



# SUGAR

WHAT NEXT?

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# CONTENTS

07	1. EXECUTIVE SUMMARY
11	2. THE RISE OF THE SUGAR DEBATE
17	3. WHERE DOES RESPONSIBILITY LIE?
25	4. THE CONSUMER CHALLENGES
33	5. GOVERNMENT AND INDUSTRY
39	6. A FRAMEWORK FOR THE FUTURE
45	6.1 Reformulation
49	6.2 Portion size
53	6.3 Labelling
55	7. WHAT NEXT?

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# 1

## EXECUTIVE SUMMARY

The coming years are a critical period for us to address the impending obesity crisis. There are, of course, many complex factors driving obesity levels, including a number of different elements of diet and physical activity.

But sugar has received a huge share of attention, potentially because [compared with other elements of the diet] it is a component which can be more easily targeted in what we consume. Whether this is entirely fair or not, this public and legislative focus on sugar makes it even more important to understand where the public and politicians are: the attention is not going away, indeed it is only likely to grow.

This paper therefore outlines the context and challenges around reducing sugar consumption and provides a framework for intervention. The key points are:

- Over-consumption of sugar has been identified by health experts and key national and international health promotion bodies as a key focus for tackling not only obesity but also rising levels of type II diabetes and dental caries across the globe.
- Consumers also acknowledge that they need to eat more healthily, with 81% of UK consumers agreeing that 'Individuals and families are not doing enough themselves'. This is also a view held by eight in ten MPs in the UK, from new research released with this report.

- However there are many consumer behavioural challenges holding people back from making better choices. These include the intention-behaviour gap, optimism bias, denial and shame, sheep-like tendencies, and low self-awareness, education and understanding. For example, this study outlines new data on our massive misperceptions of sugar content and the activity required to burn the calories we consume.
- Consumers also have a very different view of the social norm of over-consumption of sugar compared with other activities like physical exercise: we think this is a problem that 'other people' have, not us. This provides challenges for shifting behaviour.
- For their part, consumers also think that the food and drink industry and government should have equal responsibility in addressing obesity.
- The introduction of sugar taxes in some markets has brought both success and criticism. However, the move towards more intervention of varying sorts seems likely. This is particularly the case when our data suggests that there is some shame associated with eating too much sugar. This in turn suggests that manufacturers and retailers can expect less protection from outraged consumers reacting to imposed government interventions to restrict consumption.
- We have therefore developed an intervention framework – bringing together previous work conducted by McKinsey<sup>1</sup> and Nuffield Health<sup>2</sup> – to identify those interventions which will have greatest impact on reducing sugar consumption whilst limiting control on peoples' choices and freedom. Although, there is evidence that some degree of control will be required to overcome behavioural barriers which are central to our human nature.
- The framework identifies the following as measures which would be highly effective whilst having a low level of control on choice: providing greater share of space and prominence to healthier products and categories as well as the introduction of product ranges with improved nutritional profiles. Importantly there are also other interventions that assert a great degree of

control but are also high efficacious, including: limiting access to high-calorie products in schools, stealth reformulation of food and drink products by manufacturers, the reduction of portions sizes and the removal of extra-large single serve offerings.

- Stealth reformulation is an intervention which has received strong support in the UK, which is confirmed in our new study of MPs: two-thirds of those interviewed agree that reformulation by food and drink manufacturers would have the greatest impact on reducing obesity. In addition, it is also the top intervention MPs say they would be most likely to support [46%]. But, of course, reformulation is not the magic bullet that it can sometimes seem, and a number of manufacturers and categories will face significant challenges in meeting the notable reductions the government is requesting.

Whilst the framework presented here provides a starting point, it is clear that there are many unanswered questions which must be addressed if we are to successfully embed any intervention. For example, we need to know more about our tolerance for lower sweetness levels, how misperceptions impact behaviour and what role our understanding of the social norm plays in our own actions.

If you would like to discuss any of the issues raised in this report, please do get in touch.

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## 2

**THE RISE OF THE  
SUGAR DEBATE**

It is a fact that humans are naturally drawn to sweet tasting food and drinks. Even in the womb, a foetus will swallow more amniotic fluid when sugary foods have been recently ingested by the mother.<sup>3</sup> Central to our evolutionary success has been the recognition that sweetness marked safe and energy dense foods and bitterness proved to indicate toxic or poisonous foods.

However, in the developed world, eating and drinking are no longer simply about the fight for survival and nutrition, but often about emotional comfort and reward. The media have even gone so far as to describe the desire for sweetness (and hence sugar) as an addiction. This is due to the fact that the consumption of sugar releases dopamine which acts in the same way as recreational drugs on the reward centres in the brain – with the effect that we want to repeat the behaviour to get the same reward.<sup>4</sup> However, the body certainly does not experience the same physiological reactions in consumption or withdrawal of sugar as is observed with truly addictive substances.<sup>5</sup>

In any case, it seems the demand is fairly hard-wired into us. On the supply side since the Second World War we have seen a rise in cheaper sugar sources, such as high fructose corn syrup and sugar beet which have enabled the boom in the production and sale of products like carbonated soft drinks, ice-cream, confectionery, cakes, biscuits and chocolate.

**30% OF THE GLOBAL POPULATION ARE NOW OVERWEIGHT OR OBESE.<sup>4</sup>**

These delights, however, have been shown to have serious health implications - as outlined in a review by the Scientific Advisory Committee on Nutrition (SACN).<sup>6</sup> Most notably, the energy imbalance caused by over consumption of sugar not being off-set by energy expenditure is helping to drive obesity across the globe - meaning that 30% of the global population is now overweight or obese,<sup>1</sup> a figure which rises close to 60% in the developed world.

Research undertaken by Ipsos MORI looking at Perils of Perception demonstrates that people in most markets also significantly underestimate the proportion of the population who are overweight or obese – this is particularly so in Middle-Eastern countries such as Saudi Arabia, Turkey and Israel, where the average guess was less than half of the actual figure.

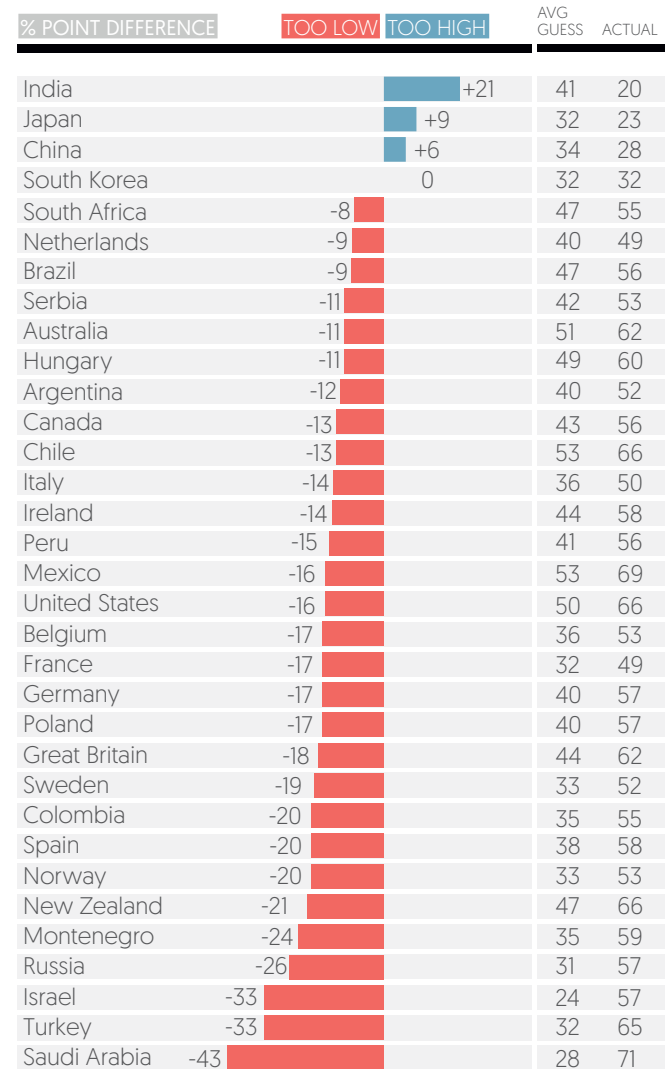
Rising obesity is having a significant cost implication to health services around the world, with obesity in the UK alone costing the National Health Service (NHS) an estimated £5 billion a year and obesity accounting for 5% of deaths worldwide. A diet high in sugars is also implicated in the increase of both dental cavities and type II diabetes.

The World Health Organisation (WHO) and the Food and Agricultural Organisation (FAO)<sup>7</sup> refer to those sugars, which are of dietary concern, as ‘free sugars’. These are the [simple – mono and disaccharide] sugars that are added to food and drink products in manufacture or are naturally present in honey, syrups and juices.

