2025 DIETARY GUIDELINES ADVISORY COMMITTEE
MEETING 4

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

January 19, 2024

Dietary Guidelines Advisory Committee Members present:

- Dr. Sarah Booth (Chair)
- Dr. Angela Odoms-Young (Vice Chair)
- Dr. Steven Abrams
- Dr. Cheryl Anderson
- Dr. Aline Andres
- Dr. Carol Byrd-Bredbenner
- Dr. Andrea Deierlein
- Dr. Heather Eicher-Miller
- Dr. Teresa Fung
- Dr. Christopher Gardner
- Dr. Edward Giovannucci
- Dr. Deanna Hoelscher
- Dr. Valarie Blue Bird Jernigan
- Dr. Jennifer Orlet Fisher
- Dr. Cristina Palacios
- Dr. Hollie Raynor
- Dr. Fatima Cody Stanford
- Dr. Sameera Talegawkar
- Dr. Chris Taylor
- Dr. Deirdre Tobias

Additional participants:[1]

- Ms. Janet de Jesus, Designated Federal Officer, Office of Disease Prevention and Health Promotion, Office of the Assistant Secretary for Health, HHS
- Admiral Rachel L. Levine, Assistant Secretary for Health, HHS; Admiral, U.S. Public Health Service
- Ms. Stacy Dean, Deputy Under Secretary for Food, Nutrition, and Consumer Services, USDA
- Dr. Eve Stoody, Director, Nutrition Guidance and Analysis Division, Center for Nutrition Policy and Promotion, Food and Nutrition Service, USDA

Venue

Due to inclement weather in the Washington, DC metro area, the Advisory Committee met virtually for Meeting 4. The meeting was open to the public via live webcast.

[1] The individuals listed here facilitated or presented some of the meeting agenda items and are listed in the order of appearance on the agenda. Additional virtual attendees included HHS and USDA staff members and contractors who are supporting development of the *Dietary Guidelines for Americans, 2025-2030*.

The following is a summary of Meeting 4. For additional details, refer to the agenda, videocast recording, and the Meeting 4 page of DietaryGuidelines.gov.

WELCOME

The fourth meeting of the 2025 Dietary Guidelines Advisory Committee ("Committee") was convened virtually at 8:30 AM on Friday, January 19, 2024.

Ms. Janet de Jesus, Designated Federal Officer for the *Dietary Guidelines* and a Nutrition Advisor in the HHS Office of Disease Prevention and Health Promotion, introduced herself, welcomed attendees to the meeting, and shared that all 20 Committee members were present virtually. Inclement weather in the Washington, DC metro area prompted a shift in the original plan for the Committee to meet in person at the Tower Building, which houses the HHS Office of Disease Prevention and Health Promotion, at 1101 Wootton Parkway, Rockville, MD, to virtual attendance.

She reminded attendees that the Committee has approximately six public meetings planned and that the Committee's final public meeting (tentatively scheduled for September 2024) will include a presentation of its draft scientific report, which the Departments have requested be finalized by October 2024. Following the release of the scientific report, HHS and USDA will begin the process to update the *Dietary Guidelines for Americans*, to be published in 2025.

OPENING REMARKS

Ms. Janet de Jesus introduced Admiral Rachel L. Levine (HHS) and Deputy Under Secretary Stacy Dean (USDA), who each provided a set of opening remarks on behalf of their respective Departments.

Admiral Levine congratulated the Committee on the 1-year anniversary of its appointment—January 19, 2023—and commended its members and the federal staff team for their hard work to review and synthesize evidence examining the relationships between diet and health across all life stages, using data analysis, systematic reviews, and food pattern modeling. She added that the Committee has also applied a health equity lens to ensure that factors such as socioeconomic position, race/ethnicity, and culture are described and considered so that its work represents the growing diversity of the U.S. population. As the HHS mission is to enhance health and wellbeing for all, Admiral Levine emphasized the importance of the Committee's health equity efforts and its complementary expertise in ensuring that dietary recommendations can be applied to everyone across the country.

