2020 Dietary Guidelines Repeating Past Mistakes, Lacks Scientific Rigor

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By Nina Teicholz

The expert committee reviewing the science for America's nutrition policy, the Dietary Guidelines for Americans (DGA), held its third, two-day meeting last week, in Washington, D.C. While the committee is working hard to review the science, some "38,000 studies" so far, according to government officials, the process suffers from significant flaws, including—crucially—a lack of up-to-date methods for reviewing the science. Additionally, there are fundamental problems in the reviews on low-carb diets and saturated fats which, unless changed, will inevitably result in flawed outcomes.

The 20-person Guidelines Advisory Committee meets weekly over the phone, in various subcommittees, but only comes together in person five times. Senior officials of the agencies overseeing the Guidelines, the U.S. Department of Agriculture and Health and Human Services (USDA-HHS), gave rallying speeches at the start, on Thursday morning, and then USDA staff, which has run the Guidelines since their inception in 1980, led for the next two days.

USDA Backs Out of Using a State-of-the-Art Methodology for Science Reviews

Methods for reviewing the science are at the crux of ensuring a trustworthy, reliable DGA. Without strict protocols, the risk of cherry picking and lax reviews of the science can creep into the process, resulting in unreliable recommendations, such as we've seen in the past, with the USDA-HHS' advice to cap dietary cholesterol as well as total fat (the "low-fat diet")—which then had to be reversed. State-of-the art protocols for reviewing science prevent these kinds of problems, which is why the National Academies of Sciences, Engineering, and Medicine (NASEM), in its recent review of the DGA process, strongly advised USDA-HHS to adopt one of the state-of-the-art scientific review methodologies

scientific review methodologies.

At the first DGA meeting in March, USDA official Julie Obbagy stated that her agency would adopt a "modified" version of one of these leading standards, called "GRADE" (Grading of Recommendations Assessment, Development and Evaluation). Obbagy stated, "...we have updated our grading criteria to align more closely with a very commonly-used grading approach called GRADE, although we do have some points of differentiation..." ("NESR" is the USDA office that conducts the DGA scientific reviews.) Obbagy continued, "NESR's grading process, very much like GRADE, provides a very structured and transparent approach for assessing the strength of the body of evidence, and we do have four out of the five grading elements [in GRADE] in common." The one different element, says Obbagy, is that NESR will omit an assessment of "publication bias," as GRADE requires.

However, at this most recent DGA meeting, Obbagy backtracked on this statement, saying instead, "There is a methodology known as the GRADE methodology, and that is one example of a method used to grade the underlying strength of evidence...And so, we do not use the GRADE process specifically, but we do use our own process..."

The problem with the NESR reviews is that they are not systematic in crucial ways, as experts in the field have commented upon. Most importantly, the NESR system does not prioritize more rigorous clinical trial data, which can show cause-and-effect, over weaker nutritional epidemiology, which generates only associations. GRADE and other prevailing standards for evidence review would guard against this problem.

As committee member Richard Mattes from Perdue University urged in his final comments,

> "We should hold the highest standards…I don't think we compromise on that…we've been

> talking about numbers, but when we're interpreting the data, one really good study outweighs 47 bad studies. So, even if 47 of them come through, we don't want to be counting numbers. We want to be looking at quality."

The Nutrition Coalition continues to encourage USDA-HHS to adopt one of the state-of-the-art methods recommended by NASEM for review of the science.

USDA-HHS's Definition of a "Low-Carb Diet" is Wholly Inaccurate

In last week's meeting, the DGA committee stated that it would define "low-carb" as <45% of calories (these protocols are consistent across all the DGA committee's searches on "Dietary Patterns;" see, for example, this methodological protocol; search "45"). The committee gave no reason for this decision and provided no citations.

This definition clearly does not reflect the standards set by research leaders in the field.

