Clancy responded by noting that MyPlate starts with half a plate of plant-based foods and she doesn't see meat as being in the center of MyPlate. She feels the public has started down the road of increasing plant foods; however, the message has to be in the public mind to integrate it into the American culture.

Dr. Pérez-Escamilla asked if there is evidence that labeling foods regarding their sustainability influences the choices consumers make. Dr. Clancy recalled research in Europe but could not comment specifically.

Dr. Abrams noted that many fresh fruits and vegetables are imported and asked how concerns related to the global marketplace could be addressed. Dr. Clancy responded that many changes implemented simultaneously could have an impact including more shipment by sea, slowly changing consumer needs for certain fruits and vegetables to those that are seasonal, and considering solar greenhouses that do not require as much energy in the off season, as examples.

Dr. Campbell asked if the 36% reduction in greenhouse gases from the evidence she presented is a global reduction. Dr. Clancy responded that those reductions were solely in the British Isles and couldn't comment on the global impact.

Dr. Campbell asked if the changes in dietary patterns needed to improve sustainability would lead to nutrients of concern such as lower calcium intake or other issues. Dr. Clancy noted that a prescriptive diet is not being suggested, but rather that individuals include environmental considerations in decision-making about food choices. If good choices are made, she does not see any nutrient adequacy concerns as has been demonstrated with vegetarian and vegan diets.

Dr. Lichtenstein asked about the challenges related to seafood. Dr. Clancy noted that there is a large aquaculture industry but with many environmental issues. There is some disagreement among experts as to whether 6 ounces per week of cooked fish is too much and is needed to achieve the benefits, especially considering sustainability, concluding that there may be leverage points to consider.

Approaches to Dietary Pattern Analyses: Potential to Inform Guidance

Dr. Susan Krebs-Smith, Branch Chief of the Risk Factor Monitoring and Methods Branch at the National Cancer Institute, HHS, described the methods currently employed for studying dietary patterns and described future challenges in this area of research. She began by discussing a definition of dietary patterns as the quantities, proportions, variety or combination of different foods, drinks, and nutrients in diets, and the frequency with which they are habitually consumed. She acknowledged that the purpose of dietary patterns research is to examine the multidimensional aspects of diets as they are usually consumed over time. A benefit of examining dietary patterns is that diets are complex, and this research is able to consider some of the interactive and synergistic aspects of the diet.

Dr. Krebs-Smith acknowledged that several types of research examine dietary patterns, including surveillance, epidemiology, interventions, and policy-related analyses. Generally, dietary patterns research is either descriptive or analytic, particularly examining the relationship between dietary patterns and health. Dr. Krebs-Smith grouped the methodologies used to assess dietary patterns into three categories: (1) investigator-defined (e.g., indexes and scores, as well as selective diets, such as vegetarian diets), (2) data-driven, outcome-independent (e.g., cluster analysis and factor analysis), and (3) data-driven, outcome-dependent (e.g., reduced rank regression, as well as classification and regression tree analysis or CART). Each method can be used to assess dietary patterns and examine the relationship between dietary patterns and health.

Dr. Krebs-Smith highlighted methodological considerations in dietary patterns research, including how and when dietary data are collected. Typical methods for collecting dietary data include food frequency questionnaires and 24-hour recalls; however, new technologies may allow for more complete data collection. She noted that many studies only assess dietary intake at baseline, but that diet over the life course is important to consider, as there may be points in time when particular aspects of the diet impact health. Dr. Krebs-Smith also said that studies vary in whether they report foods as eaten (e.g., pizza) or in food groups used in dietary guidance (e.g., grains and vegetables). Finally, she acknowledged that there is subjectivity in dietary patterns, including labeling of patterns.

Dr. Krebs-Smith then reviewed future areas of research in dietary patterns. These include characterizing the dietary patterns available in the food supply at multiple levels and examining how the current food supply aligns with dietary recommendations. Future research can also potentially expand the definition of dietary patterns to examine the qualities, timing, and location of the foods and beverages consumed. Dr. Krebs-Smith closed her presentation by noting future challenges in this area of research, including the need to standardize methods, learn from other disciplines that examine complex systems, and apply those methods to dietary patterns research.

Discussion

Dr. Millen recognized the importance of dietary patterns research and supported the Committee's focus on this topic. Drs. Adams-Campbell and Krebs-Smith acknowledged the importance of disparities and race/ethnicity in examining dietary patterns. Dr. Siega-Riz echoed the concept of considering dietary patterns over the course of the lifespan, as there may be aspects of dietary patterns that are particularly important during critical periods of life.

Dr. Campbell asked questions related to cluster and factor analysis methodologies. Dr. Krebs-Smith acknowledged that there is subjectivity to dietary patterns methods. She also noted the complexity of the diet and said that dietary patterns research attempts to make order out of what, when, and how people eat.

Closing Remarks for Opening Session

Dr. Richard Olson, Designated Federal Officer and Director, Division of Prevention Science, Office of Disease Prevention and Health Promotion, HHS, thanked the speakers, the public attending in-person and via webcast, the Federal support staff, and the DGAC for volunteering their time and adjourned the meeting.

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Day 2 Meeting Summary

Friday, January 14, 2014

(8:00 a.m.)

