Summary of Peer Review Comments on Food Pattern Modeling (FPM) Conducted by the 2025 Dietary Guidelines Advisory Committee

Peer Review Process for FPM Conducted by the 2025 Dietary Guidelines Advisory Committee

The 2025 Dietary Guidelines Advisory Committee (Committee) conducted FPM analyses across 12 protocols with support from staff from USDA's Nutrition and Economic Analysis Branch within the Food and Nutrition Service, Center for Nutrition Policy and Promotion. Nine of the Committee's FPM analyses and reports underwent external peer review by nutrition scientists in a process coordinated by staff from the National Institutes of Health (NIH). Two reports did not undergo external peer review (the Ranges of Nutrient Density Analytic Question and the Overarching Question, also known as the Synthesis of Hypothetical Dietary Pattern Modifications to the 2020 Healthy U.S.-Style.) The Committee found the Ranges of Nutrient Density analysis was not feasible to provide an estimate of daily calories for other uses and did not conduct any additional analyses for this question. The Overarching report summarizes the key decisions made by the Committee after evaluating the dietary patterns based on findings from systematic reviews, data analysis, and FPM. Additionally, diet simulations did not undergo external peer review.

As a research center, NIH has access to nutrition scientists and networks with professional organizations to support peer review. While within HHS, the NIH staff coordinating the peer review were separate from the staff supporting the Committee's work. NIH staff identified potential peer reviewers through outreach to a variety of professional organizations to select academic reviewers from U.S. colleges and universities with a doctorate degree, including MDs, and expertise specific to the questions reviewed. All peer reviewers were external to the Dietary Guidelines process; therefore, current Committee members and federal staff who supported the Committee, or who were involved in the development of the Dietary Guidelines, were not eligible to serve as peer reviewers. Federal scientists who were not involved in the development of the Dietary Guidelines were eligible to serve as peer reviewers, as were past members of Dietary Guidelines Advisory Committees, as long as they were not serving on the 2025 Committee.

NIH staff assigned each FPM analysis and report to at least two peer reviewers; however, peer reviewers were not limited in the number of reports reviewed and may have reviewed multiple reports. The peer review process was anonymous and confidential in that the peer reviewers were not identified to the Committee members or FPM staff, and in turn, the reviewers were asked not to share or discuss the review with anyone. Peer reviewers were made aware that per USDA, FNS agency policy, all peer reviewer comments would be summarized and made public, but comments would not be attributed to a specific reviewer. The reviewers were welcome to provide feedback on any aspect of the analyses and/or reports, but were specifically asked to evaluate the methods, results, and summary and/or synthesis statements for their respective report.

Each reviewer was instructed to submit their comments in written form. In addition, reviewers were informed that the agencies would be required to make available to the public the written charge to the peer reviewers; the peer reviewers' names, affiliations, and expertise; and a summary of the comments from peer reviewers, though those comments would not be attributed to a specific named peer reviewer.

Summary of Peer Review Comments on the FPM Analyses and Reports Conducted by the 2025 Dietary Guidelines Advisory Committee

Nutrition experts served as peer reviewers across nine FPM analyses conducted by the Committee and the corresponding reports. In general, comments received from these peer reviewers were positive, as peer reviewers were generally complimentary of the methods, results, and transparency of the FPM processes. Most of the feedback was editorial in nature. Many of these editorial comments included suggestions to add definitions or clarify terms used in the accompanying Excel file; differences in rounding (e.g. rounding in one section to the tenth place and another to the hundredth place); providing additional information on the rationale for the analyses; and expanding on findings or adding discussion sections within the FPM reports. Where necessary, changes were made to the reports to either address these comments or to direct the peer reviewers to the location of the information (e.g. rationale for analyses is listed in the accompanying FPM protocol).

