Nutrition Education in Medical School: *What Should It Include?*

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The April 28, 2026 issue of the *Journal of the American Medical Association* contains an article authored by Samantha Anderer focused on the 53 medical schools that are committing to 40 hours of nutrition training for their medical students, The question raised in this article is "what will they teach"? A previous article in the same journal by Wu et al. discussed the nature of controversy about different diet approaches for the reduction of heart disease risk and indicated that more than a superficial understanding of nutrition is required to guide communication with patients as to the diet relationships to heart disease. The point of the article was that a physician needs understanding of the physiological impact of the diet that includes the contribution of the all the components of the diet beyond that of the macronutrient content alone. Chrisinger and Schmidt in a third 2026 article in the *Journal of the American Medical Association* provided a viewpoint on the role of ultra processed foods on health and how their removal from reimbursement under SNAP would have a positive health benefit. These concepts of the role of diet on health represent the complexity of the food-health relationship and the need to see this relationship at a systems level. This takes the education about diet and nutrition from a reductionist, macronutrient-and-calorie framing of food to a systems level understanding of the both the production and consumption of food and its impact on the underlying physiology that determines disease risk.

The Anderer article on nutrition education in medical schools' documents both the urgency and the unresolved curricular question. Roughly one million Americans die each year from diet-related chronic disease, yet the typical medical trainee receives only about 19 hours of nutrition instruction over four years, and more than half report no formal coursework at all. HHS has now offered 71 candidate competencies, but the experts interviewed disagree about which of these are evidence-based and which are ideological. Notably, "functional nutrition" is dismissed in the article as "an undefined term." That criticism is itself an argument for what the Functional Medicine framework provides — a defined, mechanistically anchored definition of nutrition education built around the modifiable physiological processes (inflammation, insulin signaling, lipid metabolism, oxidative stress, mitochondrial bioenergetics, detoxification, and the gut microbiome) that mediate the relationship between food and chronic disease. Without that anchoring, "more hours of nutrition" risks becoming a list of foods and deficiencies rather than a way of thinking about how diet modulates physiology.

Recently Wu et al. published the results of a clinical study that is a strong clinical demonstration of the Functional Medicine premise. Across roughly 200 000 participants and three decades of follow-up, healthy low-carb and healthy low-fat diets produced similar reductions in coronary heart disease, and unhealthy versions of each produced similar increases—independent of the macronutrient ratio. More importantly for medical education, the mechanistic link was visible in measurable biology: triglycerides, HDL cholesterol, high-sensitivity C-reactive protein, and metabolomic signatures including elevated indolepropionic acid (a tryptophan-derived microbial metabolite associated with reduced inflammation and improved insulin sensitivity) and lower branched-chain amino acid markers such as valine. Mozaffarian's conclusion that "it's not about the macros, it's about the food choices" is, framed physiologically, the same conclusion the Functional Medicine model has taught for decades: food acts as information that modifies the inflammatory, metabolic, and microbiome-derived signaling networks that drive cardiometabolic risk. A medical student taught to read a lipid panel, an hsCRP, and a metabolomic profile as the downstream readouts of dietary pattern is being taught to practice exactly the kind of physiology-anchored nutrition Wu's data support.

The Chrisinger and Schmidt viewpoint extends the same logic to population scale. The case for restricting ultra processed foods within SNAP rests on a body of evidence—including the Monteiro Lancet synthesis they cite—linking UPFs to obesity, type 2 diabetes, cardiovascular disease, and cancer through mechanisms that are physiological, not caloric: dysregulation of satiety signaling, glycemic instability, microbiome disruption,

and chronic low-grade inflammation. The 9.3% of SNAP expenditures going to sugar-sweetened beverages, and the $606 billion annual Medicaid bill for diet-related disease, represent a population-level expression of the same modifiable physiology a clinician modifies one patient at a time. Future physicians need a model that lets them move fluently between the two scales—recognizing that a SNAP policy change, a produce-incentive program, and an individual dietary prescription are all interventions on the same underlying biology.

This is where the Functional Medicine model becomes directly relevant to the curricular debate the first article describes. Medical students should not be trained to function as dietitians; they should be trained in "overarching skills." A Functional Medicine framework offers exactly that overarching skill set: a small number of organizing physiological processes—inflammation, insulin resistance, oxidative stress, mitochondrial function, microbiome ecology, methylation and detoxification, hormonal signaling, and structural integrity — that connect what a patient eats to the biomarkers a physician already orders and the chronic diseases they are trained to manage. Taught this way, nutrition stops being a separate, memorized subject and becomes an applied extension of biochemistry, physiology, and pathophysiology, which is the form of integration the 2024 consensus statement explicitly called for. It also resolves the "undefined term" objection: functional nutrition, defined rigorously, is the clinical translation of how foods modulate measurable physiological processes that mediate disease risk — precisely the bridge that Wu's metabolomic data illustrate and that SNAP-restriction modeling assumes.

Taken together, the three articles support a clear conclusion for medical student education. The 40-hour HHS commitment is necessary but not sufficient; what those hours teach will determine whether the next generation of physicians can act on the food-quality, mechanism-driven evidence base that Wu, Mozaffarian, Monteiro, and the SNAP literature now describe. A Functional Medicine model organized around modifiable physiological processes provides a defensible, evidence-aligned, and clinically tractable structure for those hours — one that equips students to interpret biomarkers as expressions of dietary physiology, to counsel patients on whole-food patterns rather than macronutrient formulas, to recognize ultra processed food exposure as a modifiable disease driver, and to collaborate effectively with registered dietitians and population-health interventions. That is the relevance: not as an alternative to evidence-based nutrition, but as the integrative framework that lets evidence-based nutrition actually be taught and practiced in medicine.

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