These simple sugars are of greatest concern as they are considered to be empty calories (i.e. not providing any additional nutritional benefit) and are rapidly broken down and absorbed into the body – increasing weight gain but also potentially preventing weight loss.<sup>8</sup> The other classification of naturally available sugar are complex carbohydrates, which are typically bound with other

**THE PUBLIC GENERALLY UNDERESTIMATE THE PROPORTION OF OVERWEIGHT OR OBESE PEOPLE IN THEIR COUNTRY**

Q. Out of every 100 people aged 20 years or over, how many do you think are either overweight or obese?



Source  
Ipsos Global 'actual' figures taken from Institute for Health Metrics and Evaluation (IHME)

Base  
25,556 interviews across 33 markets between Oct 1 – 16 2015

nutritional elements such as vitamins and minerals and are slowly broken down within the body to provide a steady flow of energy – as in rice, pasta, potatoes and fruit.

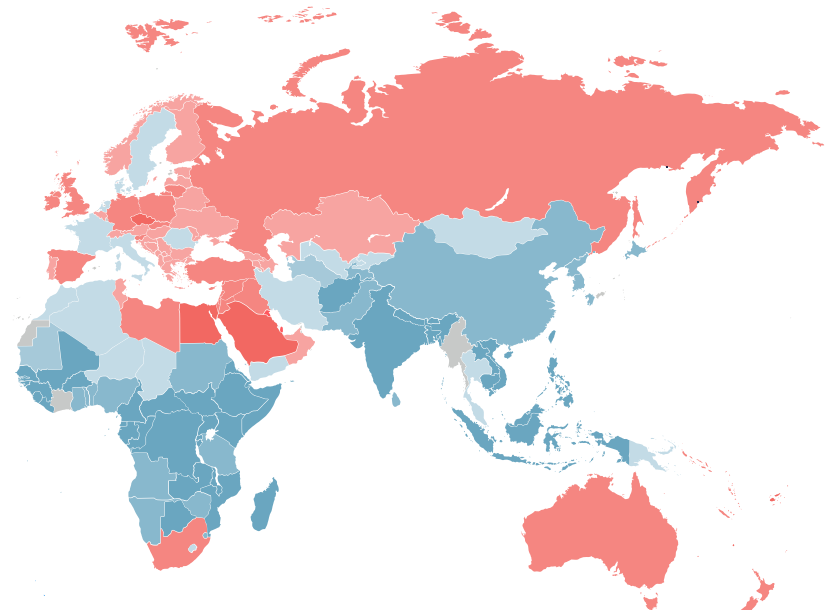
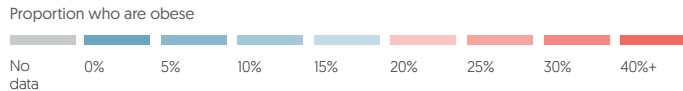
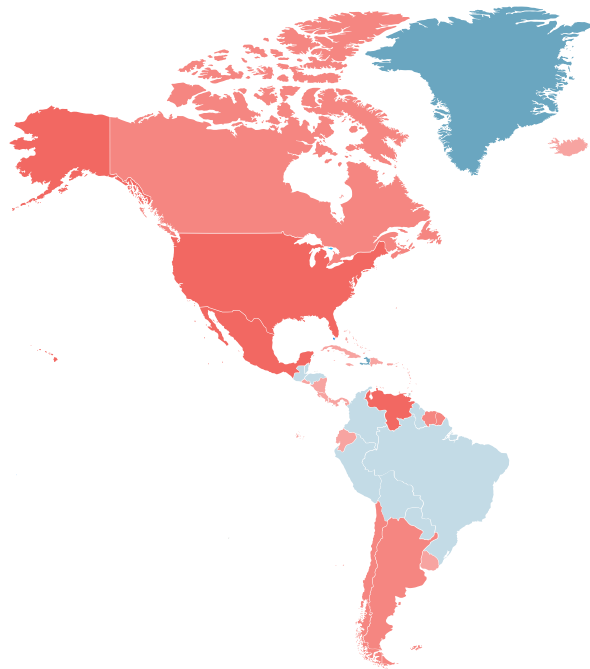
There is evidence that about half of European consumers have some awareness of the distinction between simple or free sugars and complex carbohydrates,<sup>9</sup> but there is still more research required to understand consumer perceptions of different sugar types and to use this to support further education in this area.

Concerns surrounding sugar and health have been building over the past decade. The past couple of years has seen an explosion

in the media focus on this issue along with an increasing body of scientific papers and policy discussions. There are also public figures such as the UK celebrity chef, Jamie Oliver pushing the issue of sugar up the agenda with programmes like 'Jamie's Sugar Rush'.

The graphic below shows an epidemic of obesity across most of the US, Europe, Australia and the Middle East. The scale shows the percentage of each country's population that is defined as obese (a body mass index of over 30). The Pacific Islands, east of Australia, are the countries with the largest percentage of their population reported as obese. In American Samoa, three quarters of the population is seriously overweight.

**HOW FAT IS YOUR COUNTRY?**



Source  
<http://www.dailymail.co.uk/health/article-2920219/How-fat-country-nations-highest-obesity-rates-new-maps-surprise-you.html>





### 3

## WHERE DOES RESPONSIBILITY LIE?

The sugar debate is very much on the radar for individuals, industry, retailers, government and regulatory bodies alike, but whose responsibility is it to get sugar consumption under control?

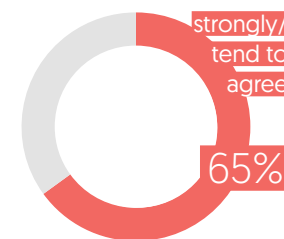
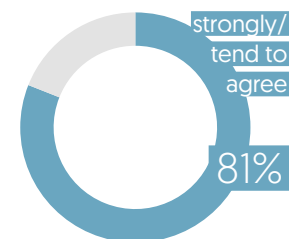
We know from work carried out through the Ipsos MORI Reputation Centre that the public primarily see individuals as responsible for their own diet, but that industry could do more to encourage healthy eating.

### HEALTHY EATING - WHOSE RESPONSIBILITY?

Consumers think it starts at home, but that industry should do more

Individuals and families are not doing enough themselves to eat more healthily

Food and drink manufacturers are not doing enough to encourage people to eat more healthily



Source  
Ipsos MORI

Base  
1,004 GB adults,  
18 - 65, March/  
April 2016

When asked about the behaviour of companies that make and sell food and drink products, 46% of consumers cited “reducing the amount of fat, salt or sugar in products” as one of the top three issues that are most important for these companies to address.

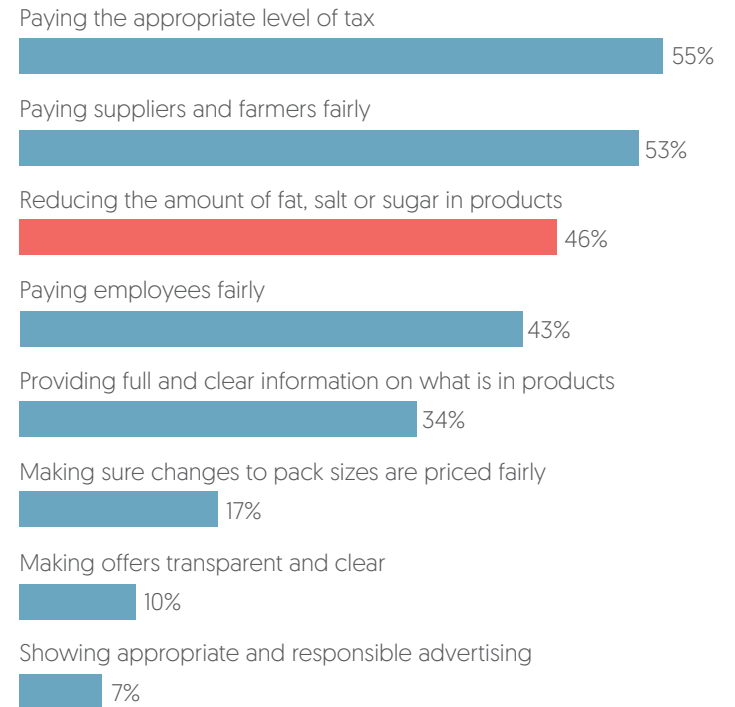
In line with consumer opinion, eight in ten Members of Parliament (Ipsos MORI MPs questions December 2016) think that individuals and families are not doing enough to eat more healthily. However, 68% of MPs believe the food and drink industry is not doing enough either. In the UK, around two thirds (64%) of consumers think that the food and drink industry and government should have equal responsibility in addressing obesity (Ipsos MORI Reputation Centre).

The negative press sugar is receiving certainly seems to be sticking with consumers, with a European study revealing that more than six in ten people claim to be monitoring their sugar intake and over a third (36%) say if presented with a choice they would opt for a lower sugar product.<sup>10</sup> This is backed up by a Euromonitor report that found 47% of global consumers said that they look for foods with limited or no added sugar.<sup>11</sup>

In terms of the drivers for eating less sugar, of those UK consumers who say they want to eat less sugar, 56% say their main driver is to watch their weight – with other considerations being future health concerns (42%), dental health concerns (37%) and concerns about blood sugar changes driving mood swings (25%).<sup>12</sup> In the UK, just under half of consumers (46%) claim to have taken at least one course of action to monitor or reduce their sugar intake<sup>13</sup> and in Europe approximately two-thirds of consumers claim to have made an effort to cut back on food with higher levels of added sugar.<sup>13</sup>

**INDIVIDUALS THINK THAT REDUCING THE AMOUNT OF FAT, SALT OR SUGAR IN PRODUCTS IS THE THIRD MOST IMPORTANT ISSUE FOR FOOD & DRINK PRODUCERS TO ADDRESS**

Thinking about the behaviour of companies that make and sell food and drink products, which two or three of these issues do you think are most important for these companies to address?