Participants

Dietary Guidelines Advisory Committee (DGAC): Dr. Barbara Millen (Chair), Dr. Alice H. Lichtenstein (Vice-Chair), Dr. Steven Abrams (*not present*), Dr. Lucile Adams-Campbell, Dr. Cheryl Anderson (*not present*), Dr. J. Thomas Brenna, Dr. Wayne Campbell, Dr. Steven Clinton, Dr. Frank Hu, Dr. Miriam Nelson, Dr. Marian Neuhouser (*not present*), Dr. Rafael Pérez-Escamilla, Dr. Anna Maria Siega-Riz, Dr. Mary Story (*not present, participated by phone*)

Co-Executive Secretaries: Dr. Richard Olson, Ms. Colette Rihane, Dr. Kellie Casavale (*not present*), Dr. Shanthy Bowman

Others: Mr. Kevin Concannon, Dr. Don Wright, Ms. Jackie Haven

Opening Remarks and Public Oral Testimony Procedures

Ms. Colette Rihane, Co-Executive Secretary and Director, Nutrition Guidance and Analysis Division, Center for Nutrition Policy and Promotion, USDA, opened the meeting and welcomed the Committee, Federal staff, and public present in the room as well as on the webcast. The webcast recording will be posted to <http://www.DietaryGuidelines.gov> along with other meeting materials. She noted that oral testimony would be provided in the morning session. Forty-six individuals were scheduled to provide oral testimony to the Committee. Written comments from the public are also accepted through the public comments database at <http://www.DietaryGuidelines.gov>. The Committee has asked for public comment in some specific areas that will be posted on <http://www.DietaryGuidelines.gov> and discussed today by the Subcommittees. After the lunch break the Subcommittees would report on their work since the last public DGAC meeting. She noted four members who were not present in person,

Drs. Marian Neuhouser, Steven Abrams, Cheryl Anderson, and Mary Story. Dr. Story would participate by phone. A quorum was met.

Public Oral Testimony

Ms. Colette Rihane reviewed the procedures for providing oral testimony. She specified that individuals not in their numbered seats when called would forfeit their three-minute presentation time. In addition to the forty-six individuals scheduled to speak, time was available for seven additional public oral testimonies from individuals on the stand-by list who were present. A total of fifty-three individuals provided oral testimony (*see attached participant list for names and affiliations*).

Introduction to Subcommittees

Dr. Barbara Millen, Chair of the DGAC, began by thanking the oral testimony participants and those who have submitted written public comments through <http://www.DietaryGuidelines.gov>. She emphasized that the concerns and insights of the public are important to the work of the Committee and would be considered carefully.

She reviewed the Committee's roles and responsibilities. The 2015 DGAC was appointed by the Secretaries of HHS and USDA to provide independent, science-based advice and recommendations that will inform the government's development of the *Dietary Guidelines for Americans, 2015*. The *Dietary Guidelines for Americans* provides the underlying basis for all Federal nutrition programs, standards, and education for the general public. The work of the Committee is advisory in nature and must be completed within the two-year charter.

The 2015 DGAC was charged to examine the *Dietary Guidelines for Americans, 2010* to determine if sufficient new scientific evidence exists to revise existing guidelines or to suggest new recommendations for the next edition. The Committee's Charge includes a systematic review and analysis of the evidence published since the last DGAC deliberations. The Committee should focus on foods and beverages and nutrition issues of public health concern that promote health and prevent disease in the U.S. population 2 years and older or affect large subpopulations at particular risk for nutrition and lifestyle-related health problems. The Committee will submit its evidence-based recommendations in a report to the Secretaries of HHS and USDA to inform the government in developing the 2015 DGA. Dr. Millen reiterated that the Committee is not responsible for writing the *Dietary Guidelines for Americans*, translating recommendations into policy interventions, or developing communication and outreach documents or programs.

Dr. Millen went on to describe that the *Guidelines* touch the lives of essentially all Americans every day by shaping public policies that influence wide-ranging systems under the jurisdictions of HHS and USDA. These include food and agriculture, healthcare, and aspects of public education on health. Existing and future *Dietary Guidelines* can also influence agricultural and farm policies relating to food safety, abundance, research, and strategic marketing, as well as USDA food assistance programs. They can also affect private sector initiatives that can affect

our nation's employers, worksites, schools, and the industries that support public programming and our public health systems.

Dr. Millen went on to describe the work of the Committee over the last several months. The Committee has discussed many concepts, including a systems approach to addressing major public health concerns. She described that there are common themes that link health and agriculture. The healthcare system is the largest segment of the U.S. economy and is more than double the size of most developed nations of the world. Compared to most other wealthy nations, the U.S. healthcare system is responsible for more healthcare research and innovations, provides Americans with better access to chronic disease treatments and medical technologies, and is the leader in cancer treatment and survival. She went on to add that the U.S. healthcare system must evolve to prevent disease; not just treat it. Americans receive only half of recommended health services, including clinical preventive services, and experience widely varying quality, access to, and cost of care throughout the nation.

