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Comment on FR Doc # 2019-12806

This is a Comment on the **Food and Nutrition Service (FNS) Notice: [Meetings: 2020 Dietary Guidelines Advisory Committee](#)**

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Comment

RE: Best Practices for Discerning the Contribution of Specific Meat Types in Diets and Dietary Patterns

Dear Members of the Dietary Guidelines Advisory Committee (DGAC):

The Beef Checkoff appreciates the opportunity to provide evidence related to discerning the contribution of specific meat types in diets and dietary patterns as research is reviewed by the DGAC. The Beef Checkoff is a producer-funded marketing and research program, which includes a significant commitment to supporting nutrition research to better understand beef's role in healthy diets.

The 2015-2020 Dietary Guidelines for Americans (DGA) acknowledge the challenges associated with the use of dietary pattern methodology to make recommendations for meat, and consumer research funded by the Beef Checkoff to understand consumer preferences of the Dietary Guidelines and Dietary Patterns confirms that interpretation of evidence statements for meat, derived from dietary pattern research, is difficult to understand. We're sharing this evidence because the 2015 DGAC recognized that lean meats were not consistently defined or handled similarly between studies.

The 2015-2020 DGA also recognized that food pattern modeling has demonstrated that lean meats and lean poultry can contribute important nutrients. When consumed in recommended amounts in healthy eating patterns. Nonetheless, in a nationwide survey conducted by the Beef Checkoff to understand consumer perceptions of the Dietary Guidelines and dietary patterns, nearly one-third of adults surveyed found this language to be either confusing or interpreted it to mean red meat should be eliminated from their diet rather than the need to shift their intake of higher fat meat to lean meat cuts.

To support the formulation of high-quality, evidence-based dietary guidance, attached are best practices and an evidence overview related to meat terminology for the DGAC's consideration, including:

1. Methodology that Defines Individual Meat Types and Avoids Overlap Between Meat Groups
2. Definition of Meat Components in Dietary Patterns
3. Provision of Both Food Group and Nutrient Descriptions of Diets and Dietary Patterns
4. Recognition that Meat is not a Standardized nor Exclusive Categorization for Analysis of U.S. Food Surveys
5. Utilization of Randomized Controlled Study Designs Where Meat Types and Intakes are More Clearly Defined to Inform Recommendations for Meat

Thank you for the opportunity to share the attached evidence.

Attachments (1)

[BeefCheckoffTerminologyComments](#)

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Category:

Food industry

August 5, 2019

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Chair, 2020-2025 Dietary Guidelines Advisory Committee

Ron Kleinman, MD
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CC: 2020-2025 Dietary Guidelines Advisory Committee Members
U.S. Department of Agriculture
U.S. Department of Health and Human Services
Brandon Lipps, Acting Deputy Undersecretary for Food and Nutrition Consumer Services

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the Beef Checkoff.

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Thank you for the opportunity to share the attached evidence.



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Discerning the Contribution of Specific Meat Types in Diets and Dietary Patterns - Evidence Overview and Supporting Citations

The 2015-2020 Dietary Guidelines for Americans (DGA) acknowledge the challenges associated with the use of dietary pattern methodology to make recommendations for meat, and consumer research confirms that interpretation of evidence statements for meat, derived from dietary pattern research, is difficult to understand (1, 2). Specifically, the DGA note that "...eating patterns that include lower intake of meats as well as processed meats and processed poultry are associated with reduced risk of CVD in adults (1)." In a nationwide survey of adults (n=479) ages 20-68 years old, advice consistent with this evidence statement was interpreted by 18% of consumers as allowing only for the consumption of white meat or fish; 5% interpreted this advice as recommending vegetarianism, and another 6% had no idea what it meant (2). At the same time, the DGA recognize that "...food pattern modeling has demonstrated that lean meats and lean poultry can contribute important nutrients...when consumed in recommended amounts in healthy eating patterns...(1)" **Nonetheless, nearly one-third of consumers surveyed are either confused or consider that red meat should be eliminated from their diet rather than shift their intake of higher fat meat to lean meat cuts (2).** The 2015 DGAC recognized that "...lean meats were not consistently defined or handled similarly between studies...(3)" **To support the formulation of high-quality, evidence-based dietary guidance (4), the identification of specific meat types, including beef, in diets and dietary patterns, based on the following study design and reporting elements is offered:**