Peer reviewers commonly expressed agreement with the synthesis or summary statements assigned to each analysis with a few exceptions that are described below:

Peer reviewer comments on synthesis or summary statements

Based on peer reviewer feedback, one synthesis statement for the report examining the following question was revised: "*What are the implications for nutrient intakes when modifying the Vegetables food group and subgroup quantities within the Healthy U.S.-Style Dietary Pattern?*" The Committee re-evaluated the analyses, taking into consideration the peer reviewer comments, and determined that a change to the synthesis statement for quantities of Vegetables in the Healthy U.S.-Style (HUSS) Dietary Pattern was warranted:

- **Draft synthesis statement 1:** *No potential modifications to the HUSS Dietary Pattern. FPM results support existing quantities of Vegetables in the overall synthesis that integrates the food groups in a healthy dietary pattern.*
- **Final synthesis statement 1:** *No potential modifications to the HUSS Dietary Pattern. FPM results support not reducing existing quantities of Total Vegetables in the overall synthesis that integrates the food groups in a healthy dietary pattern.*

Several reports also received comments from peer reviewers that suggested the Committee re-consider the synthesis statements to include more information and/or re-evaluate the feasibility of the analyses. These synthesis statements are provided below. The Committee considered the peer reviewer feedback but opted to maintain their original synthesis and/or summary statements. In these cases, the Committee with support from staff provided rationale for their decisions in responses to the peer reviewers, and, where appropriate, revised the report to clarify the rationale or clarify points for the synthesis or summary statements. In some cases, reviewers also added research recommendations to suggest research that could strengthen the evidence used in future iterations of the *Dietary Guidelines for Americans*.

- What are the implications for nutrient intakes when modifying the Vegetables food group and subgroup quantities within the Healthy U.S.-Style Dietary Pattern?

    - Synthesis Statement 2: *Potential modification to the HUSS Dietary Pattern across all life stages starting at 12 months.*
      FPM results provide support for exploring a modification to the proportions of Vegetables subgroups that increases Beans, Peas, and Lentils and Dark-Green vegetables in the overall synthesis that integrates food groups in a healthy dietary pattern.
- What are the implications for nutrient intakes when modifying the Protein Foods group and subgroup quantities within the Healthy U.S.-Style Dietary Pattern or Healthy Vegetarian Dietary Pattern? What are the implications for nutrient intakes when proportions of animal-based Protein Foods subgroups are reduced and proportions of plant-based Protein Foods subgroups are increased?
    - Synthesis Statement 1: *Potential modification to the HUSS Dietary Pattern across all life stages starting at 12 months.*
      FPM results provide support for exploring a modification that reduces Total Protein Foods in the overall synthesis that integrates food groups in a healthy dietary pattern.
    - Synthesis Statement 2: *Potential flexibility to the HUSS Dietary Pattern across all life stages starting at 12 months.*
      FPM results provide support for exploring a flexibility that increases Beans, Peas, and Lentils and/or Nuts, Seeds, and Soy Products, while simultaneously decreasing Meats, Poultry, and Eggs.
    - Synthesis Statement 3: *Potential flexibility to the Healthy Vegetarian Dietary Pattern across all life stages starting at 12 months.*
      FPM results provide support for exploring a flexibility of the Healthy Vegetarian Dietary Pattern in which Seafood is added.
- What are the implications for nutrient intakes when modifying the Dairy and Fortified Soy Alternatives group quantities within the Healthy U.S.-Style Dietary Pattern? What are the implications for nutrient intakes when dairy food and beverage sources are replaced with non-dairy alternatives?
    - Synthesis Statement 2: *Potential flexibility to HUSS Dietary Pattern for ages 2 and older.*
      FPM results provide support for exploring a flexibility in which fortified non-dairy milk alternatives are substituted for the Dairy and Fortified Soy Food Group.
- Can nutrient goals be met when carbohydrate-containing foods and beverages are reduced in the Healthy U.S.-Style Dietary Pattern for ages 2 years and older?
    - Summary Statement 1: *Several nutrient gaps are introduced when carbohydrate-containing nutrient dense foods and beverages are removed from the HUSS Dietary Pattern, including vitamin A, thiamin, riboflavin, niacin, folate, calcium, copper, iron, magnesium, phosphorous, zinc, choline, potassium, and fiber. Additional nutrients fall below recommendations for pregnancy and lactation, including vitamin C, vitamin B6, and vitamin B12. These results indicate the important nutrients provided by carbohydrate-containing foods and beverages and the gaps needed to be addressed if these foods are removed*.
- Can nutrient goals be met when animal sources of foods and beverages are removed from the Healthy Vegetarian Dietary Pattern for ages 2 years and older?

