used small samples, cross-sectional designs. Furthermore, most studies have examined exposure to different food outlets individually, whereas people are exposed to multiple environmental factors simultaneously and isolating individual effects is challenging. This study examined the association between combined neighbourhood food environment exposure and obesity-related NCD mortality in adults.

Methods: We conducted a longitudinal cohort study using registry data accessed through Statistics Netherlands. We included 4,205,582 Dutch adults aged 40+ years at baseline (January 1 2006). The neighbourhood retail food environment was operationalised using the Food Environment Healthiness Index (FEHI, ranging from: -5 (healthiest) to 5 (unhealthiest). The index combines the density, distance, and healthiness of all food retailers in a 1000m circular buffer around the home address. Follow-up was calculated from baseline until the first in or out-of-hospital death due to any obesity-related NCD as recorded in the national cause-of-death and hospital discharge registries, death due to other causes, or end-of-study date (December 31 2019), whichever came first. We used adjusted Cox proportional hazards regression models to estimate hazard ratios and 95% confidence intervals. For each tertile of the FEHI, we calculated the attributable fraction among the exposed (AF) using the formula AF = (HR-1)/HR. We tested for effect modification using multiplicative interaction terms.

Results: Each ten percent increase in the FEHI score was associated with a 7.7% (HR: 1.077; 95%CI: 1.040 to 1.116) higher risk of death due to obesity-related disease. Individuals in the highest tertile had a 4.2% (HR: 1.042; 95%CI: 1.033 to 1.052). For individuals in the highest tertile 4,017 deaths could be attributed to their level of exposure, compared to the low tertile. Each ten percent increase in the FEHI score was also associated with a 6.8% (HR: 1.068; 95%CI: 1.023 to 1.115) higher risk of death due to cardiometabolic disease. The high tertile of the FEHI was also associated with a 2.3 % higher risk of death due to obesity-related cancer. Subgroup analyses showed that risks were higher for those who were male, younger and lived in more urbanised areas.

Conclusion: Exposure to an unhealthier neighbourhood food environment was associated with a higher risk of death due to obesity-related NCDs. These findings emphasise the importance of considering the food environment in public health strategies aimed at reducing obesity-related mortality.

AD05.03

Supporting people living with obesity and food insecurity to make healthy food purchases: Insights from UK food retailers

Hardman, C.[1]*; Stone, R.*[1]*; Brown, A.*[2]*; Douglas, F.*[3]*; Greatwood, H.*[4]*; Griffiths, C.*[4]*; Hunter, E.*[3]*; Johnstone, A.*[5]*; Lonnie, M.*[5]*; Morris, M.*[6]

[1]Department of Psychology, University of Liverpool, UK
[2]Department of Medicine, University College London, UK
[3]School of Nursing, Robert Gordon University, UK
[4]Carnegie School of Sport, Leeds Beckett University, UK
[5]The Rowett Institute, University of Aberdeen, UK
[6]School of Food Science and Nutrition, University of Leeds, UK

Introduction: Food insecurity (lack of reliable access to affordable nutritious food) is robustly associated with obesity and adverse health outcomes and is a major public health concern across Europe. There is an urgent need to support people living with both obesity and food insecurity to make healthy food purchases, and previous research indicates that interventions based on lowering prices in retail settings were deemed most helpful (Stone et al., 2025). However, the retailer perspective on implementing these interventions is often overlooked and under-researched. Therefore, this study explored the perspectives, views, and experiences of major UK supermarkets on the acceptability and feasibility of using affordability interventions for healthy food purchasing.

Methods: In this pre-registered (https://osf.io/3kw6x) qualitative study, we conducted semi-structured interviews with seven senior supermarket nutritionists who represented 85% of the UK grocery market share. Data were analysed using reflective thematic analysis.

Results: All respondents reported that their business was strongly committed to supporting the health of their customers. However, there were multiple challenges associated with implementing interventions to promote healthy foods; these included profitability concerns, unpredictability of intervention outcomes, control being limited to own-brand products, customer intention-behaviour gap, and a perception that the business was already implementing sufficient support. Supermarkets approached the evaluation of their interventions in different ways, but all respondents expressed willingness to collaborate with academics and other retailers to optimise intervention evaluation.

Conclusion: Interventions to support people living with obesity and food insecurity to purchase healthy food require supermarkets to navigate multiple challenges. Findings highlight the need for a range of different intervention approaches and practice-based evaluation. Policy measures and regulatory frameworks that incentivise food retailers to prioritise health in an economically viable way are also needed.

Reference

Stone, RA., et al. (2025). Understanding the barriers to purchasing healthier, more environmentally sustainable food for people living with obesity and varying experiences of food insecurity in the UK. Food Policy (in press).

