

INFLUENCING FOOD ENVIRONMENTS FOR THE PREVENTION OF CHILDHOOD OBESITY



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Why influence food environments?

The food environment is defined as a combination of physical, economic, political, and sociocultural surroundings as well as opportunities and conditions that influence food choice. It incorporates geographic access, food availability, food affordability and food quality. There are a variety of interventions that can be utilised to influence food environments. These include changes in availability, price (influenced by tax), food reformulation (changing the nutrient composition e.g., reduced sugar), and school-based initiatives. For impact, it is essential that key stakeholders are engaged with food environment interventions and held accountable.



STOP project findings: Mini-summary

- **Food industry mapping:** STOP analysed market structure across countries and industries (i.e., packaged food and non-alcoholic beverage manufacturers, supermarkets and quick service restaurants (QSR)) in the European Single Market (ESM) and identified companies with the largest market share. Findings showed substantial differences across European food countries and food industries. For non-alcoholic beverage manufacturers and respective product markets there was a higher level of market concentration than packaged food. For QSR's the same prominent companies were detected throughout Europe with increased market share shifting towards the four largest companies since 2008. However, QSR's have a substantially higher number of global brand owners with $\geq 1\%$ market share and distinctive companies than any other food industry. Notably, supermarkets had a diversity of companies throughout Europe but with significant concentration at country level. (1)
- **Improving population nutrition:** Use of the [BIA-Obesity tool](#) at European level showed major manufacturers accepting their role in improving food environments but falling short of best practice. Despite commitments being made to improved population nutrition, research found varying transparency, specificity, and comprehensiveness in these pledges. (2)
- **Acceptance of food reformulation:** a) A scientific study review found that reformulated products are generally accepted by consumers (73% of studies in review). Researchers concluded that a reduction in sodium or Trans Fatty Acid contents in foods results in a change in the intakes of those nutrients. (3) b) It was found that children (7-12 years old) are accepting of chocolate chip cookies that have undergone reformulation to reduce fat and sugar, with increased fibre content and lower glycaemic index. (4)
- **Public Private Partnership (PPP) Reformulation:** STOP assessed and compared the nutritional composition of dairy products with added sugar in the post implementation period of a PPP reformulation policy compared to the pre-implementation period in the Netherlands (i) and England (ii). Results indicate that PPP policies implemented in both countries have encouraged the formulation of less sugar sweetened dairy products, with no unhealthy nutritional compensation in this category. Tax threat in England (through the Obesity Strategy) showed promise in driving lower sugared innovations in the milk-based drinks sector. (5)
- **Sugar Sweetened Beverages (SSB) tax policy:** STOP assessed the effects of SSB tax policy implemented in France (iii) and the United Kingdom (iv) to ascertain the impact of the sugar-content of newly marketed SSB. These tax policies were implemented differently between countries (see next page). Results concluded that the British soft drink industry levy was successful in reducing the sugar content of newly marketed SSBs from its announcement (-17% and -13% in 2016 and 2017, respectively) to its implementation (-31% and -21% in 2018 and 2019, respectively). The effect of the French SSB tax was lower than that estimated for the United Kingdom tax. Overall, it was found that PPPs were not as effective as in reducing the sugar content of newly marketed SSBs (8% and 13% sugar reduction in 2015 and 2016, but no significant decrease was found in subsequent years). (5)
- **School environment initiatives:** A review of 21 scientific research papers on food environment initiatives in schools identified the strengths of sugary drinks bans, increased accessibility of fruits and vegetables for children. Multisystem approaches, matched with training, education and co-operation from parents, staff and students, led to maximised intervention efficacy. (6)

STOP publications are referenced (1-6)

- (i) Dutch National Institute for Public Health and the Environment. Dutch Agreement to Improve Product Composition 2014-2020 [Internet]. 2014. Available from: <https://www.akkoordverbeteringproductsamenstelling.nl/en/media/1061>
- (ii) Public Health England. Sugar reduction: Achieving the 20% [Internet]. 2017. Available from: <https://www.gov.uk/government/publications/sugarreduction-achieving-the-20>
- (iii) Service public. Taxation des boissons [Internet]. 2018. Available from: <https://www.servicepublic.fr/professionnels-entreprises/vosdroits/F32101>
- (iv) House of Commons. Briefing paper: The soft drinks industry levy. [Internet]. Technical report; 2017. Available from <https://commons.irary.parliament.uk/research-briefings/cbp-7876>



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Additional information on SSB tax (France and UK)

SSB French tax ⁽ⁱⁱⁱ⁾

The French tax is a tax on manufacturers and importers of soft drinks. It covers all sweetened drinks, including those with artificial sweeteners and drinks sold as powders. Milk-based drinks and drinks containing >1.2% alcohol (0.5% for so-called non-alcoholic beers) are exempt from the tax. A first design of the tax was implemented in 2012. It was an excise tax with a flat tax of € 7.53 cents per litre. This tax was redesigned in July 2018 as a tiered tax rate that varies according to the sugar concentration of SSBs, to further incentivise reformulations of their sugar levels. Since this date, the tax has been € 3.11 cents per litre for products containing less than 1g of added sugar per 100ml and progressively increases to almost € 24 cents per litre for products containing 15g of added sugar per 100ml, and € 0.20 per each gram per 100ml added above 15g.