Source  
Ipsos MORI

Base  
1,004 GB  
adults 18 – 65,  
March/April  
2016

The Ipsos Global Trends survey 2017 shows us that consumers know the importance of a balanced diet – with eight in ten consumers globally acknowledging that eating right is the most important factor in maintaining good health – this is slightly lower in the UK (77%), 82% in the US and more than 90% in Indonesia and India. A similar pattern is seen for those agreeing with the statement ‘avoiding products that are bad for my health is more important than buying products that are good for my health’.

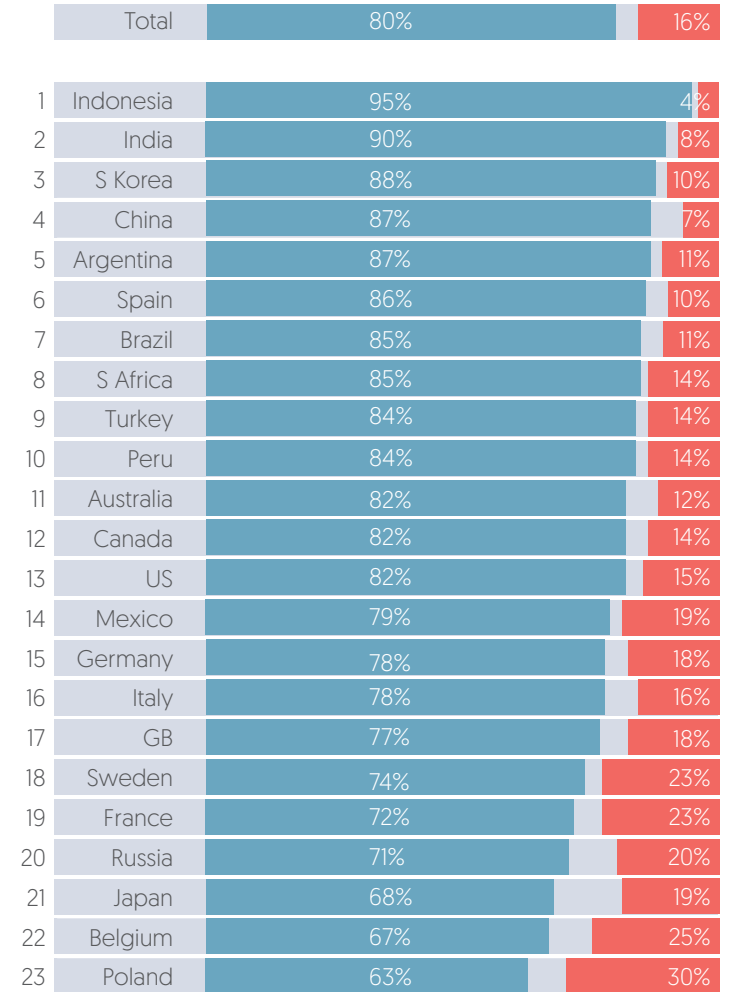
However, there is clearly a gap between the knowledge about the importance of eating right and the reality of obesity – proving that knowledge isn’t everything.



**INDIVIDUALS ACKNOWLEDGE THE ROLE OF A HEALTHY DIET IN MAINTAINING GOOD HEALTH**

Of all the things I can do to maintain good health, eating right is the most important

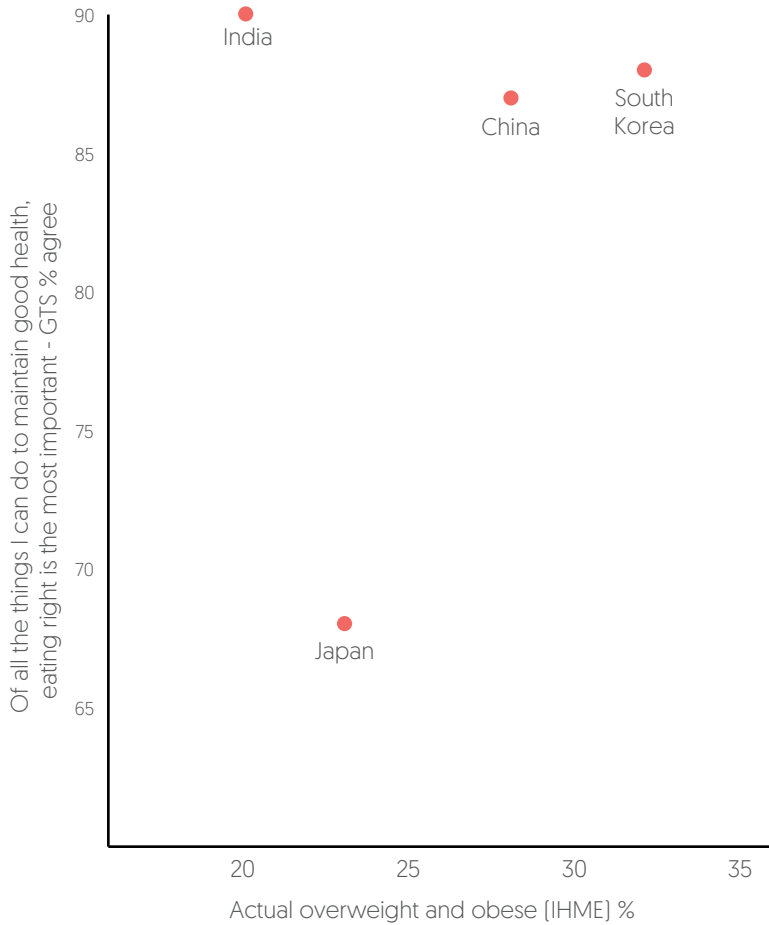
**% AGREE**  
**% DISAGREE**



**Source**  
Ipsos Global Trends survey 2017

**Base**  
18,180 adults across 23 countries, online, 12 Sep – 11 Oct 2016

**KNOWLEDGE IS CLEARLY NOT ENOUGH AS HIGH LEVELS OF OBESITY ARE OBSERVED IN MOST MARKETS DESPITE INDIVIDUALS ACKNOWLEDGING THE PRIMARY ROLE OF EATING RIGHT IN MAINTAINING GOOD HEALTH**



**Source**  
 'Actual' figures taken from Institute for Health Metrics and Evaluation (IHME). Ipsos Global Trends survey 2017.

**Base**  
 Ipsos Global Trends survey - 18,180 adults across 23 countries, 12 Sep – 11 Oct 2016.



## 4

# THE CONSUMER CHALLENGES

Consumers clearly see the link between excess sugar consumption and health, and acknowledge they have a personal responsibility to eat more healthily. However there are a number of challenges that lie in the way of the individual taking responsibility.

### 1. The intention-behaviour gap

The biggest challenge is that humans are notoriously ambivalent when it comes to behaviour change – consider the proportion of people who fail to diet successfully, give up smoking or start exercising. There is often much effort put into planning and thinking through strategies, but after an initial burst of focus and enthusiasm we often sadly revert to the norm.

### 2. Optimism bias

We also need to factor in the effects of optimism bias – a belief that you are less at risk of something bad happening than most other people. This bias drives individuals to believe that they are less likely to be susceptible to the consequences of their behaviour and hence put off making any changes.

### 3. Denial and shame

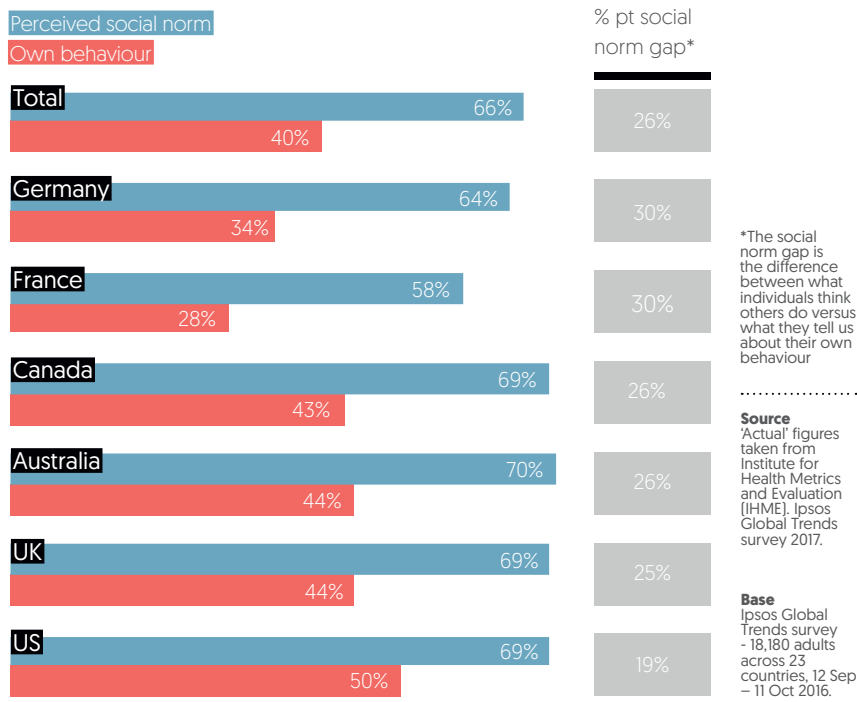
A further complication is an element of denial or shame that we see associated with sugar consumption. In our work for the International Behavioural Exchange Conference we found the perceived 'social norm' is that on average two thirds [66%] of people eat more sugar than the recommended daily amount [RDA]

Only 40% of people admitted that as an individual they eat more sugar than the RDA. This 'social norm gap', that eating too much sugar is someone else's problem, not mine, is important. If people are not fully facing up to the fact that they are consuming too much sugar, then it will be harder to shift behaviour.

