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COOKING FOR BUREAUCRATS

Why the policy of food reformulation is
hard to stomach

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About the author

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Summary

- Under the UK government's policy of 'reformulation', food products are subject to government targets for the reduction of salt, sugar and calories. It puts Public Health England in the position of monitoring and effectively regulating the composition of virtually every part of the prepared food supply, including not only ready-meals and supermarket biscuits but also the recipes of cafés and restaurants. It represents the largest extension of state control over the British diet since rationing.
- To assist with the reformulation scheme, Public Health England (PHE) has spent nearly a million pounds on food sales data, with the greatest spend (£423,452) in the financial year 2018/19.
- The scheme is highly bureaucratic. Since 2017, there have been 220 different active salt and sugar targets. Proposals for new calorie reduction targets include a baffling range of food products, which most people would not consider to be unhealthy, including: olive ciabatta, boxed salads, sushi, bao buns, vegetable crisps, protein balls, yoghurt covered raisins, croutons, braised cabbage, mushy peas, pesto, hollandaise sauce, quinoa (with additions), spelt and barley (with additions), guacamole, pease pudding, and prepared salads.
- Many of the targets are surreal, such as the recommendation that sweets should contain less than 50 per cent sugar, when boiled sweets are almost solely made up of sugar; or the request that fudge, made from sugar and butter/cream, should decrease the sugar content without increasing the fat content. The guideline for sugar content in nut butters is less than that naturally occurring in cashew nuts. The guideline calories for olive bread is lower than that of a plain baguette or ciabatta. The guideline target for crisps and nuts is 403kcal per 100g, whereas plain peanuts contain 600kcal per 100g.

- Reformulation has been driven less by nutritional science, or public demand, than by the concerns of an out-of-touch state bureaucracy. This bureaucracy has entered into a mutually beneficial alliance with single issue pressure groups such as Action on Sugar and the Obesity Health Alliance, which call for reformulation to be backed up with sanctions. Action on Sugar and PHE exchange e-mails almost every week, and seem to meet in person around once a month. Policies are run past the pressure groups in their early stages, and only released to the food industry for consultation much later.
- Food reformulation is an irrational bureaucratic standard which will detach the food market from the tastes, preferences and nutritional goals of consumers. The danger is that food products will be designed, not primarily to please the public, but to meet the arbitrary and often illogical targets that are set by health bureaucrats. The scheme is likely to result in a decline in taste, value for money and possibly also in nutritional quality.

Introduction

The UK has had a state-led programme of changing the ingredients in food to improve people's health for over a decade. It began with salt reduction targets in 2006 (covering everything from sausages to crisps); sugar reduction targets in 2017 (covering foods such as puddings, biscuits, breakfast cereals, yoghurts); sugar reduction for milk- and juice-based drinks in 2018; and now a wider programme of calorie reduction due in late 2019, covering most processed foods, including those produced in restaurants and cafés, such as pizzas, ready meals, sandwiches and beef burgers. Although reformulation is not currently backed up by sanctions, these are constantly threatened: this is not a wholly voluntary programme.

The justification for reducing per capita consumption of sugar, salt, fat and calories is that the average Briton exceeds the government's guidelines for each of these. Not everybody is average, however, and most people are not obese. Many people would not benefit from consuming fewer calories and many of those who stand to benefit in terms of health would not necessarily benefit in terms of overall wellbeing.

Since there is no shortage of 'healthy options' on the existing market for those who want them, the government is not trying to address a failure of the market to provide choice, rather it is attempting to restrict choice by replacing traditional brands with another set of low sugar/salt/fat brands. It seeks to give consumers what they 'need' (as dictated by bureaucrats) rather than what they want (as indicated by market transactions). The scheme is therefore paternalistic and difficult to justify in economic terms (Snowdon 2017).

This discussion paper analyses documents provided to the author by Public Health England under the Freedom of Information Act. The first

section looks at the scale and complexity of the reformulation programme and the often illogical manner in which the targets have been set.

The second section examines five potential problems with the scheme, including the threat to the wellbeing of consumers who prioritise value and taste. Taste is subjective, of course, but this is all the more reason to allow a thousand flowers to bloom rather than impose a one-size-fits-all policy.

The third section examines correspondence between Public Health England and two pressure groups (Action on Sugar and the Obesity Health Alliance) which shows that these 'stakeholders' act as outriders and cheerleaders for reformulation and have had an important influence on the policy.

Reformulation: cooking for bureaucrats

The creep of reformulation

Under reformulation, the state monitors salt, sugar and calorie content, as well as food portion sizes, and sets targets for the reduction of these elements over time. This programme now covers the greater portion of the food supply. Public Health England (PHE), the agency which oversees the scheme, has estimated that the salt reduction programme covers 54 per cent of the salt intake of the average diet, while the sugar and calorie reduction programmes cover more than 50 per cent of children's (and, by implication, most adults') calorie intake.¹

Reformulation targets are applied to food with only minimal processing, such as nut butter, or pure fruit juices and smoothies, all of which are being required to have their sugar or calorie content, and/or their portion sizes, reduced or capped. The enterprise is expansive, applying an increasing number of targets to an increasing number of food groups (the next food group will be that of baby and toddler food). Industry briefings even show that PHE recommended companies reduce the amount of milk in unsweetened coffee and tea ('recommend the default offering is 1% milk'), and that the default should be smaller coffee/tea sizes 'where appropriate'.²

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- 1 'Together the foods included in the calorie (19%) and sugar reduction programmes (25%) and drinks (5%) including those subject to the soft drinks industry levy (2%) and covered by PHE's separate programme (3%), fruit and vegetable juices and milk-based drinks, account for 50% of children's overall calorie intakes'. FOI response from PHE, 3 January 2019.
 - 2 'Category guidance for milk drinks', FOI released communication between Mars and PHE.

This also means a growing data mountain, with PHE spending nearly a million pounds since 2014 on food sales data, with the greatest spend (£423,452) in the financial year 2018/19.³

There is a bewildering number of targets. So far there are 13 target categories for sugar (e.g. biscuits, cakes), seven for milk- and fruit-based drinks, one for fermented yoghurt drinks, 76 for salt, and there will be 13 for calories (e.g. processed meats, pizza, sandwiches). Each of these categories is subject to a number of different targets, including a 20 per cent reduction in sales weighted average of sugar or calories, a maximum portion, or a calorie cap. The same food item could be subject to targets for salt, sugar and calories, each of which is measured in multiple ways (sugar per 100g product; total calories, and so on). For example, since 2006, a croissant has been subject to no fewer than eight separate targets, including four for salt,⁴ and four for sugar,⁵ when it is not particularly high in either sugar or salt. Sandwiches would be subject to one of six current salt targets (depending on whether they are bought in a café or a supermarket, and depending on the filling), and three planned calorie targets.⁶ When the calorie plans are brought in, a small bakery - selling bread, bread with additions, croissants/muffins, cakes, biscuits, sausage rolls, sandwiches, and quiches - would have to take account of no fewer than 41 different salt, sugar and calorie targets.⁷

Some of these targets are introduced in stages, with companies expected to achieve a five per cent reduction in the first year, then 20 per cent in three or four years. The proposals for the new calorie reduction programme include a baffling range of food products, which most people would not consider to be unhealthy or needing to be subject to special guidelines, including: olive ciabatta, boxed salads, sushi, bao buns, vegetable crisps, protein balls, yoghurt covered raisins, croutons, braised cabbage, mushy peas, pesto, hollandaise sauce, quinoa (with additions), spelt and barley (with additions), guacamole, pease pudding, and prepared salads (coleslaw, potato salad, waldorf salad).