SSB UK tax ^(iv)

In 2016, the United Kingdom Treasury announced the introduction of a sugar tax on any packaged soft drinks with added sugar, officially named the "Soft Drinks Industry Levy". The tax came into effect on 6 April 2018. This two-year delay between announcement and implementation allowed time for businesses to respond by reformulating drinks, reducing product sizes, or removing and/or introducing products from and/or to the marketplace. Milk-based drinks (at least 75% milk), pure fruit juices, drinks sold as powders and drinks containing >1.2% alcohol by volume are exempt from the tax. The SDIL is a tax on manufacturers and importers of soft drinks in tiers according to the sugar concentration of drinks. The tax has two tiers: a lower rate of £ 0.18 per litre for beverages containing more than 5g sugar per 100ml; and a higher rate of £ 0.24 for those above 8g sugar per 100ml. Drinks with less than 5 g sugar per 100 ml are not levied (no levy tier). These rates were announced in March 2016 but not confirmed until February 2017 in a pre-budget statement.

Implications of findings for policy design

- **There is a difference in market concentration between food industries** (Higher diversity - Packaged food and non-alcoholic beverage companies and lower diversity QSR and supermarkets) Considering this, a differentiation between European and national level regulations by industry could facilitate nutrition policies to improve the food and economic environment.
- **Voluntary approaches by food companies do not go far enough to improve food environments.** More ambitious government regulations are needed, both at European- and national-level, including in areas such as product formulation, product marketing, product labelling and product accessibility.
- **Reformulation should be encouraged as a strategy to improve the food environment** and cardiovascular disease morbidity. Nonetheless, it should be noted that the effectiveness of reformulation is closely linked to the number of manufacturers changing their products' composition, and the extent to which the nutritional profile of products is improved.
- **A tax design in tiers** according to the sugar concentration of drinks encourages more healthier innovations than a volume-based tax design, with the levels of the tiers critical to encourage healthier innovations.
- **PPPs reformulation policy** would not be as effective as sugar-based tax design in reducing SSBs' sugar content. A possible solution to strengthen PPPs policy impact would be to set a credible threat such as a tax implementation if insufficient progress is made in reducing targeted nutrients.
- **Effective school environment interventions** for the prevention of obesity must focus on full ban of SSBs, the increase in availability and accessibility of fruits and vegetables.

Evidence based interventions can influence healthier food environments. More ambitious government regulations are required for improved environments related to the food sector.

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Future research priorities

The findings from the STOP project have provided new evidence on how the food environment is currently being influenced and how to improve policies for greater impact.

Further research opportunities include:

- Establishing further evidence of the impact of reformulation on nutrient intakes and health status;
- Further understanding of the driving components of an effective sugar reduction plan;
- Further establishing the relative comparable effects of PPP and tax on nutrient profiles;
- Applying the BIA Obesity tool within individual European countries, especially for supermarkets.



STOP Publications (see www.stopchildobesity.eu for an up-to-date list)

- (1) Van Dam, I Wood, B, Sacks, G, Allais, O. Vandevijvere, S. A detailed mapping of the food industry in the European single market: similarities and differences in market structure across countries and sectors. 2021. International Journal of Behavioural Nutrition and Physical Activity. 18:54. (<https://doi.org/10.1186/s12966-021-01117-8>).
- (2) Van Dam, I, Guillon E, Robinson E, Allais O, Sacks G and Vandevijvere, S. Assessment of the Commitments and Performance of the European Food Industry to Improve Population Nutrition. International Journal of Public Nutrition. 2022; (66) <https://doi.org/10.3389/ijph.2022.1604116>
- (3) Gressier M, Swinburn B, Frost G, Segal A, Sassi, F. What is the impact of food reformulation on individuals' behaviour, nutrient intakes and health status? A systematic review of empirical evidence. Obesity Reviews. 22. (2) <https://doi.org/10.1111/obr.13139>.
- (4) Liechti C, Bosc V, Souchon I, Delarue J, Saint-Eve A. D6.2: Peer-reviewed publication on secondary data analysis of the benefits and challenges of food reformulation initiatives- Part 1. 2021. [<http://www.stopchildobesity.eu/wp-content/uploads/2021/10/D6.2.pdf>].
- (5) Allais O, Enderli G, Soler L.G. D6.2: Peer-reviewed publication on secondary data analysis of the benefits and challenges of food reformulation initiatives - Parts 2 and 3. [<http://www.stopchildobesity.eu/wp-content/uploads/2021/10/D6.2.pdf>].
- (6) Pineda E, Bascunan J, Sassi, F. Improving the school food environment for the prevention of childhood obesity: What works and what doesn't. Obesity Reviews. 22 (2) <https://doi.org/10.1111/obr.13176>.



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