1. Methodology that Defines Individual Meat Types and Avoids Overlap Between Meat Groups
2. Definition of Meat Components in Dietary Patterns
3. Provision of Both Food Group and Nutrient Descriptions of Diets and Dietary Patterns
4. Recognition that "Meat" is not a Standardized nor Exclusive Categorization for Analysis of U.S. Food Surveys
5. Utilization of Randomized Controlled Study Designs Where Meat Types and Intakes are More Clearly Defined to Inform Recommendations for Meat

1. *Methodology that Defines Individual Meat Types and Avoids Overlap Between Meat Groups*

- Meat science experts recommend not combining unprocessed and processed meat in the same category (5). There is no inherent correlation between consumption of one meat type with the other (5).
- Including meat and meat products in multiple categories, such as bacon in both meat and processed meat in the same study, contributes to errors of interpretation regarding meat intake levels and associated health outcomes (5, 6).
- Distinguishing between intake of lean cuts versus higher fat cuts of unprocessed and or processed meat. More than 65% of beef cuts sold at retail meet government standards for lean and can be identified by cut types such as “loin” or “round” (7).
- “There are relevant nutrient variations and processing methods across and within red meat, processed meat, poultry, and fish which can influence conclusions about the health effects or associations of consuming these foods (6).” Consideration of comminuted meat (i.e. ground meat), absent of added ingredients, as “processed” is inconsistent with definition of processed endorsed by meat scientists (8). Rather, ground meat would be considered “minimally processed” but meat with added ingredients (seasonings or preservatives) or treated by heat, would be considered “further processed” (9).

Studies that report how meats were grouped can more effectively contribute to public dietary guidance regarding meat intake (6, 8). Outside of more specific meat information, guidance can recognize evidence limitations and provide appropriate evidence grades (4).

2. *Definition of Meat Components in Dietary Patterns*

Accurate interpretation of individual meat-type contributions to dietary patterns relies on careful consideration of how authors have identified or scored meat components in various patterns/indices and scores (10). The Nutritional Evidence Systematic Review (NESR) of the association between dietary patterns and gestational diabetes mellitus (GDM) concludes with advice to consume a diet lower in red and processed meat (11). **Yet nearly 60% of the included studies, 1) do not report results specific to “red meat” but rather to the broad category of “meat”, to include poultry (12-15), and 2) find null associations between GDM and red meat intake (16-18). Interpretation of broad meat evidence as specific to “red meat” is problematic for U.S. dietary guidance related to meat intake (6).**

3. *Provision of Both Food Group and Nutrient Descriptions of Diets and Dietary Patterns*

Dietary patterns, indices and scores often provide food group servings descriptions or loading of individual components in a pattern but may fail to define the nutrient profile (10). **Studies that describe**

both food groups and related nutrient distributions are consistent with best practice recommendations in nutrition study reporting (10).