AD05.04

How Can Front-of-Package Nutrition Labels Shape Healthier Choices by Influencing Decision-Making Time

Hafner, E.[1]*; Hristov, H.*[2]*; Grunert, K. G.*[3]*; Pravst, I.*[4]

[1]Institute of Nutrition Slovenia, Biotechnical Faculty University of Ljubljana Slovenia
[2]Institute of Nutrition Slovenia, National Institute of Public Health Slovenia
[3]Aarhus University Aarhus Denmark
[4]Institute of Nutrition Slovenia, Biotechnical Faculty University of Ljubljana Slovenia, VIST–Faculty of Applied Sciences Slovenia

Introduction: Front-of-package nutrition labelling (FOPNL) is a key tool for promoting healthier eating, thereby addressing a critical factor in obesity prevention. Effective FOPNLs provide quick, simplified nutrition information, recognizing that decision-making speed is critical, as intuitive and rapid choices often dominate shopping behaviour. Understanding how FOPNLs impact the consumer decision-making and comprehension time is essential to optimizing their design and maximizing their potential.

Methods: A choice experiment with a between-group design was conducted to assess consumer food choices based on healthiness (using FOPNLs), organic production and price. Participants from Germany (n=820) and Slovenia (n=821) were randomized into four groups, each exposed to a different FOPNL: Nutri-Score (NS), NutrInform Battery (NI), Multiple Traffic Light (MTL), or Nutrition Facts Table (NFT). Under time pressure (20s per choice), participants made 10 choices on breakfast cereals and yogurts. Additionally, ranking tasks assessed FOPNL comprehension, with timing measured covertly. The study also included questions on familiarity with FOPNLs. Timing was a key secondary outcome. Median times and their link to healthier choices were analysed.

Results: The choice experiment showed significant differences in decision-making speed across FOPNL groups and countries. Participants from Germany were generally faster in both food choices and healthiness ranking tasks compared to those from Slovenia. Across both countries, NS led to the quickest decisions, with median times of 10-11s, followed by MTL (12-13s), NI (12-14s), and NFT (15s). Similar patterns emerged in healthiness rankings, where NS required the least time for correct rankings, while MTL, NI, and NFT progressively required more time. Healthier choices were linked to decision times, with variations by FOPNLs. NS was most effective FOPNL within 10s decision time, but beyond this, longer decision times did not result in healthier food choices. In contrast, for MTL, NI, and NFT, healthier choices improved as decision

times increased, up to the 20s (recommended time limit). These effects were more visible among participants familiar with tested FOPNL.
Conclusion: This study highlights how FOPNLs differ in their impact on consumer decision-making, with more intuitive labels like NS being processed faster and supporting healthier choices especially when making quick decisions. However, for individuals who take longer to decide, these labels may not offer additional support in making healthier choices. As attention spans in the general population continue to decline, intuitive FOPNLs may hold greater relevance for promoting healthier food choices broadly. Further research in real world settings is needed to fully understand their influence on consumer behaviour. These findings provide valuable new insights into FOPNL research and their potential role in addressing public health challenges like obesity.

Conflict of Interest: None Disclosed

Funding: Data collections were supported by national research programme "Nutrition and Public Health" (P3-0395, funded by Slovenian Research and Innovation Agency).

AD05.05

The health impacts of mandatory menu calorie labelling and sugar-sweetened beverage taxation in two European countries: A modelling study

Putra, I. G. N. E.[1]; *O'Flaherty, M.*[1]; *Emmert-Fees, K. M. F.*[2]; *Vasquez, M. S.*[3]; *Evans, R.*[4]; *Peters, A.*[5]; *Kypridemos, C.*[1]; *Berger, N.*[3]; *Robinson, E.*[4]; *Colombet, Z.*[1]

[1]Department of Public Health, Policy and Systems, University of Liverpool, Liverpool, United Kingdom
[2]Professorship of Public Health and Prevention, TUM School of Medicine and Health, Technical University of Munich, Munich, Germany
[3]Department of Epidemiology and Public Health, Sciensano (Scientific Institute of Public Health), Brussels, Belgium
[4]Department of Psychology, University of Liverpool, Liverpool, United Kingdom
[5]Institute of Epidemiology, Helmholtz Zentrum München, Research Center for Environmental Health (GmbH), Neuherberg, Germany