**THERE IS CLEARLY AN ELEMENT OF DENIAL AND SHAME ASSOCIATED WITH OVER CONSUMPTION OF SUGAR DEMONSTRATED BY THE SIZE OF THE SOCIAL NORM GAP**

Out of every 100 people in [country], how many do you think eat more sugar than the recommended daily limit [RDL is 50g sugar equal to 12 tbsp]?

To what extent do you agree or disagree with the following statement: I eat more sugar than the recommended daily limit



**THE SOCIAL NORM GAP FOR SUGAR IS IN LINE WITH OBVIOUSLY ILLEGAL OR IMMORAL BEHAVIOURS, LIKE TAX AVOIDANCE AND TAKING 'SICKIES'.**

We explored the social norm gap for other undesirable behaviours during this research. Alarmingly, the social norm gap for sugar is in line with immoral and illegal behaviours, such as tax avoidance and taking 'sickies'. This gap is much greater than for issues such as saving for retirement or doing the recommended levels of exercise, where data shows that people are, on average, more likely to put themselves close to the norm. Could this norm gap be a clue to how acceptable or unacceptable a behaviour is seen to be?

This provides important context for producers and retailers: if there is shame attached to over-consumption of sugar, we're much less likely to see consumer rebellion at imposed restrictions from government or regulators. We are happy to admit we exercise just as little as everyone else, but not that we consume as much sugar as others. The corollary of this is that prescribed exercise seems very likely to go down badly with people but restrictions on sugar are likely to cause much less outrage. Producers cannot rely on protection from their consumers.

The hypothesis around sugar consumption and shame also has important implications for interventions. Learning from work conducted by Cialdini<sup>14</sup>, it appears the use of injunctive norms [i.e. the degree of disapproval with regard to a behaviour] could be far more powerful in stemming the over consumption of sugar than descriptive norms [i.e. details on the proportion of people who are overweight and obese]. A useful consideration for future public health campaigns.

**THE SOCIAL NORM GAP FOR SUGAR IS IN LINE WITH ILLEGAL AND IMMORAL BEHAVIOURS SUCH AS TAX AVOIDANCE AND TAKING SICKIES**

% social norm gap between what individuals think others do versus what they tell us about their own behaviour

Avoid paying full amount of tax

30

Pretend to be sick to not go to work

29

Eat more than the recommended amount of sugar

26

Not saving enough for retirement

4

Do the recommended amount of physical activity

4

Source  
Ipsos Global  
Trends survey  
2017

Base  
c.1,000 residents  
aged 16 - 64  
(18 - 64 in the US  
and Canada) in  
each country,  
August 2015

#### 4. Our sheep-like tendencies

Humans have a tendency to follow others, driven by the desire to fit in. How often do you decline a piece of cake or a glass of wine with a friend because they have declined it, when in reality you want that cake or wine – or vice versa – you feel obliged to eat or drink when you don't really want to. Research supports this idea of aligning our behaviour to others by demonstrating that thin people tend to have thin friends and more overweight people tend to have more overweight friends.<sup>15</sup>

Anders Gustafsson from the University of Oslo<sup>16</sup> also discovered that we compare ourselves to others when we make choices. He stated that "When we meet a healthy, or even slightly overweight waiter, we subconsciously choose to follow this norm and pick

our meal accordingly. Yet when we meet an unhealthy waiter, we choose whatever we feel like eating. They don't look like they care what we eat, anyway. Our brain concludes that they are not someone we want to identify with.

The challenge is how can we create a culture that encourages healthier eating practices that others feel compelled to follow?

#### 5. Self-awareness

Prior research reviewing diet and nutrition surveys, relies on self-reported consumption, and their analysis suggests that the data being captured could be very misleading – in fact we could be eating up to 3,000 calories per day compared to the circa 2,000 cited in official surveys<sup>17</sup>.

The reason for this under-reporting is that consumers often find it difficult to understand or track what they eat – particularly if they are asked to report specifics such as how much sugar they are consuming. This is evidenced by ethnographic work conducted by Ipsos MORI for Public Health England (PHE), where we observed high levels of inconspicuous consumption of calorie dense foods when people are distracted either in social situations or when immersed in activities such as the use of screens [TV, laptops, tablets and phones]. Our experience has also shown us that the very action of asking people to keep a diary is an intervention in itself and has the effect of modifying behaviour.

#### 6. Awareness of sugar content

Consumers generally have little awareness of the sugar content of different products. Taking something as familiar as a 330ml can of carbonated soft drink, apart from the UK, Japan and China, there is a significant over estimation of the amount of sugar that the product contains. In South American countries the estimate is more than double the actual amount [Ipsos Global Trends survey 2017].

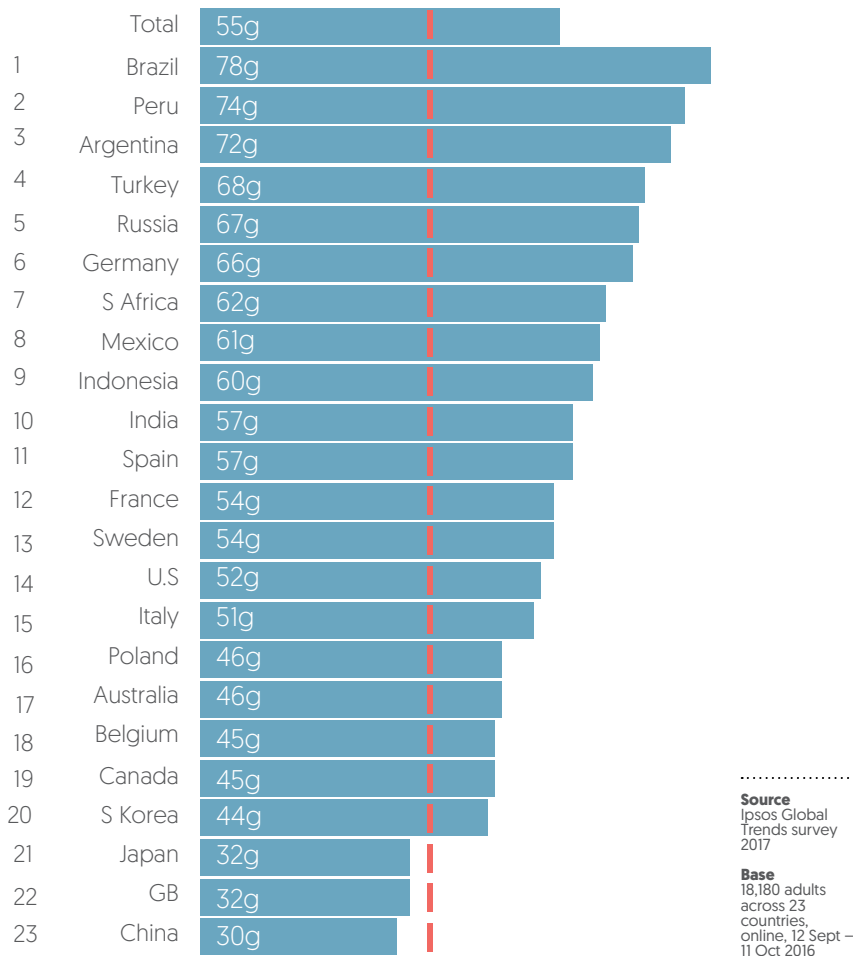
In some ways this may seem encouraging from a public health perspective: people are getting the message that these drinks are high in sugar, they are just out in their estimations. But it also highlights the huge gulf between understanding and reality in many countries, which should concern producers, and more generally the extent to which people are basing their judgements on faulty impressions.

**EVEN IN A PRODUCT AS FAMILIAR AS A CARBONATED SOFT DRINK, MOST CONSUMERS ARE UNABLE TO ROUGHLY ESTIMATE THE SUGAR CONTENT**

One gram of sugar is equivalent to about a quarter of a teaspoon. About how many grams of sugar do you think there are in a typical 330ml can of cola?