Admiral Levine explained that the committee's report is critical to informing the next edition of the *Dietary Guidelines for Americans*, as well as the programs that rely on the *Dietary Guidelines*—such as the Supplemental Nutrition Assistance Program, the Special Supplemental Nutrition Program for Women, Infants, and Children, the child nutrition programs, and the Older Americans Act nutrition programs—to help families meet nutrition needs and live healthier lives by increasing access to and adoption of healthy choices. Admiral Levine thanked the public for its robust participation in the *Dietary Guidelines* development process and emphasized that each comment is considered throughout the committee's evidence review process.

Deputy Under Secretary Dean echoed Admiral Levine's gratitude to the Committee and emphasized that its work shines a spotlight on evidence gaps, particularly as it reviews evidence from a health equity lens. She affirmed that the *Dietary Guidelines* is a key element of USDA's work to advance nutrition security, health equity, and the White House National Strategy on Hunger, Nutrition, and Health. The *Dietary Guidelines* also informs USDA's work on MyPlate, which offers tips and resources to support healthy

dietary patterns, and forms the backbone of the 16 federal nutrition assistance programs administered by USDA. Deputy Under Secretary Dean shared that this summer USDA will roll out a new nutrition assistance program, Summer EBT, which will complement existing summer meal programs. This new program will allow families in participating states, territories, and tribes to receive $120 per eligible school-age child to buy groceries during the summer. Dean relayed research indicating that this type of benefit can reduce child hunger by 33%. She thanked the Committee for its dedication to help close nutrition security and health equity gaps.

CHAIR/VICE CHAIR REMARKS

Dr. Sarah Booth (Chair) presented remarks on behalf of herself and Dr. Angela Odoms-Young (Vice Chair). She emphasized the immense amount of work that the Committee has been doing in subcommittees and working groups in addition to gathering as a full Committee for its public meetings. Dr. Booth presented highlights from the Committee's prior 12 months of work, including meeting three times as a full Committee; developing 35 systematic review protocols (including two with meta-analysis), 2 evidence scan protocols, and 10 food pattern modeling protocols; screening more than 200,000 articles for inclusion in systematic reviews and reviewing more than 400 of those articles; and engaging with the public. Specifically, the Committee received 874 public comments and 82 oral public comments; more than 5,000 people from 49 countries viewed its public meetings; more than 4,000 views of new NESR web content from 20 countries were recorded, along with more than 132,000 views of content on DietaryGuidelines.gov related to the 2025 Committee; and 145 continuing professional education certifications were granted to registered dietitians who viewed the public meetings and claimed the credits.

Dr. Booth previewed the Committee's second year of work, including plans to meet three times publicly (January, May, and September 2024); continuing to review evidence and develop draft conclusion statements for systematic reviews; reviewing and synthesizing results of food pattern modeling and simulation analyses; reviewing results of data analyses; and integrating the results from these three approaches into a scientific report that will be released later in 2024.

Dr. Booth next reviewed the agenda for Meeting 4. Each subcommittee and working group will present its progress since Meeting 3, such as development of new protocols, revision of existing protocols, discontinuation of protocols, and review of draft conclusion statements. Following the meeting, the Committee will refine protocols as needed and the updates will be posted online with the publication date range documented to reflect dates when literature searches were conducted. Any public comments related to protocol revisions are requested within one month of their posting.

Lastly, Dr. Booth reminded attendees that the Committee is using NESR methodology to synthesize evidence and develop and grade conclusion statements with one of four grades (strong, moderate, limited, or grade not assignable). A conclusion statement is a carefully constructed summary statement based on the evidence reviewed to answer a scientific question. It assesses evidence in terms of consistency, precision, risk of bias, directness, and generalizability. Dr. Booth emphasized that a conclusion statement does not draw implications and should not be interpreted as dietary guidance.