Background: Menu calorie labelling policy has been mandated for the first time in Europe in large out-of-home food businesses in England since 2022. This policy is now being considered for implementation in other European countries. However, there is a dearth of evidence on the potential impacts of mandatory menu calorie labelling in other countries in Europe and the extent to which this policy may provide greater benefits compared to widely implemented measures, such as sugar-sweetened beverage (SSB) taxation. Therefore, this study aimed to examine the likely population-level impacts of menu calorie labelling and SSB taxation on reducing obesity prevalence and cardiovascular disease (CVD) mortality, as well as socioeconomic (SES)-related inequalities in these estimates, in two European countries: Belgium and Germany.
Methods: We used microsimulation models to estimate the impacts of mandatory menu calorie labelling and SSB taxation over a 20-year simulation horizon (2022–2041) in Belgium and German populations aged 30-89 years. We created synthetic populations for both countries that mimic sociodemographic characteristics (age, sex, education), exposures (body mass index, energy and SSB intake), and CVD mortality using national data sources. For both policies, we modelled the impacts through assumed changes in energy intake due to consumer responses and food industry reformulation. Scenarios of partial (in "large" out-of-home businesses; ≥ 250 employees) and full (in "all" out-of-home businesses) implementations for mandatory menu calorie labelling, and different tax rates for SSBs (10%, 20%, 30%) were simulated. For each scenario, we estimated the change in obesity prevalence and the number of CVD deaths prevented or postponed.
Results: Compared to the counterfactual scenario (e.g., without additional policies), assuming policies' effects on both consumer and industry behaviour, menu calorie labelling applied to "all" out-of-home businesses was estimated to have bigger impacts than that achieved by implementing this policy in "large" out-of-home businesses only. Implementing menu calorie labelling in all out-of-home businesses would reduce obesity prevalence by 3.61 (95% uncertainty interval-UI: [2.78, 4.30]) and 4.28 (95% UI: [3.64, 5.06]) percentage points and prevent 1600 (95% UI: [400, 3800]) and 30000 (95% UI: [10000, 58000]) CVD deaths in Belgium and Germany over 20 years, respectively. Implementing higher tax rates for SSBs was estimated to yield bigger impacts. The 30% SSB tax was estimated to reduce obesity prevalence by 0.27 (95% UI: [0.17, 0.43]) and 0.27 (95% UI: [0.17, 0.39]) percentage points and postpone 2500 (95% UI: [800, 5200]) and 16000 (95% UI: [7500, 28000]) CVD deaths in Belgium and Germany, respectively. SSB taxation may have SES-related equitable impacts, while mandatory menu calorie labelling may not.
Conclusions: Both mandatory menu calorie labelling and SSB taxation were estimated to have substantial impacts in reducing obesity prevalence and preventing CVD deaths in Belgium and Germany. Implementing both policies will be important to prevent obesity and related CVD burden.

AD05.06

Food Fight Campaign - taking to the streets to stop unhealthy food marketing on public transport

Martin, J.; Sinclair, C.; Hardi, C.

Cancer Council Victoria

Introduction: A key element of a comprehensive strategy to prevent obesity in children and support nutritious diets is to implement policies to protect them from unhealthy food marketing. This can be implemented by national, state or local governments, depending on the levers available to reduce this marketing through particular channels. At the state level, one of the areas for potential action, is to restrict advertising of unhealthy food on state government controlled infrastructure, including public transport assets, as well as stops and stations, and outdoor advertising around schools.
Methods: This presentation will outline the development of a Victorian obesity prevention platform supported by key public health agencies, including a recommendation for the Victorian government to restrict unhealthy food marketing. It will describe the enabling policy frameworks both nationally and in Victoria that promoted this objective and lead to the development of a campaign led by Cancer Council Victoria to drive action on this issue.
The aim of the Food Fight campaign was to advocate for the removal of unhealthy food marketing on public transports assets and infrastructure, as well as within 500m of schools in Victoria. There were two phases of the campaign involving paid media strategies and development of media assets, the first including TV and digital, the second digital only. Public opinion data and learnings from the first phase of the campaign, were used to tailor the approach for the second phase. Research played a critical role, including an audit of the prevalence of unhealthy food marketing on public transport and within 500 meters of schools. This led to the development of toolkit for smaller local government areas to undertake their own research into the issue. Both phases of the campaign involved engagement with Members of Parliament, an supportive statement for organisations to demonstrate support as well as a range of actions for individuals' to take, including a personalised letter to outlined concerns about this issue to their local Member of Parliament and calling for action.
Results: More than forty public health and civil society agencies supported the campaign together with more than 13,000 Victorian signatories. There was strong engagement with the campaign calls to action, including 80 individual letter to local Members of Parliament. The research results of the audit of unhealthy food advertising generated significant media interest and aspects of this was used to launch both phases of the campaign. The s also been significant interest generated in local communities and local health units keen to explore this marketing in their local areas.