

DEMOS

TURNING THE TABLES

MAKING HEALTHY
CHOICES EASIER
FOR CONSUMERS

ROSE LASKO-SKINNER

AUGUST 2020

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Rose Lasko-Skinner

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FOREWORD

The tragic toll on our population from the Covid-19 pandemic is further evidence of the harmful effects on our health from obesity and from being overweight. Obesity increases the risks of many diseases and means many of us have fewer disease-free years as we get older.

If we want to promote our health and well-being, and want to protect the NHS, we should manage our weight and take more exercise. In doing so, we need to take responsibility ourselves and we need to be helped: helped by our families, helped to choose a healthier diet, helped to afford healthy foods and helped by the reformulation of foods.

Efforts at reformulating foods and promoting healthier options have had some successes: reducing salt and trans-fats, the sugary drinks levy, calorie labelling, supporting fresh foods in corner shops. But the overall impact has been insufficient and the polarisation of debate between those who see this as an issue of liberty and those who want to bring in the 'Ban on Unhealthy Foods Act' has too often hindered worthwhile progress.

That is why I welcome this report, which rightly lays emphasis on understanding public opinion and proven consumer preferences, to identify which interventions will gather public support and generate the right response. This means promoting information and choice, pushing hard for the reformulations which consumers will tolerate, and shifting the balance of affordability away from energy-dense, processed foods high in sugar and fats, and towards fresh foods and ingredients.

Obesity is, as the Foresight report told us near twenty years ago, a complex multifactorial problem. They called this an "obesogenic" environment. This means we have to turn this tide not by any single 'silver bullet' but by many interventions, working to reduce calories and high in fat, sugar and salt (HFSS) in what we eat, whilst also changing what we want to eat and how we live, to make ours a healthier community.

This is a welcome contribution to implementing this social change.

The Rt Hon. the Lord Lansley CBE

EXECUTIVE SUMMARY

Food policy has been caught between the 'nanny state' and free market for too long. In this artificial division, the Government can either behave like a 'nanny state', unfairly limiting people's freedom, or do nothing, in favour of the free market. But this is a false division: as this report will highlight, there is a healthy middle ground between governments telling people what to eat and doing nothing.

We must accept that on some key outcomes the food market is failing, both in the UK and worldwide. Too much of the food we produce and sell is unhealthy: according to a review of foods sold in the UK, a large proportion (85%) is considered too unhealthy to market to children.¹ From our survey, we estimate that 20 million adults cannot afford healthy foods in the UK, and that 19 million cannot find healthy foods available in shops close to their home.

Restricted access to healthy foods is having real life impacts: poor diet is now responsible for more deaths than smoking, worldwide and in England.² It is also having significant costs for the public purse: Public Health England estimates that the costs of people being overweight and obesity to the health sector and society will reach £49.9 billion per year by 2050.³

It is time to fix this market. For the Government, this does not mean simply another 'sin tax'. It means working with the market - as a steward - to encourage the innovation needed to supply healthier, cheaper and more convenient foods to consumers. Long-term, this should mean that British companies become more competitive globally, exporting their innovations around the world.

After all, British scientists and food manufacturers have created some of our most cherished, everyday

food products, from chocolate to the sandwich to self-raising flour.⁴ It is also the market that has created and commercialised some of the world's most life-changing technological innovations. Among these are the tin can, which revolutionised preserving food, and the first mechanical refrigerator, which took the preservation of food to the sophistication needed to preserve more nutritious food.⁵

It is time to set the rules of the game in favour of food that caters to the nutritional needs of consumers. But in the process, we must remember that our diets are more than a series of chemical reactions: they are part and parcel of our identities, our social and family lives, and something we rely on in the midst of a busy day. Policy interventions and industry actions in our food systems must take into account consumer needs, tastes and preferences.

Through this report we hope to take the first step in finding a new way forward. We have polled consumers on their attitudes and preferences to eating healthy foods and towards government and industry interventions. Based on this poll, a series of expert interviews and an in-depth literature review of industry and government interventions, we offer a range of policy options for the government to take forward that are rooted in public opinion.

This report draws on evidence from:

- a series of expert interviews with industry, academic and public sector professionals;
- an evidence review of reformulation so far and the success of government policy levers for improving diet; and
- a survey of 1,000 UK adults over the age of 18.

1. 3000 packaged food products were reviewed, making up just under half of all food items sold in the UK, of which 85% did not meet WHO requirements to advertise to children, for more see: U.K. Product Profile 2019, Access to Nutrition Initiative, 2019, p.3. Available at https://accessstonutrition.org/app/uploads/2020/02/UK-Product-Profile_Full_Report_2019.pdf

2. <https://www.thelancet.com/action/showPdf?pii=S0140-6736%2819%2930041-8> p.1967

3. Health matters: obesity and the food environment, Public Health England, March 2017. Available at <https://www.gov.uk/government/publications/health-matters-obesity-and-the-food-environment/health-matters-obesity-and-the-food-environment--2#:~:text=More%20broadly%2C%20obesity%20has%20a,%C2%A349.9%20billion%20per%20year.>

4. Liz Truss, Britain should celebrate inventor of chocolate as much as we do Brunel, The Telegraph, 2015. Available at <https://www.telegraph.co.uk/news/politics/conservative/11431481/Britain-should-celebrate-inventor-of-chocolate-as-much-as-we-do-Brunel.html>

5. Royal Society names refrigeration most significant invention in the history of food and drink, The Royal Society, 2012. Available at <https://royalsociety.org/news/2012/top-20-food-innovations/>

KEY FINDINGS

The food market in the UK is not working for consumers; too many in the UK face significant barriers to eating healthy diets:

- Stress is the most significant barrier for people to eating healthy food: just over half (51%) of consumers - equivalent to roughly 26 million people in the UK - said that they are too stressed to eat healthy foods.⁶ The proportion was much higher for those with three or more children (68%).⁶
- We estimate that 20 million, or four in ten (39%), say they cannot afford healthy foods. This is higher for adults between 25 and 39, of which over half (58%) say that they cannot afford to eat healthy foods.
- Almost 4 in 10 (37%) - roughly 19 million - say that healthy food isn't available in shops close to their homes.

The public like healthy foods, but make decisions driven by taste, cost and convenience:

- The three main drivers that consumers say push them towards unhealthy foods are: taste (43%), cost (34%) and ease (34%). These must be at the forefront of policymakers' minds when considering food interventions.
- Consumers are more likely to think healthy foods are tastier than unhealthy foods: 40% of consumers say that healthy foods taste better than unhealthy foods while 25% of people say unhealthy foods taste better.
- Nearly a fifth (18%) of those earning under £20,000 say cost is the most important reason for eating unhealthy foods. This makes them as twice as likely as those earning £40,000 and above (8%) to make decisions mainly based on cost.
- Whilst barriers around cost, stress, and availability of foods in local shops were experienced differently across demographic groups such as income and number of children, non-cost related factors around identity and self-control stayed relatively stable. This adds weight to the evidence that consumers in the UK who have unhealthy diets do so primarily because of barriers - such as cost and stress - rather than identity and socio-cultural push factors.

"It is time to set the rules of the game in favour of food that caters to the nutritional needs of consumers. But in the process, we must remember that our diets are more than a series of chemical reactions: they are part and parcel of our identities, our social and family lives, and something we rely on in the midst of a busy day."

The public are in favour of more interventionist and supportive policies when it comes to food and diet:

- The public were more in favour of supportive policies rather than those that impose restrictions:
 - For example, almost three quarters (71%) of people would support government subsidies that make healthy foods cheaper compared with almost half (47%) who would support additional taxes on unhealthy foods.
- Almost three quarters (72%) think that the Government should provide classes teaching children about how to eat healthily.
- Over two thirds (65%) of people think the Government should ensure neighbourhoods make affordable healthy food available to consumers. A similar proportion of people would support requiring all grocery shops to stock healthy foods (59%).
- Nonetheless, there remained considerable support for restrictive policies: over half (55%) of people think the Government should limit the number of fast-food restaurants and over two thirds of people (65%) think the Government should ban unhealthy foods in schools.
- Just over half (51%) think that the Government should ban supermarkets from promoting unhealthy foods.
- More than four in ten (45%) would support standardised packaging on unhealthy foods - like those approaches taken on cigarette packaging.
- A further four in ten (43%) would support banning unhealthy foods on public transport and slightly fewer (37%) would support banning foods in public places.

6. Estimates using ONS population data from mid-2019. Available at <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland/news/2012/top-20-food-innovations/>

RECOMMENDATIONS

Based on the key findings we recommend a new market-wide approach to making healthy and tasty foods cheaper in the UK. We recommend that this be made up of three pillars to reorient the market towards selling more nutritious foods:

1. Making it easier to sell healthy foods
2. Making it harder to sell unhealthy foods
3. Innovation in the food sector

Making it easier to sell healthy foods

To set the rules of the market in favour of selling healthier foods there are various mechanisms the Government could lean on that have found considerable public support.

We recommend that the public sector draws on its £2 billion strong spending power in the food and catering sector to improve supply in key public service organisations such as schools and hospitals, and push standards up across the board.

Recommendation 1: The Cabinet Office should create new guidance and requirements for contracting authorities responsible for procuring food and catering services to ensure that all food provided in public sector organisations, including schools and hospitals, is compliant with the NHS Eatwell Guide. This should include making the standard public sector catering contract include it as a bare minimum requirement relating to nutrition.

Recommendation 2: The Cabinet Office's new guidance should include how to implement 'should cost' models to catering contracts for menus based on the NHS Eatwell guide, to ensure that catering providers have the financial means to provide healthy foods to the public sector.

To respond to consumers' will for more intervention in planning local areas to be better stocked with healthy options, we recommend first providing extra support and encouragement for corner shops to move towards healthier stock.

Recommendation 3: The Department for Health and Social Care should create new guidance on how to offer consumers healthy options, for example, ensuring that a proportion of foods sold are fresh and healthy. Those who take up the new

guidance should become part of a new accredited Corner Shop Charter. Guidance should be created in close consultation with industry and certifications should begin as voluntary.

Recommendation 4: Planning applications for new corner shops should be encouraged through Section 106 regulations to adopt the Corner Shop Charter, by having to make a financial contribution to the local authority if they do not comply.

In addition, we recommend that the Government changes its approach to fast-food restaurants - especially in light of the economic impacts predicted as a result of Covid-19 - to be more supportive of their transition to healthier foods rather than getting rid of them.

Recommendation 5: Local Authorities with high concentrations of fast-food restaurants should set up local working groups aimed at building up food markets in deprived areas to be both healthier and more productive. These local working groups should work with local consumer representatives, local experts and industry experts to provide fast-food restaurants with grants and expertise to adapt or reformulate their menus over time without incurring extra costs or losing their consumer base. Funding for the local working groups should come primarily from central government. Additional funding could be modelled on the Tax Increment Funding (TIF), and instead of borrowing off future tax revenues, local authorities, in partnership with CCGs, could borrow off future public health savings.

To make it easier to sell healthy foods, more needs to be done for consumers to be in a position to demand healthy foods.

Well-informed consumers are a crucial part of a healthy, competitive market. The public have demonstrated a desire for more educational content for both adults and children on how to have healthier diets. To respond to this, we recommend the BBC continues to work towards its goal of retargeting its food content at a more diverse audience. To push this further, we recommend that this goal is embedded into the BBC's mandate:

Recommendation 6: Ofcom should insert an extra clause into the BBC's operating licence to provide food content specifically aimed at lower socio-economic groups' tastes and budget.

It is important that consumers are well equipped to manage their health and navigate what is quite a complex market. We therefore recommend Public Health England continues to work with tech companies and food retailers to make buying healthy foods easier.

Recommendation 7: Public Health England's Change4Life programme should work with supermarkets and consumers to co-design a gamified tool that helps households concerned about their diet keep track of their weekly shop and gives them an indication of how healthy their households' eating habits are.

Recommendation 8: Public Health England should work with supermarket chains to create points-based systems to encourage consumers to buy more fresh or frozen vegetables.

Nonetheless, making sure that enough consumers can afford healthy food is part of making it easier to sell. In response to the poll – finding 20 million are unable to afford healthy food and almost three quarters (71%) of people are in support of subsidies - we recommend greater efforts be made to make healthy foods more affordable to those on low incomes.

Recommendation 9: The Government should subsidise healthy foods that are already low in price, such as tins of tomatoes, carrots and frozen vegetables to make healthy options much cheaper.

Making it harder to sell unhealthy foods

Making it harder to sell unhealthy foods is an important part of encouraging the market to shift towards producing healthier foods. We welcome the approach the Government has taken to reduce the promotion of foods high in fat, sugar and salt. We recommend it goes further to include unhealthy meat products.

Recommendation 10: The Government's new legislation to prevent supermarkets from promoting unhealthy food, through price deals and location positions, should extend to processed meats that use nitrites.

We also recommend that the Government goes further to emulate the approach taken with smoking to reduce the promotion of products that are harmful.

Recommendation 11: The Government should work with the Food Standards Agency (FSA) to change the packaging of foods that are high in fat, sugar and salt (HFSS), modelled on the packaging changes made to tobacco goods, to make them less appealing to consumers.

Making good innovation happen in the food sector: The Diet and Public Health Grand Challenge

The UK has taken a pioneering approach to its Industrial Strategy, underpinned by a vision for mission-driven growth that brings government, businesses and organisations together to tackle some of today's biggest challenges and make a real difference to people's lives.⁷ This approach should be applied to the food sector to encourage innovation to go further in the food and drink manufacturing industry. In particular, this should include taxing processed meats that use nitrites that are associated with stomach cancers (see Figure 2).

Recommendation 12: The Government should review introducing a levy on processed and red meats that are high in fat, or use preservatives such as nitrites associated with cancer, to encourage further reformulation of processed meat products.

The Government should also do more to stimulate innovation in the market and support the workforce in the recovery from Covid-19.

Recommendation 13: The Department for Business, Energy and Industrial Strategy (BEIS) with UK Research and Innovation (UKRI) should launch a new Food and Agriculture Sector Deal. This could include a challenge fund for researchers, universities and SME food producers to conduct research and development (R&D) on how to reformulate foods e.g. how to make crisps with less saturated fat and salt content, or how to make them healthier and cost-effective for consumers. Criteria for the awarding of funds should include clear food safety standards. This should be funded by the money raised from the Sugar Levy, Soft Drinks Industry Levy, and the recommended Harmful Processed Meats Levy.

7. The Grand Challenge missions, The Department for Business, Energy and Industrial Strategy, 2017. Available at <https://www.gov.uk/government/publications/industrial-strategy-the-grand-challenges/missions>

Recommendation 14: The Department for Business, Energy and Industrial Strategy (BEIS) with UK Research and Innovation (UKRI) should launch a new fund for the development of lab-grown meat or meat alternatives. These research and development (R&D) programmes should be conducted in partnership with the UK Government, with the Government owning a portion of the intellectual property (IP) - any profits from which should be reinvested into innovation in the sector.

Recommendation 15: After the first six months, the Government should eventually target the Kickstart Scheme towards specific sectors that have growth potential, such as food manufacturing.

INTRODUCTION

“I’ve changed my mind on [obesity]. We need to be much more interventionist.”

Boris Johnson, Prime Minister, 14 May 2020

After his time in intensive care, British Prime Minister Boris Johnson announced his government would wage a “war on fat” - the excess weight that had made some people’s experiences of Covid-19 so serious.⁸

The virus has brought all types of health inequalities into sharper focus: black people, for example, are four times more likely to die from the virus than white people.⁹ Those who are most vulnerable either through work or physical health - but often both - are most at risk of contracting the virus and experiencing the most severe outcomes.¹⁰

The inequalities driving people’s experience of Covid-19 have been present in our society for decades, with successive governments trying, and ultimately failing, to address the social determinants of health. However, experts hope that the sharp outcomes of this virus will “be a watershed moment” in driving the political and social will to achieve good public health.¹¹

Part of what has made people more vulnerable, as the Prime Minister himself has highlighted, is diet.¹² Diet is now the main risk factor in causing preventable ill-health in England, narrowly ahead of smoking: something that before the Covid-19 crisis was described as a “public health time-bomb”.^{13,14}

And it is something that we might have to consider in why we as a nation have suffered so deeply from Covid-19 with one of the highest death rates worldwide: since 20 March 2020 the UK has had some 59,537 more deaths counted than usual.¹⁵

Shifting our diets away from foods that are high in fat, sugar and salt requires new, bolder action. This isn’t just about changing what we eat. It requires a new approach to the agriculture and food markets. This report intends to make the first steps towards that through better understanding our nation’s approach to eating and how we would like to tackle the diet-related public health crisis. We find high levels of public support for a range of food policy interventions to step in and fix our food system. From this, we recommend a marketwide approach to the ‘war on fat’, that embraces the good in the food sector and encourages change where there are negative impacts. We split this into three types of recommendations: making healthier foods easier to sell, making unhealthy foods harder to sell and supporting innovation in the food sector.

In addition, we highlight three key changes in mindset that must happen in the food sector.