HEALTH EQUITY WORKING GROUP OVERVIEW

Dr. Sameera Talegawkar (WG Chair) presented the Health Equity Working Group's (WG) progress since Meeting 3. The WG is cross-cutting in that its members serve on at least two of the other four subcommittees. She noted that a focus on health equity in the *Dietary Guidelines* process is not new, but that a renewed sense of urgency and importance has underscored its focus. Therefore, WG members

have strived to ensure that tenets of health equity are incorporated in the committee's approaches and deliberations related to reviewing and integrating the evidence. To that end, the WG has provided input on protocols and plans for scientific questions related to health equity, including on work related to diet simulations; incorporated health equity considerations into the Committee's evidence reviews, including acknowledgment of public comments; and developed an outline for incorporating health equity content into the Scientific Report.

Dr. Christopher Taylor (SC3 Co-Chair) explained a new protocol for diet simulations, which represent one way that the Committee and federal staff have centralized a focus on health equity in their deliberations. As he explained the rationale for this new protocol, Dr. Taylor reminded attendees that the proposed dietary patterns that emerge from food pattern modeling provide the recommended amounts of foods and beverages from each food group and subgroup, creating a flexible framework for dietary selections. As part of the continuous quality advancement of the *Dietary Guidelines* process, diet simulation was identified as another opportunity, in addition to existing food pattern modeling methodology, to consider intake variability. Diet simulations also consider a broad range of intakes, but instead of using a composite nutrient profile based on a representative food, the energy and nutrient composition of all randomly selected foods and beverages are considered. The addition of this systems science approach allows the Committee to examine and refine proposed dietary patterns to ensure that the final pattern(s) recommended to the Departments are inclusive of a broader range of dietary intakes.

Dr. Taylor explained how the nutrient profiles used in food pattern modeling differ from the profiles that will be used for simulated diets. He provided definitions for two key terms in the diet simulations protocol:

- Nutrient-Dense Foods and Beverages: Nutrient-dense foods and beverages provide vitamins, minerals, and other health-promoting components and have little added sugars, saturated fat, and sodium. Vegetables, fruits, whole grains, seafood, eggs, beans, peas, and lentils, unsalted nuts and seeds, fat-free and low-fat dairy products, and lean meats and poultry—when prepared with no or little added sugars, saturated fat, and sodium—are nutrient-dense foods. In the Diet Simulations Protocol, foods and beverages lower in saturated fat and added sugars are defined as nutrient-dense.
- Simulation: Simulation is a systems science method that has been defined as "a mathematical model that describes or recreates computationally a system process." In USDA FPM, simulation is used to create computationally thousands of daily diets that meet the recommended dietary pattern by randomly selecting foods and beverages from a set of food and beverage items using a predefined probability of selection for each item.

The diet simulation protocol will address the question, "Do simulated diets that meet the updated USDA Dietary Patterns and reflect variation in dietary intakes achieve nutrient adequacy?" For all proposed dietary patterns recommended by the Committee, the protocol will test whether the recommended amounts from each food group and subgroup will meet nutritional goals regardless of which predominantly nutrient-dense foods and beverages are selected from each group. The dietary patterns are intended to provide a flexible framework that can be tailored based on affordability, access, individual dietary requirements and preferences, and traditions. Dr. Taylor stated that this is the first time a Dietary Guidelines Advisory Committee will conduct diet simulations to test the patterns for variation in intake.

Dr. Taylor described and elaborated on the three main steps of the proposed analytic framework for the dietary intake simulations:

1) Simulate dietary intake data to construct 500 seven-day diets—a total of 3,500 daily diets—for each age-sex group starting at age 1 year by randomly selecting different combinations of individual foods and beverages in the amounts recommended in the pattern for the age-sex group (foods lower in nutrient density as defined by a set of criteria will have a lower probability of being selected, whereas those with higher nutrient density will have an equal probability of being selected).
2) Use the energy and nutrient composition of each food and beverage selected in simulation to calculate the distribution of energy and content of 26 nutrients in the aggregated simulated diets for each age-sex group.
3) Evaluate whether the energy and nutrient content of aggregated simulated diets meet predefined nutritional goals for the age-sex group (based on comparison to relevant values in the Dietary Reference Intakes and DGA recommendations for energy and each nutrient).