Dr. Millen acknowledged that in addition to disparate access to quality healthcare services, wide health disparities persist across the nation based on factors such as socioeconomic status, race and ethnicity, and geographic location. Disease morbidity and chronic disabilities also now account for half of the nation's "health burden." Dr. Millen reviewed several nutrition- and food-related public health concerns that threaten the nation's overall health and productivity, including food insecurity and several targets or goals for reducing the population disease burden.

Dr. Millen went on to describe the role of the Science Review Subcommittee (SRSC). This Subcommittee is made up of herself and DGAC Vice Chair Alice H. Lichtenstein, as well as Miriam Nelson and Rafael Pérez-Escamilla, who both served on previous DGACs. The SRSC agreed upon guiding principles and overarching themes as frameworks for its work. The Committee will use an "ecological" framework to assess determinants of dietary patterns and physical activity behaviors of Americans; effects of foods, nutrients, overall diet quality, and dietary and physical activity patterns on health outcomes, disease prevention, and well-being in the U.S. population; and influences on food safety, quality, security, and sustainability and relationships between these factors and the quality of the American diet. It will identify the established, measurable impact of overall dietary patterns and quality, physical activity, as well as foods, beverages, and nutrients on intermediate and longer-term health outcomes. It will also determine evidence-based "best practices" and methods to promote a safe, secure, and sustainable food supply and to achieve improved dietary and physical activity patterns at individual and population levels in a variety of settings.

The 2015 DGAC wishes to build on the socio-ecological model in the 2010 *Dietary Guidelines* developed by DGAC member Dr. Mary Story, and that is widely accepted among experts and public health specialists. This framework acknowledges the complex interplay between personal and environmental influences on an individual's perception of needs and wants and behaviors, such as diet and physical activity. It emphasizes that environmental settings in which people interface and other sectors like healthcare and agriculture, will likely affect availability and access of affordable, high-quality products and services.

Dr. Millen showed a conceptual model, noting it is a working model that will continue to develop as the Committee progresses in its work. The Committee has begun discussing an

expanded ecological framework that incorporates not only potential influencers of diet-related behaviors, but also important health outcomes. The model includes multiple personal, social, community, environmental, and policy-related influences on lifestyle behaviors that have known effects on overweight and obesity and other health outcomes at all ages. It takes into account risk factor profiles such as blood pressure and lipids and lifestyle-related conditions like cardiovascular disease, type 2 diabetes, certain cancers, bone health, and mental health.

Dr. Millen reviewed that the SRSC first established three thematic Work Groups that identified and prioritized research topics. The thematic Work Groups were Environmental Determinants of Food, Diet, and Health; Dietary Patterns, Dietary Quality and Optimization through Lifestyle Behavior Change; and Food, Beverages, and Nutrients and their Impact on Health Outcomes. The Work Groups began meeting after the first public meeting (June 2013) to consider a scope for each topic and to identify an initial set of scientific questions to examine. The SRSC guided that process and agreed in October 2013 to form five Subcommittees that will complete the work for the final DGAC report. The work groups were dissolved and Subcommittees were formed.

The 2015 DGAC Subcommittees are Subcommittee 1: Food and Nutrient Intakes, and Health: Current Status and Trends; Subcommittee 2: Dietary Patterns, Foods and Nutrients, and Health Outcomes; Subcommittee 3: Diet and Physical Activity Behavior Change; Subcommittee 4: Food and Physical Activity Environments; and Subcommittee 5: Food Sustainability and Safety. Dr. Millen then turned the floor over to the Chairs of each Subcommittee to report on their work and progress to date.

Subcommittee 1 (SC 1): Food and Nutrient Intakes, and Health: Current Status and Trends

Dr. Alice H. Lichtenstein, the DGAC Vice-Chair, presented for the Subcommittee in the absence of SC 1 Chair, Dr. Marian Neuhouser. The other Subcommittee members include Drs. Steven Abrams, Cheryl Anderson, and Mary Story. Dr. Lichtenstein described the scope of the SC 1 work as identifying and describing: (1) current consumption patterns and trends in nutrient, food and beverage, and food group intake by the American public and by a number of subgroups including age, sex, socio-economic status, acculturation status, race/ethnicity and pregnant women; and (2) prevalence and trends in eating behaviors, dietary patterns, and diet-related chronic diseases and body weight status indicators. This evidence will be used to inform the 2015 Dietary Guidelines Advisory Committee report.

Dr. Lichtenstein noted that the Subcommittee is considering a large number of questions that have been organized into nine topic areas. She described the initial topics and questions now under review as: What are current consumption patterns of nutrients from foods and beverages in the U.S. population? Are there nutrients that are over- or under-consumed, and if so, is there reason for public health concern? The data sources identified for answering these questions include the National Health and Nutrition Examination Survey (NHANES) dietary intake data, NHANES laboratory data (nutrient biomarkers), biochemical functional status indicators, and other existing publically available reports. In considering the evidence, the Subcommittee will examine usual intake distributions for nutrients; assess adequacy of intakes from foods, beverages, and supplements; and, finally, will assess related potential public health concerns.