3 Data obtained in FOI request to PHE. The total spend in the four financial years 2014-18 is £931,352.

4 Staged targets set in 2006, 2009, 2011 and 2014.

5 5% reduction in sugar per 100g; 20% reduction in sugar/100g; calorie sales weighted average (SWA) guideline; calorie max.

6 20% reduction in kcal per 100g; max calories per serving; guideline below which 75% of sandwiches should be below.

7 SALT: 8 salt targets for bread and morning goods; 6 for cakes and pastries; 4 for sandwiches; 2 for quiches; SUGAR: 3 sugar targets for biscuits; 3 for cakes; 3 for morning goods; CALORIES: 3 for bread with additions; 3 for pastry pies; 3 for egg products; 3 for sandwiches.

Since 2017, there have been 220 active salt and sugar targets for food in the UK (see Table 1). Including the planned calories programme (which is due to start in autumn this year) there will be a total of 299 different food targets. The complexity of this system is astounding.

Table 1: UK government targets for salt, sugar and calories

Re-formulation programme	Number of categories	Number of targets per category	Subtotal	Extra out-of-home sector targets	Subtotal	Stages to targets since 2017	Total
Salt	76	3 (average salt per 100g; SWA per 100g; maximum sodium per serving)	126 (26 categories have one target; 50 have two)	Plus 24 (for maximum salt in out of home meals)	150	1 (set in 2014 for 2017; prior to this an additional 3 targets)	150
Sugar	13	3 (sugar per 100g; calories SWA; max calories per serving)	34 (5 categories have two targets; 8 have three)	Plus 1 (higher out of home target for puddings)	35 (of which 13 are staged targets)	2 (5% reduction by 2017; 20% by 2020)	48
Milk- and fruit-based drinks	7	3 (g sugar per 100ml; calorie maximum per portion; calorie guideline SWA)	15 (4 categories have three targets; 3 categories have one)	-	15 (of which 5 are staged targets)	2 (for 5 milk categories: 10% by 2019; 20% by 2021. For 1 fruit category: 5% by 2021)	20

Re-formulation programme	Number of categories	Number of targets per category	Subtotal	Extra out-of-home sector targets	Subtotal	Stages to targets since 2017	Total
Fermented yoghurt drinks	1	2 (SWA sugar per 100g; max calorie per serving)	2		2	1 (20% reduction by 2021)	2
Calories (forecast)	13	3 (SWA calories per 100g; 'simple average' calories per 100g; max calorie guideline - except for sauces and dressings which only has one target)	37	14 for OHS, each subject to 3 targets (calories per 100g, max calorie per portion, 75% of products calories per 100g). This is a total of 42.	79	1 (20% by 2024)	79
Total excluding calorie programme							220
Total including calorie programme							299

Public Health England reports: Salt (2017a: 7-17); Sugar (2017b: 23-4); Juice and milk-based drinks (2018a: 23-25); Fermented yoghurt drinks (2019: 8); Calories (2018e). SWA = sales weighted average.

Reformulation will affect a very large part of the food supply, including the out-of-home sector, and represents the largest extension of state control over the British diet since rationing. It is quite different to previous state attempts to influence the food supply which tended to focus on unobtrusive or positive measures, such as making food more nutritious by adding vitamins to flour.

Instead, reformulation involves the incorporation of the food market into a vast bureaucratic system in which food products are monitored for the presence of certain identified 'bad' ingredients (sugar, salt, calories), which are then set targets for reduction. Food manufacturers, supermarkets, bakeries and restaurant chains have all been summoned to Public Health England to report the ingredients of their food products, which are then set staged targets for changes.

The construction of targets

Public Health England's sugar/calorie reduction scheme is the first in the world. As such, there is little empirical evidence for or against it, but the thinking behind it is straightforward. According to PHE (2015: 27), 'on average adults are consuming between 200 and 300 excess calories per day'. It is assumed that if food producers reduce the number of calories in food products and meals, calorie consumption will decline. The salt reduction scheme is seen as providing proof of concept since it went 'largely unnoticed by consumers' (ibid.: 30) and seems to have resulted in a decline in per capita consumption of salt (Tedstone 2016). PHE cites evidence showing 'the ability of the palate to adapt to a lower salt taste' (such as Bertino et al. 1982), although it could not find similar evidence for sugar in food.

The economic justification for government intervention in the food supply is the £5.1 billion per annum cost of obesity to the NHS, as cited by PHE (2015: 9). This cost estimate is a gross figure, however, and is limited to one area of government spending. When the net costs to overall public spending are taken into account, the burden is considerably smaller (Tovey 2017) and may even be negative, i.e. cost-saving (van Baal 2008).

Whilst reformulation is supposed to improve nutrition, and to be scientifically based, what is striking about PHE reports is the largely arbitrary quality of most of the targets produced. They are derived by the following process. PHE decides on different food categories, such as 'cold milk-based drinks',

'biscuits', or 'puddings'; and then collects data in a particular year for the sugar or calories contained per 100g, or per portion. What this sample normally shows is that there is great variety in the quantity of sugar contained in the products available on the market. For example, milk-based drinks include ranges from 8 to 1,034 calories per portion (PHE 2018a: 20); chocolate varies between 0.4 and 83.3g sugar per 100g product (PHE 2018b: 45). This large range is partly the result of the existing availability of no- or low-sugar products; it is also due to the variety of products being considered, which due to their different natures contain different quantities of sugar. For example, some biscuit recipes are low in sugar (a shortbread or a tea biscuit); others are higher, such as cookies; others are very high, such as chocolate covered biscuits. The pressure group Action on Sugar notes approvingly that nougat and sugar-free sweets are below the current target for 'sweets',⁸ seemingly not realising that these are not representative 'sweets'; nougat contains nuts, egg whites, and other ingredients as well as sugar, whereas most sweets are primarily sugar.