Low-carbohydrate diets are defined in the scientific literature as both percentages of macronutrients and total grams of carbohydrates. The following definitions are largely accepted by leaders in the field, including now, the National Lipid Association:

- "Low carbohydrate diet:" ≤25% of calories, or 51-130 grams/day [1][2][3][4]
- "Very low carbohydrate" or "ketogenic diet:" <10% of calories or ≤ 50 grams/day.[5]

These diets generally do not ask subjects to count calories, so the kcal/day is not relevant and is the reason why these diets are more often expressed in numbers of grams.

Anything above 25% is not considered a "low-carbohydrate" diet and usually does not have the same metabolic results. Also, it is important that "low carb" and "*very* low carb" diets be analyzed separately, for their differing impacts on health outcomes. There are ample, rigorous, clinical trial data on each of these diets. [6]

Incorrect definitions will yield misleading results and will likely misrepresent the real health outcomes of true low-carbohydrate diets.

Also, it seems that the USDA might exclude low-carb studies that do not include a description of food and beverages. The principal aim of low-carbohydrate studies is to focus on macronutrients percentages or grams, not necessarily the exact foods consumed. Thus, the USDA, by using this criteria for all of its reviews on "Dietary Patterns," seems on track to needlessly exclude many low-carb studies from review.

Finally, the DGA will exclude most studies on people diagnosed with diet-related diseases, since the DGA defines itself as only for "healthy Americans." Thus, the DGA review will not include—for example—the 2-year-plus study at Indiana University on people with type 2 diabetes.[5] The Nutrition Coalition believes that the DGA committee's approach does not make sense biologically, since it's clear that the same intervention that can reverse T2 diabetes also reverses *pre*-diabetes. The DGA scientific review will cover the latter population but not the former.

Review of Saturated Fat Will Fail to Capture Missing Studies… More Unreliable Results

The DGA committee stated that for its current review of saturated fats, it will build upon the last committee's

review, in 2015. However, that 2015 review was ad hoc, not systematic, and thus not reliable. Peer-reviewed documentation of the non-systematic nature of this review is here.

To be credible and trustworthy, the 2020 review on saturated fats needs to start from scratch and importantly, capture the long-ignored, large clinical trials on saturated fats. For a backgrounder on this long-overlooked data on saturated fats, see this.

To conclude:

In sum, there are a number of profoundly important issues affecting not just specific topics being reviewed by the DGA but the whole of the Dietary Guidelines itself. Without a rigorous scientific methodology, USDA-HHS will very likely be perpetuating a nutrition policy based on weak foundational evidence. USDA-HHS have been down this path before. They've been reprimanded by Congress and the National Academies, yet they now seem to be headed in the same direction, without the rigor needed to ensure that our 2020 DGA will reliably inform Americans about the evidence-based ways to combat the chronic diseases that now afflict a majority of our nation.

FOOTNOTES:

[1] Feinman R., Pogozelski, W., Astrup, A., et al., "Dietary carbohydrate restriction as the first approach in diabetes management: Critical review and evidence base" Nutrition, 2014.
[2] Westman, E., Feinman, R., Mavropoulos, J. et al., "Low-carbohydrate Nutrition and Metabolism," American Journal of Clinical Nutrition, 2007.
[3] Cucuzzella, M. et al., "A clinician's guide to inpatient low- carbohydrate diets for remission of type 2 diabetes: toward a standard of care protocol," Diabetes Management, 2019.
[4] Kirkpatrick, C. et al., "Review of current evidence and clinical recommendations on the effects of low-carbohydrate and very-low-carbohydrate (including ketogenic) diets for the management of body weight and other cardiometabolic risk factors: A scientific statement from the National Lipid Association Nutrition and Lifestyle Task Force," Journal of Clnical Lipidology, 2019.
[5] Athinarayanan, S., Adams, R., Hallberg, S., et al., Long-Term Effects of a Novel Continuous Remote Care Intervention Including Nutritional Ketosis for the Management of Type 2 Diabetes: A 2-Year Non-randomized Clinical Trial," Frontiers of Endocrinology, 2019.
[6] https://www.nutritioncoalition.us/lowcarbohydrate-diets-have-these-been-adequately-researched