Dr. Lichtenstein then summarized the additional topics under consideration by the Subcommittee, which include: current intakes of food groups (e.g., fruits, vegetables, whole grains) and intake trends over time; current status and trends over time in eating behaviors such as eating frequency, restaurant meals, home-prepared meals, and eating location and time; consumption patterns, trends, and major sources of energy and nutrients; current intakes of food categories (foods and beverages as consumed) and intake trends over time; descriptive information about dietary patterns; contributions of specific foods to intake of added sugars, solid fats, and sodium; potential issues of overconsumption from fortified foods and supplements such as micronutrients and caffeine; prevalence status indicators for diet-related chronic diseases and trends over time; adequacy of the 2010 USDA Food Patterns in meeting the Recommended Dietary Allowances (RDA), Adequate Intakes (AI), or Acceptable Macronutrient Distribution Ranges (AMDR); and the influence of various proposed changes in the USDA Food Patterns on nutrient adequacy.

Dr. Lichtenstein ended her presentation by noting that this is an exciting time, with a wide variety of foods available year round and multiple forms of foods widely available (e.g., fresh, frozen, dried, canned). She noted that many food consumption patterns have both positive and negative characteristics, and the Committee's task includes helping Americans to emphasize the positive.

Subcommittee 1 Discussion

Dr. Nelson noted that physical activity should be included as part of health behavior status, and that she and other staff will provide information on this to SC 1. Also she suggested that it would be interesting to include trends in the cost of foods. Dr. Lichtenstein responded that the Subcommittee will include physical activity status and consider including trends in food cost.

Dr. Millen asked about the methods being used for identifying nutrients of concern. Dr. Lichtenstein responded that initially, the Subcommittee would consider intake patterns, then biomarkers for related outcomes, and then health outcomes in the population.

Dr. Campbell asked about the reference standards to be used in assessing nutrient intakes. For example, for protein there is both an RDA and an AMDR. Dr. Lichtenstein noted that the Subcommittee will use the appropriate standards for each nutrient, such as the Estimated Average Requirement (EAR) and AMDR, and will bring the discussion back to the whole Committee for their review.

Dr. Hu asked about criteria used when looking at overconsumption. Dr. Lichtenstein responded that the Subcommittee will use Tolerable Upper Intake Levels (UL) when available, and will be considering intake of foods/beverages alone and also with supplements.

Dr. Pérez-Escamilla asked about how inequities in diet might be assessed and suggested considering geocoding. Dr. Lichtenstein replied that the Subcommittee is considering this and, in addition, will work with Dr. Pérez-Escamilla on how to define acculturation status.

Dr. Campbell asked if the Subcommittee is considering over-consumption beyond nutrients, such as toxins from fish. Dr. Lichtenstein responded that the Subcommittee is documenting

overconsumption of some compounds, such as caffeine, but will defer to Dr. Nelson and SC 5 for mercury in seafood. Dr. Nelson noted that SC 5 will be coordinating with SC 1 related to issues of overconsumption.

Subcommittee 2: Dietary Patterns, Foods and Nutrients, and Health Outcomes

Dr. Anna Maria Siega-Riz, SC 2 Chair, opened by recognizing the other SC members that include Drs. Cheryl Anderson, Tom Brenna, Steven Clinton, Frank Hu, Rafael Pérez-Escamilla, Marian Neuhouser, and Alice H. Lichtenstein. She began her presentation stating that the Subcommittee's scope was to examine the relationship between dietary patterns, foods, and nutrients and health outcomes. She explained that the Subcommittee's primary focus would be to consider foods and nutrients in the context of dietary patterns. She noted that the Subcommittee would consider research that has assessed dietary patterns using various methodologies, including *a priori* approaches (e.g., indices and scores), data-driven analyses (e.g., factor analysis, cluster analysis, and reduced rank regression) as well as other methods. Dr. Siega-Riz explained that the Subcommittee is placing an emphasis on dietary patterns because this research accounts for the potential cumulative and interactive effects of individual components of the diet; however, the Subcommittee's initial focus on dietary patterns does not preclude targeted questions on specific foods/food groups and nutrients, if needed.

Dr. Siega-Riz noted that the Subcommittee will examine evidence by age, gender, race/ethnicity, and geographic location. She acknowledged the importance of considering dietary patterns using a life-course approach, as there may be critical aspects of dietary patterns during different stages of life. Dr. Siega-Riz stated that the Subcommittee would consider several age groups, including children, adolescents, and adults at various stages of life (e.g., pregnant, lactating, and peri- and postmenopausal women as well as older adults).

The initial topics under review by the Subcommittee will examine the relationship between dietary patterns and risk of cardiovascular disease, type 2 diabetes, obesity, cancer (specifically, colorectal, breast, prostate, and lung cancer), and neurological and psychological illnesses (e.g., Alzheimer's disease and depression). The Subcommittee will also examine the relationship between dietary patterns and bone health as well as dietary patterns during preconception and risk of birth defects. Specific foods and nutrients under review are alcohol, sodium, and cholesterol. Many of the initial topics under review will be addressed using Nutrition Evidence Library (NEL) systematic reviews, but the Subcommittee will also address some topics (e.g., sodium and cholesterol) using existing reports with updates, as needed.

Dr. Siega-Riz noted that after the Subcommittee completes work on their first tier of questions, they will consider other topics, including dietary patterns and other cancer outcomes, dietary patterns during the prenatal period and pregnancy outcomes, and additional questions on foods/food groups and nutrients, as needed. She also noted some topics that, after conducting exploratory analyses, the Subcommittee identified as emerging issues. These topics include the association between the microbiome and health and dietary patterns and other mental health outcomes.

