

# Researchers suggest U.S. Dietary Guidelines lack scientific credibility

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The methods used to base decision-making for the Scientific Report of the 2015 [Dietary Guidelines](#) Advisory Committee are inherently and fatally flawed, according to findings from a researcher at the University of Alabama at Birmingham.

In a recent presentation to a special session of President Barack Obama's Council of Advisers on Science and Technology titled "Strengthening the U.S. Dietary Recommendations through Enhanced Nutritional Science," Edward Archer, Ph.D., an obesity theorist and research fellow with the UAB School of Public Health, told the council the primary method used to gather information for the guidelines is scientifically invalid, and funding for this method should be discontinued.

Archer says the guidelines are primarily informed by memory-based dietary assessment methods, known as M-BMs, which typically consist of interviews and surveys that require study participants to remember and report their [dietary intake](#).

"Most of the data analyses conducted by the Dietary Guidelines Advisory Committee used the M-BMs of the National Health and Nutrition Examination Survey dietary component, 'What We Eat in America,'" Archer said. "Relying on M-BMs to inform dietary policy continues despite decades of unequivocal evidence that M-BM data bear little relation to actual energy and nutrient consumption. Data from M-BMs are defended as valid and valuable despite no empirical support and no examination of the foundational assumptions regarding the validity of human memory and retrospective recall in dietary assessment."

Archer and co-authors Greg Pavea, Ph.D., assistant professor in the UAB School of Public Health, and Carl Lavie, M.D., professor of medicine at the John Ochsner Heart and Vascular Institute in New Orleans and Ochsner Clinical School at The University of Queensland School of Medicine, published a paper in June 2015 in *Mayo Clinic Proceedings* laying out their arguments. In that article, they suggested that uncritical faith in the validity and value of M-BMs has wasted substantial resources and constitutes the greatest impediment to scientific progress in obesity and nutritional research.

The paper presented five arguments for rejecting the use of M-BMs.

- M-BM estimates of energy intake and nutrient intake have trivial relationships with actual energy intake and nutrient intake.
- The assumption that human memory and recall provide literal, accurate or precise reproductions of past ingestive behavior is indisputably false.
- M-BMs require participants to submit to protocols that mimic procedures known to induce false recall.
- Memories, from which M-BM data are derived, are subjective and are not subject to independent observation, quantification or falsification; therefore, these data are pseudoscientific and inadmissible in scientific research.
- The failure to objectively measure and control for physical activity in analyses renders inferences regarding most diet-health relationships moot.

In a follow-up in *Mayo Clinic Proceedings* published in December 2015, Archer and his colleagues argue that nutrition epidemiologists have ignored the empirical refutation of M-BM for decades.

"We think that our nation's [dietary guidelines](#) should not be based on the pseudoscientific and highly edited anecdotes of M-BMs," Archer said. "To continue to do so is an impediment to scientific progress and empirically supported public nutrition and obesity policy."

Archer and the co-authors also suggests that the U.S. food supply and the nutritional status of Americans have improved to a level unparalleled in human history, indicating that the American diet is no longer a significant risk factor for disease for most individuals.

"We assert that research efforts and funding of M-BMs and diet-health research are misdirected, and argue that those resources would be better

targeted to the most prevalent disease of deficiency of the 21st century: inactivity—consisting of a lack of physical activity and exercise, along with high levels of sedentary behavior," Archer said. "We conclude that M-BM data cannot be used to inform national dietary guidelines, and that continued funding of M-BMs constitutes an unscientific and major misuse of research resources."

**More information:** Edward Archer et al. A Discussion of the Refutation of Memory-Based Dietary Assessment Methods (M-BMs): The Rhetorical Defense of Pseudoscientific and Inadmissible Evidence, *Mayo Clinic Proceedings* (2015). [DOI: 10.1016/j.mayocp.2015.10.003](https://doi.org/10.1016/j.mayocp.2015.10.003)

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