**AVERAGE GUESS**

**ACTUAL [35G]**



## 7. The energy equation

Compounding the problem is a poor understanding of the amount of exercise needed to burn off the sugar in a carbonated soft drink [Ipsos Global Trends survey 2017]. In most developed markets there is again over-estimation, in this case almost double. This clearly points to the need for greater education on both sugar content and an understanding of the energy balance between calories in and calories burned.

It is not clear whether consumers are even aware of their recommended daily calorie intake. This could be important as an academic study conducted in the US in 2014 observed that people who correctly identified the daily calorie recommendation for a typical adult, on average, drank nine fewer sugar sweetened beverages a month than those who didn't know about Recommended Daily Allowances [RDAs].<sup>18</sup>

Access to technology, such as connected devices, is making it possible for individuals to more closely monitor their behaviour and energy balance. With the advent of the Internet of Things, automated shopping and recommendations could provide individuals with healthier alternatives to help them keep within their sugar limit, alongside apps that can suggest activities in order to burn excess calories.

## 8. Consumers want to 'have their cake and eat it'

The final, and not insignificant challenge, is that consumers want to have their cake and eat it! Despite the awareness of the dangers that free sugars present, the majority of consumers still see moderate amounts of sugar as part of an overall healthy diet [66% of Americans think this]<sup>19</sup> and 74% of UK consumers say it is fine to eat sugary food as an occasional treat.<sup>20</sup> This is reasonable and correct - we have to enjoy our life - but both of these lines of thinking rely heavily on self-control, which as we have seen, we find difficult.

Even though there is acknowledgment and intent, it will take more than the individual alone to make the required behaviour changes to get sugar consumption under control.





## 5 GOVERNMENT AND INDUSTRY

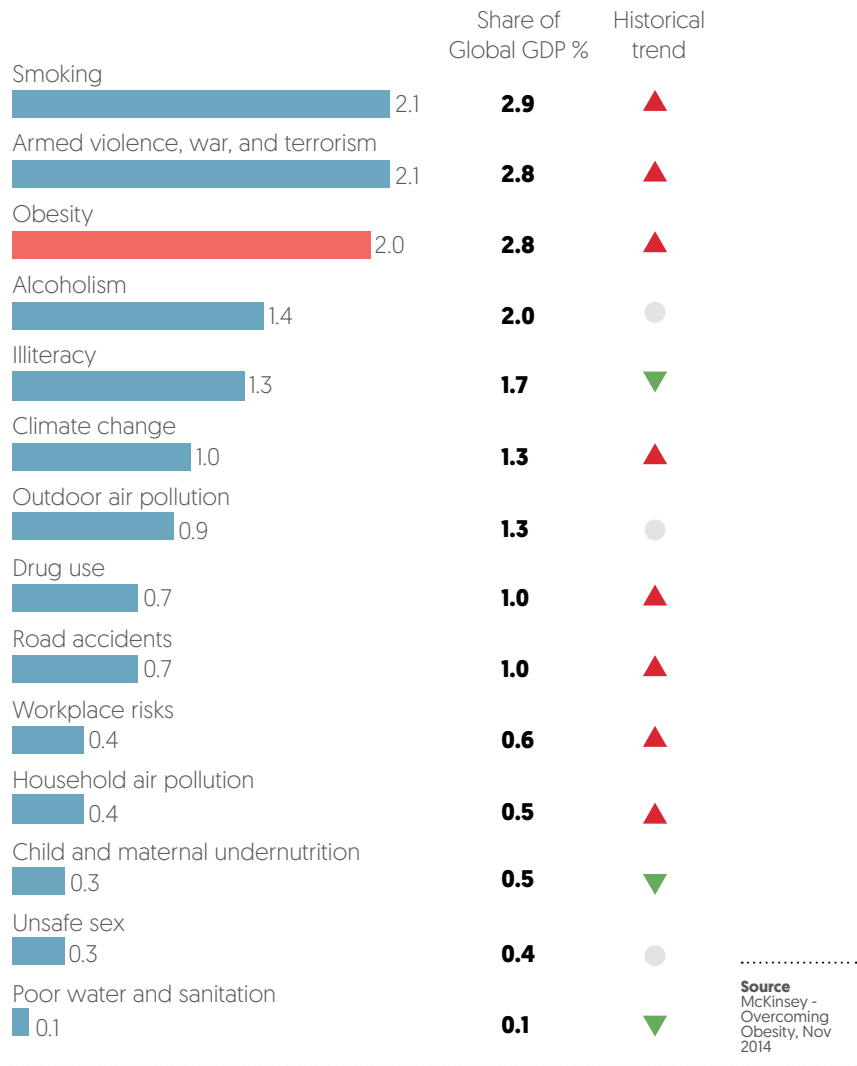
After smoking and armed war/violence/terrorism, obesity comes a close third as a global social burden generated by human beings, at the cost of \$2 trillion.<sup>1</sup> Of course sugar is far from the sole culprit, but it is no surprise that there is an acknowledged need for intervention and regulation beyond the individual.

In the UK, the Department of Health set up the Responsibility Deal (RD) in 2011.<sup>21</sup> This is a voluntary scheme that asked companies to sign up to a pledge to support healthy choices. A number of manufacturers signed up to this deal, however there has been some criticism about how effective the agreement is without specific guidelines and/or sanctions.

Public Health England (PHE) launched their Change4Life campaign back in 2009.<sup>22</sup> As part of this they have more recently introduced their 'Sugar Swaps' initiative – encouraging families and children to make simple dietary swaps e.g. from a muffin to a fruited teacake or toasted bagel. A small pilot of this initiative saw a 40% reduction in sugar intake over the course of a month.<sup>23</sup> The Change4Life campaign has also seen the introduction of the mobile phone app 'Sugar Smart' which scans product barcodes to inform consumers about the amount of sugar a product contains. Both of these initiatives as well as the more recently launched 'Be Food Smart' all work to inform and guide consumers to healthier choices.

**OBESITY IS ONE OF THE TOP THREE GLOBAL SOCIAL BURDENS GENERATED BY HUMAN BEINGS**

Estimated annual global direct economic impact and investment to mitigate selected global burdens, 2012 GDP, \$ trillion



THE WORLD HEALTH ORGANISATION STATE THAT INTAKE OF FREE SUGARS SHOULD BE LESS THAN 10% OF TOTAL ENERGY INTAKE AND IDEALLY 5% – LEVELS IN MANY DEVELOPED COUNTRIES ARE CURRENTLY AS HIGH AS 17%

In 2015 the WHO published sugar intake guidelines for adults and children with the aim of reducing obesity and dental cavities. The recommendations state that the intake of free sugars should be less than 10% of total energy intake and ideally 5%.<sup>24</sup> Levels in many developed countries are currently as high as 17%.

The WHO also has ongoing projects to evaluate the impact of policies in this area such as food labelling and production quotas. More recently, the Department of Health launched their strategy to combat child obesity in England.<sup>25</sup> However, there has been criticism from various bodies and lobbying groups that the long-awaited strategy and suggested promises have not been fulfilled.

The strongest and most notable planned intervention is the UK government's 'sugar tax' which is due to come into force in April 2018. This tax will be applied to all soft drinks with added sugar at two levels [at 5g/100ml and 8g/100ml]. Pure fruit juice drinks and drinks with a high levels of milk content will be exempt. Although PHE are applying pressure for companies producing these drinks to voluntarily cut levels of sugar to avoid an extension of the sugar tax when a review takes place in 2020/21.<sup>26</sup>

With the introduction of these taxes, the UK joins countries like Mexico and Denmark and it is one of the clearest signs that governments are serious about addressing the sugar crisis. The introduction of these taxes is the clearest sign that governments are serious about addressing the sugar crisis.

However, taxation of sugar is a controversial topic and Finland, who applied a tax beyond soft drinks to confectionery, ice-cream and chocolate in 2011, made the decision only four years later to abolish the tax – a decision which will come into force at the beginning of 2017.<sup>27</sup> The reversal of this tax was driven by pressure from the European Commission and producers who criticised the tax as violating the EU laws on fair and equitable treatment. The argument being that the tax was not fairly applied and penalised producers of similar products differently.

Despite there being clear evidence that these taxes have reduced sugar consumption in some countries and regions where they have been applied<sup>28</sup> there is much controversy over the fact that these measures also disproportionately impact the poor.<sup>29</sup>

The food and drink industry is already taking steps to address the sugar challenge, with soft drinks leading the field, addressing the consumer desire for all things sweet whilst also focussing on the dietary health concerns. Significant effort has been put into re-formulating toward lower sugar and sugar-free product variants in soft drinks. The effect being that UK manufacturers have already reduced sugar in soft drinks by 17.8% since 2014.<sup>25</sup>

Aside from focussing on sugar substitutes, the food and drink industry has also made interventions around portion sizes. Specifically single serving portions, 'child-friendly' portions, smaller but higher quality products and the removal of double-serving options from the market. In addition, the industry has been working with government and lobbying bodies to identify the best ways to display RDAs, calories and sugar content.