When all steps of the analytic framework are complete, results will be synthesized with all other food pattern modeling analyses, data analysis, and systematic review to determine if changes should be made to the dietary patterns to account for variability in dietary practices in the United States.

Dr. Valarie Blue Bird Jernigan (HEWG and SC3 member) explained that because not all population groups are adequately represented in NHANES data due to sampling, the Committee will conduct diet simulation of foods and beverages consumed by specific population groups to enhance evaluation of the draft dietary patterns. The Committee will leverage work underway by USDA's Center for Nutrition Policy and Promotion's Nutrition Education and Innovation Division to identify foods and beverages integral to and included in the cuisines (i.e., foodways) of about 20 different population groups. Application of this work to diet simulations to evaluate the proposed dietary patterns is under development, but will be piloted by the Committee to advance inclusion of diverse foodways in *Dietary Guidelines* process.

The Committee selected American Indian and Alaska Native populations for the pilot, which will involve two experts with professional and lived experience in American Indian foodways and one expert with expertise in Alaska Native foodways. Each expert will review and identify foods and beverages in national survey data as: integral to the cultural cuisine; eaten, but not integral to the cuisine; or never consumed as part of the cuisine. Foods in the first two categories will included in simulations (separately for American Indian and Alaska Native populations) and the energy and nutrient content of aggregated simulated diets for each group will be evaluated against nutritional goals as presented. Dr. Jernigan highlighted that conducting the pilot does not increase or address representativeness of the dietary patterns for all tribal organizations or for the many different U.S. population groups, but it tests a process to expand the representativeness of the proposed patterns to be more inclusive and is a starting point for future work.

The WG will continue to consider health equity throughout all steps of the three approaches and will further develop health equity content for the report. Public comments related to health equity, specifically those that incorporate lived and diverse experiences, are welcomed.

In a discussion following the WG presentation, Committee members asked about the variability of nutrient density in the simulated foods, the life stages that the simulations will cover, and the timing of results availability.

DATA ANALYSIS

Dr. Heather Eicher-Miller (SC3 Co-Chair) shared progress in the subcommittee's data analysis efforts since Meeting 3. First, in addition to the four variables that the 2020 Committee considered (sex; race and/or ethnicity; socioeconomic position, e.g., family income, poverty income ratio, education; and age/life stage), SC3 determined demographic variables to be examined by the Committee—food security category (household level); household food benefit (SNAP); and child food benefit (WIC). Not every analysis will be stratified by all demographic variables; subpopulations to be examined in each analysis will be based on data availability, sample size, and committee prioritization. Dr. Eicher-Miller noted that many analyses are complete for the four overarching topics/questions that the Committee is examining, and that upon completion of all analyses, the comprehensive, synthesized results will be presented at a future public meeting.

Dr. Eicher-Miller then presented an evidence scan that the federal data analysis team conducted to examine dietary intakes between March 2020–December 2022, the time period during which key federal surveys that provide nutrition-related data were disrupted due to the COVID-19 pandemic. She reminded attendees that an evidence scan evaluates volume and characteristics of evidence available on a question or topic. It typically does not include a risk of bias assessment, synthesis of study results, or graded conclusion statements.

The evidence scan examined the research question, "What evidence has been published on the patterns of food and beverage intake from March 2020–December 2022, including potential changes in dietary intake due to COVID-19?" Dr. Eicher-Miller reviewed the evidence scan's inclusion and exclusion criteria, the literature search and screening results, and the description of the evidence from the 11 articles included. Insufficient research was available to warrant further investigation of food and beverage intakes during the COVID-19 pandemic via a rapid review or systematic review. None of the studies were nationally representative of the U.S. population, and most were cross-sectional in design. Most studies did not show differences in total intake before and during the COVID-19 pandemic or found intakes similar to what would typically be expected based on national pre-pandemic datasets.

