

Family and Fight Against Hunger, Brazil. The Secretariat is the governmental body responsible for the design and implementation of the National Food Basket and related initiatives discussed in this Correspondence.

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### Authors' reply

We thank the authors for their comments and interest in our Series on ultra-processed foods (UPFs) and human health.

We acknowledge David S Ludwig's concern about the limits of any single classification system. The Nova framework does not replace nutrient science, but adds a complementary layer focused on food processing as a determinant of dietary patterns. Foods, nutrients, additives, and food matrices all matter, and the second Series paper<sup>1</sup> explicitly proposed that all regulations should combine criteria on crucial nutrients with markers of food ultra-processing, rather than treating processing as a stand-alone metric. Importantly, nationally representative surveys from multiple countries show that the dietary contribution of ultra-processed foods (UPFs) is the main driver of nutrient-imbalanced diets. For example, in the USA, 92.4% of diets excessive in added sugar, saturated fat, energy density, and insufficient in fibre are attributed to UPF consumption.<sup>2</sup> UPFs, therefore, function not as an ideology but as structural drivers of dietary nutrient imbalance, as well as of other determinants of ill health including overeating, exposure to harmful additives and contaminants, snacking, and other harmful eating patterns. Nova explains dietary patterns in ways that nutrient-centric models alone cannot. Critiques based on isolated UPF products overlook the logic of dietary displacement and the relevant counterfactual: fresh and minimally processed foods and cooked meals. We have recently explained why UPF subgroup analyses suggesting differential health effects are conceptually and methodologically flawed, undermining the credibility of nutrition science and risking policy misinterpretation.<sup>3</sup>

Rafael Sampson and Dirk Jacobs of FoodDrinkEurope characterise the UPF industry and industry-funded scientists as impartial brokers of evidence and argue that proposals

to limit corporate influence go too far. FoodDrinkEurope's membership includes many of the world's largest UPF manufacturers and lobby groups, and the organisation is within a broader network of corporate interest groups that have actively promoted misinformation about Nova and the evidence on UPFs.<sup>4</sup> Based on decades of evidence from food, tobacco, alcohol, and fossil fuel research, we question the credibility of industry-funded science when commercial imperatives conflict with public health goals.<sup>5</sup> Transparency alone is insufficient. The empirical literature shows that disclosure does not neutralise bias, nor prevent the strategic use of funding to manufacture doubt, delay regulation, and frame debate in industry-favourable terms.<sup>4,5</sup> Safeguards against conflicts of interest are pro-science, not anti-science. Editors exclude conflicted reviewers, governments restrict lobbying, and ethics committees limit funding sources for precisely these reasons. Food and nutrition research should be no exception.

We agree with Gunter G C Kuhnle that evidence on the harms of UPFs was generated using dietary instruments not designed to capture Nova groups. However, exposure misclassification is likely non-differential in regard to outcomes, and therefore bias associations towards the null.<sup>6</sup> As dietary tools for assessing food consumption aligned with Nova are adopted, associations strengthen rather than weaken.<sup>7</sup> Misclassification has a greater effect on UPF subgroup analyses than on UPF-pattern analyses.<sup>3</sup> Aggregating all UPFs partly mitigates food-level measurement error, whereas attempting to distinguish fine subgroups with imperfect instruments amplifies instability, multiple testing, and false positives.<sup>3</sup>

Tatiana Campos and Aintzane Esturo argue that reconstituted fruit juices should be treated as

For the Series on UPFs and human health see <https://www.thelancet.com/series-do/ultra-processed-food>

minimally processed. These products differ in matrix integrity, intrinsic fibre, and typical consumption patterns. Concentration, storage, reconstitution, and flavour restoration involves losses and reformulation that place these products beyond minimal processing. Some UPFs might perform better than others in specific comparisons, and relative harms might be modest in narrow contrasts.<sup>3</sup> Policy, however, cannot be built on marginal cases. The relevant issue is displacement at scale: when reconstituted juices replace fresh fruit or freshly prepared juices, dietary quality deteriorates.

Gisele Ane Bortolini and colleagues illustrate how Nova can be operationalised in real-world policy. Brazil's National Food Basket shows that processing criteria can coexist with nutrient standards, procurement rules, fiscal instruments, and broader food-system policies. This directly addresses Ludwig's concern that Nova is too imprecise for regulation. In practice, it has enabled coherent, multisectoral action adapted to national context rather than a universal, one-size-fits-all template.

The global shift towards ultra-processed dietary patterns is a preventable driver of chronic disease, and effective policy action should prioritise protecting and restoring diets based on fresh and minimally processed foods and cooked meals.<sup>8</sup> We continue to welcome any scientific inquiry related to the Series that might contribute to strengthening food policies for all.

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## Department of Error

Pezaro S, Pendleton J, Samuels I. *Clarity in gender-inclusive language in reproductive health care*. *Lancet* 2025; **406**: 804—In this Correspondence, Isaac Samuels' affiliation has been updated to Anti-Racist Lead and Reproductive Health and Justice Campaigner, Co-Production Collective, London, UK. This correction has been made to the online version as of March 5, 2026.

Estrada V, Cabello-Clotet N. *Beyond integrase: the rise of doravirine and islatravir in HIV management*. *Lancet* 2026; **407**: 551–53—In the sixth paragraph of this Comment, the second sentence has been updated to read "Both trials excluded participants with previous virological failure, documented resistance to NNRTIs associated with doravirine resistance, or active hepatitis B virus infection." This correction has been made to the online version as of March 5, 2026.