First, food policy makers must more deeply engage the public in decision making. As food

8. Steven Swinford, Boris Johnson to launch war on fat after coronavirus scare, The Times, 14 May 2020. Available at <https://www.thetimes.co.uk/article/boris-johnson-to-launch-war-on-fat-after-coronavirus-scare-flgshwmx>

9. Gabriella Swirling and Ashley Kirk, Black people four times more likely to die from coronavirus than white people, ONS figures show, The Telegraph, 7 May 2020. Available at <https://www.telegraph.co.uk/news/2020/05/07/black-people-four-times-likely-to-die-coronavirus-white-people/>

10. Disparities in the risk and outcomes of COVID-19, Public Health England, June 2020. Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/889861/disparities_review.pdf; Jo Bibby Grace Everest Isabel Abbs, Will COVID-19 be a watershed moment for health inequalities?, The Health Foundation, 7 May 2020. Available at <https://www.health.org.uk/publications/long-reads/will-covid-19-be-a-watershed-moment-for-health-inequalities>

11. Jo Bibby Grace Everest Isabel Abbs, Will COVID-19 be a watershed moment for health inequalities?, The Health Foundation, 7 May 2020. Available at <https://www.health.org.uk/publications/long-reads/will-covid-19-be-a-watershed-moment-for-health-inequalities>

12. Sally Warren, Covid-19 has exposed the ‘stark inequalities’ that exist in our society: The King’s Fund responds to the PHE report on disparities of the risks and outcomes of Covid-19, The King’s Fund, 2020. Available at <https://www.kingsfund.org.uk/press/press-releases/phe-report-disparities-risk-outcomes-covid-19>

13. Niebyski, M. L., Lu, T., Campbell, N. R., Arcand, J., Schermer, A., Hua, D., Yeates, K. E., Tobe, S. W., Twohig, P. A., L’Abbé, M. R., & Liu, P. P. Healthy food procurement policies and their impact. International journal of environmental research and public health, 2014, 2608–2627. Available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3986994/>; Our food and our health, The Health Foundation, 2017. Available at <https://www.health.org.uk/infographic/our-food-and-our-health>; David Buck, Alex Baylis, Durka Dougall, Ruth Robertson. A vision for population health: Towards a healthier future. The King’s Fund, 2017. Available at <https://www.kingsfund.org.uk/sites/default/files/2018-11/A%20vision%20for%20population%20health%20online%20version.pdf>

14. A public health time-bomb, Sustainable Food Trust, 2014. Available at <https://sustainablefoodtrust.org/articles/public-health/>

15. John Burn-Murdoch and Chris Giles, UK suffers second-highest death rate from coronavirus, The Financial Times, 28 May 2020. Available at <https://www.ft.com/content/6b4c784e-c259-4ca4-9a82-648ffde71bf0>

expert Professor Tim Lang has described, changing our dietary habits is a matter of minds as well as mouths.¹⁶ And whilst ‘health by stealth’ approaches (i.e. making food policies to change the food we consume without consumers noticing) has been successful in slowly reducing the amount of salt we eat, it has not created a healthy nation.¹⁷ Consumers remain confused about product labelling and unsure about how to navigate a complex food market - all the while being concerned about their diets. Most important is that people are able to enjoy new foods in their future diets - as this report demonstrates, taste is still the most important factor in choosing what we eat.

Second, consumers must be able exercise their ‘choice freedom’ in the food market properly: to choose foods that are healthy, tasty and affordable rather than being pushed by price, access, time and lack of information into harmful diets, with a high public health cost. The fact that this is not happening is a call to action for stronger government intervention to ensure that consumers in the UK are able to exercise their choice effectively and without the negative impacts on their health.

The third is embracing the food and agriculture sector’s true potential in Britain. Too often food and agriculture are viewed as old-fashioned and quaint - or simply as low-skill, low-wage work. We should challenge this public misconception, reimagining the sector’s innovative potential: from reformulating healthier, tastier versions of the food we like to growing healthier, more sustainable meat in a lab.

“Put together with a globally competitive research and development landscape, the food sector is ripe for the picking in terms of longer-term innovation.”

Food and drink manufacturing is Britain’s biggest manufacturing sector, contributing £25 billion (GVA) to the UK economy each year; a wider supply chain worth £112 billion and employing four million people.¹⁸ Put together with a globally competitive research and development landscape, the food sector is ripe for the picking in terms of longer-term innovation.

Based on these three principles, this report sets out a new way forward. Chapter 1 explores the relationship between diet and public health, highlighting the five key ingredients that we must start to replace in our diets: foods high in salt, sugar, fat and red and processed meats. Chapter 2 presents our findings from the survey and evidence review on consumer behaviour and attitudes towards healthy and unhealthy foods (i.e. those that use the five key ingredients). Chapter 3 draws together our main findings from the survey to build a way forward for the Government to lead our nutrition transition. Finally, Appendix 1 showcases some of the food sector’s innovation so far, in a review of how some of the harmful foods in our diets have already been reformulated, and Appendix 2 covers how food is regulated in the UK.

16. A public health time-bomb. Sustainable Food Trust, 2014. Available at <https://sustainablefoodtrust.org/articles/public-health/>

17. Strategies for Encouraging Healthier ‘Out of Home’ Food Provision A toolkit for local councils working with small food businesses, Local Government Association and Public Health England, 2017, p.35. Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/832910/Encouraging_healthier_out_of_home_food_provision_toolkit_for_local_councils.pdf

18. Feeding Change, Food and Drink Federation. 2018. Available at https://www.fdf.org.uk/corporate_pubs/feeding-change-report.pdf

CHAPTER 1

DIET AND PUBLIC HEALTH

Poor diet is now responsible for more deaths than smoking, worldwide and in England.¹⁹ Advancements in public health are stalling and in some places reversing. Since 2011, growth in life expectancy has stalled and in some regions women's life expectancies have started to decrease due to a range of social determinants of health.²⁰ Diets are one of these key social determinants and have real health consequences: heart and circulatory diseases that can result from poor diets, such as coronary heart disease, stroke and vascular dementia, kill 1 in 4 people in the UK.²¹

According to Public Health England, almost three quarters of people (70%) do not consume the recommended amount of fruit and vegetables per day and a quarter of the population (26%) are obese. The numbers are higher for children, with 80% of children still having a poor diet and not eating the recommended amounts of fruit and vegetables per day.²²

This situation has been described as a “public health timebomb”, with the costs of preventable diet-related illnesses to the taxpayer, such as cardiovascular disease and obesity, reaching £ billions in the UK alone.^{23,24} There is an urgent need to change what we eat, not just to protect

individuals but also the sustainability of our cherished healthcare system.

THE BIG FIVE: THE MOST HARMFUL FOODS IN OUR DIETS

Whilst there is no definitive list of healthy and unhealthy foods in the UK, there is international consensus that we need to change our diets to avoid poor health outcomes.²⁵ To these ends, authorities, such as the World Health Organisation (WHO), the European Commission and the NHS all recommend consumers reduce their daily consumption of salt, sugar, fats and red and processed meats (see Figure 1).²⁶

That we should avoid eating high amounts of these types of foods is based on a significant body of international academic research evidence. The World Health Organisation, a world leader in international health and nutrition, has collected strong evidence that over-consumption of sugar is likely to lead to obesity among children; excess fat consumption is associated with an increased risk of heart disease, infertility and diabetes; high sodium (or salt) consumption leads to high blood pressure and can be linked to heart disease.^{27,28,29} Processed meats such as ham, bacon and salami

19. Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study, *The Lancet*, 2017, p.1967. Available at <https://www.thelancet.com/action/showPdf?pii=S0140-6736%2819%2930041-8>

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21. Eat Better, *The British Heart Foundation*, 2019, p.4. Available at <https://www.bhf.org.uk/informationsupport/publications/healthy-eating-and-drinking/eat-better>

22. Statistics on Obesity, Physical Activity and Diet, England, 2019, NHS Digital. Available at <https://www.gov.uk/government/news/phe-publishes-latest-data-on-nations-diet#:~:text=adults%20consume%20on%20average%204.2,recommendation%20for%20fruit%20and%20vegetables;https://digital.nhs.uk/data-and-information/publications/statistical/statistics-on-obesity-physical-activity-and-diet/statistics-on-obesity-physical-activity-and-diet-england-2019/part-6-diet>

23. A public health time-bomb. Sustainable Food Trust, 2014. Available at <https://sustainablefoodtrust.org/articles/public-health/>

24. Why we are working to reduce calorie intake, *Public Health England*, 2018. Available at <https://publichealthmatters.blog.gov.uk/2018/03/06/why-we-are-working-to-reduce-calorie-intake/>

25. Plating Up Progress Part 2 'Must-Have' Metrics, *The Food Foundation*, 2018, p.8. Available at https://foodfoundation.org.uk/wp-content/uploads/2019/08/Plating-up-Progress_Report2_DIGITAL.pdf

26. A Quick Guide to the Government's Healthy Eating Recommendations, *Public Health England*, 2018. Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/742746/A_quick_guide_to_govt_healthy_eating_update.pdf

27. 'Guideline: Sugar Intake for Adults and Children, *World Health Organisation*, 2015. Available at https://apps.who.int/iris/bitstream/handle/10665/149782/9789241549028_eng.pdf;jsessionid=4A986DE2A52294B7C99148B72DAC39F9?sequence=1

28. World Health Organisation. 'Noncommunicable diseases' *World Health Organisation*, Webpage, 2020. Available at <http://www.emro.who.int/noncommunicable-diseases/publications/questions-and-answers-on-reducing-fat-intake-to-prevent-and-control-noncommunicable-diseases-in-eastern-mediterranean-region.html>

29. Salt reduction, *The World Health Organisation*, Webpage, 2020. Available at <https://www.who.int/news-room/fact-sheets/detail/salt-reduction>

FOOD TYPE	HEALTH IMPLICATIONS
SUGAR	Short term: <ul style="list-style-type: none"> • weight gain • tooth decay Long term: (as a result of weight gain): <ul style="list-style-type: none"> • heart disease • cancers • diabetes
SALT	Short term: <ul style="list-style-type: none"> • high blood pressure Long term: <ul style="list-style-type: none"> • stroke • heart disease
SATURATED FATS	Short term: <ul style="list-style-type: none"> • weight gain • high amounts of cholesterol in the blood Long term: <ul style="list-style-type: none"> • heart disease • infertility • diabetes
PROCESSED MEATS	Short term: <ul style="list-style-type: none"> • those that are high in saturated fat can raise blood cholesterol levels Long term: <ul style="list-style-type: none"> • bowel and stomach cancer
RED MEATS	Short term: <ul style="list-style-type: none"> • high in saturated fat, which can raise blood cholesterol levels Long term: <ul style="list-style-type: none"> • bowel and stomach cancer

have been found to be carcinogenic and linked to bowel and stomach cancer and there is evidence that red meat can cause cancer.³⁰ Further, a recent study found that diets high in all three - sugar, salt and saturated fat - had negative and immediate impacts on people's brain function.³¹

At the heart of some of these harmful foods are certain chemical compounds. This is particularly the case with processed meats that rely on food additives and preservatives to prevent them from going off.

However, despite the comprehensive regulatory system (see Appendix 2), there is evidence to suggest that some harmful ingredients fall through the cracks due to the complexity of their chemical reactions. As Figure 2 demonstrates, the producing, preparing and consuming of food is a complex chemical process that under certain circumstances can be dangerous down the line.

FIGURE 1.
HEALTH RISKS FROM 'THE BIG FIVE'

Source: The NHS³²

30. Cancer Council. 'Red Meat, Processed meat and Cancer' Cancer Council, Webpage, 2020. Available at <https://www.cancercouncil.com.au/1in3cancers/lifestyle-choices-and-cancer/red-meat-processed-meat-and-cancer/>

31. Ian Sample, Researchers find a western-style diet can impair brain function, The Guardian, 2020. Available at <https://www.theguardian.com/science/2020/feb/19/researchers-find-a-western-style-diet-can-impair-brain-function>

32. Eat well, The NHS, Webpage, 2020. Available at <https://www.nhs.uk/live-well/eat-well/>

Dietary nitrates and nitrites are naturally occurring chemical compounds that contain nitrogen and oxygen. The distinction between the two is that in nitrates the nitrogen is bonded with three oxygen atoms, while in nitrites the nitrogen is bonded with two oxygen atoms. Both are legal preservatives that do an important job in suppressing the growth of harmful bacteria in our foods. On their own nitrates are not toxic, and most nitrates (roughly 80%) that we consume in Europe are from vegetables.³³ However, nitrites, and the chemicals formed from them, are much more reactive and when cooked at certain temperatures can be particularly dangerous.

There has been a lot of controversy about the impacts of nitrates on health. In 2015, the WHO labelled processed meats that use nitrates - such as bacon and ham - as carcinogenic, and warned

that 50g a day increased the risk of developing colorectal cancer by 18%.³⁴ However, more recent papers have made the evidence clearer, highlighting that meats processed with sodium nitrites were far more likely (almost two thirds; 65%) to cause cancer, than others that use nitrates.³⁵

In recent studies, dietary nitrite has been associated with the blood disorder methemoglobinemia and the formation of nitrosamines, which are chemical agents considered to exert carcinogenic, mutagenic and teratogenic effects.³⁶ As expert Kate Allen explains: "nitrites in processed meats are in close proximity to proteins (specifically amino acids). When cooked at high temperatures this allows them to more easily form nitrosamines, the cancer-causing compound".³⁷

FIGURE 2. NITRATES AND NITRITES IN PROCESSED MEATS

Polling evidence suggests that the public are particularly concerned about additives and preservatives in foods.³⁸ And whilst this is for good reason in relation to some processed meats, it is important to remember that additives and preservatives are compounds that are added to food to carry out particular functions, and people have been using additives such as salt and sugar to preserve the freshness of food or prevent bacteria from growing for centuries.^{39,40} Indeed, the birth of E-Numbers (see Appendix 2) marks the beginning of a boom in food science that has enabled us to better understand and manipulate the food we eat, and help keep us healthy (see Appendix 1 on reformulation for more detail) rather than the opposite.

Furthermore, it is important to remember that it is often a lack of key nutrients that also causes poor health. Indeed, a study published in the *Lancet*, indicated that four of the top five diet concerns worldwide were to do with lack rather than excess. The most significant absences are a lack of fruit, "vegetables, legumes, wholegrains, nuts and seeds".⁴¹ It is therefore important that whilst we make policy around reducing harmful foods, that policies look to replace these with healthier alternatives.

33. Angela Dowden, The truth about the nitrates in your food, The BBC, 2019. Available at <https://www.bbc.com/future/article/20190311-what-are-nitrates-in-food-side-effects>

34. Sarah Napton, British sausages back on the menu as study finds cancer link may be wrong, The Telegraph, 2019. Available at <https://www.telegraph.co.uk/science/2019/12/20/british-sausages-back-menu-study-finds-cancer-link-may-wrong/>

35. Strongest link yet between nitrites and cancer - but 'not all processed meat has same risk' The Institute for Global Food Security, Queens University Belfast, 2019.

Available at <https://www.qub.ac.uk/Research/GRI/TheInstituteforGlobalFoodSecurity/institute-for-global-security-news/Strongestlinkyetbetweennitritesandcancer-butnota>

36. Ruiz-Capillas, C., Tahmouzi, S., Triki, M., Rodríguez-Salas, L., Jiménez-Colmenero, F., & Herrero, A. M. Nitrite-free Asian hot dog sausages reformulated with nitrite replacers. *Journal of food science and technology*, 52(7), 2015, 4333-434. Available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4486564/>

37. Angela Dowden, The truth about the nitrates in your food, The BBC, 2019. Available at <https://www.bbc.com/future/article/20190311-what-are-nitrates-in-food-side-effects>

38. Annelies van Gunst and Annet J.C. Roodenburg, Consumer Distrust about E-numbers: A Qualitative Study among Food Experts, *Foods*, 2019, 8, (5): 178. Available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6560432/>

39. Food Standards Agency. 'Food Additives.' Food Standards Agency, 14 October 2019. Available at <https://www.food.gov.uk/safety-hygiene/food-additives>

40. Food Additives, World Health Organisation, Webpage, 2018. Available at <https://www.who.int/news-room/fact-sheets/detail/food-additives>

41. Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study, *The Lancet*, 2017, p.1967.

Available at <https://www.thelancet.com/journals/lanct/article/PIIS0140-67361930041-8/fulltext#seccestitle220>

CHAPTER 2

CONSUMER

CHALLENGES

As Chapter 1 has demonstrated, there is a clear public health need to reduce five key ingredients in our diet: foods high in salt, sugar, fat and red and processed meats. What we eat is the result of multiple factors, from social determinants to geographic availability. To better understand public attitudes towards food policy and how we make dietary decisions we conducted a nationally representative survey with the public. The survey was conducted, before the Covid-19 lockdown, between 11 and 13 March 2020 and included 1,000 UK adults weighted to the profile of the population.⁴² This section will outline the key findings from this survey about consumer attitudes and approaches to eating.

Key findings:

- Just over half (51%) of adults - or an estimated 26 million people - said that they are too stressed to eat healthy foods. This figure was much higher for those with three children or more (68%).
- Too many adults said they can't afford to eat healthy food: on average 39% of UK adults say they can't afford to do so, we estimate that is equivalent to roughly 20 million people.⁴³ This is higher for certain groups - nearly two thirds (58%) of those aged between 25-39 and half (47%) of those earning less than £20,000 said that they can't afford healthy food.
- Almost 4 in 10 (37%) said that healthy food isn't available in shops close to their homes.
- The three main drivers that consumers rank for pushing them towards unhealthy foods are taste (43%), cost (34%) and ease (34%).

CONSUMER CONCERN AND PREFERENCES

Many consumers are concerned about the amount of unhealthy foods sold in shops. As Figure 3 demonstrates, consumers are most concerned about foods high in salt, fat and processed meats.

Interestingly, whilst overall more people are concerned about salt, fat and processed meats the highest proportion of people who were very concerned (40%) were so about sugar. It might be that there was a higher than usual level of awareness of harms from sugar at the time of the survey due to the relatively recent sugar tax.

“What we eat is the result of multiple factors, from social determinants to geographic availability. To better understand public attitudes towards food policy and how we make dietary decisions we conducted a nationally representative survey with the public.”

42. Nationally representative sample of 1,000 UK adults interviewed online 11 March 2019 - 13 March 2020. Data are weighted to the profile of the population.

43. Population estimates using ONS data from mid-2019. Available at <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland>

How concerned, if at all, are you about the amount of the following in foods sold in grocery shops and supermarkets?