The next steps for data analysis are for DGA staff to receive additional analyses from data source experts at NIH, CDC, and ARS, and then to draft results summaries for the Committee's review. The Committee will then synthesize the results, draft conclusions, and determine future directions.

During a committee discussion following Dr. Eicher-Miller's presentation, members commented on the lack of data available and asked about the possibility of gleaning additional insights from the Coronavirus Pandemic Epidemiology Consortium (COPE); clarified the evidence scan's inclusion criteria for dietary assessment methods (multiple pass 24-hour recall, food frequency questionnaire, or food record); and voiced the importance of learning from the COVID-19 pandemic in order to strengthen federal surveillance systems to withstand future disruptions.

FOOD PATTERN MODELING

Dr. Christopher Taylor (SC3 Co-Chair) summarized SC3's progress in food pattern modeling (FPM) since Meeting 3, focusing on the development of four new protocols related to food group modifications: vegetables, fruits, vegan, and different ranges of nutrient density. He reminded attendees that SC3 is evaluating the possibility of building flexibilities into USDA Dietary Patterns in future editions of the *Dietary Guidelines* to account for diverse foodways, dietary preferences, and needs of U.S. population groups. For each of the four protocols, Dr. Taylor explained the rationale, key working definitions pertinent to analysis, analysis questions, summary of each analysis, and methods that differ between protocols such as populations to be examined. For example, the analysis question for the protocol on

different ranges of nutrient density is, "What quantities of foods and beverages lower in nutrient density can be accommodated in the USDA Dietary Patterns while meeting nutritional goals within calorie levels?" The food pattern modeling analyses for this question will be conducted after the Committee proposes draft dietary patterns.

The next steps for FPM are to implement the analyses and develop the low carbohydrate protocol, which will be presented at Meeting 5. Plans for Meeting 5 include presentation of many of the analyses detailed in the protocols presented at Meetings 3 and 4.

Committee questions and discussion followed Dr. Taylor's presentation. Topics included clarification of specific objectives and methods of various protocols; explanation of the vegan protocol's intent to examine the nutrient intake effects of removing animal foods versus substituting animal foods with plant foods; and clarification that the starting point for the proposed modifications is recommended intake quantities of the food group in question, not actual quantities consumed.

STRATEGIES FOR INDIVIDUALS AND FAMILIES RELATED TO DIET QUALITY AND WEIGHT MANAGEMENT

Dr. Cristina Palacios (SC4 Chair) shared SC4's progress since Meeting 3, including the development of draft conclusion statements for two systematic reviews that have not been performed by a prior Committee, continued work on three additional systematic reviews and one evidence scan, and the discontinuation of the evidence scan on home food availability in adults and diet-related psychosocial factors, dietary intake, diet quality, and health outcomes. The decision to discontinue this evidence scan was made to allow members and staff to focus on higher-priority questions, and the topic of home food availability for children will be addressed as one component of SC2's systematic review on parental and caregiver feeding styles and practices.

Dr. Palacios reviewed the analytic framework, conclusion statements, and grades for the two life stage groups (children/adolescents and adults/older adults) considered in the systematic review on the relationship between frequency of meals and/or snacking and consuming a dietary pattern that is better aligned with the *Dietary Guidelines* (as measured by diet quality using the Healthy Eating Index). For both groups, a conclusion statement could not be drawn because the quantity of evidence is insufficient to answer the question.