PHE also considers the relative sales of these food items, then produces a 'sales weighted average' of sugar or calorie content for a particular category. This is at some point in the middle of the sample. Then it reduces this 'baseline' average by 20 per cent, and sets this as a 'guideline figure' for the category as a whole, to be achieved by a particular date. Typically, only a small portion of the sample currently falls below this level, and often for particular types of product, so in biscuits it would include shortbreads or tea biscuits but none of the cookies. In the cake category, hardly any cakes fall below the 20 per cent reduction level, and the reason for this is that cakes are made according to established recipes that contain certain quantities of sugar relative to flour, butter, eggs, and other ingredients. Figures 1 and 2 show the distribution of products in the biscuits and savoury snack markets respectively, with the current sales weighted average and PHE's target highlighted.

8 FOI released communication between AOS and PHE.

Figure 1: Distribution of calorie levels per 100g: savoury biscuits, crackers and crispbreads

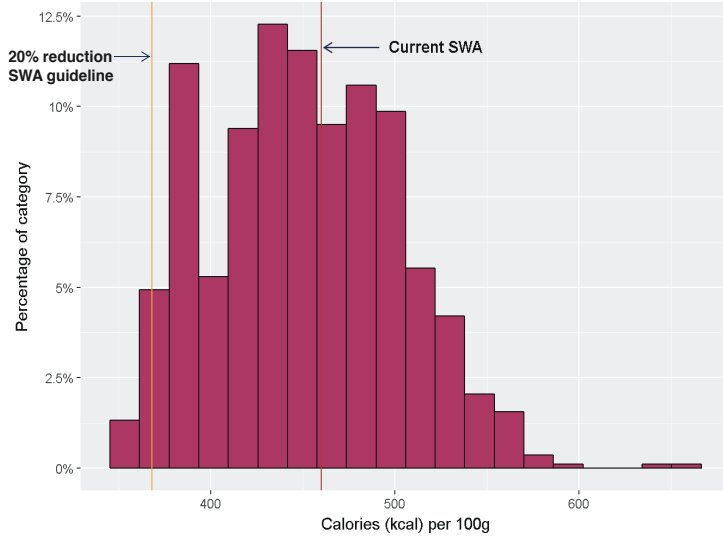
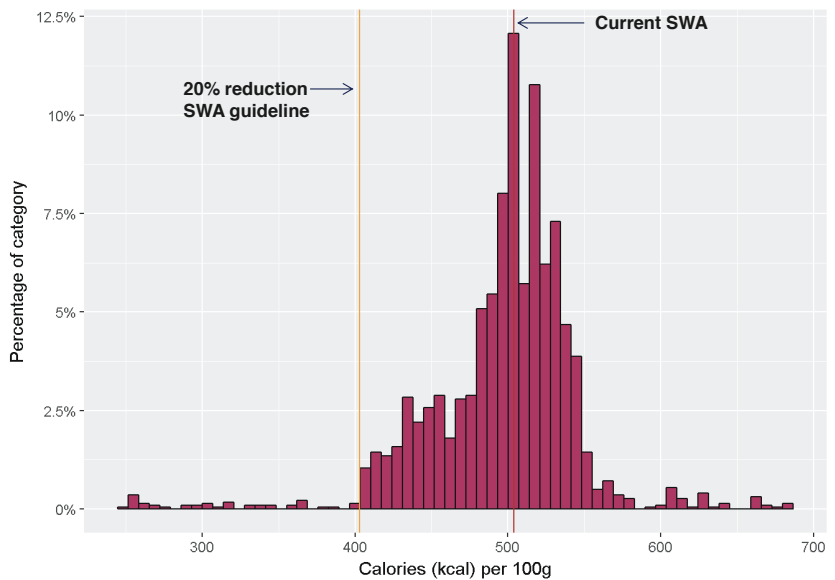


Figure 2: Distribution of calorie levels per 100g: crisps, savoury and other snacks



The sales weighted average for a particular food category is in part the result of the choices made about what to include in or exclude from a category. For example, the decision to include popcorn and nougat in the 'sweets' category meant that 'sweets' ended up with an average sugar content of 60.6g per 100g (and a reduction target of 48.4g) (PHE 2017b: 24), which was the result of some items containing over 99g sugar per 100g, and others containing 0.1g (PHE 2018b: 107). If the category had been limited to boiled sweets, the average would have been much higher.

Some of these categories are so obviously absurd that they have had to be changed: for example, the nut butters had to be separated from sweet spreads and sauces, when originally they were in the same category. There is great debate about where certain food items should be placed. For example, chocolate-covered biscuits are included in both the biscuits and the chocolate category. Documents released under the Freedom of Information Act show that both Mars and Action on Sugar wrote to PHE to clarify the position of *Penguin* bars and *Twix*;⁹ and in the case of *Penguin*, the PHE official was unsure and had to ask for advice from colleagues. Similar uncertainty has surrounded drinking yoghurts, including kaffirs and health biotics, which were included in 'milk-based drinks', then after some deliberation moved back to 'yoghurts and fromage frais' (yet now under a different timescale for the targets) (PHE 2019). Kellogg's emailed PHE to tell them that *Special K* bars had been wrongly included in breakfast cereals instead of biscuits.¹⁰ PHE had to apologise to companies when the Year 1 progress report 'detailed in error the inclusion of all fermented yoghurt drinks in the revised year 2 baseline, rather than only including drinking yoghurts'.¹¹ PHE briefings to industry mused on the position of coconut water, and whether it fell into the milk or fruit categories of drinks (which would mean being subject to different targets and regulations).¹²

Then there is the question of naturally occurring sugars, such as in lactose or dried fruit. For example, yoghurt producers managed to get PHE to discount naturally occurring lactose in milk from the sugar reduction targets; unlike other food categories, the yoghurt target therefore is applied only to added sugar. The makers of ice cream, custard and rice pudding, however, were not so lucky; their 20 per cent reduction sugar target

9 FOI released email exchanges between Mars and PHE; and AOS and PHE.

10 FOI released email exchanges between Kellogg's and PHE.

11 FOI released emails exchanges between Mars and PHE, 29 Jan 2019.

12 Category guidance for milk drinks, FOI released communication between Mars and PHE.

includes the naturally occurring sugars in milk. Different categories of milk drink are allowed different lactose levels, with 5.2g for 'ready to drink' drinks, 1.5g for the out of home sector, and 2.4g for drink powders (the out-of-home sector complained about its lower levels).¹³ This was also the case for milk substitute drinks (such as almond milk), which have a 'sugar allowance' to allow for some 'extra sweetness', and to compensate for the fact that almonds do not contain lactose. Meanwhile, cereal manufacturers managed to get PHE to concede that dried fruit in cereal should not be included in the sugar allowance; however, they are only allowed 10g sugar from dried fruit per 100g (PHE 2017b: 16-17). Cake producers were unable to claim dispensations for dried fruit contained in cakes or buns.