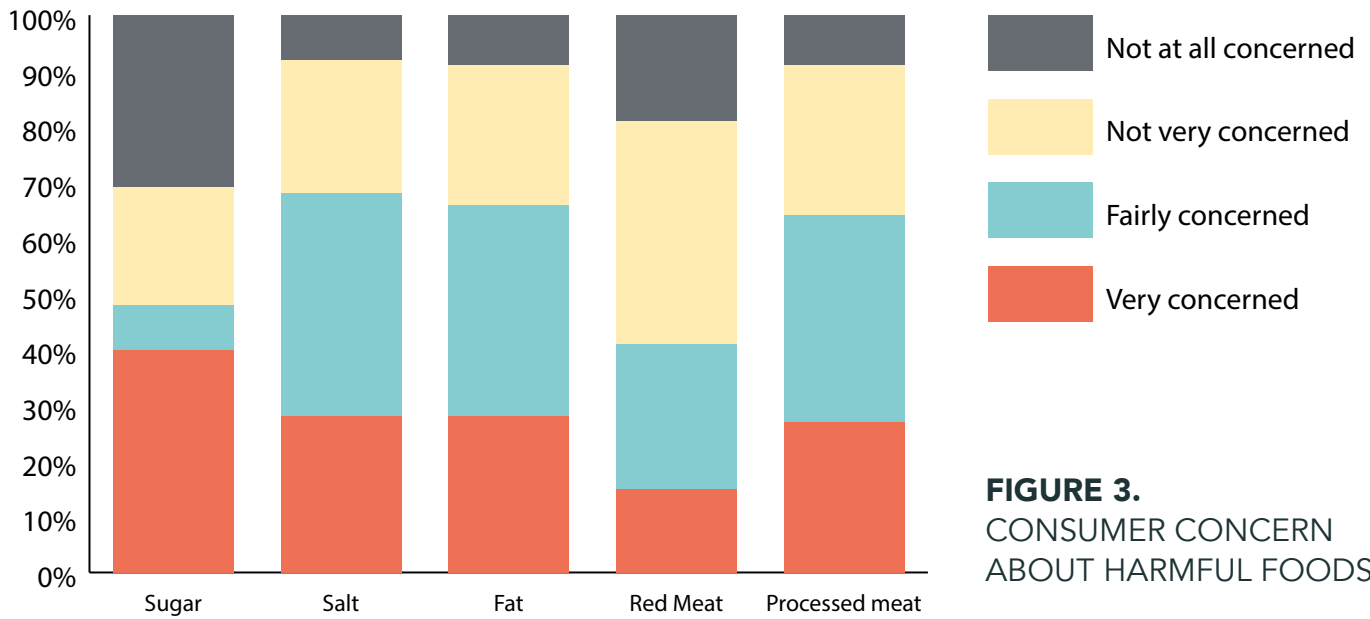


FIGURE 3.
CONSUMER CONCERN ABOUT HARMFUL FOODS

We also surveyed consumers on their perceptions towards both healthy and unhealthy foods to help understand the attitudes that underpin people’s eating habits. Relative to healthy foods, consumers think that unhealthy foods are more likely to be

cheaper and more available in restaurants near their home. In comparison, they tended to think that healthy foods take longer to prepare, are more satisfying and even taste better (40%).

In general, do you think healthy or unhealthy meals tend to...

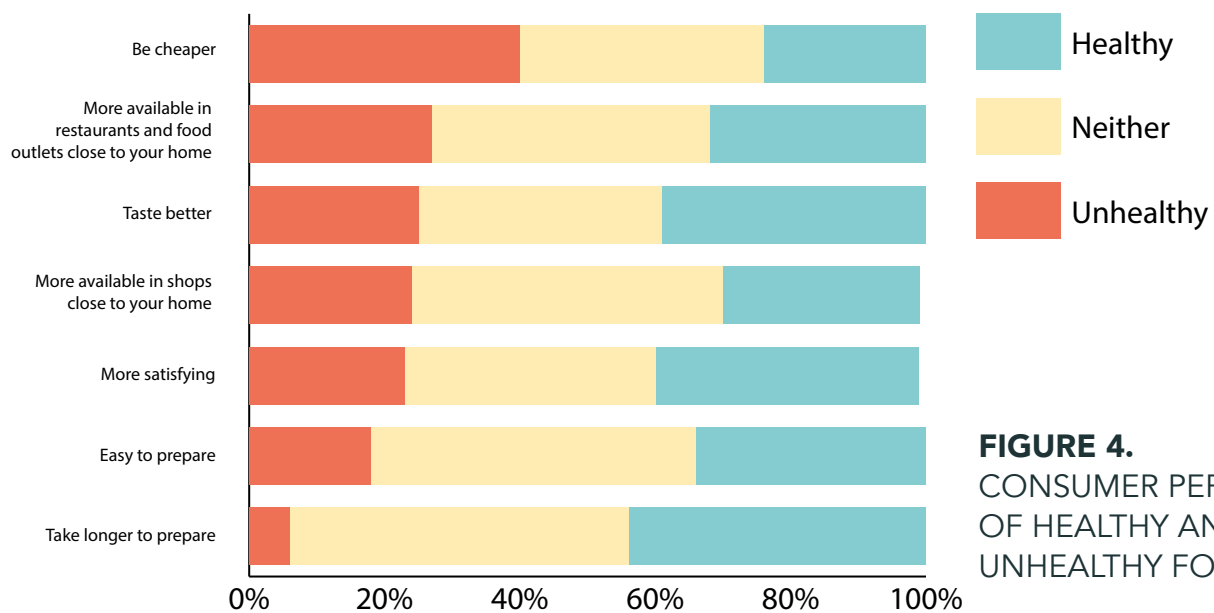


FIGURE 4.
CONSUMER PERCEPTIONS OF HEALTHY AND UNHEALTHY FOODS

Attitudes tend to vary across different demographic groups. Groups such as women, younger people, and graduates were more likely to say healthy foods taste better, indicating social differences across preferences.

Women (see Figure 5) were more particularly likely to think that healthy foods tasted better (45%)

than men (34%). We also found (p.22) that men are more likely to make choices over what they eat as a result of their identity - suggesting that they might feel more pressure to eat unhealthy foods. We also know that women are more likely to have healthier diets in general, which reinforces the fact that taste and preferences can have an effect on diet and health.⁴⁴

In general, do you think healthy or unhealthy meals tend to taste better?

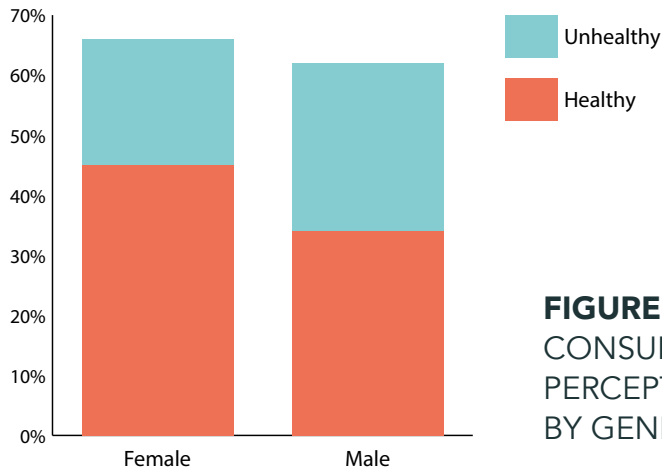


FIGURE 5.
CONSUMER PERCEPTIONS BY GENDER

There are also significant regional differences between tastes. Half of Londoners think that healthy food tastes better (see Figure 6), in comparison with one in three people who live in the Midlands (32%), Scotland (34%), and Wales (35%). We know that tastes and eating habits vary across regions. Professor Andy Taylor, expert in flavour technology at the University of Nottingham, and

Greg Tucker, a leading food psychologist, found that taste preferences differed across regions.⁴⁵ Again, London overall, has slightly lower levels of obesity relative to the country - although some boroughs do significantly worse than others - again reinforcing that taste and preference can drive healthier choices.⁴⁶

In general, do you think healthy or unhealthy meals tend to taste better?

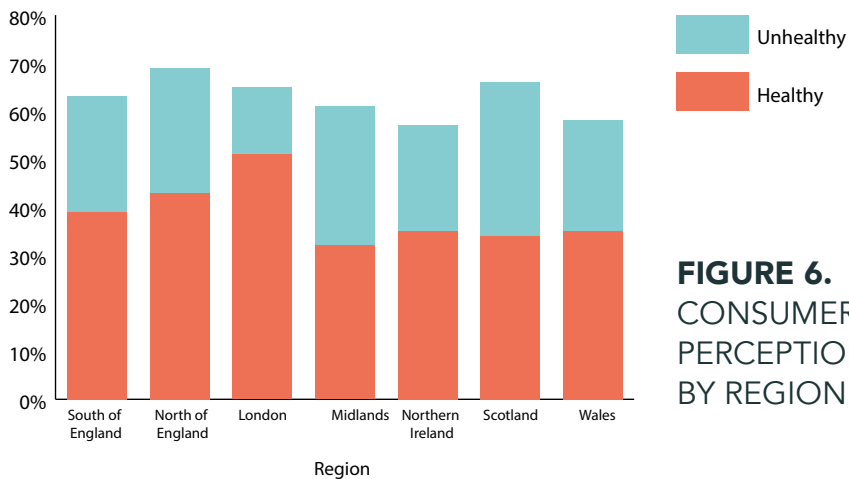


FIGURE 6.
CONSUMER PERCEPTIONS BY REGION

44. Mars vs. Venus: The gender gap in health, Harvard Medical School, 2019. Available at https://www.health.harvard.edu/newsletter_article/mars-vs-venus-the-gender-gap-in-health
 45. United Kingdom's 'Taste Dialects' Defined For The First Time, ScienceDaily, 2009. Available at <https://www.sciencedaily.com/releases/2009/06/090622103829.htm>
 46. Siliya Barrett, Richard Brown, Erica Belcher, The London Intelligence, Health and wellbeing, Adult obesity, 2019. Available at <https://www.centreforlondon.org/reader/the-london-intelligence-health-and-wellbeing/data/#adult-obesity>

People who live in regions outside of London, who have smaller annual incomes, and live in single parent households were most likely to say unhealthy foods are cheaper. This could be the result of other factors than just the cost of food, such as kitchen equipment or resources that those on lower incomes are less likely to have access to, which is known to make cooking with fresh, healthy foods harder.⁴⁷

In addition to asking about their perceptions of the differences between healthy and unhealthy food, we also asked consumers about what drove their personal decisions. When we asked people to rank their top three reasons (see Figure 7) for eating unhealthy foods, we found the top drivers were taste (43%), cost (34%) and ease (34%). This is particularly important to note for policymakers, as it is clear that any shift in diet will need to be supported by options that taste good, don't cost too much and aren't too difficult or time-consuming to prepare.

When you eat unhealthy meals, what is usually your reason for doing so? Please give up to three answers, in order of importance.

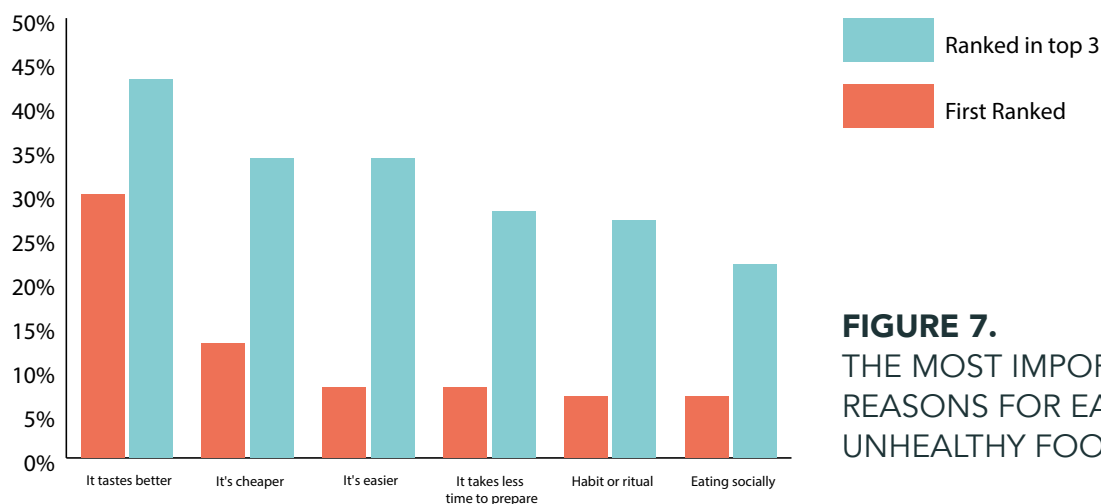


FIGURE 7.
THE MOST IMPORTANT REASONS FOR EATING UNHEALTHY FOODS

Lower earners were more likely than average to rank cost first than other groups. In comparison, they were less likely than average (25% vs 30%) to rank taste as the primary driver. This is important, as these groups are also more likely to suffer from diet-related poor health, emphasizing the point that healthier options must be affordable if they are to have an impact on population health overall.⁴⁸

We also investigated factors around identity and self-control, some of which can also play a role in driving unhealthy decisions. As Figure 8 below shows, over half of people eat unhealthy food when they are stressed (53%) and more than four in ten people feel that not worrying about the healthy or unhealthy foods they eat is part of who they are (43%).

“Almost a fifth (18%) of those earning under £20,000 said cost was the most important reason for eating unhealthy foods - making them twice as likely to buy foods based on cost as those earning £40,000 and above.”

47. Families and Food: How the environment influences what families eat, Shift, 2018. Available at https://www.gsttcharity.org.uk/sites/default/files/Families_and_food_v4_new.pdf

48. Health matters: obesity and the food environment, Public Health England, 2017. Available at <https://www.gov.uk/government/publications/health-matters-obesity-and-the-food-environment/health-matters-obesity-and-the-food-environment--2>

To what extent, if at all, do you agree or disagree with the following statements?

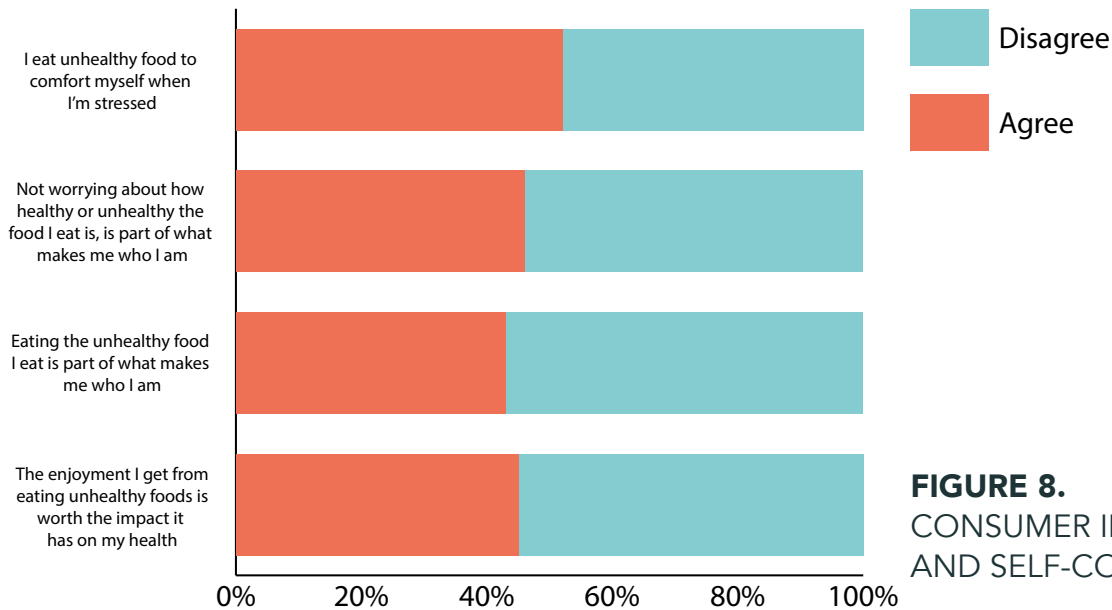


FIGURE 8.
CONSUMER IDENTITY
AND SELF-CONTROL

Identity is a greater factor behind unhealthy eating for men, who were more likely than women to say that not worrying about their food was part of their identity (51% vs 43%). Similarly, age (see Figure 9) was a strong indicator, with a steady decline in feeling food is part of your identity as you get older. This was less the case with income and

education level, where the feeling of food being related to their identity stayed relatively flat. This, again, emphasises that cost is a particular driver in consumer behaviour for people on low incomes - who experience worse diet-related outcomes than people from higher income levels - more so than identity or self-control.⁴⁹

“Not worrying about how healthy or unhealthy the food I eat is, is part of what makes me who I am.”

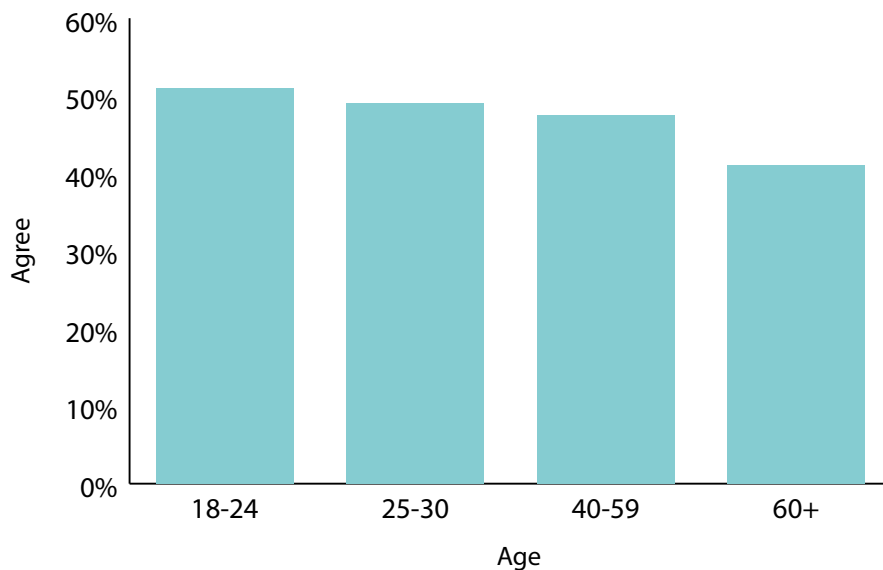


FIGURE 9.
IDENTITY AND AGE

49. Yau, A., White, M., Hammond, D., White, C., & Adams, J, Socio-demographic characteristics, diet and health among food insecure UK adults: cross-sectional analysis of the International Food Policy Study. Public Health Nutrition, 2020, 1-13. Available at <https://www.cambridge.org/core/journals/public-health-nutrition/article/sociodemographic-characteristics-diet-and-health-among-food-insecure-uk-adults-cross-sectional-analysis-of-the-international-food-policy-study/B6B5A7E104B8565AFF6A3DB8C0FB6F60>

AVAILABILITY OF AND ABILITY TO CHOOSE HEALTHY OPTIONS

We asked consumers to highlight barriers to eating healthy foods. In general, we found that many people in the UK feel they face significant challenges to eating healthily, revolving around price, stress and the availability of foods in local shops (see Figure 10). Nearly 4 in 10 (39%) of the overall population said they “can’t afford healthy

food”. In addition to cost, many consumers said that they were “too stressed” to eat healthy foods. On average, just over half (51%) of UK consumers said that they were too stressed to eat healthy foods. Further, availability of healthy foods in grocery shops and supermarkets was also a significant problem for many consumers: almost 4 in 10 (37%) say that healthy foods aren’t available in shops close to their homes.

To what extent, if at all, do you agree or disagree with the following statements?