Dr. Aline Andres (SC4 member) reviewed the analytic framework, conclusion statements, and grades for the two life stage groups considered in the systematic review on the relationship between frequency of meals and/or snacking and energy intake. For children/adolescents, a conclusion statement could not be drawn due to heterogeneity of exposures and lack of evidence. For adults and older adults, more articles met inclusion criteria for the systematic review and therefore SC4 was able to synthesize the evidence based on specific exposure categories: breakfast, number of eating occasions, and snacking. It determined that limited evidence suggests that breakfast consumption compared to no breakfast consumption does not decrease total energy intake in adults, and that a conclusion statement cannot be drawn about this relationship for older adults because no evidence is available. It also determined that in adults and in older adults, a conclusion statement could not be drawn about number of eating occasions nor snacking and energy intake due to a lack of articles and serious limitations related to generalizability.

SC4's next steps are to continue work on its systematic reviews for frequency of meals and/or snacking and for portion size, and to continue work on its evidence scan examining culturally tailored dietary interventions and diet-related psychosocial factors, dietary intake, diet quality, and health outcomes.

Discussion following the SC4 presentation highlighted the lack of rigorous research on this topic among children and adolescents and among older adults and in diverse racial/ethnic populations. Committee members highlighted these evidence gaps and suggested that they are a call to action to the nutrition community to move past cross-sectional research and instead conduct randomized studies that follow participants over time to better understand the temporal implications and outcomes of different eating patterns. It was also noted that many studies included in the systematic review were weight loss intervention trials not applicable to the general population; and that among older adults for whom maintaining muscle mass is often important, more robust data on snacking and number of eating occasions in this population could help inform clinicians' advice for helping older adults maintain muscle mass.

DIETARY PATTERNS AND SPECIFIC DIETARY COMPONENTS ACROSS LIFE STAGES

Dr. Deanna Hoelscher (SC1 Chair) summarized SC1's progress since Meeting 3. For dietary patterns, this includes development of draft conclusion statements for one systematic review, continued work on seven additional systematic reviews, and discontinuation of one systematic review (dietary patterns and risk of prostate cancer) because the literature on dietary patterns in relation to this health outcome has not grown substantially since the previous reviews conducted by the 2020 Committee and other questions are higher priority in the Committee's remaining time. For specific dietary pattern components, progress since Meeting 3 includes development of draft conclusion statements for three systematic reviews, continued work on four additional systematic reviews, and discontinuation of four systematic reviews (two examining relationships between coffee and/or tea and health outcomes and two examining dairy milk and milk alternatives and 100% juice and risk of type 2 diabetes). Dr. Hoelscher explained that the Committee deemed it higher priority to assess the overall dietary pattern in relation to these health outcomes, and that the nutritional implications of consuming the beverage types in the discontinued systematic reviews are examined in other food pattern modeling and systematic review questions..

Dr. Hoelscher and fellow SC1 members Dr. Cheryl Anderson, Dr. Christopher Gardner, and Dr. Andrea Deierlein presented revisions to the inclusion and exclusion criteria for several systematic review protocols that SC1 presented previously. These revisions were made to streamline SC1's reviews and focus on the highest quality evidence. A brief discussion following the presentation of the protocol revisions focused on the rationale for the changes in the case of the ultra-processed foods protocol, and whether inclusion of underrepresented populations was considered in the case of the dietary sources of saturated fat protocol.

Next, Dr. Hoelscher and fellow SC1 members Dr. Deirdre Tobias and Dr. Teresa Fung presented draft findings from SC1's evidence reviews on dietary patterns consumed and growth, body composition, and risk of obesity during four life stages (individuals during postpartum, birth to 24 months, children and adolescents, and adults and older adults). Dr. Hoelscher reviewed the analytic framework, and along with Drs. Tobias and Fung, reviewed the draft conclusion statements, grades, and rationale for each life stage examined. Conclusion statements and grades varied by life stage, reflecting the differences in quantity and strength of evidence available related to the populations and outcomes examined by the systematic review questions. Dr. Hoelscher emphasized that the conclusion statements presented will be considered collectively with food pattern modeling and data analysis findings to inform the recommendations in the Committee's scientific report.