Many fundamental aspects of the targets appear to be without obvious scientific or rational basis. It is not clear why 20 per cent has been chosen as a target for reductions for calories and sugar, except that this seems to be a level that is not too much and not too little. The initial 20 per cent sugar reduction by 2020 (promised in the Childhood Obesity Strategy) seems to have been mainly chosen because it involves lots of 20s, and therefore has a certain numerical neatness. Twenty per cent was then chosen as the target for other categories, including calories and milk drinks, but the practical limitations for juice-based drinks meant that they had a lower five per cent target.

PHE also decides on maximum portion sizes or maximum calories for products likely to be consumed at a single time. In some cases (such as the calorie programme), these are derived from the 75th percentile of single-serve products currently on the market (although the serving size is determined by PHE, not by what is on the packet); but in other cases the figure seems to have been plucked out of the air. For example, the guideline portion size for orange juice is 150kcal, and fermented yoghurt drinks are subject to a 300 calorie maximum per single serving, as are milk drinks (PHE, 2018a and 2019).

The targets appear to be produced without consideration of how food is produced. For example, PHE asked for the first sugar reduction target to be realised within a few months, while changes in food makeup normally take about two years to be realised. It also requests sugar reductions to

¹³ Category guidance for milk drinks, FOI released communication between Mars and PHE.

proceed neatly, by five per cent a year, whereas any reformulation is likely to take two years, and be a one-off event. The request for changes in portion size seems not to realise that changing the size of products can be an expensive and time-consuming process, with machines and processes that have to be redesigned.

The demands made of the out-of-home sector (including cafés, takeaways, restaurants and pubs) are also unrealistic. PHE complains that this sector has failed to provide data on the nutritional contents of its products, and is failing to 'engage' with the process of reduction; it states repeatedly that this sector must realise its 'responsibility' to get involved in the process of reporting and making changes to sugar and calorie content of food. Officials seem not to realise that the average café or takeaway has no idea about the scientific nutritional content of their food, since they have never subjected it to laboratory tests; they know only that it contains good ingredients and is tasty. The idea that every Indian or Chinese takeaway should display the exact calorific content of their curries - as is proposed in a recent Department of Health and Social Care consultation¹⁴ - is out of touch with the reality of these small-scale and often family-based enterprises.

Reformulation programmes ignore the distinction between different food items, and the reasons why particular food items contain particular proportions of sugar. In baking there is an alchemy between ingredients in certain portions; a low-sugar biscuit is crumbly, a high-sugar biscuit is crunchy or chewy. Some biscuits are supposed to be crumbly, others crunchy or chewy: all 'biscuits' cannot follow the same measure, and changing the sugar content changes the nature of the biscuit. It is telling that jam had to be removed from the programme, because of its required (and legally defined) sugar content: if the jam falls below 50 per cent sugar then it will no longer preserve.

Many of the targets are surreal, such as the recommendation that sweets should contain less than 50 per cent sugar, when boiled sweets are almost solely made up of sugar; or the request that fudge, made from sugar and butter/cream, should decrease its sugar content without increasing its fat content. The guideline for sugar content in nut butters is less than that

14 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/751529/consultation-on-calorie-labelling-outside-of-the-home.pdf

naturally occurring in cashew nuts.¹⁵ The calorie guideline for olive bread (254kcal per 100g) is lower than that of a plain baguette or ciabatta. The calorie reduction figure for crisps and nuts is 403kcal per 100g, whereas plain peanuts (not allowing for roasting) are 600kcal per 100g (PHE 2018e).

All targets are based on a formulaic 20 per cent reduction of whatever the average happened to be when PHE started the scheme: targets take no account of the nature of the food product or of previous reformulation. It is assumed that all foods are equally unhealthy and contain more sugar and calories than they ought to.

The bureaucratic incorporation of the food industry

As well as the imposition of targets, the reformulation programme also has a broader effect: the bureaucratic incorporation of the food industry. PHE reports include a series of measurements of food companies' progress, with tables featuring the top companies and top-selling biscuits or sweets, with colour coding and arrows to show reductions in sugar or calories. Companies are encouraged to submit case studies showing the ways in which they have successfully reformulated products; they are also encouraged to submit data on reformulation that occurred prior to 2015, so that this previous success can be taken into account in PHE's informal assessment of who is 'doing well'. PHE's progress reports and private emails give the impression that food companies are being *marked* by bureaucrats; they are encouraged to compete for the recognition and esteem of public health officials.

Therefore, these performance tables are an inverted or parallel assessment system. Rather than rank products according to sales, or customer satisfaction, or taste tests, they are ranked and graded according to the degree to which they have met certain arbitrarily established targets. For example, in the 'year 1' assessment for sugar reduction, the products or companies that managed to reduce sugar by the required five per cent were highlighted in one colour; those that were just short of this were highlighted in another. PHE also accepts proof of reductions in the portfolio (within a category), and so has another table showing the reductions for a company's biscuit or cereal products as a whole. Companies are asked to provide case studies, showing their 'success stories' or 'evidence of

15 The 20% reduction target for the 'peanut butter' category is 3.9g sugar per 100g; a typical cashew nut butter contains 5.6g sugar per 100g.

progress' ('case studies can also help businesses demonstrate where they have made progress in individual categories'). PHE suggests the following wording for case studies:

X foods best selling X cakes will see a 20% reduction in portion size for their single serve cakes by Jan 2018, reducing their calorie content from 170 to 136 cal per portion.¹⁶

PHE justifies these various measures of success 'so that we can see that they are doing well': the tone is that of an examiner or assessor. The strongest criticism is reserved for those companies who are 'unable or unwilling' to provide data on sugars or calories; who do not take their 'responsibilities' seriously, or who are 'refusing to engage' in the reformulation programme.

The reformulation programme, then, encourages companies to design recipes and product launches that are geared to pleasing PHE, rather than their customers. The food market starts to become detached from public tastes and preferences. Supply starts to become detached from demand, and subject to alternative criteria and pressure.