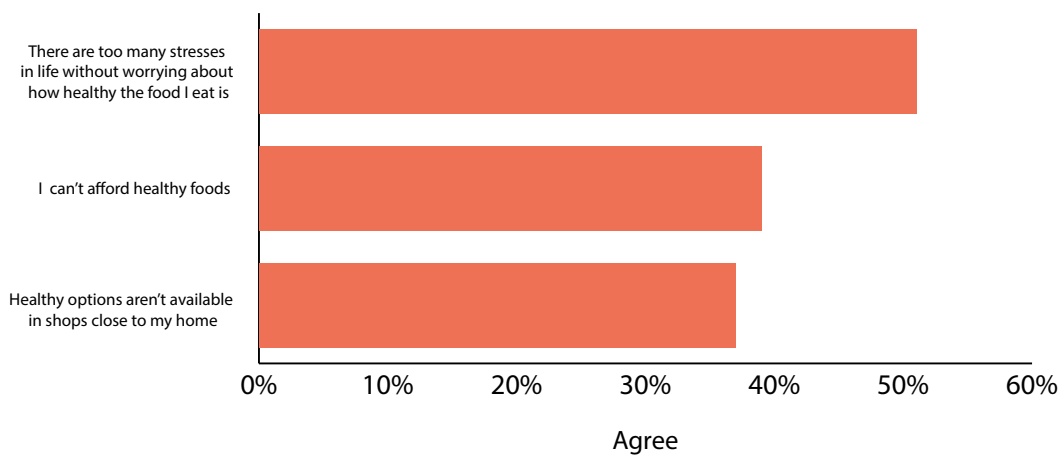


FIGURE 10.
BARRIERS
TO EATING
HEALTHY FOODS

When looking deeper, it seems that these three barriers are felt more acutely amongst younger generations. As Figure 11 demonstrates, those between the ages of 18-24 are more than twice as likely to feel they cannot afford healthy foods than those who are 60 or older. Similarly, young adults are more likely to feel too stressed to eat healthy foods or find them available in their local shops.

This is consistent with other findings that young adults are more likely to find themselves unable to afford good quality housing and are increasingly more likely to find themselves in precarious work.⁵⁰ It is therefore perhaps unsurprising that this is having knock-on effects on their eating habits.

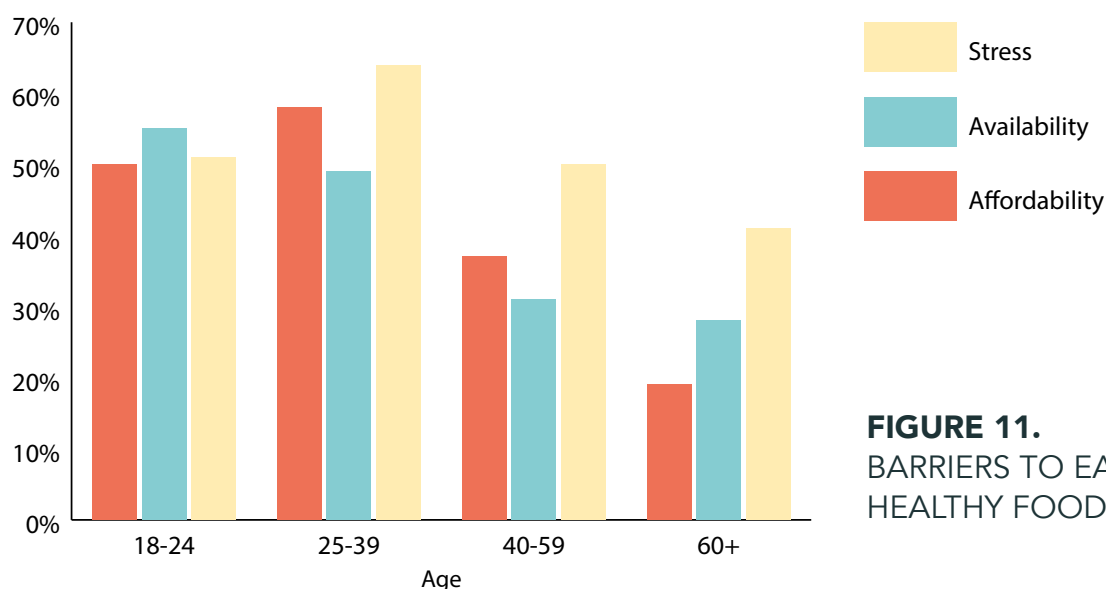


FIGURE 11.
BARRIERS TO EATING
HEALTHY FOODS BY AGE

50. Ann Hagell and Rakhee Shah, Highlighting the health inequalities faced by young people in the UK, The Health Foundation, 2020. Available at <https://www.health.org.uk/news-and-comment/blogs/highlighting-the-health-inequalities-faced-by-young-people-in-the-uk>

That the age group between 25-39 felt barriers such as affordability and stress most acutely is likely to do with juggling childcare and work. Indeed well over half (58%) of adults between 25-39 years say they can't afford to eat healthily, compared with just under a fifth (19%) of those aged over 60

- making them three times more likely to struggle to afford food than the over-60s. Further, there is a clear relationship between having more children and feeling too stressed to eat well (see Figure 12), suggesting that working families are more likely to be struggling to eat well than those who are older or living without children.

“There are too many stresses in life without worrying about how healthy the food I eat is.”

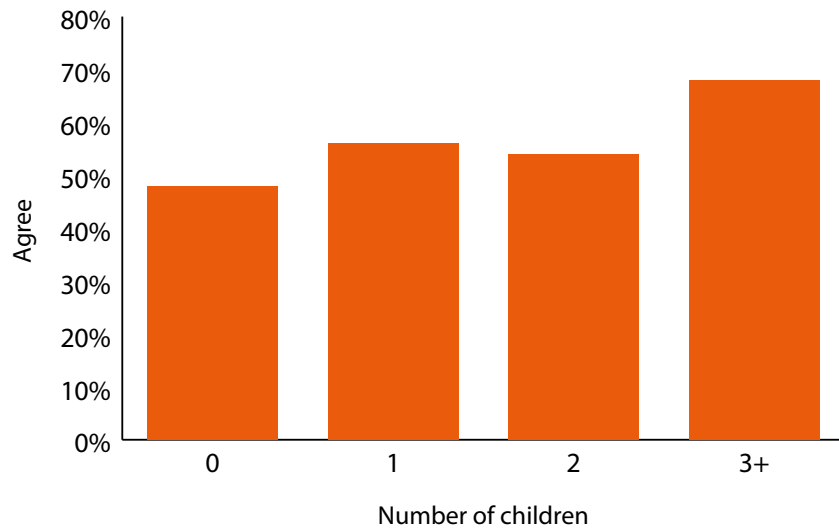


FIGURE 12.
STRESS AND HEALTHY EATING BY NUMBER OF CHILDREN

As to be expected, those who earn the least were most likely to feel they could not afford healthy foods. Almost half (47%) of those earning under £20,000 say that they are struggling to afford healthy food, compared with a fifth of those earning over £100,000. We know from qualitative research

that those balancing a lack of time, money, and energy may not have the headspace to make healthy decisions, and difficult lives are factors that lead us to buy unhealthy foods, high in fat, sugar and salt.⁵¹

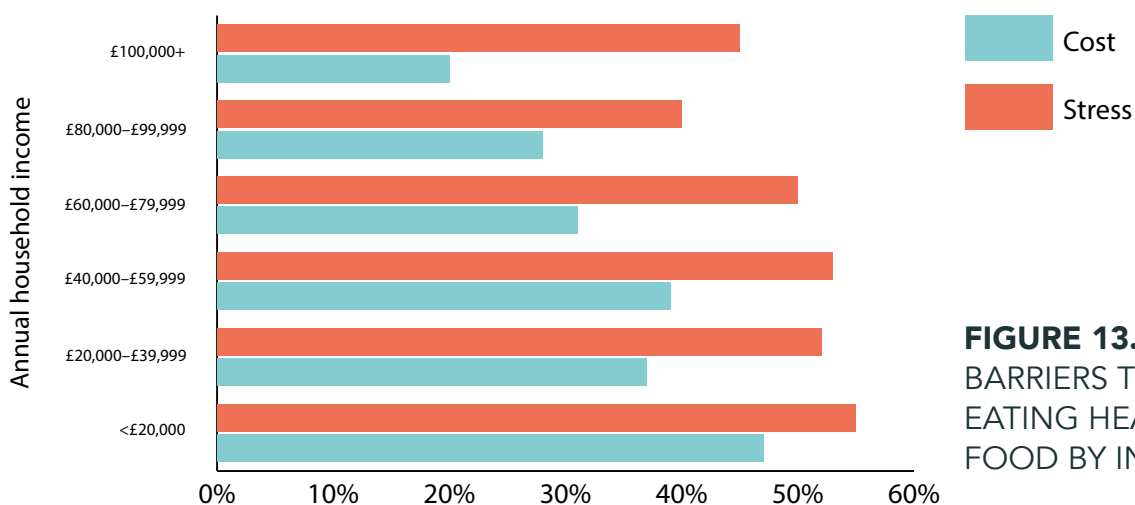


FIGURE 13.
BARRIERS TO EATING HEALTHY FOOD BY INCOME

51. Families and Food: How the environment influences what families eat, Shift, 2018. Available at https://www.gsttcharity.org.uk/sites/default/files/Families_and_food_v4_new.pdf

The availability of healthy foods in grocery shops and supermarkets was also a problem for many consumers. Almost 4 in 10 (37%) say that healthy foods aren't available in shops close to their homes. In London this is particularly high, with over half of Londoners (55%) saying this is the case. When

asked specifically about the grocery shop they go to most often, a significant number - just under a fifth (18%) - said it had not many or no healthy options. Again for some groups, this was more acute, rising to almost a third (30%) of people aged 18-24, and a quarter (25%) of people in Scotland.

"Healthy options aren't available in shops close to my home" by region.



FIGURE 14.
AVAILABILITY OF
HEALTHY FOODS
BY REGION

Despite some significant differences amongst demographic groups, the scale of how many people in Britain, on average, feel unable to afford healthy foods is far too high and suggests that this could be a key barrier to being a healthier nation. Within this there is evidently a group that needs particular support: they are those who are under 40, with more than two children and earning less than £20,000 per year.

CONCLUSIONS

Encouragingly, the public are both concerned about unhealthy foods and slightly prefer healthy foods, suggesting that there is a clear demand and desire for healthier products - so long as the cost does not rise.

However, too many in the UK face challenges to eat healthily, in particular stress, but also cost and the availability of healthy foods. This seems to be compounded by the challenges associated with living stressful lives: as a result too many are

struggling to make good decisions about diet and are becoming unhealthy. This is particularly the case of those who are younger, who earn less and have two or more children, suggesting that a significant number of families are forced into food insecurity due to failures in the food market.

The reality seems to be that too many consumers do not actually have the freedom to choose healthy foods, either because of cost, stress or availability. Moving forward, it is vitally important that we continue to improve the market offer of food, and encourage food innovation towards foods that are healthier while also tasty and easy to prepare.

CHAPTER 3

A NEW WAY FORWARD

There is a clear call to action for the Government: it must make healthy foods more affordable, accessible and appealing to people if it is to tackle diet-related illness. To achieve this, it must work more closely with consumers and industry to foster the much-needed innovation in the food industry.

In 2019, the Department for Environment, Food and Rural Affairs (DEFRA) commissioned the National Food Strategy to examine activity across several departments of state, such as the Industrial Strategy, the Childhood Obesity Plan and the upcoming Environment Bill. This is a good first step, aiming to create a strategy to improve the entire system, from farm to fork.⁵² A key part of the work so far has been a call-to-evidence that has encouraged “academics all the way through to the British public” to give their thoughts on how to reshape the food system.⁵³ Part One of the the National Food Strategy has recently been published; we hope this report and its recommendations can make a valuable contribution to the next stage.

To date, food policies in the UK have lacked public engagement.⁵⁴ And whilst the ‘health-by-stealth’ approach can be successful - especially when it comes to gradual reformulation or providing healthier alternatives - a lack of public consent or engagement might help to explain why food policies have been unsuccessful in making us a healthier nation.⁵⁵

In addition to gathering data on consumer preferences and exploring the challenges they face to healthy eating, we also surveyed a comprehensive list of policies and industry actions to consumers to assess public support for different

ways forward. We hope this poll will make the first step in engaging with consumers over policies and approaches they most support.

In summary, we found the UK as a population is supportive of more intervention from the government.⁵⁶ This support covers a real range of policy interventions, from more stringent labelling to subsidising healthy foods - see Figure 15.

Key findings:

- We found strongest support for clearer labelling (75%) and requiring healthy options for in-patients in hospitals (75%), closely followed by government subsidies to make healthy foods cheaper (71%).
- We also found strong support for a more hands-on approach to planning healthy neighbourhoods, with support for ensuring neighbourhoods have shops that provide healthy foods (65%) and limiting the number of fast-food restaurants (55%).
- We found least support for banning unhealthy foods in public spaces (37%) and public transport (43%), the controversial policy recommended in 2019 by the then Chief Medical Officer, Dame Sally Davies.⁵⁷ However, it is worth noting that they still acquired more support than opposition.

This Chapter draws together the findings from the poll with the evidence review to recommend a new way forward for the government to work with the food industry, the public sector and consumers to achieve a healthier Britain. This is made up of three key pillars: making it easier to sell healthy foods; making it harder to sell unhealthy foods; and driving further innovation in the sector.

52. National Food Strategy - Call for Evidence, The Department for Environment, Food and Agriculture, 2019. Available at <https://consult.defra.gov.uk/agri-food-chain-directorate/national-food-strategy-call-for-evidence/#:~:text=On%2027%20June%2C%20Defra's%20Secretary,Food%20Strategy%20for%2075%20years.&text=delivers%20safe%2C%20healthy%2C%20affordable%20food,the%20face%20of%20future%20shocks>

53. The National Food Strategy, A National Call for Evidence on Sky News, 2019. Available at <https://www.nationalfoodstrategy.org/callforevidence/>

54. Kwon, J., Cameron, A.J., Hammond, D. et al. A multi-country survey of public support for food policies to promote healthy diets: Findings from the International Food Policy Study. *BMC Public Health* 19, 1205, 2019. Available at <https://doi.org/10.1186/s12889-019-7483-9>

55. Reformulation examples in Appendix; Rachel Dring, Improving diets: Health-by-stealth, Business, Health and Food, Food Movement, June 2014. Available at <https://sustainablefoodtrust.org/articles/childhood-obesity-solution/>

56. Nationally representative sample of 1,000 UK adults interviewed online 11 March 2020 - 13 March 2020. Data are weighted to the profile of the population.

57. Nick Trigg, Obesity: Ban snacking on public transport, top doctor says, BBC, 2019. Available at <https://www.bbc.co.uk/news/health-49975720>

To what extent, if at all, would you support or oppose the following policies?

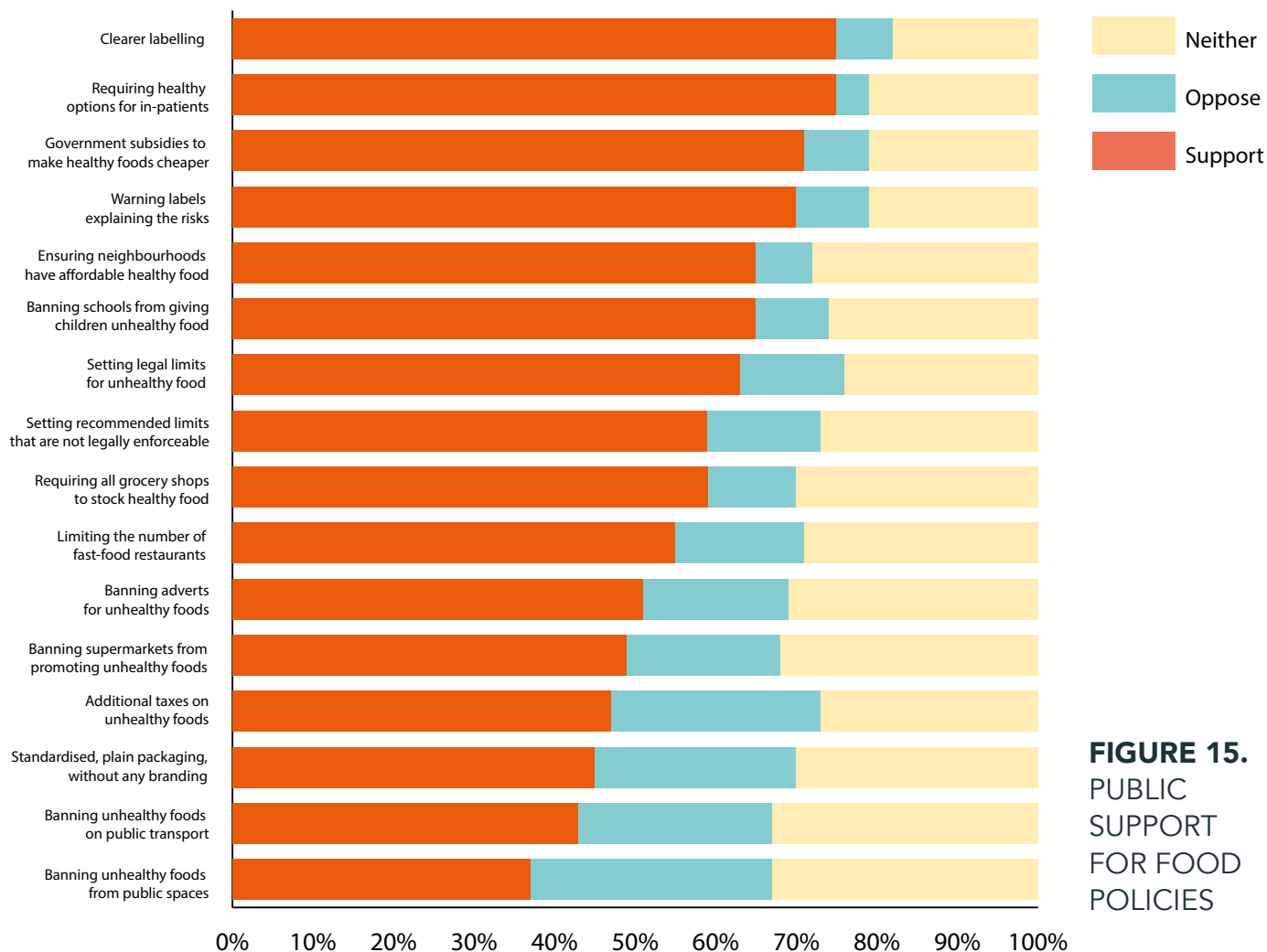


FIGURE 15.
PUBLIC SUPPORT FOR FOOD POLICIES

MAKING IT EASIER TO SELL HEALTHY FOODS

First it is important to make it easier to sell healthy foods. The Government can approach this in various ways: through its own spending power, guidance and regulations. In addition, it can do more to make sure consumer demand exists for healthy food.