Dr. Siega-Riz closed her presentation with a request for the public to submit comments on the steps the food industry is taking to reduce sodium, added sugars, and fats in the food supply.

Subcommittee 2 Discussion

Dr. Nelson asked if the Subcommittee was considering the topics of added sugars, including sugar-sweetened beverages, gluten, or dairy. Dr. Siega-Riz responded that the Subcommittee planned to focus on dietary patterns initially but would look at more specific topics, if necessary, after their review of dietary patterns. Drs. Millen and Hu supported this approach and acknowledged the importance of considering the total diet. Dr. Pérez-Escamilla suggested that the Subcommittee review the 2010 Dietary Guidelines Advisory Committee report to see if there are some topics that can just be carried forward by the 2015 Committee.

Dr. Lichtenstein stated that it is important to acknowledge total calorie intake and energy balance. Drs. Siega-Riz and Hu concurred. Dr. Hu also noted that many studies examining dietary patterns control for calorie intake.

Dr. Campbell acknowledged that the Subcommittee is considering some aspects of body composition but asked if they would be examining the evidence on non-bone lean tissue mass, which is particularly important for the aging population. Dr. Siega-Riz responded that the Subcommittee would be considering overall anthropometry; however, she and Dr. Hu noted that few studies have considered dietary patterns and anthropometrics.

Dr. Millen asked if the Subcommittee planned to consider randomized controlled trials to describe “what works?” For example, what dietary patterns “work” for promoting health and preventing disease? Dr. Siega-Riz responded that the Subcommittee would be considering randomized controlled trials and existing reports that included randomized controlled trials, and she also noted that they will consider prospective cohort studies. Dr. Lichtenstein added that the Subcommittee may find that several dietary patterns are beneficial for health. Dr. Hu stated that it is also important to consider adherence and whether individuals adhere to the dietary patterns they identify.

Dr. Nelson questioned if the Subcommittee felt that they would recommend a change to the guidance for cholesterol, and Dr. Lichtenstein noted that it was too premature to say, but reiterated that cholesterol will be reviewed by the Subcommittee.

Dr. Millen acknowledged that the research on dietary patterns has expanded in recent years and commended the Subcommittee for their thorough approach to reviewing the topic.

Subcommittee 3: Diet and Physical Activity Behavior Change

Dr. Rafael Pérez-Escamilla, SC 3 Chair, began by acknowledging and thanking the other members of the Subcommittee, Drs. Wayne Campbell, Steven Clinton, Anna Maria Siega-Riz, Lucile Adams-Campbell, and Barbara Millen, the DGAC Chair.

Dr. Pérez-Escamilla discussed the scope of SC 3. This Subcommittee will be focused on facilitators/barriers of dietary and physical activity behaviors and interventions to improve adherence to dietary and physical activity recommendations. Next, he highlighted a schematic which highlighted two contextual factors (household food insecurity and acculturation), four behaviors (home meal behaviors, food/menu label use, sleep, and sedentary behaviors including screen time), and three main outcomes (diet and physical activity, weight/anthropometry outcomes, and chronic disease risk biomarkers). Also included in the scope are behavioral change interventions delivered through different modalities based on behavior change strategies, with similar outcomes as were just presented.

Next, the rationale was discussed. SC 3 will focus on individual behavior components of the socio-ecological model with a focus on identifying modes of delivery and behavior change strategies that work.

There are several approaches to review the evidence, including reviewing the work of the 2010 DGAC as well as NEL systematic reviews, and inclusion of high quality existing systematic reviews and other reports. Ideally, the goal is to be able to apply the evidence throughout the lifecycle.

Dr. Pérez-Escamilla presented the initial topics under review and the potential outcomes of these topics. The first two topics, household food insecurity and acculturation, have the same potential outcomes of dietary intake, body weight, risk factors for chronic disease or other health outcomes, and disease outcomes (cardiovascular disease, type 2 diabetes, and cancer). Additional topics include food/menu label use, with outcomes of dietary behaviors and body weight, and the home environment, sleep patterns, and sedentary behavior including screen time, all with outcomes of dietary intake and body weight. The last two topics discussed were behavioral change interventions, with the outcomes dietary intake, physical activity, body weight, and risk factors for chronic disease and mobile health (mHealth) with the outcomes dietary intake, physical activity, and body weight. Mobile health includes cell texting, internet-based social media, and smart phone/tablet applications. Finally, three other topics under consideration were reviewed: palatability/food preferences, cooking substitutions, and friends/social environment.

Subcommittee 3 Discussion

Dr. Lichtenstein inquired whether the food environment would be addressed (e.g., *trans* fat ban; changes in salt, sugar, fat, etc.). Dr. Pérez-Escamilla responded that the Subcommittee was not planning to look at questions at that level. He suggested that a question like that may fit better in SC 4 and Dr. Nelson (SC 4 member) agreed. Dr. Rafael Pérez-Escamilla also mentioned that it would be interesting to model how the food environment and individual behavior change could predict behavior. Dr. Millen noted that the Subcommittees will be working together. SC 2 will be looking at whether the focus of intervention is effective, SC 3 will be looking at what's important to make the intervention work, and SC 4 will look at how policy and the physical environment can support individual level changes.

