

The effect of restricting the availability of discretionary product categories on the calorie composition of shoppers' baskets

A stepped-wedge cluster randomised trial in a UK surplus food community supermarket

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Community Shop

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The objective

The primary aim of the intervention was to determine if reducing the in-store availability of specific discretionary product categories could lower the proportion of calories from high fat, sugar, and salt (HFSS) foods in shoppers' baskets. The study also assessed the impact on total basket calories and overall spend.



The intervention

We restricted the availability of five discretionary product categories to pre-determined shelf spaces within the store by capping the total shelf space allocated to them. We targeted crisps, confectionery, sweet baked goods, sweet biscuits and bars, and high-sugar carbonated drinks (RADISH products), as these categories are predominantly HFSS and represent high-selling discretionary product groups. This resulted in an approximately 45% reduction in their overall in-store availability, measured in square footage. Importantly, we did not remove categories or delist products; customers could still purchase items from each category, meaning choice was maintained despite the substantial reduction in shelf space.

Study setting & methodology

- **Location:** 12 Community Shop stores across the UK.
- **Target population:** Community Shop members, specifically adults over 18 who receive means-tested benefits and live locally.
- **Design:** A cluster-randomised stepped-wedge trial with six sequences and six periods. This allowed the intervention to be introduced to different stores at two-week intervals.
- **Data sources:** Store transaction data was matched to nutritional data from NielsenIQ Brandbank to calculate the calorie and HFSS composition of every basket.
- **Timeframe:** 14th May – 5th August 2024 (14 weeks total).

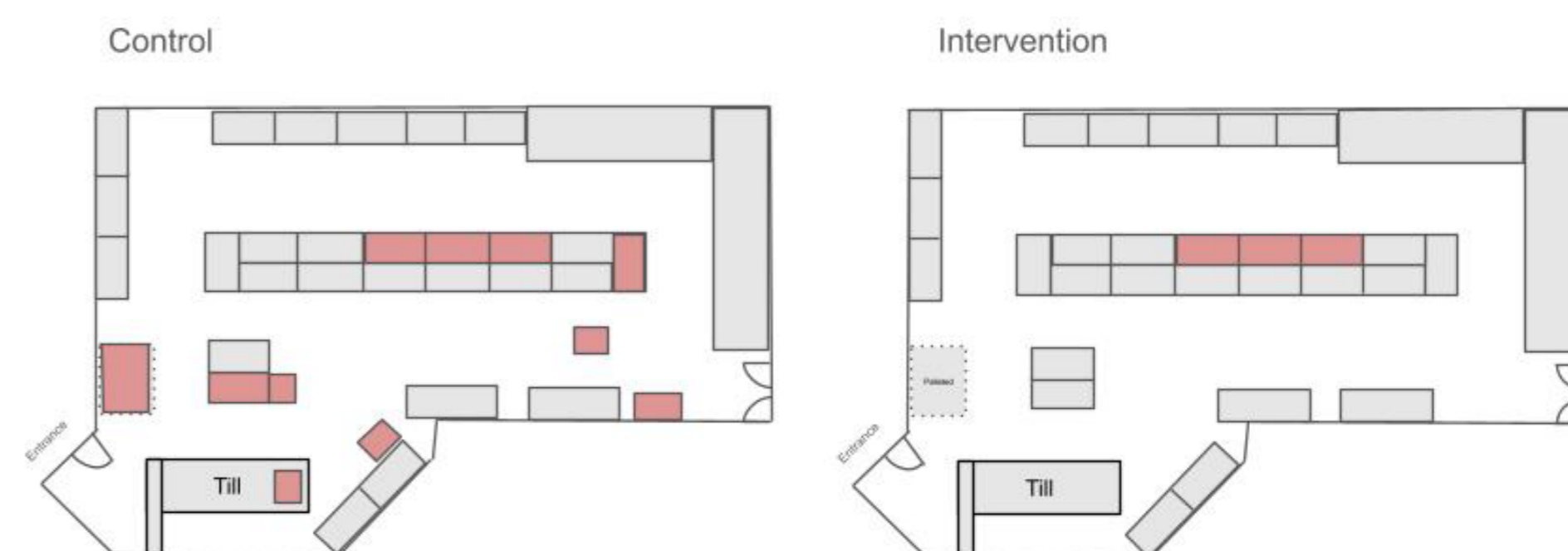
Key findings

The trial demonstrated that store-wide availability changes can successfully improve the nutritional quality of shopping baskets without affecting revenue.

Outcome measure	Result (Intervention effect)
Proportion of HFSS calories	Significant decrease (31.7% to 29.4%; $p < 0.001$)
Absolute HFSS calories	-192 kcal reduction per basket ($p = 0.022$)
Total basket spend (£)	No significant change ($p > 0.05$)
Implementation compliance	Very high (46% reduction achieved vs. 45% target)
Customer reaction	Neutral (No strong positive or negative feelings reported)

Change in relative availability and location of the target discretionary product categories

Example store: Halton



Scientific & policy implications

Evidence base: No existing trial has tested store-wide availability interventions in isolation at the product-portfolio level. This intervention removed nearly 200 HFSS calories per basket without reducing store revenue, providing real-world evidence showing that nutritional improvements are compatible with commercial performance.

Consumer and staff acceptability: The process evaluation found the intervention was feasible within existing store structures but required substantial coordination and created operational pressures. Delivery was achieved with extremely high fidelity, indicating the approach is feasible but depends on retailer engagement and clear implementation support, especially in food aid settings.

Policy and scaling: Availability interventions are a viable lever for improving diet quality. Future research should explore how this model can be scaled to other retail formats not currently subject to HFSS legislation.

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