Private communication shows that this tactic has seen some success, and some of the biggest food companies have designed and launched new products in an effort to show 'success in reformulation'. Kellogg's told PHE: 'We like to see ourselves very much as partners with you and the rest of the food industry on sugar reduction'; 'Kellogg's is fully committed to reducing sugar'; 'We know we have a responsibility to act'.¹⁷ Kellogg's seems also to have assumed a paternalistic mission in relation to its customers, saying: 'We know people are trying to eat more healthily but are finding it hard to do so', and: 'In an uncertain world, people look to companies like us to take the necessary and responsible choices to help them do the right thing'.¹⁸

When Nestlé launched a new reduced sugar *KitKat*, its press release was formulated like a PHE case study, saying that it had removed 1,000 tonnes of sugar and three billion calories from the UK diet. Nestlé wrote to PHE asking for recognition: 'We would be extremely appreciative if PHE could put out an appropriate statement of support in recognition for the work

16 FOI released emails between PHE and Subway.

17 FOI released emails between PHE and Kellogg's.

18 FOI released emails between PHE and Kellogg's.

undertaken.¹⁹ PHE and Action on Sugar send out statements cheerleading product reformulations, saying that other companies must now follow or that all cereals should now be reformulated. On 3 February 2018, PHE emailed Nestlé with praise: 'I have just seen your announcement on *Nesquik* (30% sugar reduction and no longer using the bunny). Really pleased to see the company take these steps.'²⁰

The view of the public

Reformulation has occurred naturally over the years, in response to consumer demand for healthier food, or developments in food technology. Previous governments have also pursued education, informing people about nutrition and encouraging them to eat more healthily. The current reformulation programme is quite different. It is primarily a programme that works by stealth - it seeks to change recipes secretly, without people knowing (indeed, it is known as 'health by stealth' in public health circles (Jebb 2012)). The aim is to gradually change recipes, such that people adjust and do not notice the difference. Therefore, it is a programme that seeks to bypass people's conscious awareness and choice; to make them healthier, or lose weight, without them choosing to eat differently. Action on Sugar expressed this approach in an email to PHE, saying that 'the secret success of public health is to subtly change the food environment without the public being aware'.²¹

PHE seems to believe that choosing what you eat, or changing what you eat, is too burdensome to be contemplated by most people. One report said that it would 'work behind the scenes with the food industry to slowly improve the calorie and wider nutrient content of everyday foods without families having to proactively make burdensome changes' (PHE 2018d: 36). It said that reformulation would help people to have a healthier diet 'and remove some of the burden of consciously changing their usual eating habits and patterns' (PHE 2018d: 23).

Here, the act of choosing what you want to eat is presented as a 'burden', of which PHE is only too pleased to relieve you. This involves a conception of the public as infantile and not entirely competent - a view that conflicts

19 FOI released emails between Nestlé and PHE.

20 FOI released emails between Nestlé and PHE. The 'bunny' is a reference to the cartoon rabbit that has traditionally promoted the product. PHE dislikes cartoon characters being used in adverts for food/drink that is high in fat, sugar or salt.

21 Email from AOS to PHE, 3 February 2017.

with basic principles of democracy, whereby officials are supposed to be servants of the people, not the other way around.

The primary aim of reformulation is not to lead to 'healthier options', i.e. to increase the choice of healthy products that are available on the market. Rather, the aim is to change the recipes of the best-sellers, the top chocolate bars or cereals, or the default option for pizza:

The sugar and salt reduction programmes both focus on everyday, popular foods and not on healthier options as these tend to have limited appeal to shoppers and therefore little or no effect on the population's overall diet. (PHE 2018d: 24)

The aim is for the state to work with business so as to change the recipes of the foods with the greatest calorie or fat contributions, or the foods that are currently public favourites. The result is not to persuade you to choose differently, but rather to decide what it is that you have to choose between. After reformulation, there is no longer a full-sugar and sugar-free *Ribena* for consumers to choose between; instead, both versions contain sweeteners, albeit in different proportions. The full-sugar version no longer exists.

The perverse effects of reformulation

The reformulation programme involves the application of an arbitrary bureaucratic standard to the food market. The effects of this standard will in general be perverse. There are five main problems:

- There is no evidence that reformulation works
- Reformulation can reduce taste and sabotage classic brands
- Reformulation can reduce the nutritional value of food
- Reformulation can reduce portion size and increase the price of food
- Reformulation can have unintended negative consequences on children

There is no evidence that reformulation works

PHE reports claim that the programme will lead to weight loss and health benefits, saving lives and saving money to the health service. Yet the effect of reformulation upon health is actually less certain than PHE implies. One of the few randomised controlled trials to have put reformulation under the microscope found that the 'impact of sugar-reformulated products on body weight, energy balance (EB) dynamics and cardiovascular disease risk indicators has yet to be established' (Markey et al. 2016: 2,137). It found that substituting low-sugar products led to higher consumption of other foods; overall there was no weight loss of the subjects on low-sugar diets:

We observed that when sugar-reduced foods and beverages were consumed as part of the habitual diet no significant change in body weight was observed. This was due to energy compensation; fat and protein intakes were both higher on the sugar-reduced diet, when compared to the regular diet. (ibid.: 2,146)

By contrast, PHE projections of weight loss are obtained by making the assumption that there will be no 'calorie offsetting' (PHE 2018d: 82).

Losing weight is not a simple matter, as anyone who has tried to do it will know; it is unlikely that any overweight person could lose weight unconsciously, simply because the sugar or calorie content of their favourite products has reduced by 20 per cent. Even those making great efforts to lose weight - and substantially changing their diets - often struggle to do so. It is likely that people's conscious awareness and willpower are important to any significant change in bodily health or dietary pattern.

Reducing taste and sabotaging classic brands

Recipe changes can be natural and positive in the food market, as companies improve taste or quality, respond to consumer concerns or preferences, or adopt new technologies. And yet this market-led process of changing recipes is quite different to the state-led injunction of reformulation, whereby recipes are supposed to reduce sugar or calories by a certain percentage within a certain period. The reformulation programme also concentrates on the top brands - the top selling and/or top sugar products - and demands that these change their recipes, rather than on the provision of different healthy options.

The demand that all products have their recipe changed, reducing sugar and/or calories by 20 per cent, has the potential to undermine classic brands. These are recipes that have remained unchanged for years or even decades, and where consumers have eaten a particular recipe since childhood: the Heinz ketchup recipe has remained unchanged for 100 years, Lea and Perrins Worcester sauce for 170 years. This effect is particularly notable for products such as sauces or cereals, which do not come in portions and therefore cannot achieve the 20 per cent reduction through a shrinking of portion size.

Some reformulations have provoked a negative public reaction on social media. When Kellogg's took to Twitter to announce that it had reformulated

Coco Pops 'to please our consumers, this is what they've told us they wanted', they received 46 replies, all of which were negative.²² Elsewhere, one man lamented the fact that *Coco Pops* taste 'stale', and 'to make it as bad as possible it doesn't make the milk chocolatey'.²³ Another man commiserated: 'Same thing happened to *Ribena*, absolutely ruined the flavour of my favourite drink and now I just have to accept that it'll never be back.' The condemnation of *Coco Pops* was echoed by middle-class consumers who said they tasted 'absolutely foul': 'a bit of my childhood is gone'.²⁴

Others complained about the changes to *Lucozade*, which led to an 8.4 per cent drop in sales, as consumers pointed out that the removal of sugar made it less effective as a sports energy drink.²⁵ This reaction suggests a failure to recognise the meaning and value of food for people. Tim Rycroft from the Food and Drink Federation makes the point that food and drink is 'not just functional': instead, food 'has long standing and deep-seated emotional and cultural relevance', and 'any policy that fails to acknowledge this is likely to fail'.²⁶

The case studies provided to PHE show that the reformulation programme is leading companies to make changes that reduce the taste and quality of food. Take Starbucks' carrot cake, for example. First, the company reduced the icing from the sides and reduced the icing in the middle; now it plans to remove the icing altogether, making it a 'carrot loaf' (PHE 2018c: 77). Other cut-backs for the sake of PHE include McDonalds' 27 per cent reduction of the maple syrup serving that comes with its pancakes (PHE 2018c: 72).