Committee discussion followed presentation of the evidence review update for dietary patterns consumed and growth, body composition, and risk of obesity. Dr. Fung was asked to elaborate on the

limitations in the body of evidence for birth to 24 months that prevented a conclusion statement from being drawn. She highlighted inconsistency in the 18 studies included in the evidence review, particularly in the way that dietary patterns were defined, and suggested that improvements in future research could address this limitation. Committee members asked what metrics were commonly used to classify dietary patterns in the studies, and pointed out that beyond defining a dietary pattern, it is also important to evaluate how well study participants adhered to the dietary pattern as it was defined.

Next, Dr. Andrea Deierlein and fellow SC1 member Dr. Hollie Raynor presented draft findings from SC1's evidence review on specific dietary pattern components and growth, body composition, and risk of obesity for children and adolescents, adults and older adults, and individuals during pregnancy and postpartum. Dr. Deierlein and Dr. Raynor reviewed the analytic frameworks and draft conclusion statements, grades, and rationale for systematic review questions on beverage patterns, 100% juice, dairy milk and milk alternatives, and low- and no-calorie sweetened beverages (LNCSB) for each life stage examined. Dr. Deierlein noted that for all beverages systematic review questions, total energy intake was not a key confounder, but that SC1 considered whether studies controlled for total energy intake when synthesizing the evidence. Dr. Raynor noted that for the questions examining LNCSB, the comparators are consumption of a different amount of LNCSB or water. Articles that directly compared LNCSB with sugar-sweetened beverages will be included in the sugar-sweetened beverages review. Conclusion statements and grades for the beverages questions varied by beverage type and life stage, reflecting the differences in quantity and strength of evidence available related to the populations and outcomes examined by the systematic review questions.

Committee discussion followed this final segment of the SC1 presentation. Committee members asked how the relationship between 100% juice consumption and body composition and risk of obesity among adults was assessed given that the included trials all enrolled individuals with overweight/obesity at baseline. Dr. Raynor responded that the wording in the conclusion statement was purposefully chosen to reflect that context. Additional committee discussion focused on shortcomings in rigor for trials and inconsistency in approaches taken by the included studies (e.g., variation in exposure definition, length of follow-up, and comparators). Committee members observed that an evidence gap existed for children ages 5-8 years with respect to studies of dairy milk consumption by milk fat content and the outcomes of growth, body composition, and risk of obesity. Finally, Committee members briefly discussed the challenges of grading a body of evidence with different proportions of epidemiological and experimental studies.

Dr. Hoelscher concluded SC1's presentation by sharing that its next steps are to continue work on its remaining systematic reviews for dietary patterns (n=7) and for specific dietary pattern components (n=4).

DIET IN PREGNANCY AND BIRTH THROUGH ADOLESCENCE

Dr. Jennifer Orlet Fisher (SC2 Chair) summarized SC2's progress since Meeting 3, including development of draft conclusion statements for two systematic reviews and continued work on five additional systematic reviews.

She began by reviewing evidence on repeated exposure and food acceptance among children ages 2 to 6 years, and reminded attendees that 1) this question is part of a larger interest in identifying strategies that support development of healthy eating habits and adherence to the *Dietary Guidelines* in terms of acceptance of healthful foods, and 2) SC2 presented evidence for this question among the birth to 24 month population during Meeting 3. Dr. Fisher reviewed SC2's analytic framework for the question and

presented its conclusion statements and grades for evidence that examined repeated taste exposure to vegetables, to fruits, or to non-taste exposures (such as picture book and other non-taste sensory exposures) among children ages 2 to 6 years. Conclusion statements and grades varied by intervention, reflecting the differences in amount and strength of evidence available related to the outcomes examined by the systematic review questions. Dr. Fisher stated that along with SC2's (previously presented) birth to 24 months evidence, the evidence review presented at Meeting 4 for children ages 2 to 6 years provides a comprehensive examination of the scientific evidence on repeated exposure and food acceptance during early childhood. She added that despite fairly robust evidence from the studies considered in the systematic reviews of repeated exposure, SC2 identified significant limitations in generalizability that will be important to address in future work.