## 6

# A FRAMEWORK FOR THE FUTURE

No single initiative will be effective enough on its own to re-balance our sugar consumption while maintaining acceptable levels of free choice. Instead, it is going to require a multi-faceted approach involving individuals, government, manufacturers and retailers together.

The food and drink industry has a central role to play in the process. There is the opportunity to take a more proactive stance in leading initiatives to create a healthier global population that will build consumer trust and confidence.

In order for this to be effective, a framework needs to be created to understand where the biggest wins lie, both for the industry and the consumer, and how this fits with complementary initiatives that should be driven by government and retailers.

A report published by McKinsey in 2014 presented an economic analysis on combatting obesity, detailing 74 interventions grouped under 18 themes and reviewed the evidence for the efficacy of each intervention.<sup>6</sup> Further, a 2015 review by PHE identified eight actions that are most likely to reduce sugar consumption.<sup>26</sup>



By cross-referencing these reports, it is possible to isolate those interventions most pertinent to the sugar debate.

Aside from the efficacy of these interventions, thought also needs to be given to the legitimacy of some of the suggested initiatives and actions. Criticism has already been levelled at the sugar tax, which some say hints at a 'nanny state' where free choice is being restricted.<sup>30</sup>

Even though polling indicates broad public support for various potential government policies to tackle obesity, [85% would support compulsory health warning levels on food and drinks which are high in sugar and 72% would support legal maximum limits on the amount of sugar allowed in food and drink], there is

also evidence that consumers are split on whether there should be a ban on processed food/drink high in sugar - 46% would support this and 52% say they would oppose.<sup>31</sup>

The 'intervention ladder', drawn up by Nuffield Health,<sup>32</sup> is designed to consider the justification (benefit vs freedom) for different initiatives so that the appropriate level of intervention is identified. The bottom end of the ladder being 'do nothing or monitor' through to state interventions which 'eliminate choice'. The philosophy is that the further up the ladder you go; the more evidence is required on the efficacy of the intervention in order to justify the loss of freedom/choice. This provides a valuable layer to add to the evaluation of all sugar reduction initiatives.

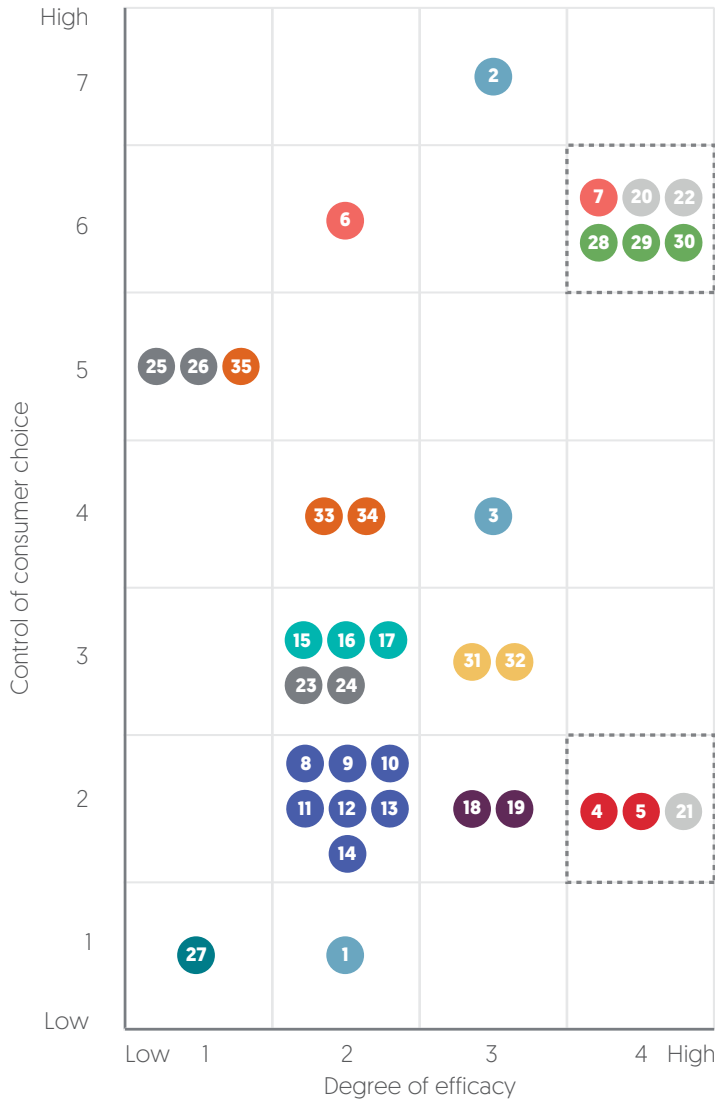
The graphic on the following page provides an overview of those initiatives identified as relevant and useful to the reduction of sugar in the diet, as well as the potential efficacy of those interventions (using learnings from the McKinsey report) and the degree of control that they exert using the principles of the 'intervention ladder'. This framework can be used to prioritise initiatives and evaluate where the easy wins lie.

Of specific interest are the group of interventions to the right of the framework where there is evidence of a high degree of efficacy. For retail these include providing greater share of space and prominence to healthier products, interventions which are both highly efficacious and have a very low degree of control.

For manufacturers, highly effective interventions that assert some degree of control include: limiting access to high-calorie products in schools, stealth reformulation of food and drink products by manufacturers, the reduction of portion sizes and the removal of extra-large single serve offerings. These retailer and manufacturing changes would be best supported by government interventions in the education system including: education on nutrition at a pre-school and primary level as well as education and increased physical activity for children in school.

If the industry can lead on initiatives such as reformulation, portion sizing and labelling, where the health-benefit return is significant, then this may off-set the need for more stringent interventions to be imposed.

**SUGAR INTERVENTION FRAMEWORK**



Source  
McKinsey 2014  
and Nuffield  
Health  
Intervention  
Ladder

**HEALTHY MEALS**

- 1 Promote healthy eating through campaigns and recipes
- 2 Free compulsory school meals for all
- 3 Subsidise compulsory school meals for all

**HIGH CALORIE FOOD AND DRINK AVAILABILITY**

- 4 Allocate greater share of space to healthier products and categories
- 5 Allocate greater prominence (aisle end, checkout, store entry) to healthier products
- 6 Reduced access to high-calorie food in schools - self regulated
- 7 Reduced access to high-calorie food in schools - regulated

**LABELLING**

- 8 Calorie/nutrition plain labelling on packaged foods - self regulated
- 9 Calorie/nutrition 'engaging' labelling on packaged foods - self regulated
- 10 Portion size 'engaging' labelling on packaged foods - self regulated
- 11 Calorie/nutrition plain labelling on packaged foods - regulated
- 12 Calorie/nutrition 'engaging' labelling on packaged foods - regulated
- 13 Portion size 'engaging' labelling on packaged foods - regulated
- 14 Provide traffic-light rating of basket of contents at checkout

**MEDIA RESTRICTIONS**

- 15 Restricts advertising of high-calorie food on all advertising support
- 16 Restricts advertising of high-calorie food on TV from 6am to 9pm
- 17 Voluntary restricts high-calorie food advertising (e.g. to children)

**PARENTAL EDUCATION**

- 18 Parental education to parents of pre-school children on nutrition and feeding styles
- 19 Parental education to parents of school children on nutrition and feeding styles

**REFORMULATION**

- 20 Food producers deliver small (stealth), incremental changes to formulation of food products
- 21 Introduce new product ranges with improved nutrition profile and advertised as such
- 22 Beverage producers deliver small (stealth), incremental changes to formulation of beverages

**PRICE PROMOTIONS**

- 23 Producers restrict promotional activity of high calorie food and beverages - regulated
- 24 Retailers restrict promotional activity of high calorie food and beverages - regulated
- 25 Retailers voluntarily increase price of high calorie food and beverages
- 26 Producers voluntarily increase price of high calorie food and beverages

**PUBLIC HEALTH CAMPAIGNS**

- 27 Launch public-health campaign promotion healthy eating habits

**PORTION CONTROL**

- 28 Food producers reduce average portion size
- 29 Beverage producers reduce average portion size
- 30 Remove extra large single-serve portions from packaged food ranges

**SCHOOL CURRICULUM**

- 31 Schools mandate or increase amount of physical activity in curriculum
- 32 Schools include or increase amount of nutrition-health education

**SUBSIDIES, TAXES AND PRICES**

- 33 Subsidize fresh foods such as fruit and vegetables
- 34 Personal subsidies (e.g. food stamps for low income households for sole use on healthy food types)
- 35 Tax or order to drive price increases on certain types of food or nutrient

## 6.1

# REFORMULATION

The food and drink industry has already taken significant action through reformulation to reduce sugar and/or to replace sugar with lower/no calorie alternative sweeteners, providing revised versions or additional variants to create options for the consumer such as Heinz 50% less salt and sugar baked beans. The sugar tax will, of course, lead to soft drinks manufacturers focusing even further on reformulation in order to maintain levels of profitability.