Dr. Nelson asked if the work environment would be addressed. Dr. Pérez-Escamilla responded that there will be discussions with SCs 3 and 4 to look at changes at individual and

environmental levels. Dr. Nelson clarified that physical activity questions would be handled by SC 4. Dr. Millen noted there have been some changes in cafeteria options and worksite-specific benefits.

Dr. Hu asked at what level home/family environment will be addressed. Dr. Pérez-Escamilla responded that family meals are a high priority, and that parental feeding styles are currently a lower priority.

Dr. Lichtenstein asked if it was possible to look at discretionary funds that adolescents use on food. Dr. Pérez-Escamilla responded that he was unsure if evidence exists in this area, and Dr. Siega-Riz noted this is an emerging field.

Dr. Lichtenstein asked if there was data on the quality of lunches kids bring from home. Dr. Siega-Riz responded there is a little data on this topic, and Dr. Rafael Pérez-Escamilla noted that there was a public comment somewhat relevant to this topic about distracted eating.

Dr. Campbell raised a question about the efficacy vs. effectiveness of research that the Subcommittee will be evaluating. Dr. Pérez-Escamilla responded that ideally the first focus will be on randomized controlled trials with a focus to look at effectiveness data, but that likely efficacy data will also be reviewed. He also noted that qualitative evidence may provide useful background information related to barriers/facilitators.

Subcommittee 4: Food and Physical Activity Environments

Dr. Mary Story, SC 4 Chair, participating by phone, opened by recognizing the other Subcommittee members, Drs. Lucile Adams-Campbell, Wayne Campbell, and Miriam Nelson, as well as Barbara Millen, who have all contributed to the work of the Subcommittee. She began her presentation noting that the Subcommittee is focused on food and physical activity environments. To organize its scope of work, Dr. Story explained that the Subcommittee divided the food and physical activity environments into the “physical environment,” which includes neighborhood/community access to food and food retail, as well as schools, childcare, workplace and the home settings, and the “macro environment,” which includes sectors that influence diet and physical activity, such as food marketing. Dr. Story noted that the Subcommittee is interested in assessing the role of food and physical activity environments in these various settings in promoting or hindering healthy eating and physical activity and to identify the most effective evidence-based approaches and strategies to improve health and reduce disparities in a number of different populations.

(Due to technical difficulties, Dr. Nelson took over presenting for SC 4). Dr. Nelson noted that the Subcommittee is focused on health outcomes and behaviors that affect individual choices from a population and environmental viewpoint, which complements the work of SC 3, which is focused on individual diet and physical activity behavior change. Dr. Nelson provided an overview of key topic areas for SC 4, which will likely be addressed using the NEL systematic review process. Topics of interest include: food access and the availability of healthy affordable food; early childcare and education settings and the effectiveness of environmental interventions on dietary intake, eating behaviors, and weight status; school settings and the effectiveness of school environmental interventions on dietary intake, quality, and weight status; and workplace

settings and the effectiveness of environmental interventions on dietary intake, quality, and weight status. Dr. Nelson explained that the Subcommittee is taking the lead on assessing physical activity for the full Committee using high-quality evidence-based reports. Dr. Nelson closed her presentation by mentioning a few other topic areas that the Subcommittee is interested in including after-school settings, food marketing, Federal nutrition assistance programs, post-secondary education settings, and multi-component community-based interventions.

Subcommittee 4 Discussion

Dr. Hu asked how the Subcommittee will be addressing the issue around cross-sectional and ecological studies as they relate to the evidence-based review model, since this evidence is not graded as highly as randomized controlled trials. He also asked if policy-focused initiatives will be considered as they may relate to health outcomes or weight status (e.g., taxes on sugar sweetened beverages and reducing the prevalence of obesity). Dr. Nelson responded that the Subcommittee will be looking at prospective studies and that there are some randomized controlled trials and controlled prospective studies that the Subcommittee can assess. Cross-sectional studies will also be used. The strength of the evidence will need to be reviewed with the whole DGAC once it is available. The policy question is one that SC 4 is interested in, but more work needs to be completed on this topic area. SC 4 plans to develop a framework to determine what policies it is interested in evaluating and welcomes ideas from the DGAC about relevant policies.

Dr. Siega-Riz commented that for some of the school-based policy interventions the length of time for all of the strategies to be implemented may have taken longer than the length of the intervention. Therefore, some of the outcomes may not have benefited the school until after the intervention ended. She encouraged the Subcommittee to look into follow-up intervention studies because they can be very insightful in regards to the DGAC theme of “what works.” Dr. Nelson agreed and stated from experience that this is especially relevant to foodservice interventions.

Dr. Pérez-Escamilla encouraged the Subcommittee to look at the Nutrition Program for Women, Infants, and Children (WIC) and the recent implementation of the WIC Food Packages. He stated that evidence is beginning to demonstrate how these policy changes are impacting breastfeeding and intake of fruits and vegetables among program participants. Dr. Pérez-Escamilla also stated that both individual and environmental approaches that are culturally sensitive will need to be encouraged. Dr. Nelson agreed and reiterated that individual behavior change works best when it is done within a supportive environment. Dr. Siega-Riz reiterated the importance of the updated WIC Food Package. She stated that if there is evidence that comes out of the 2015 Dietary Guidelines Advisory Committee that could benefit the WIC population, then the Committee should recommend an update to the WIC Food Package.