Better public procurement

The public sector spends over £2 billion a year on food and catering services in England alone, with just under half being spent on the cost of food and ingredients.⁵⁸ This spending power can also be used to drive up standards across the sector.

58. The Government Buying Standards for Food and Catering Services (GBSF): updating the nutrition standards, The Department for Health and Social Care, 2019, p.7. Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/802933/gbsf-nutrition-standards-consultation.pdf

A systematic review of healthy food-focused procurement interventions worldwide found that programmes tended to be successful in “increasing the availability and purchases of healthy food and decreasing purchases of unhealthy food” across the board.⁵⁹ According to the European Commission, taking account of health in the procurement of foods at schools can have multiple positive outcomes, including: “improved student health and performance at school, increased awareness about the links between food and health, and reduced healthcare costs”.⁶⁰ This works by rewarding food suppliers who provide nutritionally balanced meals and food products and, as a result, prompting “innovation, food reformulation and social responsibility to achieve better diets and positively impact public health”.⁶¹

Currently, the primary policy levers to improving food in schools are the Government Buying Standards for Food and Catering (GBSF) and the balanced scorecard for public food procurement.⁶² NHS Trusts and schools have different frameworks on top of this, used to trade-off key considerations such as quality, price and nutritional standard. “All central Government departments and their agencies are required to comply with the GBSF, as well as prisons, the armed forces, and the NHS [...while] schools must follow the school food standards legislation but may also choose to use the GBSF too”.⁶³

Ensuring that children’s good eating habits are established in their early years should be a priority for the government to prevent them growing up with poor diets. Schools - in normal times - provide an essential touch point for children from low income families to have a healthy meal, and has had a positive impact on levels of obesity in the UK.⁶⁴ And whilst frameworks exist for schools to procure healthy foods, challenges persist.

We found the public to be strongly in favour of the government ensuring patients in hospitals are provided a healthy meal (71%). Almost two thirds (65%) would go as far as banning unhealthy foods in schools. This is a clear call to action for the public sector to continue on its mandate to use public

procurement for good. To these ends, it should use more stringent requirements for providers in addition to the Balanced Scorecard method.

Recommendation 1: The Cabinet Office should create new guidance and requirements for contracting authorities responsible for procuring food and catering services to ensure that all food provided in public sector organisations, including schools and hospitals, is compliant with the NHS Eatwell Guide. This should include making the standard public sector catering contract include it as a bare minimum requirement relating to nutrition.

As previous research has shown, government providers are too often plagued by a race to the bottom caused by competitive tender.⁶⁵ This might be leading public sector catering providers to offer poor quality services, and crucially unhealthy foods, to students, patients and other service users. It is therefore highly important that mechanisms are put in place to prevent cost savings being made at the expense of the food’s nutrition.

Recommendation 2: The Cabinet Office’s new guidance should include how to implement ‘should cost’ models to catering contracts for menus based on the NHS Eatwell Guide, to ensure that catering providers have the financial means to provide healthy foods to the public sector.

Planning healthier environments

Where you live affects your health and diet: in the most deprived areas in England, prevalence of excess weight is 11 percentage points higher than the least deprived areas.⁶⁶

Part of the explanation for this is that some local areas in the UK are either ‘food deserts’, neighbourhoods with few shops for local residents, or ‘food swamps’, areas with a high concentration of fast-food restaurants.⁶⁷ In particular, areas with high concentrations of fast-food restaurants correlate with both high levels of deprivation and obesity, with a third of fast-food restaurants located in deprived areas.⁶⁸

59. Niebylski, M. L., Lu, T., Campbell, N. R., Arcand, J., Schermel, A., Hua, D., Yeates, K. E., Tobe, S. W., Twohig, P. A., L’Abbé, M. R., & Liu, P. P. Healthy food procurement policies and their impact. *International journal of environmental research and public health*, 11(3), 2013, 2608–2627. Available at <https://doi.org/10.3390/ijerph110302608>

60. Public Procurement of Food for Health - Technical Report, The European Commission, 2017. Available at <https://ec.europa.eu/jrc/sites/jrcsh/files/public-procurement-food-health-technical-report.pdf>

61. *Ibid.* p.7.

62. The Government Buying Standards for Food and Catering Services (GBSF): updating the nutrition standards, The Department for Health and Social Care, 2019, p.7. Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/802933/gbsf-nutrition-standards-consultation.pdf

63. *Ibid.* p.5.

64. Universal free school meals winning in the fight against childhood obesity, University of Essex, 2020. Available at <https://www.iser.essex.ac.uk/2020/03/09/universal-free-school-meals-winning-in-the-fight-against-childhood-obesity>

65. Sturgess, Gary L. Just Another Paperclip? Rethinking the Market for Complex Public Services, 2017, p.6. Available at <https://www.bsa-org.com/wp-content/uploads/2017/04/Just-Another-Paperclip-FINAL.pdf>

66. Obesity Statistics - UK Parliament Research Briefings, House of Commons Library, 2019, p.7. Available at <https://researchbriefings.files.parliament.uk/documents/SN03336/SN03336.pdf>

67. Scott Corfe, What are the barriers to eating healthily in the UK? The Social Market Foundation,

68. Putting healthier food environments at the heart of planning - Public health matters, Public Health England, 2018. Available at <https://publichealthmatters.blog.gov.uk/2018/06/29/putting-healthier-food-environments-at-the-heart-of-planning/>

We know the proximity of shops is an important factor in consumer decisions.⁶⁹ It is important that food policy, therefore, considers place-based needs. The legal frameworks for this are already in place: improving the food environment and reducing the risk of diet related ill-health is part of a council's statutory duties as laid out in the Health and Social Care Act 2012.⁷⁰ However, this is no

small task and needs better support - both financial and in expertise - from the Government.

Our poll has demonstrated a desire for more government intervention to ensure local shops sell healthy foods (65%) and limiting the number of unhealthy restaurants (59%). This is a clear mandate for the government to use its planning power to create healthier retail environments.

To what extent, if at all, would you support or oppose the following policies?

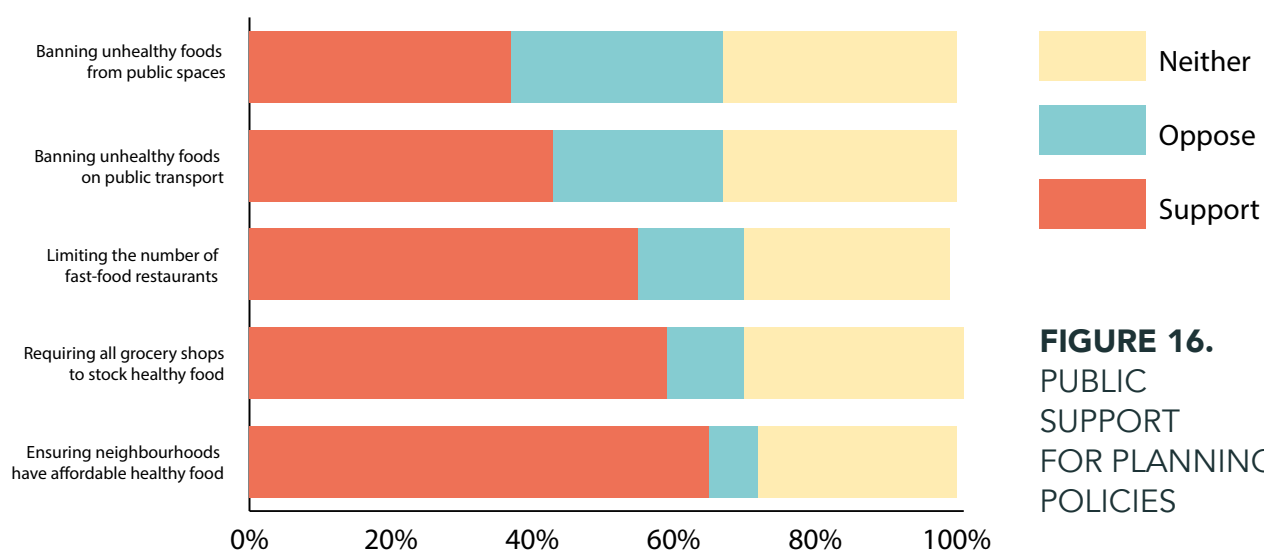


FIGURE 16.
PUBLIC SUPPORT FOR PLANNING POLICIES

To ensure that neighbourhoods have healthy food, there is good reason to start with corner shops or convenience shops. Evidence shows that there is often lower availability of healthy food items in independent convenience stores than large-format supermarkets or smaller-format multiples. A Mintel survey found that 43% of people think "it was hard to eat a healthy diet when shopping only in convenience stores".⁷¹ Furthermore, these stores are often more important to vulnerable people who may be restrained by income or mobility to go further afield for their groceries.⁷² During the Covid-19 crisis, these local shops have also become more important, providing more people with food than before.⁷³

The first step is making clearer standards and guidance for retailers to follow when stocking their

shops to help them provide a range of desirable, healthy foods to consumers.

Recommendation 3: The Department for Health and Social Care should create new guidance on how to offer consumers healthy options, for example, ensuring that a proportion of foods sold are fresh and healthy. Those who take up the new guidance should become part of a new accredited Corner Shop Charter. Guidance should be created in close consultation with industry and certifications should begin as voluntary.

Retailers and outlets that adopt new guidance and standards should be incentivised through planning regulations. Section 106 is a leverage used by local authorities to mitigate the impact of a new development on the local community and

69. John L. Jackson, Jr., *Social Policy and Social Justice*, University of Pennsylvania Press, 8 Dec 2016, p.78. Available at https://books.google.co.uk/books?id=oZmvDQAAQBAJ&pg=PA78&lpg=PA78&dq=people%27s+closest+food+shop&source=bl&ots=6AKidyPnD&sig=ACfU3U2TgrWW-6RU0Vf6RK2lz6bndR_b5Q&hl=en&sa=X&ved=2ahUKewjfkp_yytpAhVkoVwKHUMxJcQ6AEwC3oECAwQAQ#v=onepage&q=people%20closest%20food%20shop&f=false

70. *Creating a Healthy Food Economy: A Policy Audit Tool for Local Authorities*, The Food Foundation and Birmingham City Council, 2020, p.3. Available at https://foodfoundation.org.uk/wp-content/uploads/2020/03/Food-Policy-Audit-Tool_Final.pdf

71. Monica Foss, Samantha Royston, Mary Atkinson, Corinna Hawkes, *Food Policy Evidence Review Engaging with convenience stores for healthier food provision: what works?*, FRC, 2019, p.9. Available at <https://foodresearch.org.uk/publications/engaging-convenience-stores/>

72. *Ibid.*

73. *Coronavirus is making London's corner shops vitally important again*, Quartz, 2020. Available at <https://qz.com/1819257/coronavirus-is-making-londons-corner-shops-vitally-important-as-panic-buying-strips-supermarkets/>; Professor Alejandro Colas and Jason Edwards, *Food, Brexit and Covid-19: the public returns*, The UK in a Changing Europe, 2020. Available at <https://ukandeu.ac.uk/food-brexit-and-covid-19-the-public-returns/>; Eir Nolsoe, *COVID-19: Brits turn to corner shops for essentials*, YouGov, 2020. Available at <https://yougov.co.uk/topics/food/articles-reports/2020/04/17/covid-19-brits-turn-corner-shops-essentials>

infrastructure that often involves financial developer contributions.⁷⁴ This mechanism could be utilised to encourage developers to adopt the new FSA standards and mitigate their public health impact.

Recommendation 4: Planning applications for new corner shops should be encouraged through Section 106 regulations to adopt the Corner Shop Charter, by having to make a financial contribution to the local authority if they do not comply.

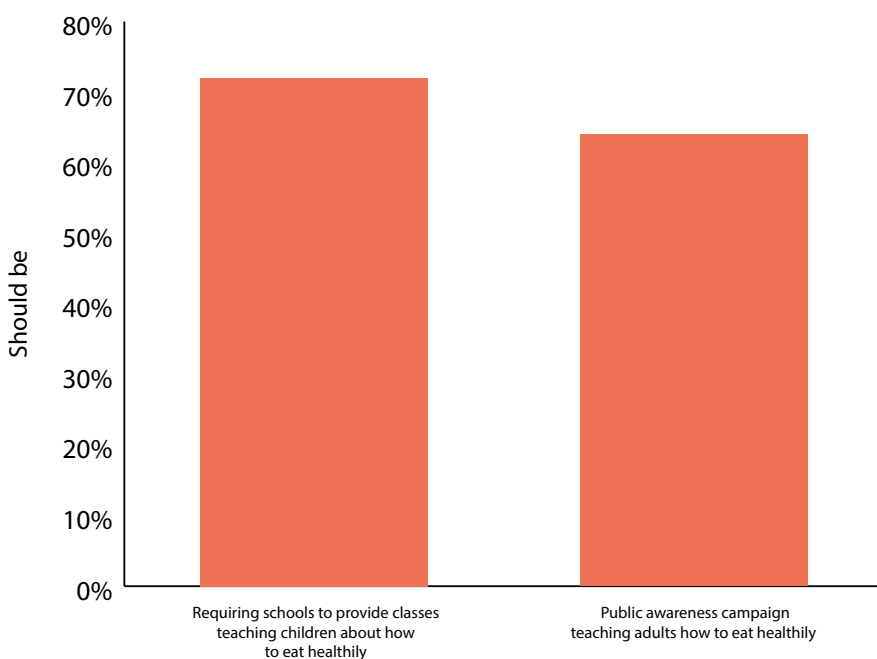
The Government’s current Childhood Obesity Strategy is to limit the number of fast-food restaurants in local areas. However areas with high deprivation may be unable to replace these restaurants. Such outlets may make up a key part of the fragile economy and might be some of the most resilient to the Covid-19 financial crisis. Indeed, the fast-food sector proved to be one of the most resilient to the last financial crisis and, whilst the Covid-19 crisis is one that has deeply impacted the restaurant sector, fast-food joints might buck the trend again.⁷⁵ Further evidence suggests that new shops are not necessarily more likely to improve local consumption habits, and instead “altering costs of foods and increasing availability of healthy food in already-existing stores [is more likely to]

positively impact consumers’ purchasing and consumption behaviours”.⁷⁶

Making local places healthier should be done in partnership with the private sector, crucially building up the trusted local markets that already exist in an area and making them more supportive of consumers’ health.

Recommendation 5: Local Authorities with high concentrations of fast-food restaurants should set up local working groups aimed at building up food markets in deprived areas to be both healthier and more productive. These local working groups should work with local consumer representatives, local experts and industry experts to provide fast-food restaurants with grants and expertise to adapt or reformulate their menus over time without incurring extra costs or losing their consumer base. Funding for the local working groups should come primarily from central government. Additional funding could be modelled on the Tax Increment Funding (TIF), and instead of borrowing off future tax revenues, local authorities, in partnership with CCGs, could borrow off future public health savings.

Do you think the following should or should not be a priority for the government?



Empowering consumers

It is important that consumers have the information they need to make clear and informed decisions.⁷⁷

Multiple studies have shown that consumer education - on how to cook and navigate the food market to buy healthy and affordable ingredients in particular - has an impact on consumer behaviour and health outcomes.⁷⁸ We also found strong support for government educational interventions, especially for children (see Figure 17).

FIGURE 17.
PUBLIC SUPPORT FOR EDUCATION AND PUBLIC HEALTH CAMPAIGNS

74. S106 obligations overview, The Local Government Association, Webpage, 2020. Available at <https://www.local.gov.uk/pas/pas-topics/infrastructure/s106-obligations-overview>
 75. https://neweconomics.org/uploads/files/61e8aa539ac95833c4_6vm6bak6a.pdf
 76. Evans, A., Banks, K., Jennings, R. et al. Increasing access to healthful foods: a qualitative study with residents of low-income communities. *Int J Behav Nutr Phys Act* 12, S5, 2015. Available at <https://doi.org/10.1186/1479-5868-12-S1-S5>
 77. Coff C, Informed Food Choice. In: Kaplan D.M. (eds) *Encyclopedia of Food and Agricultural Ethics*. Springer, Dordrecht, 2019. Available at https://link.springer.com/referenceworkentry/10.1007%2F978-94-024-1179-9_246
 78. Caraher, M., Dixon, P., Lang, T., Carr-Hill, R, The state of cooking in England: the relationship of cooking skills to food choice, *British food journal*, 1999. Available at <https://doi.org/10.1177/1757913911419909>

TV chefs or cooks could play a more effective role in teaching the UK to cook healthy food at an affordable price, and ensure that their content does not have a negative effect on people's eating habits.⁷⁹

The BBC has served an important function in educating the British public, and filling gaps in public education where necessary. One of the most positive of these includes the BBC's Computer Literacy Project, which in the 1980s played a crucial role in driving digital literacy across the country and at the same time helped grow key industry players, such as Acorn computers.⁸⁰

During the Covid-19 crisis the BBC has demonstrated the essential role it plays as a public service provider delivering reporting and explainer content for government policy. The BBC has pledged "to retarget the BBC Food website around collections of recipes and advice on what can be made with essentials, especially for older people, and for low-income families".⁸¹ Long-term, the BBC has also intended to cater to the needs of those it represents and, within this, to ensure its food content is accessible for people from all socio-economic backgrounds.⁸² To these ends, it should be encouraged to go further, by more deeply embedding it into the BBC's mandate.

Recommendation 6: Ofcom should insert an extra clause into the BBC's operating licence to provide food content specifically aimed at lower socio-economic groups' tastes and budget.

In practice there are a few ways the BBC could go about achieving the goals it sets itself. The first is reviewing its preexisting BBC Food content, namely its online recipes, and ensuring that they are affordable for most people in the UK. In particular, those on the 'poverty premium' face particular challenges such as: a lack of kitchen space or cooking equipment; being unable to afford to cook things on the gas or in the oven for a long time due to a lack of financial resources to pay an electricity and gas bill; and they may simply not have access to an oven because it is being used for storage.⁸³ One way, therefore, it could better deliver to these

audiences would be to review BBC Food recipes and ensure a proportion of them are realistic for those who face the 'poverty premium'.