Reformulation does face major obstacles, particularly in relation to taste and the perceived health and safety of sugar substitutes. In products where sugar performs a number of other functions, including mouthfeel, preservation and humectancy (maintaining moisture), there are also major challenges to overcome.<sup>33</sup>

We know that taste (irrespective of whether in a food or drink) is still the number one driver of choice and consumers are not totally willing to sacrifice the taste of their products for health benefits.<sup>8</sup> They also want to have the ability to experience the delight that sugar can bring in providing emotional reward or comfort through products like ice cream, cakes, chocolate and sweets – with 60% saying that they ate sugar because they liked the taste and 33% because sugar improved mood.<sup>8</sup>

The two main options available in reformulating products are:

1. To reduce the sugar level by stealth – making small and gradual reductions in the sugar content with either no or a barely noticeable difference by consumers over time.
2. To totally remove or reduce sugar and replace it with low/ no calorie alternative sweeteners (natural or artificial).



Alternative sweeteners [artificial and naturally sourced] have had a central role to date in providing a sweet taste without the associated calories. The issue though is that most, if not all, of the sweetener alternatives available to the industry today have a sub-optimal taste profile which isn't able to mimic the pleasing and rounded taste of natural cane sugar, sugar beet or high fructose corn syrup. Most of these alternative sweeteners suffer from a metallic or bitter taste and aftertaste, which, as we know from the opening discussion in this paper, are not innately positive. Even naturally derived sweeteners such as Stevia have a less than perfect taste profile.

Aspartame is one of the most popular artificial sweeteners used across the industry, primarily because of its positive taste profile – being close to sucrose. However, this sweetener has to be avoided by a small proportion of the population who have the genetic condition phenylketonuria (PKU). It has also been dogged by controversy about its safety generally – although there is no scientific proof to date that these concerns are justified. More consumer understanding is required to uncover the basis for these health concerns.

It is not possible to ignore the power of consumer preference and the 'taste first' consumer mind set. This is well known in the case where PepsiCo moved away from and then back to Aspartame in the formulation of Diet Pepsi in the US.<sup>34</sup>

Any health and safety concerns which hang over alternative sweeteners are currently perceived rather than proven. However, recent stories linking consumption of low and no-calorie soft drinks to increased risk of stroke and Alzheimers will not help to diminish concerns.<sup>35,36</sup>

New sweetener options are being explored all the time, particularly plant based sweeteners which offer both slow release energy (low glycaemic index) and a good taste profile, along with addressing some of the concerns around dental health and diabetes.<sup>9</sup> We are also seeing emerging technology delivering sweetness in other ways, to enhance sweetness perception whilst actually reducing sugar<sup>34</sup> and also the development of new better-tasting sweetener solutions based on sugar.

Reformulation by stealth, whilst costly for the manufacturers, does have benefits for the consumers. It takes advantage of the fact that we can quite quickly [over the course of weeks or a few months – depending on frequency of consumption] adapt to much lower levels of both salt and sweet. People reducing their salt intake, in order to reduce their blood pressure, have been able to adapt to significantly lower levels of added salt in their diet - to the extent that they find their previous levels of added salt quite unpalatable. The same principle applies to sugar – ask anyone who has reduced the sugar that they take in their tea or coffee. Although evidence suggests it is not as 'sticky' as with salt – people can return to their previous sugar preferences easily.<sup>37</sup>

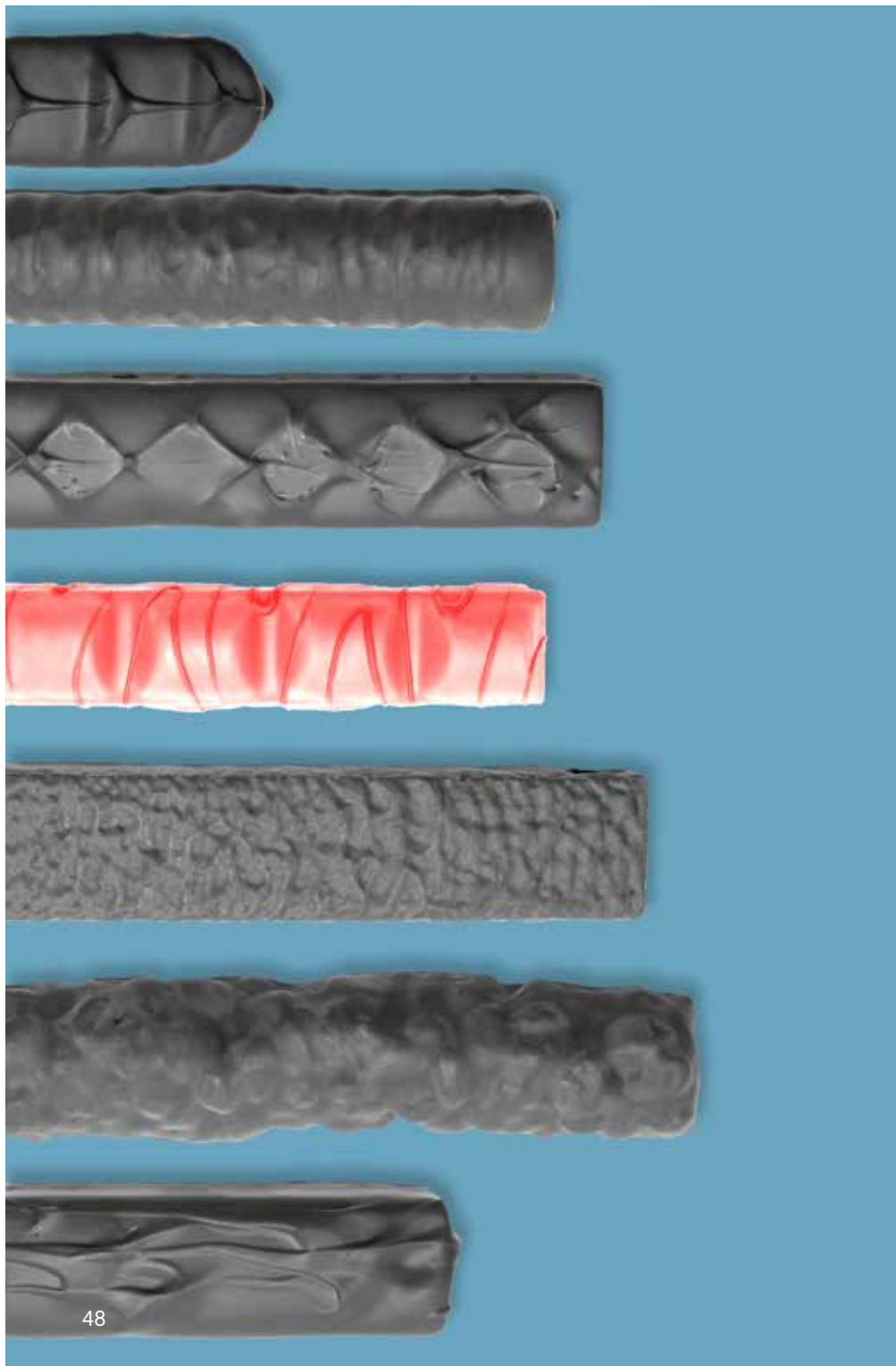
Stealth reformulation acts by steadily reducing sugar over time and taking the consumers on a journey to educate their palates to a lower sweetness level whilst taste acceptability is maintained.

Politicians in the UK also show strong support for reformulation, with two-thirds, of the one hundred MPS interviewed by Ipsos MORI in December 2016, agreeing that reformulation by food and drink manufacturers would have the greatest impact on reducing sugar consumption. In addition, it is also the top intervention MPs say they would be most likely to support (46%).

Alongside stealth reformulation there is still a role for up-front reformulation where manufacturers can offer 'reduced sugar' line extensions to provide choice to consumers. Leading the march on corporate responsibility, Nestlé made the commitment in March 2017 to reduce sugar in their confectionery products by 10% by 2018,<sup>38</sup> clearly putting a stake in the ground to demonstrate their commitment and contribution to battling the sugar crisis. This demonstration of corporate responsibility will no doubt encourage other manufacturers of high sugar products to follow suit.

However, Public Health England clearly states that they are looking for a sugar reduction of 20% by 2020. There are some suggestions that many producers will look to make steps in the right direction to illustrate their engagement<sup>39</sup> in the hope that this will be deemed enough to indicate success. It is positive that most of the food and drink industry are starting to act on the recommendations, but there is still a long way to go and the journey is not going to be an easy one.