Dr. Hu suggested that the Subcommittee might want to consider economic and/or cost-effective modeling studies. Dr. Nelson agreed that these types of studies may be informative.

Dr. Millen added that elder nutrition programs might also provide relevant information about the theme of “what works” and particularly the impact of congregate and home-delivered meals in

the older population. She also noted that the collaboration between SC 3 and 4 is consistent with the public health model in terms of improving health and reducing risk of disease.

Dr. Lichtenstein noted that the Subcommittee might also want to look into regulatory approaches like *trans* fat bans and menu labeling that have been implemented recently.

Subcommittee 5: Food Sustainability and Safety

Dr. Miriam Nelson, SC 5 Chair, began by acknowledging the Subcommittee members, including Dr. Steven Abrams who was not present and Drs. Tom Brenna, Frank Hu, and Barbara Millen. She began by recognizing that the area of sustainability is very new to the *Dietary Guidelines*, but mentioned that in her opinion, the DGAC should keep moving the evidence forward so that their work is current and influences policy. Since sustainability is a new area, SC 5 is proceeding carefully and only considering the best evidence. In comparison, food safety has been a charge to the *Dietary Guidelines* since the 1980s.

The rationale for SC 5 is overarching and includes both sustainability and food safety, emphasizing that it is important to develop and maintain a food system that is safe, sustainable, and affordable to ensure current and future food security. Food security was defined using the Food and Agriculture Organization definition that is “when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life.” The scope of sustainability for SC 5 was presented, which is to understand the links between how our food is grown, caught, produced, processed, and transported and the health of humans and the environment. This can inform policies related to dietary guidance, agriculture, and aquaculture. The Subcommittee’s goal is to develop recommendations for dietary guidance that support human health and the health of the planet over time. In addition, the food safety scope is to systematically review the evidence for targeted food safety concerns at both the individual level and population scale and to determine if there is potential for policy changes based upon findings.

Dr. Nelson indicated that SC 5 has agreed to update and bring forward findings from the 2010 DGAC report related to individual food safety behavior (found in Part D. Section 8). Topics include hand sanitation, cleaning refrigerators, separating food to minimize cross contamination, cooking and chilling food appropriately, avoiding risky foods, and overall food safety behavior.

SC 5 will be looking at credible literature to set the platform for sustainability. Dr. Nelson presented some of the background work being collected, including the current status of U.S. food sustainability, principle challenges related to natural and human resources in meeting current and future demand to produce food, changing demand for various foods and the influence of their sustainability over time, proportional environmental impacts (greenhouse gas emissions, water pollution) of current growing and processing practices, outcome measures to consider, and practices to review from other countries for addressing sustainability through dietary guidance.

Dr. Nelson continued to describe topics under review or consideration by the Subcommittee. Food safety topics under review include caffeine at usual doses and at high doses. Sustainability topics under consideration include: (1) food sustainability and dietary patterns, (2) beef sustainability and consumption patterns related to long-term food security, 3) fishery practices and seafood sustainability and consumption related to long-term food security and current

Dietary Guidelines recommendations, and (4) organic vs. intensive conventional growing practices on micronutrient and phytochemical content of foods. Food safety and sustainability questions will be answered through a variety of methods including NEL systematic reviews, food pattern modeling, existing reports, and data analysis.

Dr. Nelson noted that SC 5 requested public comments regarding a targeted topic on food system sustainability. Specifically, SC 5 seeks approaches and current examples of sustainability in the food system. Comments are encouraged that address: (1) elements of a whole food system, (2) information on specific food groups or commodities, and (3) sustainability metrics that have been implemented or are in development. SC 5 welcomed public comments from both the private and public sectors addressing local, regional, national or international scales.

Subcommittee 5 Discussion

Dr. Campbell asked SC 5 and SC 3 to distinguish the difference between their work related to food security and insecurity. Dr. Nelson answered by saying food security for SC 5 is about food security for the long term so that there is an affordable, safe, and healthy food supply for a growing population even as resources decrease. Dr. Pérez-Escamilla further described that SC 3 is looking at food insecurity as an independent variable, whereas SC 5 is looking at food security as a dependent variable to see how environmental and ecological forces under a more macro lens are shaping the future of household food security.

Dr. Hu mentioned that the food system is globalized now and that sustainability for the U.S. will need to consider global food security as well. In addition, Dr. Hu mentioned that the type of evidence needed for SC 5 is very different from other Subcommittees. For example, randomized controlled trials, the gold standard for research, may not be available as evidence in the area of sustainability. He mentioned that the Subcommittee will be looking at the best available evidence, not the best possible evidence. Evidence such as ecological studies, cross-sectional, and math modeling are examples of evidence that will be the best possible evidence to address questions developed in SC 5.

Alcohol was also discussed among members. Drs. Nelson and Millen mentioned that alcohol combined with caffeine may be reviewed in SC 5. Dr. Siega-Riz confirmed that SC 2 is planning to update the 2010 DGAC work on alcohol, especially considering the availability of updated reports that include more outcomes related to alcohol intake.