A second is creating new types of content that is more overtly educational for people hungry for changing their diets to use. Current societal educational trends indicate that these should be online to reach an eager-to-learn audience: previous Demos research found that over a third of internet users (36%) use the internet to learn how to cook, making it one of the most popular forms of online learning today.⁸⁴ Learning to cook online is something that has happened over time. Ofcom data revealed that there is increasingly more demand for online education content compared with TV programming.⁸⁵ The BBC could therefore continue to expand food content in the online sphere, primarily to reach its audiences craving educational content. This could be modelled on the already very successful Bitesize approach.

Consumers could also be better supported to make healthy decisions when purchasing foods and ingredients. Innovations in health and lifestyle technology for consumers are growing, making it easier for consumers to manage their own and their household's health. Public Health England's Change4Life flagship programme, aimed at supporting people to eat a healthier diet and be more physically active, is one of the most widely used health-related apps, with more than five million downloads and over 50 million barcode scans.⁸⁶ This could be built on, working in partnership with consumers and supermarkets to design tools that help consumers collect longer-term data on their weekly shops and break down the proportion of fresh vegetables with HFSS and meat products to help consumers better understand what they are consuming over time.

Recommendation 7: Public Health England's Change4Life programme should work with supermarkets and consumers to co-design a gamified tool that helps households concerned about their diet keep track of their weekly shop and gives them an indication of how healthy their households' eating habits are.

79. De Backer, C. J., & Hudders, L, Look who's cooking: Investigating the relationship between watching educational and edutainment TV cooking shows, eating habits and everyday cooking practices among men and women in Belgium. *Appetite*, 96, 2016, 494-501.

80. David Darling, The BBC Microcomputer and me, 30 years down the line, The BBC, 2011. Available at [https://parliamentlive.tv/Event/Index/ab5c08d2-8a2c-4f29-b249-947ef0a28e99](https://www.bbc.co.uk/news/technology-15969065#:~:text=The%20system%20was%20built%20by,into%20people's%20homes%20and%20schools; Business, Energy and Industrial Strategy, Committee, Thursday 25 June 2020, parliament tv. Available at <a href=)

81. BBC sets out plan to inform, educate and entertain during unprecedented times, The BBC, Media Centre, March 2020. Available at <https://www.bbc.co.uk/mediacentre/latestnews/2020/bbc-keeping-nation-informed-educated-entertained?lang=cy>

82. The Royal Charter for the continuance of the British Broadcasting Corporation, The BBC, 2016. Available at http://downloads.bbc.co.uk/bbctrust/assets/files/pdf/about/how_we_govern/2016/charter.pdf

83. Why do people in poverty have poor diets?, Bags of Taste, Youtube, 2020. Available at <https://www.youtube.com/watch?v=Ql-otxdieAU&t=202s>

84. Ben Glover, Rose Lasko-Skinner, Kitty Ussher, et al. The Learning Curve: How the UK is harnessing the potential of online learning, Demos, 2020. Available at <https://indd.adobe.com/view/7be4cbdb-e38c-4ceb-aa14-1afe1a9cfff4>

85. Matthew Moore, Nigella's goose is cooked as young homemakers use YouTube for tips, The Times, February 2020. Available at <https://www.thetimes.co.uk/article/nigellas-geese-is-cooked-as-young-homemakers-use-youtube-for-tips-85n6hx76r>

86. Alexia Clifford, Ten years on, what has PHE's Change4Life campaign achieved? PR Week, 2019. Available at <https://www.prweek.com/article/1581384/ten-years-on-phes-change4life-campaign-achieved>

This could work in tandem with incentive schemes, to make healthier options such as fruit and vegetables more appealing.

Recommendation 8: Public Health England should work with supermarket chains to create points-based systems to encourage consumers to buy more fresh or frozen vegetables.

There continue to be unacceptable levels of food insecurity in the UK: according to the Food Standards Agency, “approximately 20% of adults (around 10 million) in England, Wales, and Northern Ireland face food insecurity annually”.⁸⁷ This has been exacerbated by the Covid-19 crisis; academics estimate food insecurity has quadrupled due to: a) significantly more people being made income insecure and/or reliant on Universal Credit; and b) people finding themselves physically unable to go out and buy food.⁸⁸

Before the Covid-19 pandemic, the Food Foundation found that the poorest 10% of UK households would need to spend 74% of their disposable income on food to meet the NHS’s Eatwell Guide costs.⁸⁹ The FSA’s Biannual Public Attitudes Tracker found as many as 43% of consumers are concerned about food prices.⁹⁰ This was reinforced by a qualitative study that found the trade-off between price and quality was an increasing challenge for a positive healthy food future, with consumers predicting a two-tier class system based on the ‘have’ and ‘have nots’ of healthy food in the UK.⁹¹

Effort has been made by the Government to reduce the costs of food for consumers, for example by ensuring that VAT is not charged on food products - except a few products such as crisps and mineral water.⁹² But in addition to a significant amount of evidence that too many people in the UK are experiencing food insecurity, we have found 20 million adults in the UK - that is almost half of UK adults - say that they can’t afford healthy foods.

Our poll found that subsidising healthy foods was one of the most well supported policies for UK consumers - with 71% of individuals in the UK in support of boosting food subsidies (see Figure 15). There is therefore strong support for the

government to do more to intervene to make sure healthy choices are more affordable. This can help make sure that people across the income ladder are not incentivised to buy unhealthy foods because of price.

Recommendation 9: The Government should subsidise healthy foods that are already low in price, such as tins of tomatoes, carrots and frozen vegetables to make healthy options much cheaper.

MAKING IT HARDER TO SELL UNHEALTHY FOODS

We have seen that the public are supportive of removing the retail incentives to eat unhealthily. Our poll found almost half (49%) of people were in favour of an outright ban on promotion of unhealthy foods by supermarkets.

A previous Demos report, *Inconvenience Food*, conducted a large scale ethnographic study including accompanied shopping trips with people who were food insecure to better understand the choices they make when deciding how best to feed themselves and their families. The research found that a mixture of budget, tastes, cooking capacity and the need to keep menus the same to avoid the risk of wasted food, meant that little to no vegetables or fruit were staples in participants’ weekly shops.⁹³ Promotions were especially important to consumers on a low income, and often led them to eating less healthy food that had ‘yellow stickers’ on deals.⁹⁴

In its new Obesity Strategy (2020), the Government has already committed to “legislating to end the promotion of foods high in fat, sugar or salt (HFSS) by restricting volume promotions such as buy one get one free, and the placement of these foods in prominent locations intended to encourage purchasing, both online and in physical stores in England.”⁹⁵ We welcome this as a first step, and recommend that it includes harmful meats that are processed with nitrates.

Recommendation 10: The Government’s new legislation to prevent supermarkets from promoting unhealthy food, through price deals and location positions, should extend to processed meats that use nitrites.

87. Rachel Loopstra, Vulnerability to food insecurity since the COVID-19 lockdown, Preliminary report 14 April 2020, King’s College London and The Food Foundation, 2020. Available at https://foodfoundation.org.uk/wp-content/uploads/2020/04/Report_COVID19FoodInsecurity-final.pdf

88. Ibid.

89. The Broken Plate, The Food Foundation, 2019. Available at <https://foodfoundation.org.uk/wp-content/uploads/2019/02/The-Broken-Plate.pdf>

90. Biannual Public Attitudes Tracker: May 2019, The FSA, 2019. Available at <https://www.food.gov.uk/about-us/biannual-public-attitudes-tracker>

91. Our Food Future, FSA, 2016. Available at <https://www.food.gov.uk/sites/default/files/media/document/our-food-future-full-report.pdf>

92. VAT rates on different goods and services, GOV.UK. Available at <https://www.gov.uk/guidance/rates-of-vat-on-different-goods-and-services#:~:text=Food%20and%20drink%20for%20human,soft%20drinks%20and%20mineral%20water.>

93. Caroline Hitchman, Ian Christie, Michelle Harrison and Tim Lang, *Inconvenience food: the struggle to eat well on a low income*. Demos, 2002.

Available at <https://www.demos.co.uk/files/inconveniencefood.pdf>

94. Ibid; Families and Food: How the environment influences what families eat, Shift, 2018. Available at https://www.gsttcharity.org.uk/sites/default/files/Families_and_food_v4_new.pdf

95. Tackling obesity: empowering adults and children to live healthier lives, Policy Paper, The Department of Health and Social Care, 2020

Our poll found support for changing the packaging system, with clearer labelling, warning labels - like those on tobacco packaging - and plain packaging for unhealthy foods being supported interventions. Further, the evidence that labelling and product

packaging has an impact on consumer choices should be of great significance to policymakers in public health.⁹⁶ Plain packaging and warning labels have been associated with success in encouraging people across the EU to stop smoking.⁹⁷

To what extent, if at all, would you support or oppose the following policies?

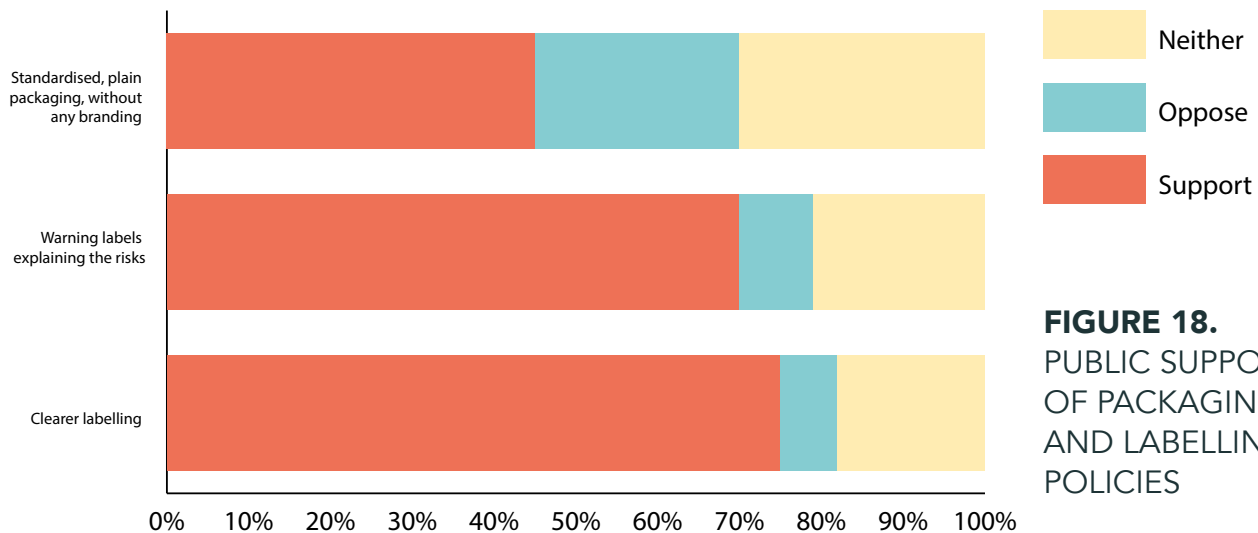


FIGURE 18. PUBLIC SUPPORT OF PACKAGING AND LABELLING POLICIES

The Government should do more to help consumers make healthier choices and reverse the current trends where consumers are drawn to HFSS foods. This should include going further with advertising and labelling of foods that are particularly HFSS.

Recommendation 11: The Government should work with the Food Standards Agency (FSA) to change the packaging of foods that are high in fat, sugar and salt (HFSS), modelled on the packaging changes made to tobacco goods, to make them less appealing to consumers.

MAKING GOOD INNOVATION HAPPEN: THE DIET AND PUBLIC HEALTH GRAND CHALLENGE

As we think about how to 'Build Back Better', the food sector should be at the front of our minds. From farm to fork, there are multiple challenges associated with the way we produce and eat food that are having negative impacts on people and places - from sustainability to public health, some

of the UK's biggest challenges are rooted in the food sector. And yet it is a sector that already has a significant export market and employee base. Indeed, there is no reason why the Prime Minister's 'war on fat' cannot be fought through with an industrial strategy that 'Builds Britain Back Better'.

To ensure that healthier foods become more affordable we recommend establishing a Diet and Public Health Grand Challenge- as part of the Industrial Strategy - that includes significant investment in R&D and government-led innovation across various sectors to make food healthier and affordable to people.^{98,99} This should include a mission or "a concrete target, achievable step towards a grand challenge that contextualises projects", to reformulate unhealthy foods and to replace harmful ingredients with healthier ones.¹⁰⁰ In addition to a Food and Agriculture Sector Deal, that ensures the sector is equipped to meet the challenges.

96. Mehta, K., Phillips, C., Ward, P., Coveney, J., Handsley, E., & Carter, P. Marketing foods to children through product packaging: prolific, unhealthy and misleading. *Public Health Nutrition*, 15(9), 2012, 1763-1770. Available at <https://www.cambridge.org/core/journals/public-health-nutrition/article/marketing-foods-to-children-through-product-packaging-prolific-unhealthy-and-misleading/E1D1534BD40A4A9A4A65AB99A3B50450>
 97. Vardavas, C., Filippidis, F. T., Ward, B., Faure, M., Jimenez-Ruiz, C., Gratiou, C., ... & Radu-Loghin, C. Plain packaging of tobacco products in the European Union: an EU success story? *The European Respiratory Journal*, 2017. Available at <https://erj.ersjournals.com/content/50/5/1701232>
 98. Food and Drink Manufacturing Sector Deal Proposal, The Food and Drink Federation, 2018. Available at <https://www.fdf.org.uk/food-and-drink-manufacturing-sector-deal.aspx>
 99. Mazzucato, M and Dibb, G. (2019). Missions: A beginner's guide. UCL Institute for Innovation and Public Purpose, Policy Brief series (IIPP PB 09), p.2. Available at https://www.ucl.ac.uk/bartlett/public-purpose/sites/public-purpose/files/iipp_policy_brief_09_missions_a_beginners_guide.pdf
 100. Ibid.

A core part of this must include public health and safety. There is a difficult line the Government must tread between embracing the much-needed innovation in the food sector and ensuring that new food products that we consume are safe and, long-term, provide society with healthier alternatives. Indeed, there is evidence to suggest that ultra processed foods are dangerous. Ultra processed foods are defined below as:

“Formulations of ingredients, mostly of exclusive industrial use, that result from a series of industrial processes, many requiring sophisticated equipment and technology. These include the fractioning of whole foods into substances, chemical modifications of these substances, assembly of unmodified and modified food substances using industrial techniques such as extrusion, moulding and pre-frying, frequent application of additives whose function is to make the final product palatable or hyper-palatable (cosmetic additives), and sophisticated packaging, usually with synthetic materials.”¹⁰¹

Evidence suggests that nations that rely on ultra processed foods for their diets are more likely to have noncommunicable diseases: diseases that are not transmitted between people, but are chronic, such as autoimmune diseases, most heart diseases, most cancers, diabetes and multiple others.¹⁰² However, it also should be noted that these ultra processed foods are an extremely heterogeneous group and therefore are not unhealthy by definition. It is, though, a food group that is far more likely to include high amounts of fat, salt and sugar and

lack vitamins and fibre.¹⁰³ It remains important that, as UK markets develop new healthier alternatives through reformulation, the Government ensures that the new recipes are safe and without externalities of their own.

Driving reformulation

It is clear that the food market needs to change: there is consensus in government and amongst consumers (see Figure 3, Chapter 2) that effort needs to be made to reduce the presence of foods high in salt, sugar, and fat in addition to processed meats and red meats in our food market. To these ends, reformulation is seen as an opportunity to improve people’s diets without invasive change to what people already eat and crave.¹⁰⁴

Over the past decade, reformulation has been a key part of government policy, first with salt and trans fatty acids,¹⁰⁵ followed by sugar and saturated fat.¹⁰⁶ However, this could expand to a wider range of foods that are high in fat, sugar and salt (HFSS) and extend to other types of harmful foods such as processed meats (see Appendix 1) if it is to make an impact on our diets as a whole.

When we put reformulation to the public alongside other key industry approaches, such as reducing portion sizes and providing healthier alternatives, the most favourable approaches were reformulation (66%) and providing healthier alternatives (66%), with reducing portion size being some way behind (54%) - but still gaining majority support. This was consistent with other research conducted by the FSA.¹⁰⁷

In general, do you think it would be a good or bad thing if the following changes were made to the meals you frequently eat?

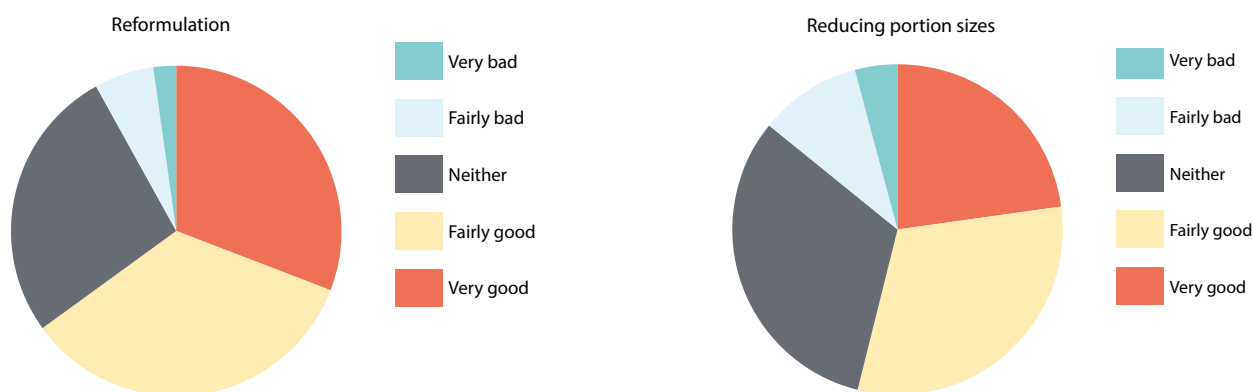


FIGURE 19.

PUBLIC ATTITUDES TO REFORMULATION vs REDUCING PORTION SIZE

101. Adams, J., Hofman, K., Moubarac, J. C., & Thow, A. M, Public health response to ultra-processed food and drinks, *bmj*, 2020,369.

