Salt substitutes and misrepresentation of WHO recommendations

Authors' reply

We thank Francesco Cappuccio for the thoughtful response to our recent Comment.[1] We recognise Cappuccio's major contributions to hypertension research and salt reduction and appreciate the opportunity to clarify several important points.

We agree with Cappuccio's key assertion that lower-sodium salt substitutes are one part of a comprehensive sodium reduction strategy, and not a standalone solution, aligning with WHO's guidance. Although the WHO guideline issues a conditional recommendation for replacing discretionary salt with lower-sodium salt substitutes,[2] it nonetheless represents a substantial addition to the overall armamentarium for sodium reduction by formally acknowledging lower-sodium salt substitutes as a viable consumer-level intervention.

Cappuccio raises the crucial point that the WHO recommendation does not address non-discretionary salt in processed foods or meals eaten outside the home. We explicitly recognise the limitations of the WHO recommendation in the UK context, and reiterate that "The WHO guideline recommends that consumers switch to potassium-enriched salt, but in the UK, most dietary salt comes from processed foods…".[1] Our discussion of how lower-sodium salt substitutes might be integrated into broader UK strategies, particularly through reformulation efforts in manufacturing and out-of-home sectors, represents our interpretation of the broader implications for UK policy. We also acknowledge and reflect on the appropriateness of lower-sodium salt substitutes for specific groups, and noted that "studies have excluded pregnant women, children, and people with advanced kidney disease",[1] consistent with WHO's guidance.

We refer to modelling work reviewed by the UK Scientific Advisory Committee on Nutrition and the Committee on Toxicity, which concluded that the population-level benefits of potassium-enriched salt outweigh the risks of hyperkalaemia.[3] Our intent was to reflect the scientific analysis itself, rather than imply government endorsement or action, and we support ongoing work to explore how consumer attitudes and labelling could best protect populations at higher risk.

We agree with Cappuccio that there are independent effects of both sodium reduction and potassium supplementation, and that the importance of each will vary according to the average amounts in the population. However, despite uncertainty about effects on overall salt intake, lower-sodium salt substitutes have been shown to lower blood pressure and reduce cardiovascular events.[4]

Finally, we acknowledge that much of the trial evidence derives from populations at high risk, but the mechanism of benefit—blood pressure lowering—is well established across populations.[4,5] Drug-based blood pressure lowering consistently yields benefit across a range of risk profiles, and there is no reason to believe that the blood pressure reductions from lower-sodium salt substitutes would be different in groups that are healthier or at lower risk.

In summary, we do not dispute the scope or limitations of the WHO guideline, but rather aim to present a broader perspective on how the UK might build on this international momentum to reinvigorate sodium reduction efforts.

We declare no competing interests.

*Elisa Pineda, Thomas E Beaney
e.pineda@imperial.ac.uk

The George Institute for Global Health UK, School of Public Health, Imperial College London, London W12 7RZ, UK (EP, TEB)

1 Pineda E, Beaney TE. Potassium-enriched salt: a new era for UK salt reduction? *Lancet Public Health* 2025; **10:** e436–37.

2 WHO. Use of lower-sodium salt substitutes: WHO guideline. 2025. https://www.who.int/publications/i/item/9789240105591 (accessed July 8, 2025).

3 Scientific Advisory Committee on Nutrition, Committee on Toxicity of Chemicals in Food, Consumer Products, and the Environment. Potassium-based sodium replacers: assessment of the health benefits and risks of using potassium-based sodium replacers in foods in the UK. 2017. https://assets.publishing.service.gov.uk/media/5a82b61bed915d74e34032cc/SACN_COT_-_Potassium-based_sodium_replacers.pdf (accessed July 8, 2025).

4 Aburto NJ, Hanson S, Gutierrez H, Hooper L, Elliott P, Cappuccio FP. Effect of increased potassium intake on cardiovascular risk factors and disease: systematic review and meta-analyses. *BMJ* 2013; **346:** f1378.

5 Ding X, Zhang X, Huang L, et al. Salt substitution and recurrent stroke and death: a randomized clinical trial. *JAMA Cardiol* 2025; **10:** 343–50.