DGAC Next Steps and Meeting Wrap Up

Dr. Millen thanked the public for their time in preparing and making remarks, as well as for the comments submitted through the written process. She thanked the Committee for their hard work, noting that there are challenges ahead with evidence in new areas. She thanked the staff at HHS and USDA who provide support to the Committee as well as the individuals who work to abstract the literature. On behalf of the entire Committee, she expressed that this work is an extraordinary experience. She reiterated the charge of the Committee to review the evidence and make recommendations that are strongly evidence-based, while pointing to new opportunities for research. The Committee is seeking to formulate scientific conclusions that can shape policies

not only in the Federal sector but in the private sector as well and to encourage initiatives where influence can be maximized throughout the available systems. Dr. Millen noted that the Committee is capable, determined, and committed to the work before them. She then turned the floor over to Dr. Olson. Dr. Olson thanked the Committee, staff, and the public for their participation, noted the next meeting would be in a few months and announced in the *Federal Register*, and adjourned the meeting.

Attachment: Public Oral Testimony Participant List

Dietary Guidelines Advisory Committee Meeting 2

Sponsored by the
U.S. Department of Health and Human Services (HHS)
U.S. Department of Agriculture (USDA)

Held at the
National Institutes of Health
Building 35, Porter Building
9000 Rockville Pike
Bethesda, MD 20892

January 13-14, 2014

Public Oral Testimony Participants

	First Name	Last Name	Affiliation
1.	Morton	Satin	Salt Institute
2.	Susan	Levin	Physicians Committee for Responsible Medicine
3.	James	Costa	Lunch Hour Movie: America's School Lunch Program
4.	Michael	Greger	NutritionFacts.org
5.	Ted	Barnett	Monroe County Medical Society
6.	Katherine	Beals	United States Potato Board
7.	Marla	Caplon	Montgomery County Public Schools
8.	Sharon	McRae	Eat Well Stay Well, LLC
9.	Maureen	Storey	Alliance for Potato Research and Education
10.	Connie	Diekman	California Walnut Commission
11.	Victoria	Cox	Atkins Nutritionals
12.	Kara	Blank-Gonzalez	Independent (Nutrition Educator, Healthy Cooking Instructor)
13.	Amie	Hamlin	New York Coalition for Healthy School Food
14.	Betsy	Booren	American Meat Institute Foundation
15.	Joanne	Slavin	Department of Food Science and Nutrition on behalf of the "Grain Chain"
16.	Marilyn	Schorin	American Beverage Association
17.	Guy H.	Johnson	McCormick Science Institute

	First Name	Last Name	Affiliation
18.	Christina	Khoo	Ocean Spray Cranberries, Inc.
19.	Cynthia	Goody	McDonald's Corporation
20.	Rick	Cristol	National Association of Margarine Manufacturers
21.	Diane	Welland	Juice Products Association
22.	Douglas	MacKay	Council for Responsible Nutrition
23.	Philippe	Caradec	The Dannon Company, Inc.
24.	Collins	Janet	Institute of Food Technologists
25.	Beth	Briczinski	National Milk Producers Federation
26.	Sarah	Ohlhorst	American Society for Nutrition
27.	Mitch	Kanter	Egg Nutrition Center
28.	Mona	Sigal	Nourish Health With Food For Life LLC
29.	Jill	Nicholls	National Dairy Council
30.	Jeffrey	Blumberg	Tea Association of the U.S.A., Inc.
31.	Marie	Audet	The Sustainability Council
32.	Shalene	McNeill	National Cattlemen's Beef Association, contractor to Beef Checkoff
33.	Michelle	Matto	International Dairy Foods Association
34.	Milton	Mills	Gilead Medical Group
35.	Roger	Clemens	USC School of Pharmacy
36.	Caroline	Trapp	Premier Internists, A Division of the Millennium Medical Group, P.C.
37.	Amy Joy	Lanou	University of North Carolina Asheville
38.	Kathy	Freston	The Daily Lean
39.	Mary Pat	Raimondi	Academy of Nutrition and Dietetics
40.	Cher	Hunter	Community College of Baltimore County
41.	Mark	Rifkin	Preventive Nutrition Services
42.	Maureen	Ternus	International Tree Nut Council Nutrition Research & Education Foundation
43.	Donna	Armstrong	Milk Processor Education Program

	First Name	Last Name	Affiliation
44.	Theresa	Stone	Individual/Professional
45.	Charles	Baker	The Sugar Association
46.	Laura	Shumow	National Confectioners Association

Stand-by Participants (These individuals were not confirmed to speak, but attended on a stand-by list should time be available. Time was available and they presented their testimony.)

	First Name	Last Name	Affiliation
47.	Marilu	Henner	Actress/New York Times Bestselling Author/Radio Host
48.	Taylor	Wallace	National Osteoporosis Foundation
49.	Rima	Kleiner	National Fisheries Institute
50.	Marianne	Smith Edge	International Food Information Council (IFIC) and Foundation
55.	Nancy	Chapman	Soyfoods Association of North America
56.	Constance J.	Geiger	American Pistachio Growers
57.	Lorelei	DiSogra	United Fresh Produce Association