102. *Ibid.*

103. *Ibid.*

104. Professor Markus Peck, Lets take a closer look at food reformulation for better health, Health Europa, 2018. Available at <https://www.healtheuropa.eu/food-reformulation/89567/>

105. Product Reformulation, *New Food Magazine*, 2016. Available at <https://www.newfoodmagazine.com/article/26412/framework-product-reformulation/>

106. *Ibid.* *New Food Magazine*.

107. Eating well, choosing better programme in Northern Ireland, FSA, 2017. Available at <https://www.food.gov.uk/business-guidance/eating-well-choosing-better>

“Over the past decade, reformulation has been a key part of government policy, first with salt and trans fatty acids, followed by sugar and saturated fat.”

The driving force behind sugar reformulation is the sugar tax. It is a corrective tax designed not only to raise money, but to deter damaging or unhealthy behaviour in the process, e.g. consuming high levels of sugar or meats preserved with nitrites (see Chapter 1). In the UK, ‘corrective taxes’ on goods such as alcohol and tobacco contribute 7% of total tax receipts and are ultimately designed “to correct for the presence of externalities in a market”, such as cheap harmful foods that have high health costs down the line.^{108,109}

In addition to raising extra revenue, evidence shows that these taxes can be effective in changing consumer behaviour. The Institute for Fiscal Studies conducted a study of fizzy drink taxation in different countries, finding in some places the rate of purchasing fell by almost half (46%).¹¹⁰ The soft drinks industry levy (SDIL) in the UK was rolled out in 2016 as part of a wider public health strategy to encourage the soft drinks industry to reformulate their produce to include less sugar.¹¹¹ Since then, it has arguably been one of the most successful public health interventions, encouraging the food and drink industry to reformulate their products -¹¹² a classic example being Coca Cola’s creation of Coke Zero.

The Government is planning to extend the taxation approach, and should do so in other foods where the harmful content is easily measured, such as foods processed with harmful preservatives, such as nitrites, that have been closely linked to stomach cancer (see Chapter 1). It should be noted that the success of reformulation relies on what is used to replace the unhealthy ingredients. There should therefore be good guidance on how food manufacturers can reformulate their products in

the most healthy way possible (see Appendix 1 for innovations so far).

Recommendation 12: The Government should review introducing a levy on processed and red meats that are high in fat or use preservatives such as nitrites associated with cancer to encourage further reformulation of processed meat products.

There are, though, some drawbacks with taxing unhealthy foods. The first is that a flat tax does not prescribe who pays for unhealthy foods, and it is sometimes the case that industry or individual business bears the price of the tax, rather than consumers who may be none the wiser and therefore will not change their behaviour.¹¹³ Further, there is worry that these types of taxes can end up disproportionately impacting people on lower incomes. For example, subject to the SDIL, the sugar sold in soft drinks has decreased by 21.6%, but the reduction level consumed was smallest in the lowest socioeconomic group.¹¹⁴ This suggests the tax might be disproportionately paid by people from low socioeconomic groups, so in effect, falling on those with the least capacity to pay.

Similarly, whilst our poll found a desire for more fiscal interventions, when looking closer at particular demographics, it is clear that there are some quite strong divergences between income groups. Support for taxation was higher among those who earn more; and those who support subsidies for healthy food were more likely to earn less (see Figure 20 below). It is therefore important that taxes are designed carefully, and do not fall too harshly on consumers where there are no reformulated affordable alternatives.

Our research shows very clearly that the price of food is one of the key factors in determining the food we eat.¹¹⁵ And whilst taxation might be able to help people make healthier choices, all too often healthy foods are less affordable than unhealthy foods. A longitudinal study conducted between 2002 and 2014 found that healthier foods and beverages have been consistently more expensive than less healthy ones; the gap between them has

108. Rebekah Stroud, How can taxes be designed to discourage socially harmful behaviour? Institute for Fiscal Studies, 2018, p.4-6. Available at <https://www.ifs.org.uk/uploads/Presentations/How-can-taxes-be-designed-to-discourage-socially-harmful-behaviour.pdf>

109. According to the European Commission, as much as 2.8% of the world’s GDP is now spent on obesity and 7% of European health budgets go towards treating chronic health conditions associated with obesity. For more: http://www.euro.who.int/_data/assets/pdf_file/0004/342166/Unhealthy-Diets-ePDF-v1.pdf (9)

110. Rachel Griffith Martin O’Connell Kate Smith Rebekah Stroud, The evidence on the effects of soft drink taxes, IFS Briefing Note, The Institute for Fiscal Studies, 2019. Available at BN255 <https://www.ifs.org.uk/uploads/BN255-the-evidence-on-the-effects-of-soft-drink-taxes.pdf>

111. Soft Drinks Industry Levy, Policy Paper, HMRC, 2016. Available at <https://www.gov.uk/government/publications/soft-drinks-industry-levy/soft-drinks-industry-levy>

112. Top 20 Public Health Achievements of the 21st Century, RSPH, Webpage, 2020. Available at <https://www.rsph.org.uk/our-work/policy/top-20-public-health-achievements-of-the-21st-century.html>

113. Laura Cornelsen, Rosemary Green, Alan Dangour, Richard Smith, Why fat taxes won’t make us thin, Journal of Public Health, Volume 37, Issue 1, March 2015, p.18–23. Available at <https://doi.org/10.1093/pubmed/fdu032>

114. Sugar reduction: Report on progress between 2015 and 2018, Public Health England, September 2019, p.5-6. Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/839756/Sugar_reduction_yr2_progress_report.pdf

115. For example: EU Consumer Survey (1998) Available at <https://www.sciencedirect.com/science/article/abs/pii/S0950329398000184>; The FSA’s Biannual Public Attitudes Tracker: May 2018. Available at <https://www.food.gov.uk/print/pdf/node/1187>

To what extent, if at all, would you support or oppose the following policies?

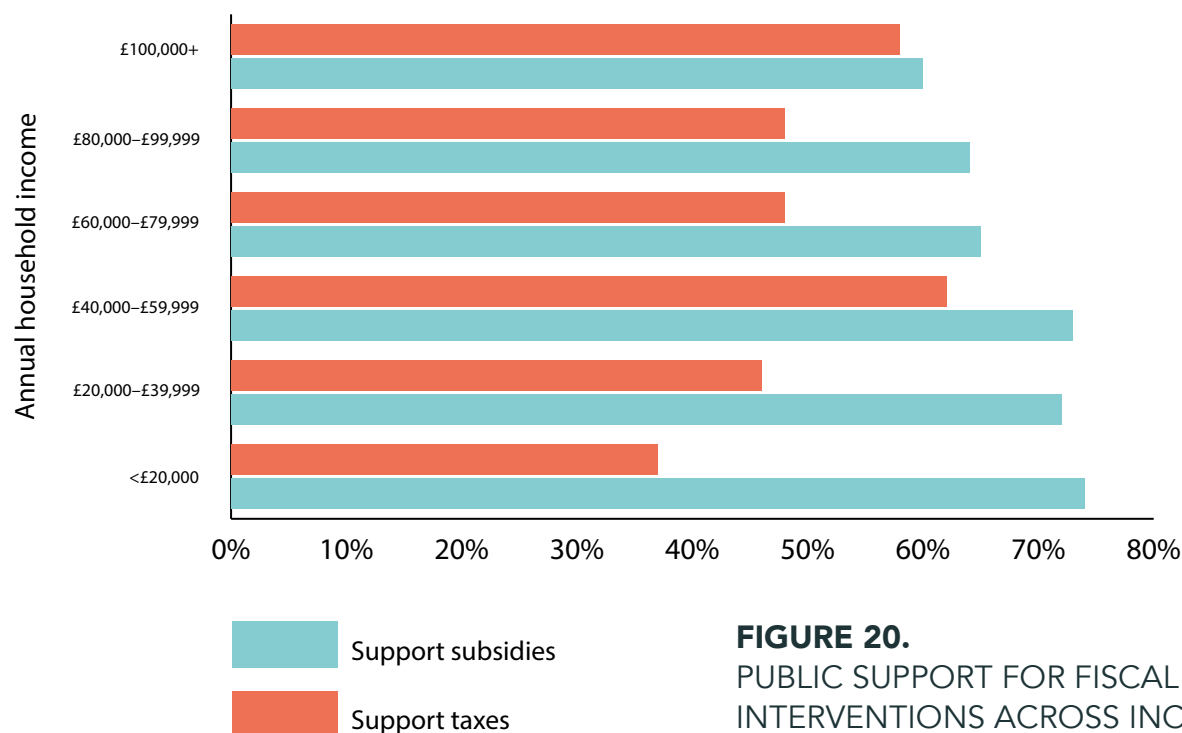


FIGURE 20.
PUBLIC SUPPORT FOR FISCAL INTERVENTIONS ACROSS INCOME

even grown.¹¹⁶ This is not good for consumers' opportunities to eat healthily, and particularly bad for those who are on low incomes.

This school of thought continues to be popular amongst food experts - that banning or taxing unhealthy food will not encourage healthy eating, unless consumers have healthier affordable options.¹¹⁷ For example, making an unhealthy meal deal more expensive will not necessarily deter people from opting for it (especially if it's still a relatively cheap and convenient option for lunch), but a healthier option in a meal deal might.

There is a substantial body of evidence that subsidising healthy foods can increase demand for healthy foods, while increasing the price can reduce demand.¹¹⁸ A systematic review of trials across seven different countries found that subsidising healthy foods could modify dietary behaviour to be healthier.¹¹⁹ The Food Foundation think tank has also argued for a fresh fruit and vegetable incentive scheme, modelled on one in the US, to reduce

the cost of healthy foods for low earners.¹²⁰ Their research found the US scheme was able to benefit: "shoppers, their households, and health services by encouraging healthier diets through fiscal incentives; fresh produce growers, by increasing demand for fruit and veg; and retailers and local economies, by stimulating increased economic activity".¹²¹

Advocates argue that subsidising healthier choices are a classic 'spend to save' option - where costs are saved down the line because of healthcare savings.¹²² At the same time they accept that lowering the price can mean consumers have more to spend on other foods that might not be healthy.¹²³

Nonetheless, lower income groups lack spending power, which means they are more likely to be overweight and as a result at risk of serious medical conditions. There is a clear case for the government to take further action to help the food sector deliver to the needs of consumers with fiscal interventions

116. Nicholas R. V. Jones, Annalijn I. Conklin, [...], and Pablo Monsivais, The Growing Price Gap between More and Less Healthy Foods: Analysis of a Novel Longitudinal UK Dataset, 2014, p.2. Available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4190277/>

117. Kathleen Kerridge, Banning unhealthy meal deals is not the answer, The Guardian, 2017. Available at <https://www.theguardian.com/commentisfree/2017/oct/31/banning-unhealthy-meal-deals-high-street-retailers-sugar-healthier>

117. Food subsidies, taxes significantly improve dietary choices: Interventions that alter food prices can improve people's diets, leading to more healthy choices and fewer unhealthy choices, Science Daily, 2017. Available at <https://www.sciencedaily.com/releases/2017/03/170301142157.htm>

118. An, R. Effectiveness of subsidies in promoting healthy food purchases and consumption: a review of field experiments. Public health nutrition, 16(7), 2013, p.1216. Available at <https://www.cambridge.org/core/journals/public-health-nutrition/article/effectiveness-of-subsidies-in-promoting-healthy-food-purchases-and-consumption-a-review-of-field-experiments/94D745756A0A01EDCA1F7669839C1DE8>

120. Robin Hinks (2017) Eating Better for Less. The Food Foundation. Online at https://foodfoundation.org.uk/wp-content/uploads/2017/11/FF_Eating-Better-for-Less_A4_20pp_Hyperlinked.pdf

121. Ibid.

122. Ibid.

123. Laura Cornelsen, Rosemary Green, Alan Dangour, Richard Smith, Why fat taxes won't make us thin, Journal of Public Health, Volume 37, Issue 1, March 2015, Pages 18–23, <https://doi.org/10.1093/pubmed/dfu032>

such as subsidies.¹²⁴ Fiscal interventions should be system-wide and not only 'corrective' but also supportive of the food industry's transformation towards healthier and more sustainable practices that benefit all consumers.¹²⁵ In addition to the Government directly subsidising healthier foods already on the market, we also recommend it invests more in research and development (R&D).

Already, the Government has taken steps to support innovation in agriculture, with the UK Research and Innovation Challenge Fund for *Transforming Food Production*.¹²⁶ This challenge fund has made £90 million available "to help businesses, researchers and industry to transform food production, meet the growing demand and move towards net zero emissions by 2040".¹²⁷

These challenge funds offer competitive funds for innovative solutions to problems, and are ultimately mechanisms by which governments can steward the growth of new markets to solve some of the most entrenched challenges in society.¹²⁸ The model has been pioneered by the Department of International Development (DFID), out of which has grown key international technologies, such as M-Pesa. M-Pesa is Kenya's mobile money transfer service that has successfully driven financial inclusion across the country, with as many as two thirds of Kenyans using the channel.¹²⁹ Furthermore, we know from previous evaluation of similar government solutions that they can both boost productivity and employment.¹³⁰

Whilst the *Transforming Food Production Challenge Fund* is an excellent first step, it is perhaps not going far enough on helping our food manufacturers develop both healthy and sustainable food. Further, there has been some criticism that it has not necessarily reached smaller food producers and manufacturers, eager to reformulate their products to make it healthier at a similar portion size and taste to consumers.¹³¹

Recommendation 13: The Department for Business, Energy and Industrial Strategy (BEIS) with UK Research and Innovation (UKRI) should launch a new Food and Agriculture Sector Deal. This could include a challenge fund for researchers, universities and SME food producers to conduct research and development (R&D) on how to reformulate foods e.g. how to make crisps with less saturated fat and salt content, or to make them healthier and cost-effective for consumers. Criteria for the awarding of funds should include clear food safety standards. This should be funded by the money raised from the Sugar Levy, Soft Drinks Industry Levy, and the recommended Harmful Processed Meats Levy.

In the wake of the Covid-19 pandemic, many are questioning the future of food - particularly how it can be more sustainable, affordable and healthy. One key example of driving sustainability is replacing some of the protein in our diets - either in livestock, or directly in the meat we eat. Across the world, start-ups are rising to the challenge. One of these is from Solar Foods, a biotech start-up in Finland, which has created a protein powder made from CO₂ in the air we breathe. The powder, Solein, can be used to make bread, pasta, drinks and plant-based dairy and meat alternatives - oxygen and a small amount of water are its only byproducts.¹³²

There is a clear opportunity here: to marry the sustainability challenge with our nutrition needs to reduce our intake of meat and processed meats. In doing so, the UK could build on its food manufacturing base and academic base to lead the way in making lab-grown meat a reality. This innovation could make the UK a world-leader in the fight against climate change and give UK business a headstart worldwide in the new food-tech markets.

Recommendation 14: The Department for Business, Energy and Industrial Strategy (BEIS) with UK Research and Innovation (UKRI) should launch a new fund for the development of lab-

124. Fair Society, Healthy Lives, The Marmot Review, 2010. Available at <http://www.instituteofhealthequity.org/resources-reports/fair-society-healthy-lives-the-marmot-review>

125. Food and Drink Manufacturing Sector Deal Proposal, The Food and Drink Federation, 2018. Available at <https://www.fdf.org.uk/food-and-drink-manufacturing-sector-deal.aspx>

126. Dr. Jonathan Scurlock, Farming and food and the Industrial Strategy, The Department for Business, Energy and Industrial Strategy, 2018. Available at [https://industrialstrategy.blog.gov.uk/2018/09/19/farming-and-food-and-the-industrial-strategy/;Transforming food production](https://industrialstrategy.blog.gov.uk/2018/09/19/farming-and-food-and-the-industrial-strategy/;Transforming%20food%20production), UK Research and Innovation, Webpage, 2020. Available <https://www.ukri.org/innovation/industrial-strategy-challenge-fund/transforming-food-production/>

127. Transforming food production, UK Research and Innovation, Webpage, 2020. Available <https://www.ukri.org/innovation/industrial-strategy-challenge-fund/transforming-food-production/>

128. Amal Aliemma Phillips, 8 things we learned from running a challenge fund, The World Bank Blog, 2017. Available at <https://blogs.worldbank.org/voices/8-things-we-learned-running-challenge-fund>

129. Ibid.

130. The impact of public support for innovation on firm outcomes, The Department for Business, Energy and Industrial Strategy, 2017. Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/604841/innovation-public-support-impact-report-2017.pdf; How to evaluate innovation: innovation grants, The What Works Centre, Webpage, 2020. Available at <https://whatworksgrowth.org/resources/how-to-evaluate-innovation-innovation-grants/>

131. Food and Drink Manufacturing Sector Deal Proposal, The Food and Drink Federation, 2018. Available at <https://www.fdf.org.uk/food-and-drink-manufacturing-sector-deal.aspx>

132. Alice Lascelles, Can making food from CO₂ help our overburdened planet?, The Financial Times, 2020. Available at <https://www.ft.com/content/ad5ad0f4-e2bf-4c8a-b890-de3f5df920ba>

grown meat or meat alternatives. These research and development (R&D) programmes should be conducted in partnership with the UK Government, with the Government owning a portion of the intellectual property (IP) - any profits from which should be reinvested into innovation in the sector.

SUPPORTING SKILLS IN FOOD MANUFACTURING

Finally, with unemployment up to record highs due to the Covid-19 crisis, it is likely that it will take bold measures to make opportunities in the labour market for people to get back to work.¹³³ Whilst a challenge, it is important that we see this equally as an opportunity to create good quality work. The 'jobs miracle' before the Covid-19 crisis was one marred by low-wage work with a lack of progression. With these sectors deeply hit by the crisis, it is an unprecedented opportunity for the government to combine measures to stimulate recovery with objectives for skills and progression.

The Government has announced its Plan for Jobs, which includes a £2 billion Kickstart Scheme for those aged 16-24 who are on Universal Credit. The scheme will cover 100% of the relevant National Minimum Wage for 25 hours a week, plus the associated employer National Insurance contributions and employer minimum automatic pension enrolment contributions for 6 months.¹³⁴ In addition, the government is granting £17 million worth of funding for sector-based work academies

“to provide vocational training and guaranteed interviews for more people, helping them gain the skills needed for the jobs available in their local area.”¹³⁵

The Future Jobs Fund, which ran from 2009-2011, was one of the most successful ways of getting people back to work: it made long-term savings for the taxpayer and had long-term positive impacts on the lives of participants who found themselves in secure employment.¹³⁶ The new Kickstart Scheme and the sector-based academies are therefore a promising step for the Covid-19 recovery.