- Summary Statement 1: *Several nutrient gaps are introduced when all animal sources of foods and beverages are removed from the 2020 Healthy Vegetarian Dietary Pattern for ages 2 years and older. Specific nutrients that decrease from this removal include protein, vitamin A, vitamin D, vitamin E, riboflavin, niacin, vitamin B6, vitamin B12, choline, calcium, iron, magnesium, potassium, and zinc. Exclusion of animal foods such as milk, yogurt, and cheese are often accompanied by replacement with alternative products such as fortified soy alternatives which is currently included in the Dairy and Fortified Soy Alternatives group. While this may ameliorate the limitations for several nutrients, some nutrient gaps persist. In conclusion, the Committee cautions against excluding all animal source foods and food groups without carefully planning for nutrient adequacy from other dietary sources that may meet the nutrient gaps*.

Peer reviewer comments on research recommendations

The Committee received two comments from peer reviewers regarding the need for additional research recommendations. The research recommendations pertained to two FPM reports:

- Can nutrient goals be met when carbohydrate-containing foods and beverages are reduced in the Healthy U.S.-Style Dietary Pattern for ages 2 years and older?
  - Recommendation: *The focus of this objective was on whether nutritional gaps occur when reducing quantities of carbohydrate-containing food groups. Would a greater focus on dietary patterns (vs. macronutrient distribution) in the field along with the lack of push to reevaluate the Recommended Dietary Allowance (RDA) be adequate evidence to discontinue ongoing investigation into the role of total carbohydrate intake on health outcomes and nutrient adequacy?*
- Can nutrient goals be met when animal sources of foods and beverages are removed from the Healthy Vegetarian Dietary Pattern for ages 2 years and older?
  - Recommendation: *With growing interest in vegan dietary patterns and growth in plant-based meat, dairy, and egg alternatives, FPM would be helpful to examine the effect of replacing eggs and dairy with these alternatives to assess nutrient shortfalls that could be addressed.*

Peer reviewer comments on the FPM methodology

There were a few instances where a peer reviewer asked for additional clarification on the methodology used to conduct FPM analyses, such as nutrient profile development, foods included in certain food groups, rationale from the protocol, feasibility, changes in dietary reference intakes (e.g. energy requirements), and why some nutrients were excluded (e.g. iodine) from this DGAC cycle. Peer reviewers were provided with answers to their questions and were also directed to the FPM protocols accompanying the reports; the Basis FPM report (*Should foods and beverages with lower nutrient density, i.e., those with added sugars, saturated fat, and sodium, contribute to item clusters, representative foods, and therefore the nutrient profiles for each food group and subgroup used in modeling the USDA Dietary Patterns?*); and/or the Committee's Scientific Report.

Food Pattern Modeling Report Peer Reviewers

The following individuals served as peer reviewers for the 2025 Dietary Guidelines Advisory Committee's Food Pattern Modeling reports and were identified by NIH to have expertise specific to the topics addressed in the Committee's reports

Virginia Uhley, PhD, RD
Oakland University

Kelly Higgins, PhD
Exponent

Marybeth Mitcham, PhD, MPH
George Mason University

Mark R. Corkins, MD, CNSC, FASPEN, AGAF, FAAP
University of Tennessee Health Science Center

Valerie Sullivan, PhD
Johns Hopkins Bloomberg School of Public Health

Maya Vadiveloo, PhD, RD, FAHA
University of Rhode Island

Mary Murphy, RD
Exponent