Dr. Carol Byrd-Bredbenner presented SC2's review of evidence on dietary patterns during pregnancy and hypertensive disorders of pregnancy. She reviewed the analytic framework and noted that because the existing systematic review published in 2019 as part of the Pregnancy and Birth to 24 Months Project had a "limited evidence" conclusion statement, SC2 chose to synthesize all evidence from January 1980 to May 2023 in its review update. Ultimately, a conclusion statement could not be drawn about the relationship between dietary patterns consumed during pregnancy and hypertensive disorders of pregnancy because there are substantial concerns with directness, precision, and consistency in the body of evidence.

A brief Committee discussion followed SC2's presentation. Dr. Fatima Cody Stanford reflected on Dr. Fisher's comments about the limited diversity of racial/ethnic backgrounds and of socioeconomic position represented in the evidence base on repeated exposure. She wondered how to translate this evidence to populations for whom the evidence base is not generalizable and emphasized the need for research in more diverse populations. Dr. Fisher stated that despite the robust body of evidence, its lack of representation of the diversity of the U.S. population was a factor that prevented SC2 from grading the evidence as "strong." She also noted that the strategy of repeated exposure may be less feasible in families of lower socioeconomic position because the possibility of food waste may not be acceptable among these populations.

CHAIR/VICE CHAIR WRAP UP

Dr. Angela Odoms-Young (Vice Chair) invited each Committee member to share reflections on the work done between Meetings 3 and 4.

- Committee members talked about the high volume of evidence that they have been critically evaluating and gradually condensing through a rigorous process supported by staff;
- Compared the preparation of the scientific report to a puzzle that has begun to be pieced together;
- Marveled at the dedication, insightfulness, and humility of the Committee—especially in its commitment and authenticity to applying a health equity lens—as members have worked together for several hours almost every week to deliberate evidence in detail;
- Expressed surprise and disappointment that the body of evidence on many topics wasn't robust enough to make stronger conclusions, but that a silver lining is the clarity it offers for providing recommendations for the rigor needed in future research;
- Emphasized that much of the research examined lacks generalizability to diverse populations and called for research to be funded and designed to reflect the diversity of the U.S. population;

- Observed that investigators' attempts to design research proposals that stand out for their novelty and publication bias of editors or funding bias of grant review agencies could be at odds with generating replication of findings in the literature needed to draw strong conclusions;
- Suggested that the shift in focus from nutrient-based to food/dietary pattern-based guidance is increasingly being reflected in the literature, particularly in terms of the relationship to obesity but less so for other health outcomes;
- Emphasized the importance of integrating all of the evidence to provide practical, sound advice to the public despite lack of strong conclusions in many topic areas.

ADJOURNMENT

Ms. Janet de Jesus congratulated the Committee for completing Meeting 4 and commended its tremendous progress. She also highlighted the staff's support and strong collaboration with the Committee toward shared goals of improving public health, using rigorous methods to review evidence, and continuous improvement in each edition of the *Dietary Guidelines*. She highlighted various avenues for public engagement in the *Dietary Guidelines* process, noted that updated protocols will be posted on dietaryguidelines.gov and NESR.usda.gov within one month, and reiterated that public comments on protocol updates are appreciated within one month of their posting. She also emphasized the importance of ensuring that the full Committee has the opportunity to consider each public comment. To facilitate this process, comments are to be submitted via regulations.gov and not directly to individual Committee members. Moreover, Committee members will not conduct media interviews on their work while it is in progress, but may do so following release of the scientific report. The Committee's next meeting is tentatively scheduled for May 30, 2024. Ms. de Jesus thanked the federal staff for their support to the Committee and adjourned Meeting 4 at 2:57pm ET.