22 <https://twitter.com/kelloogsuk/status/1019820830052757505> (Although the reformulation meant that sugar content dropped by 40 per cent, the number of calories fell by just one per bowl.)

23 <https://www.resetera.com/threads/http-new-coco-pops-im-seriously-angry-rambling.75867/>

24 "My childhood favourite ruined!" Middle class shoppers moan that the new reduced sugar *Coco Pops* recipe is "absolutely foul" on the Ocado and Waitrose websites', *Daily Mail*, 12 November 2018 (<https://www.dailymail.co.uk/femail/food/article-6376897/Ocado-customers-claim-Coco-Pops-recipe-change-horrible.html>).

25 'Lucozade sales plummet after brand dramatically cuts amount of sugar in drinks following tax levy', *Daily Mirror*, 4 November 2017 (<https://www.mirror.co.uk/news/business/lucozade-sales-plummet-after-brand-11468144>).

26 Personal communication.

Recommendations from PHE to cafés and restaurants also suggest a negative effect on taste: a policy document recommends that Chinese takeaways boil chicken first, and then flash fry later, rather than frying twice (PHE 2017c: 15). PHE also recommends that Chinese takeaways reduce the soy sauce in sauces, and that they boil vegetables and noodles/rice without salt (the taste effect of pre-boiled chicken with saltless rice need not be commented upon). The guide recommends that sandwich shops use margarine rather than butter, and then only when customers ask for it, spread thinly on one side of bread, and that they reduce the fillings. PHE also suggests that fish and chip restaurants fry in vegetable oil rather than beef dripping, a change that would affect high-quality or gourmet fish and chips, where the dripping gives the crucial dimension of flavour. It seems likely that food cooked according to PHE recipes would be dry, tasteless, and mean, reducing the fun and pleasure of eating out.

Many people object to the 'chemical' edge of current sweeteners, which exists even for natural sweeteners such as stevia. Sweeteners also don't have the same properties for cooking (for example, erythritol has a tendency to separate and cakes come out drier). Sugar provides more than a sweet taste: it is also important for the structure, viscosity and development of caramel flavours in food.

Pro-reformulation campaigners tend to be particularly blind to the question of taste, seeing the only legitimate obstacle to reformulation as a technical one. During Salt Awareness Week in 2016, Action on Salt tweeted: 'Salt is the easiest of things to reduce - it's often there just for flavour or preservation', as if these were trivial benefits to food manufacturers.²⁷ In the same year, Action on Salt's sister group Action on Sugar publicised the different quantities of sugar in various brands of ice cream, offering this as evidence that reformulation was possible without any technical obstacles. It noted that Asda smart price vanilla flavour ice cream had 46 per cent less sugar than Waitrose Duchy vanilla ice cream (Perrett 2016). This is not comparing like with like: one of these ice creams is an awful lot nicer than the other.

Of course, taste is subjective, and people have different tastes - some may like the taste of sweeteners, for example, while others may not. This is why it is better that the taste of food is left to public choice rather than bureaucratic injunction.

27 <https://twitter.com/actiononsalt/status/705079145630449665>

Reducing the nutritional value of food

This is in many ways a golden age of personal experimentation with, and concern for, nutrition. Contemporary diets include the mainstreaming of vegan and vegetarian, as well as a series of newer diets, such as high-protein, low-carb, gluten free, raw food, GI (glycemic index), high-fat (the ketogenic) or juice diets. There are people who don't eat wheat products, and a wider section of the population that refuses to eat artificial colours and flavourings or sweeteners, or who prefer 'whole foods' that are locally grown or organic.

The public concern with nutrition has driven the development of sugar-free and reformulated products: *Diet Coke* sales first approached, and recently overtook, those of standard *Coca-Cola*. Even the smallest supermarket has a selection of organic, low-sugar or sugar-free products. In an average sandwich chain there will be stickers advertising that something is 'high protein', 'vegetarian' or 'vegan', or that products are made only with organic or fresh ingredients. It is possible to buy sugar-free cakes and ketogenic or low-carb nut bars. People who wish to be are perfectly well informed about the nutritional content of their food. There are dozens of phone apps allowing people to scan the bar codes of items to log their nutritional intake, meaning that they can track their daily food consumption according to their chosen nutritional goals. Apps also allow you to find out the nutritional content of products from common food outlets, whether Subway sandwiches or a Pret flatbread.²⁸

The PHE reformulation programme is focused on substantially narrower nutritional goals: to reduce the calories in food, and to reduce 'bad' food items such as sugar, salt and fat. Yet the demand that every food item reduce sugar by 20 per cent misses a central question of nutrition, which is the proportion of food items in the overall balance of a diet and lifestyle. The human body is flexible and able to adapt to a great variety of food sources. There are hunter gatherers who eat largely saturated fats, others who eat largely nuts, and others who obtain up to 20 per cent of their calories in sugars from honey: in evolutionary terms the human body has had to adapt to a very wide variety of diets. There is also a variation in personal physiology - people metabolise foods differently and respond to the same dietary elements differently, and this may change dramatically throughout a person's lifecycle. Some people are extremely salt sensitive, others much less so; some find it difficult to put on muscle or fat; others will put both on all too easily.

Moreover, the nutritional value of food depends not on the sheer number of calories, but rather the form in which these calories are contained. Proteins, fats and carbohydrates are metabolised by different processes at different stages of digestion, and they require different amounts of energy and time;²⁹ there is also variation between simple and complex carbohydrates. There is even variation between specific food items: for example, there is strong evidence that the calories in nuts are not all absorbed in the same way as other foods (Novotny et al. 2012).

The PHE reformulation programme is simplistic, and necessarily so, because it is concerned with nutrition that can become the target of a bureaucratic instruction. It requires that nutritional advice be given as a single measure and answer that can be applied across the board - everyone should eat x calories a day, y salt a day, z sugar; or that this product should contain x grammes of sugar and y of salt. Therefore, it is a version of nutritional science that is oriented towards the provision of a target.

There are indications that the programme is reducing the nutritional value of some food items. PHE recommends that restaurants shrink the calorie content of food by reducing toppings on a pizza or fillings in a sandwich. Yet the proteins, slow-burn energy and many of the vitamins are in the filling (meat, cheese, vegetables), without which it is just a meal of simple carbohydrates which metabolise in a not dissimilar way to sugar. Similarly, Gregg's reformulated its porridge by reducing skimmed milk powder (PHE 2018c: 69) in an effort to please PHE - this reduced calories but also reduced the protein content.