Nonetheless, if the Government wants to actively rebuild and reshape the economy, it should eventually target the Kickstart Scheme towards specific sectors that offer a better deal for workers and can help tackle some of the UK's grand challenges. One of these could be food manufacturing, which could be incentivised to become more productive, profitable, healthy and sustainable through the scheme.¹³⁷ Further, it is one that relies heavily on migrant labour from the EU that is at risk post-Brexit.¹³⁸ It will therefore need more support if it is to survive the double challenge of Covid-19 and Brexit.

Recommendation 15: After the first six months, the Government should eventually target the Kickstart Scheme towards specific sectors that have growth potential, such as food manufacturing.

133. Delphine Strauss, 'Radical measures' required: how Covid-19 has hit UK labour market, The Financial Times, 2020.

Available at <https://www.ft.com/content/d14887e2-a52a-40a4-8deb-28828c764141>

134. Plan for Jobs, HM Treasury, 2020, p.9. Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/898421/A_Plan_for_Jobs_Web_.pdf

135. Ibid. p.10.

136. Jonathan Portes, The Future Jobs Fund: what a waste, NIESR, 2012. Available at <https://www.niesr.ac.uk/blog/future-jobs-fund-what-waste>

137. James Kirkup Scott Corfe Kathryn Petrie Nicole Gicheva, Pay progression for low-paid workers Research Paper 1: The role of tax and wage regulation, The Social Market Foundation, 2019. Available at <http://www.smf.co.uk/wp-content/uploads/2019/06/Pay-Progression-for-Low-Paid-Workers-Paper-1.pdf>

138. Breaking the chain, The Food and Drink Federation: Key workforce considerations for the UK food and drink supply chain as we leave the EU, 2017. Available at <https://www.fdf.org.uk/publicgeneral/Breaking-the-Chain.pdf>

APPENDIX 1

INNOVATION SO FAR

Food manufacturers have taken a range of steps to make the food they produce healthier, the main methods being outlined in the table below.¹³⁹ This section sketches out the evidence of reformulation across the main foods considered in our report: foods high in fat, sugar and salt (HFSS); and processed and red meats.

It is important to remember that reformulation is just one approach to producing healthier or less harmful foods. As Figure 21 demonstrates, there are a variety of approaches that industry can take - all that have different advantages and disadvantages.

139. Feeding Change, Food and Drink Federation. 2018. Available at https://www.fdf.org.uk/corporate_pubs/feeding-change-report.pdf

NAME	REFORMULATION	FORTIFICATION	REDUCING PORTION SIZES	PROVIDING HEALTHIER ALTERNATIVES
Description	Changing the recipe to replace harmful ingredients with less harmful ones, retaining the taste and texture of the original product.	Improving the nutrition of the food by adding additional nutrients which do not naturally occur in the food.	Maintaining exactly the same recipe, but providing less in order to reduce overall consumption of harmful content.	Changing the types of food provided so that they are healthier.
Example	Aldi reduced the amount of sugar in a cheesecake by replacing it with inulin, a dietary fibre, to keep the same taste and texture and reduce overall sugar content. ¹⁴⁰	Folic acid fortification of grain and cereal products - this became mandatory in the United States and Canada in 1998. ¹⁴¹	Reducing chocolate bar sizes, such as Dairy Milk who announced a 100 calorie cap per chocolate bar to fight obesity. ¹⁴²	A different type of healthier cereal, for example Kellogg's Better Starts initiative, that includes Coconut, Cashew and Almond Granola, rather than grain and wheat cereal. ¹⁴³
Advantages	Can retain the same taste and texture of a food that consumers like while reducing the unhealthy content. Consumers are supportive of reformulation.	Many adults do not get enough nutrients - such as calcium or vitamins through their diet - fortified foods can be used to fill in the gaps. ¹⁴⁴ Health benefits in the US and Canada from folic acid fortification have had health benefits, although interventions on this scale are difficult to directly attribute to one factor. ¹⁴⁵ Consumers are supportive: 53% think it should be a priority for the government. ¹⁴⁶	Can retain the same taste and texture of a food that consumers like. Can give a consumer an indication of what a 'normal' size is, and ultimately reduce their consumption level. ¹⁴⁷ Can be cheaper to produce.	New products are created that are altogether healthier. Consumers are in favour of consuming healthier alternatives. ¹⁴⁸
Disadvantages	Can be technically a challenging process. Some foods are less well suited, such as snacks that are high in sugar and rely on sugar for the texture as much as the flavour. Highly dependent on what foods have been reformulated with.	Fortified foods can involve lots of processed nutrients that risk younger children ingesting certain nutrients in excess. ¹⁴⁹ Adding nutrients incurs extra costs. The public can be suspicious of foods that have been fortified. ¹⁵⁰	Consumers are least supportive of reducing portion size. ¹⁵¹ Difficult to standardise portion sizes. Consumers may buy extra portions.	Involves consumers letting go of products they like. These products can be more costly.

FIGURE 21.
DIFFERENT
INDUSTRY
METHODS TO
MAKE THE
FOODS WE
EAT HEALTHIER

140. Aldi: Reducing sugar in cheesecakes, IGD, Webpage, 2019. Available at <https://www.igd.com/charitable-impact/healthy-eating/reformulation/case-studies/article-viewer/t/aldi-reducing-sugar-in-cheesecakes/i/22646>

141. The ups and downs of folic acid fortification, Harvard Health, Webpage, 2008. Available at <https://www.health.harvard.edu/womens-health/the-ups-and-downs-of-folic-acid-fortification>

142. Katie, O'Malley, Cadbury Chocolate Bars to Introduce 100 Calorie Cap to Fight Obesity, The Independent, 2019. Available at <https://www.independent.co.uk/life-style/food-and-drink/cadbury-chocolate-bar-calorie-obesity-a9039931.html>

143. Feeding Change, Food and Drink Federation. 2018. Available at https://www.fdf.org.uk/corporate_pubs/feeding-change-report.pdf

144. The ups and downs of folic acid fortification, Harvard Health, Webpage, 2008. Available at <https://www.health.harvard.edu/womens-health/the-ups-and-downs-of-folic-acid-fortification>

145. Ibid.

146. Demos poll, 2020, see Figure X

147. Feeding Change, Food and Drink Federation. 2018. Available at https://www.fdf.org.uk/corporate_pubs/feeding-change-report.pdf

148. See Figure 17.

149. Dary, Omar, and Richard Hurrell, Guidelines on food fortification with micronutrients, World Health Organization, Food and Agricultural Organization of the United Nations, 2006, p.29. Available at https://www.who.int/nutrition/publications/guide_food_fortification_micronutrients.pdf

150. Tedstone, A., Browne, M., Harrop, L., Vernon, C., Page, V., Swindells, J., ... & Stockley, L, Fortification of selected foodstuffs with folic acid in the UK: consumer research carried out to inform policy recommendations. Journal of public health, 30(1), 2008, 23-29. Available at <https://doi.org/10.1093/pubmed/ftm073>

151. See Figure 17.

Reformulation is seen as one of the most appealing approaches as it is a way to ensure consumers can continue to eat the products that they like whilst also eating healthier, as demonstrated in Figure 22.

In general, do you think it would be a good thing or bad thing if the following changes were made to the meals you frequently eat?

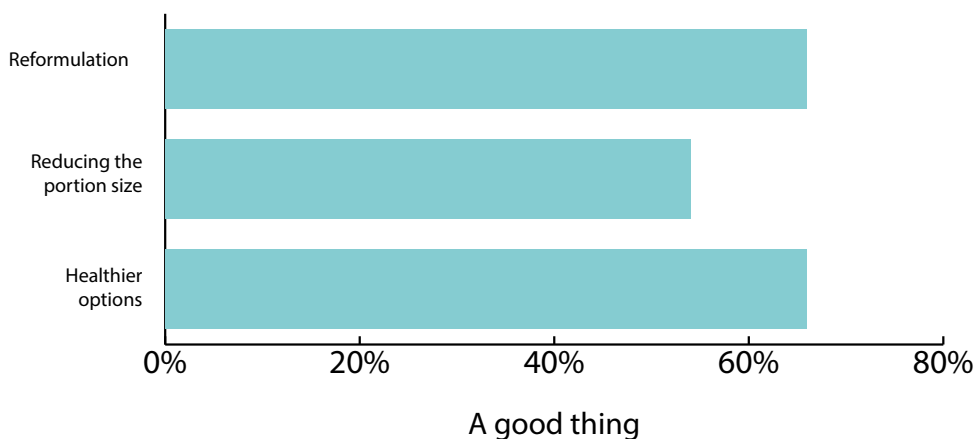


FIGURE 22.
PUBLIC SUPPORT
FOR DIFFERENT
METHODS OF
MAKING FOOD
HEALTHIER

Reformulation poses multiple technological challenges to the food industry. Every ingredient has a purpose whether it is preservation, texture or taste, and as a result there is no one single way to reformulate certain types of food.¹⁵² Multiple reformulation technologies are required for making food healthier. In addition, implementation of reformulation can be challenging: most consumers do not want a difference in taste in reformulated products.¹⁵³ Moreover, reformulation might increase the cost of the new product. Therefore, gradual reformulations can be more effective than instant changes in taste and price of the product.¹⁵⁴

REFORMULATING FOODS HIGH IN SALT

As part of the Public Health Responsibility Deal, the UK published a salt-reduction programme in 2014 to reduce the daily intake of salt to 6g per person. Reformulation has been a staple part of this programme. However, the current level of salt consumption has not reached the goal and currently stands at 8g.

Mineral salts or flavour enhancers are commonly used alternatives for salt formulation. Sodium enhancers are also used to change the texture or microbial stability of the product that may result from removing salt.¹⁵⁵

There are numerous successful examples of reformulating to reduce the amount of salt consumed. Some of these have been in response to the voluntary targets set by the government.

152. Dr Vassilios Raikos, Food Reformulation Making Foods Healthier, Sefari, Webpage, 2020. Available at <https://sefari.scot/research/food-reformulation-making-processed-foods-healthier>

153. Oliver Morrison, The case against reformulation, Food Navigator, 2019. Available at <https://www.foodnavigator.com/Article/2019/08/16/The-case-against-reformulation>

154. Ibid Sefari.

155. Salt Reformulation Guide, IGD, Webpage, 2019. Available at <https://www.igd.com/charitable-impact/healthy-eating/articles/article-viewer/t/salt-reformulation-guide/t/21811>

CASE STUDY 1: SALT REFORMULATION IN MASHED POTATO

Nestle UK and Ireland reduced the amount of salt in MAGGI Mashed Potato Flakes using reformulation.¹⁵⁶ The reformulations followed the Salt Reduction Targets set in 2017. The reformulation was based on removing vegetable fat, lactose and sodium caseinate. They added a butter flavour to compensate for any flavour lost

during the reformulation. Therefore, it protected the taste and quality of the product. Salt was reduced by over 16%, the total number of ingredients decreased, including both saturated fat and fat levels by 75%, with no impact on shelf life was found.¹⁵⁷

Other manufacturers have approached reformulation as a slower process. Mars, a US-owned food manufacturer, for example, used reformulation methods to reduce the amount of salt in ready-to-use sauces for pasta in 2017.¹⁵⁸ The key challenge was to ensure the consumer who wants a convenient and tasty meal could enjoy those benefits while also reducing their intake of salt. Mars removed salt gradually while boosting other ingredients in the recipe, instead of substituting salt with other ingredients such as potassium chloride. This meant that the salt being removed did not cause a dramatic change in the taste of the product. Over time, salt has significantly been removed: the Dolmio Bolognese Original, for example, reduced salt by 46% per 100g (2000-2017).

REFORMULATING FOODS HIGH IN FAT

Reformulation of fat is achieved by changing the fatty acid composition. Leaner raw materials, water or other ingredients are added to food, resulting in less fat. Tesco reformulated its own-brand trifle range in order to reduce its fat, sugar and salt content in 2016.¹⁵⁹ The company worked together with the supplier and developed a new technology to reduce the amount of fat used. The amount of fat used was lowered by reducing the amount of whole milk used by rebalancing it with skimmed milk.

Other reformulations have focused on changing the way foods that tend to be high in fat are made to reduce the fat. One key example is low fat cheese, as outlined in the case study below.

“There are numerous successful examples of reformulating to reduce the amount of salt consumed. Some of these have been in response to the voluntary targets set by the government.”

156. Nestle UK Ireland Reducing Salt in Maggi Mashed Potato Flakes, IGD, Webpage, 2018. Available at <https://www.igd.com/charitable-impact/healthy-eating/articles/article-viewer/t/nestl-uk-ireland-reducing-salt-in-maggi-mashed-potato-flakes/i/18698>

157. Ibid.

158. Mars food reducing salt in ready to use sauces, IGD, Webpage, 2017. Available at <https://www.igd.com/charitable-impact/healthy-eating/reformulation/case-studies/article-viewer/t/mars-food-reducing-salt-in-ready-to-use-sauces/i/16177>

159. Tesco reformulating own label trifles, IDG, Webpage, 2016. Available at <https://www.igd.com/charitable-impact/healthy-eating/reformulation/case-studies/article-viewer/t/tesco-reformulating-own-label-trifles/i/16156>

CASE STUDY 2: REFORMULATING CHEESE

Dairy Crest reduced the fat and saturated fat content in its Cheddar cheese using reformulation in 2017.¹⁶⁰ They aimed to reduce the amount of fat and saturated fat by a third. Part of this included using semi-skimmed milk rather than whole milk. However, reformulating Cheddar was particularly challenging due to the

difficulty in protecting mouthfeel and flavour. Fat played an important role in the texture of the cheese and taste. They spent two years completing the reformulation process. The new product reduced the amount of fat from 34.9g/100g to 21.8g/100g and saturated fat from 21.7g/100g to 14.9g/100g.

REFORMULATING FOODS HIGH IN SUGAR

Public Health England is leading a project on sugar reduction as a part of a wider reformulation program. The goal is to reduce the amount of sugar in the foods children consume by 20% by 2020.¹⁶¹

Sugar plays an important role in product formulation. Sugar regularly performs technical functions such as “enhancing palatability, giving

texture and colour, and acting as a preservative” in addition to providing energy.¹⁶²

There are two types of sugars: intrinsic sugars and added. The former “are those present naturally within the cellular structure of food” whilst the latter are added during manufacturing or by the consumer - the latter can be present in drinks such as smoothies.¹⁶³ Sugar reformulation is aimed at added sugar.

CASE STUDY 3: REFORMULATING LOW-SUGAR GRANOLAS

Asda launched two low-sugar granolas with no added sucrose or sweeteners in 2018. They used maltodextrin fibre in liquid form instead of sugar or sweeteners. Maltodextrin was used to

do the binding role sugar plays. Reformulation allowed them to qualify for a high fibre claim and a claim for containing wholegrain.

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REFORMULATING RED AND PROCESSED MEATS

Reformulation of processed meats or red meat can include “improving the fat content, incorporating proteins of vegetable origin, prebiotics and vegetable fibres, increasing the mineral content, including vitamins, antioxidants and vegetable compounds with a functional role.”¹⁶⁴ Despite many aims and approaches, reformulating meat products is one of the least common types of reformulation.

Nitrites are among the most commonly used and harmful ingredients in processed meat, and are therefore the focus of reformulation. Nitrites function to prevent the foods developing harmful bacteria or going off (i.e. ‘lipid oxidation’) and give colour to foods.¹⁶⁵ Parma ham has historically avoided the use of nitrates and nitrites in its preserving process, simply using salt.¹⁶⁶ There are more recent examples that demonstrate the potential to reformulate. For example, food

scientists found it was possible to reformulate Asian hot dog sausages using cochineal instead to make them nitrite-free.¹⁶⁷ The hot dog made with cochineal scored better in terms of healthiness due to a lack of nitrites.¹⁶⁸ In the UK, the food industry has already moved fast to embrace nitrite-free bacon and gammon in an effort to improve public safety. At the beginning of 2020, The Co-op, quickly followed by Waitrose, pledged to reduce nitrites in its own brand bacon and gammon products. The Co-op has vowed to reduce nitrites in its bacon by 60%, without compromising on price or quality for consumers.¹⁶⁹

Technology is proposing new alternatives to meat. Cell-based meat produced from animal cells grown outside an animal might be an alternative to traditional meat consumption. Cell-based meats are also referred to as clean meat, lab-grown meat or cultured meat.¹⁷⁰

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APPENDIX 2

FOOD REGULATION IN THE UK

In addition to public health and nutrition, food safety exists to make sure that the food we eat is not harmful. In the UK this is led by the Food Standards Agency, the European Commission and the World Health Organisation.

Advancements in food science and food manufacturing during the Industrial Revolution radically changed our food processing industry.¹⁷¹ The past century has seen a boom in the use of “synthesised new artificial thickeners, emulsifiers, colours and flavours” to produce better looking and tastier food, cheaper and at scale.¹⁷² At the same time, there has been growing concern about the toxicity and carcinogenicity of additives as well as growth in our analytic capabilities to detect and measure compounds in foods. One of the key responses in Europe to these developments was setting up the European Food Safety Authority (EFSA) and the E-number system for approved additives, introduced in 1962.¹⁷³

Today, these E-Numbers are the backbone of our food safety systems. EFSA ensures that toxic foods - or those E-Numbers which are harmful - are not present in the food eaten in the EU.¹⁷⁴ For an additive or E-Number to be considered safe, available toxicological data is first of all evaluated.

Based on this, a safety level is defined, known as a NOAEL - no-observed adverse effect level (this is the maximum permitted level of additives with no demonstrable toxic effect). The additives are then assessed by testing the safety of large quantities of consumption of that foodstuff where the additives have been used at a maximum permitted level.¹⁷⁵

Some additives are subject to specific restrictions. For instance, natamycin (E 235) can only be used as preservative for the surface treatment of cheese and dried sausages, erythorbic acid (E 315) can only be used in certain meat and fish and sodium ferrocyanide (E 535) can only be used as an anti-caking agent in salt and its substitutes.¹⁷⁶

The EFSA also follows the Joint FAO/WHO Expert Committee on Food Additives (JECFA) which sets the standards for foods to be traded internationally. Every food needs to go under the JECFA safety assessment and found not to be presenting any health risk to consumers. Under this system, the safety is assessed based on the acceptable daily intake (ADI) which is “an estimate of an amount of an additive in food or drinking water that can be safely consumed daily over a lifetime without adverse health effects.”¹⁷⁷

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