- For meat, use of the terms “red meat” or “white meat” as a proxy for nutritional characteristics causes confusion (5). For example, defining ground beef as red meat, while failing to do the same for dark turkey meat (e.g. turkey leg), is misleading as the heme iron content of these is nearly identical (5). Identification of meat derived from a specific species, i.e. beef, pork, lamb, goat is considered more precise (5).
- The Harvard food frequency questionnaire provides useful examples of the importance of considering nutrient content when grouping muscle foods for intake assessment, e.g. one question asks about the consumption of “chicken or turkey sandwich or frozen dinner (6).” These disparate foods can vary widely in their sodium and other processing ingredients contribution to the diet with a turkey sandwich possibly contributing limited sodium from fresh turkey breast or higher sodium from processed turkey deli meat, and a frozen dinner likely to contain sodium-based additives for preservations (6). It is noted that, “the high sodium content of these processed meats may overshadow the health benefits of consuming their non-processed counterparts included in these questions” (6).
- This is also true when distinguishing between lean meat choices. For example, both lean ground turkey and lean ground beef are heart healthy lean meat choices, but 93% lean ground beef (cooked) provides 29 g protein; 449 mg potassium, 3.2 mg iron, 7.0 mg zinc, 2.8 µg vitamin B12, and 93 mg choline while 93% lean ground turkey (cooked) provides 27 g protein, 304 mg potassium, 1.6 mg iron; 3.8 mg zinc, 1.9 µg vitamin B12, and 78 mg choline per 100 g cooked serving (19, 20).

4. *Recognition that “Meat” is not a Standardized nor Exclusive Categorization for Analysis of U.S. Food Surveys*

Using data from the National Health and Nutrition Examination Surveys (NHANES), a recent publication by Xu et al. (2018) concluded that, in order of contribution, meat, eggs, grain products, and milk are “...the highest four food sources of cholesterol, contributing to 96% of the total consumption” in the U.S. diet and that “these results should inform public health efforts in implementing dietary guidelines and tailoring dietary recommendations (21).” However, Xu et al., 2018 defined “meat” as the combination of red meat (fresh and processed), poultry, fish and “mixed dishes” (21). The DGA recognizes the disparate food represented by mixed dishes to include burgers, sandwiches, soups, pasta, pizza, egg rolls, Caesar salad and others (1). Examining the evidence of Xu et al. presented in Tables 3 and 4 of their report, in rank order of highest to lowest cholesterol intake, however, indicates that while the author defined

composite variable “meat” provided the greatest cholesterol intake, the top individual sources of cholesterol for men were eggs, grain products, poultry, milk and milk products and for women eggs, grain products, mixed dishes and milk and milk products (21). Among individual food sources, **“Red Meat” ranks 6th out of 9 among top dietary cholesterol sources for men, and 7th for women. In fact, of the 4 contributors to the “meat” definition used by the authors– poultry and mixed dishes are the primary cholesterol contributors, as opposed to red meat.** Defining meat in the manner described above resulted in subsequent researchers concluding that meat is responsible for 42% of the cholesterol consumed in the U.S. (only 25% from eggs) and thus likely responsible for the observation of cholesterol containing foods contributing to cardiovascular disease and mortality as, “statistically, the remaining variation in dietary cholesterol consumption from other foods may not be sufficient to materially modify the associations” studied (21). **Review of study methodology to verify author definitions of common food groupings could reduce misinterpretation and reduce the risk of erroneous meat-related advice (6).**

5. Utilization of Randomized Controlled Study Designs Where Meat Types and Intakes are More Clearly Defined to Inform Recommendations for Meat

Randomized controlled trials (RCTs), where meat types and intakes are independently evaluated and more clearly defined, provide less biased evidence, and are both foundational and complementary to inform recommendations on individual food groups such as meat (22-24). For example, a recent study finds that intake of a Mediterranean-style eating pattern including 18 ounces of cooked, lean, unprocessed beef and pork per week can positively impact cardiometabolic disease risk factor profiles (25). **RCTs are able to examine dietary patterns, are at lower risk of bias, and can confirm disease observations using controlled diets and markers of disease (23).**

In conclusion, while the understanding of beef’s role in healthy diets and dietary patterns can be limited and confounded by inconsistent meat terminology and the classification of beef in heterogeneous food categories in observational research and national food surveys (6), consideration of best practices in the review of observational evidence can help ensure robust and reliable dietary recommendations (4).

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