Reformulation can mean adding more artificial ingredients to food: the new *Ribena* recipe includes artificial sweeteners and also polydextrose to thicken it.³⁰ The calorie reformulation programme includes foods such as beef burgers, which are primarily (95 per cent) minced beef; if these are subject to calorie reductions, this can only be achieved by using leaner cuts and then perhaps adding fat substitutes to make the meat moist when cooked and to bind it together. By focusing only on saturated fat and calories, the nutritional value of food is ignored, and the health benefits of certain foods overlooked. For example, PHE encourages vegetable spreads rather than butter, but these lack the vitamin complex of butter (which is particularly the case for grass-fed butter).

29 <https://www.nutristrategy.com/digestion.htm>

30 'Ribena customers FURIOUS after recipe changed: "Tastes like drain cleaner!"', *Daily Express*, March 15 2018 (<https://www.express.co.uk/life-style/food/932336/Ribena-recipe-changed-secretly-customers-outrage>)

Reducing portion size / increasing cost

PHE suggests that in some cases the 20 per cent sugar or calorie reduction could be met by reducing the size of portions (a policy it calls 'portion control'). This has been one of the main effects of reformulation, with customers noticing the shrinking of chocolate bars and the increasing gaps between *Toblerone* pieces.³¹ As well as chocolate bars, other retail outlets are reducing the sizes of their portions in response to pressure from targets. Case studies provided to PHE include:

- Benugo reduced product sizes, such as blackberry and apple tart from 130g to 103g (PHE 2018c: 65);
- The portion sizes of Pret a Manger muffins reduced from 145g to 115g (PHE 2018c: 76);
- Starbucks reduced Berry Crunch yoghurt from 240 to 160g per serving (PHE 2018c: 77).

This reduction in size is not generally accompanied by a reduction in price, partly because of the costs associated with changing the size of a manufactured product, or because the labour associated with making a smaller cake remains the same. Therefore, this amounts to a 25 per cent increase in the price of food.

This increase in the cost of food also applies when products are reformulated to reduce calories by 20 per cent. Even if the food item is the same size, its calorific value has declined, and so less energy is obtained for a given price. A person who wishes to maintain their calorie intake would have to spend 25 per cent more on their food, in order to maintain given activity levels and not go hungry.

The unintended effects on children

There is also a danger that reformulation programmes could have unintended negative effects upon children. PHE suggests that children should eat low-fat food, such as low-fat milk, cheese or hummus; it also suggests that they count, and limit, their calorific intake, and that children are currently consuming 'excess calories'. It suggests that parents should

31 After criticism from consumers, *Toblerone* reverted to its original shape in 2018 (<https://www.bbc.co.uk/news/uk-44910195>).

give their children 100-calorie low-fat and low-sugar snacks, and not more than two a day.³² Yet while such a diet may be advisable for an inactive middle aged person with a desk job, it might be less suitable for an active and growing child. Children are growing rapidly; in particular, their brain is growing rapidly, reaching adult size by the age of six, a point at which it is using up to 66 per cent of resting energy expenditure and 43 per cent of daily energy requirements (Kuzawa and Blair 2019). The renowned French palaeontologist Jean-Jacques Hublin, an expert on the evolution of the brain, argued in his Collège de France lecture that it was the increased consumption of fats associated with hunting that allowed the expansion of the human brain in human evolution, and particularly its rapid growth in early childhood (Hublin 2017). This does not seem to be a stage of life to recommend calorie counting or low-fat foods.

Encouraging children to counts calories and take a negative approach to food could also have a damaging effect in provoking eating disorders. In January 2018, anorexia sufferers and eating disorder charities criticised the 100-calorie snacks campaign, saying that it was irresponsible and potentially harmful. The charity Beat urged PHE ‘to listen to concerns about the impact this campaign could have on those at risk of developing an eating disorder and change the campaign to focus more on healthy eating rather than calorie counting’.³³ A teenage YouTuber with a history of eating disorders produced a video criticising the policy and promoted the hashtag #nutrientsovernumbers.³⁴ Instead, these stakeholders urged a more positive approach to food in relation to children.

32 <https://www.nhs.uk/change4life/food-facts/healthier-snacks-for-kids/100-calorie-snacks>

33 <https://www.beateatingdisorders.org.uk/news/change4lifes-100-calorie-campaign>

34 <https://www.youtube.com/watch?v=Fts6S8acK1Q>

Interest groups and the drivers of reform

The policy of reformulation is developed in association with a small number of health interest groups. Consensus Action on Salt and Health and Action on Sugar were both founded and are chaired by Professor Graham MacGregor, who was the main academic adviser on the salt reduction programme. The two groups have now officially merged to become Consensus Action on Salt, Sugar and Health. The Obesity Health Alliance (OHA) is an association of organisations of which Action on Sugar is a leading member. Our FOI requests obtained email communications between PHE and these organisations, showing that they have a close working relationship which is quite unlike that of other 'stakeholders' such as food producers.

This private communication shows that PHE work closely on the development of policy with NGOs. Policies are run past the pressure groups in their early stages, and only released to industry for consultation much later. For example, OHA was briefed on the calorie reduction programme in August 2017, seven months before consultation with industry food bodies (March 2018). In September 2017, OHA had a 'catch-up meeting' with PHE, discussing excess calorie definitions, and portion size recommendations, timelines and reporting mechanisms, and the role of the NGO sector. They arrange meetings not to formally consult, but to 'swap notes' or 'catch up', or to 'update you on some work we are doing'. They congratulate each other on report launches or media appearances.

Interest groups are included in policy plans at an early stage, and play a role in the development of these plans, which are later presented to industry as a done deal, to be tweaked but not substantially changed. PHE and Action on Sugar (AOS) exchange emails almost every week, and seem

to have a meeting in person around once a month (after each meeting they email to 'get another date in the diary soon'). AOS sat in as moderators and observers on all the industry consultations, a position that was only taken by other government departments and official bodies. Whereas large food companies appear to have some difficulty scheduling a call with PHE - being offered a slot a few weeks hence - AOS and PHE arrange phone calls at 9am for later in the morning.

However, these private email exchanges show that the relationship is not without tension. The NGOs are the outriders of reformulation: they call for 30 per cent or even 50 per cent reductions of sugar, and ask for these to be legally binding; they call for taxes on sweets. So extreme are their demands that whatever the government does will appear moderate by comparison. Their press communications are full of exclamation marks and 'shock findings', such as that there is a lot of sugar in muffins or hot chocolate. Responses to consultations can verge on parody, with comments that: 'The sweetness of sweet confectionary is unacceptably high'.³⁵ They often take the role of an adversary or pressure group, complaining that plans are 'pathetic', that government hasn't done enough or that it has prioritised the wrong policy. Indeed, the public pressure in media releases is accompanied by an intense private pressure, which is at times not so much lobbying as the issuing of instructions and orders.

On 3 February 2017, AOS emailed PHE's Chief Executive Duncan Selbie and its National Director of Diet and Obesity Alison Tedstone, saying that although the organisation supported sugar reduction work, it has meant that PHE staff are 'overwhelmed by the amount of work that has to be done' and that, unfortunately, 'this is meaning that the salt reduction is still on hold as it has been for the last few years although I had managed to persuade XXXX [redacted] to reset targets in 2013 for 2017'. The AOS email said that 'it is quite clear that PHE is not putting enough money into the salt reduction programme ... and, in my view, is spending money on other projects that have very high cost and only marginal returns'. The email suggests 'you should consider diverting more funds immediately to getting the salt reduction programme back on course'. Other AOS emails to Duncan Selbie (23 March 2017) advise PHE that the 'antediluvian' Food and Drink Federation 'should be ignored', and that PHE needs more funding: 'It is vital that we persuade the powers that be that Alison [Tedstone] has sufficient resources to carry it out', suggesting a 'one-to-one meeting

35 FOI released communication between PHE and AOS.

to discuss who are the people who control this and the best strategy to ensure this happens’.

The response from PHE was obliging, saying: ‘We do appreciate that we now have responsibility to reinvigorate this important work’ (on salt targets), and that ‘PHE has committed to bringing in additional resource to work on these sectors across the key nutrients, including salt reduction and the expanded team will be in place before Easter’. Duncan Selbie (23 March 2017) was appealing in response to the instructions to increase funding for his department, saying: ‘Not sure why you think we are not adequately resourcing sugar, salt and calorie reduction but very happy that we speak’. This shows that pressure groups play an active role in demanding policy changes and influencing health policy at the highest level, occasionally taking the tone of a superior issuing orders to a subordinate. It also shows that NGOs work actively to exclude other organisations, such as food industry bodies, from a position of policy influence, telling PHE to ‘stick to your guns’ and not be swayed by the Food and Drink Federation and other bodies.

Yet at the same time, these groups play the role of cheerleaders - they send out supportive statements on government policy and present themselves as the backers and loyal henchmen, who can be relied upon to support every announcement. They check what the latest thinking is on policy so that their ‘knowledge is up to date’ - so that they can communicate the latest party line on the definition of free sugars or the categories of foods. Here they can be slightly craven, flattering, presenting themselves as loyal handmaidens of the public health establishment. On 26 June 2016, AOS emailed to say that they wanted to run a leaflet by PHE, which they were planning to hand out at an event - ‘and I want to ensure we’re helping - not adding to confusion!’. An email from OHA on 22 August 2017 said: ‘We are keen to align with you on language and messages around calorie reduction but want to understand more about the plans first’; while an AOS email congratulated PHE on the latest Eatwell Guide, and said ‘we are reinforcing our support through our AOS social media avenues’.

In fact, the relationship between activist NGOs and the public health establishment cannot be reduced to one dimension. It is not necessarily that the state manipulates or funds subsidiary bodies to do its bidding, nor that the state has been captured by a pushy health lobby. Instead, we can see how the public health section of the state has developed mutually

beneficial relationships with semi-independent bodies, or at least groups that have the appearance of independence. The function of this is the following: for the state to represent (and experience) policy as being the result of public demand and assent, without this actually being the case.

That is, the NGOs appear to be independent from PHE, yet they actually have a closeness of relation that means they are functioning as partners, both in designing policies and in publicly defending them. The NGOs function as part of the state, while appearing to be part of the public. The commensal relationship with AOS and others means that health policy appears to be something demanded and supported by the public at large, whereas in fact it is largely an elitist project.

These health lobby groups appear to be dismissive of the actual public - the choices that people make and the opinions they actually have. They see themselves as speaking in the name of public health, which they present as being a matter of life and death, and are therefore above any profane manifestation of the public, such as what people themselves may think or want. In an email to PHE, AOS said that the aim of the reformulation policy is to 'save millions of children from disability or early death', and that '[t]his is the priority - not the profits of the food industry, or even public opinion'. The interest of public health policy, then, is something that stands above - and even against - public opinion: it claims a higher mission. So AOS is able to masquerade as the true public good, as standing above the millions of people who actually form the public.

Conclusion: against reformulation, for choice

The effect of the policy of reformulation will be to detach the food market from the tastes, preferences and nutritional goals of consumers. The danger is that food products will be designed, not primarily to please the public, but to meet the arbitrary and often illogical targets that are set by health bureaucrats. The scheme is likely to result in a decline in taste, value for money and possibly also in nutritional quality.

At the heart of this issue is a very simple principle: whether people can choose what they eat. It is this principle that has been expressed very clearly by members of the public outraged about the reformulation of their favourite products, saying that they are adults and have the right to choose whether to buy low-sugar or full-sugar drinks.

Underlying reformulation is a principle of the most extreme condescension, which is that people - with all the nutritional information and regulations available - cannot choose to eat a sugary cereal or drink, and are not capable of making the trade-offs that this might involve. PHE barely acknowledges the existence of trade-offs, but they are important and real. In PHE's narrow view, a low-calorie yoghurt is self-evidently better than a standard yoghurt, but if this were true, standard yoghurts would have disappeared from supermarket shelves years ago. Since there is little difference in price between the two categories, the most plausible reason for the continuing sale of standard yoghurts is that a large number of consumers think they taste better.

After the reformulation of *Ribena*, some customers commented that they would willingly pay a sugar tax in order to drink the full-sugar version. They may only drink it occasionally, but when they do they want it to be

the real thing rather than what they see as a tasteless imitation. They do not seem to share PHE's view that making decisions about their diet is 'burdensome'. Like those who continue to buy *Coca-Cola* (which has not been reformulated and is therefore subject to the sugar levy) these shoppers are prepared to pay more for what PHE sees as an inferior product.

This makes no sense from the narrow perspective of health, but it makes perfect sense when you consider that few consumers look at food and drink purely through the lens of health. Even those who prioritise health may feel - quite understandably - that they have nothing to fear from everyday food items that have been eaten for generations.

The ongoing food reformulation programme is paternalistic and cannot be justified on economic grounds. It does not seek to remedy a failure of the market to offer 'healthy options', rather it seeks to replace food that has been tried and tested in the market with food designed to meet crude targets.

Officials in PHE and pressure groups such as Action on Sugar should not be able to decide what our food tastes like. Our health and our diets are our concerns, to be decided according to our nutritional priorities and taste preferences, and expressed through consumer choices in a genuinely free market. Ultimately, the food we find in shops and restaurants should have been cooked for us - not for bureaucrats.

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