## 6.2

### PORTION SIZE

Reducing pack sizes in confectionery has been happening over a number of years. Although some suspicious consumers doubt whether this is to do with corporate responsibility rather than manufacturers charging the same for less. In reality a number of confectionery bars have yo-yoed in terms of their weight with single serve bars being at their lightest in the 70s, increasing in weight during the 90s and then coming back down in weight during the noughties. However, it would appear not as low as the original weights in the 70s.<sup>40</sup>

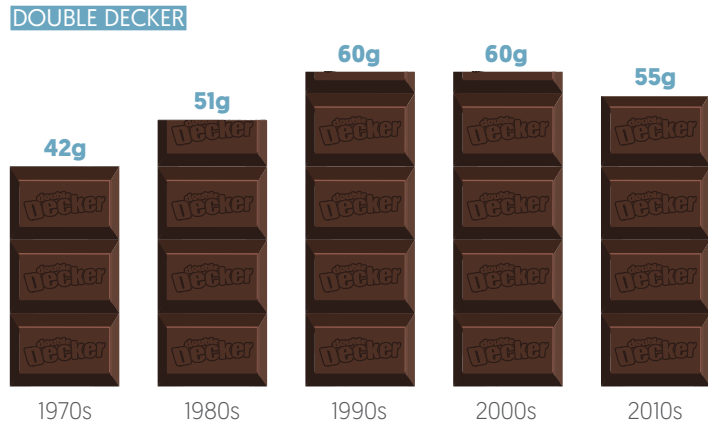
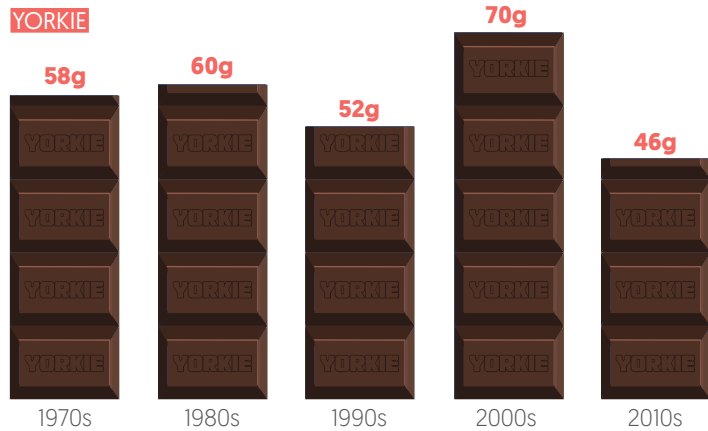
What this does suggest though is that there is an opportunity to reduce portion sizes down to the level of the 70s, or possibly further. Indeed, there is evidence that consumers are open to a reduction in portion sizing as long as they get their indulgence.

In the Ipsos Global Trends survey 2017, approx. 50-60% of people in the developed world (and as high as 68% in Italy) say “I eat less chocolate and candy these days, but when I do I want them to be higher quality as they’re a special treat or indulgence”.

Premiumisation of chocolate, with much smaller serving sizes and the use of dark chocolate (known for its health benefits), could certainly have a role to play too.<sup>41</sup> Calorie controlled portions – for example framing choices at 100 calories – could also aid consumers in making more measured choices when they want an indulgent treat.

Manufacturers face a hard sell to consumers here though, dealing with that perception that producers are acting in their own (profit) interests rather than the consumers'. Governments and regulators should be considering how they provide more top-cover for this, reinforcing the message that it is one (required or encouraged) element of a coherent sugar reduction strategy – not stealth profit-mongering.

**THE CHOCOLATE BAR CHART - WEIGHTS THROUGHOUT THE YEARS**



<http://metro.co.uk/2015/10/15/are-they-shrinking-our-favourite-chocolate-bars-an-investigation-5441762/>

Source

Source  
Ipsos Global Trends survey 2017

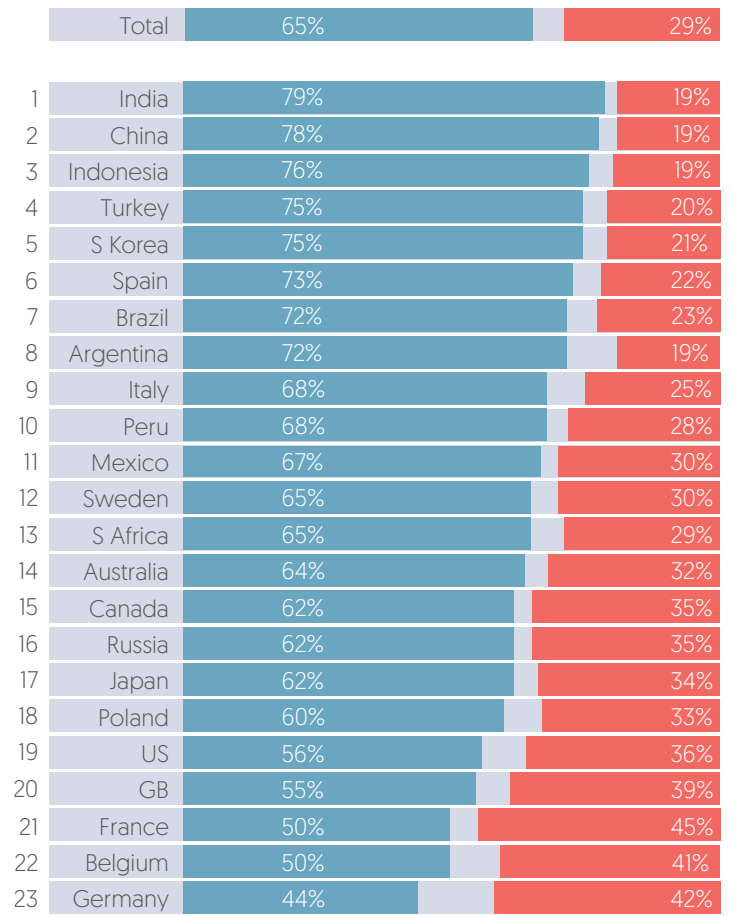
Base  
18,180 adults across 23 countries, online, 12 Sep – 11 Oct 2016

**CONSUMERS ARE WILLING TO HAVE LESS CONFECTIONERY BUT THEY ARE NOT WILLING TO TRADE OFF QUALITY AND INDULGENCE**

I eat less chocolate and candy these days, but when I do I want them to be higher quality as they're a special treat or indulgence

% AGREE

% DISAGREE



## 6.3

**LABELLING**

Labelling is a highly complex area, evidenced by the fact that much effort has already been invested in evaluating and testing various different labelling strategies over the previous two decades. However, we are yet to come up with a solution that is truly simple and intuitive for all consumers to enable them to make better choices and eat more healthily.

It is an area where the saying 'a little information is dangerous' comes to mind. If the labelling solution is too simple then it is often open to interpretation. On the other hand, if there is too much information consumers struggle to understand and contextualise the meaning in relation to choice. It is accepted that some level of education is required and this certainly has a role to play in collaboration with the food and drink industry.

However, rather than worrying about educating on RDAs and % guidelines shouldn't we instead tune into the way consumers think about food and drink in their life? Much more research is needed to truly understand behaviour and choices, as well as the factors that impact and impinge on the choices made. How do consumers understand sugar intake and what elements in their diets contribute most to sugar intake whether it be a snack, a meal or a treat?

More intuitive labelling focusing on health warnings on high sugar products is needed. For example, how many sugar cubes represent your maximum sugar intake, or how many sugar cubes are contained within a product or product portion, in alignment with the Sugar Smart App.



## 7

### WHAT NEXT?

There is a growing consensus that more should be done to reduce sugar consumption, to avoid or reduce serious global health implications. However there is a very live debate about exactly how far we should go and how it can be achieved.

Enough is known about the complexity of the issue to be clear that a single initiative won't work: a multi-pronged approach is needed. This will involve commitment and cooperation across governments, manufacturers, retailers and ultimately consumers.

This report has outlined what people think, how they act and the interventions required. A few things are clear. Most importantly, the issue is not going away: attitudes among both consumers and legislators suggest that the best approach available to the industry is to engage rather than resist. Producers and retailers who resist the need for change seem likely to get little support from a consumer base that is already well attuned to a message that sugar requires some restriction. In fact, producers are more in danger of receiving blame rather than credit for sugar reduction approaches that are being requested of them.

Getting ahead of the direction of travel will therefore help the industry control its own destiny more effectively, and request support from government in return. The Economist refers to businesses that take a forward looking approach to engage on the broader social implications of their activities as "corporate oracles",

in contrast with “corporate fundamentalists” who primarily chase profit, but rarely succeed for long. This debate is as clear a case of the need for corporate oracle behaviour as you will see.

While we know a lot already, there are still significant gaps in our knowledge of how consumers think about sugar and how that then drives action. Until recently the vast majority of research has focused on consumer attitudes towards individual products and categories, and the impact of very specific interventions. To tackle the problem of over consumption effectively, a broader scope of research and insight work is needed.

In terms of interventions, we think the framework presented earlier provides a foundation to prioritise the different initiatives to ensure greatest health-return on time and investment. However, more evidence and work is needed to test these in different settings.

For example, reformulation has clear backing from MPs; it has been shown to work and we know that consumers can adapt. But it presents challenges for manufacturers, and is certainly not a magic bullet. Instead, we will need a mixed intervention approach, including the use of behavioural nudges and possibly incentivisation to conquer optimism bias and drive positive consumer choices in the future.

There are also many consumer questions that need better answers; outlined opposite. To reduce sugar consumption, it will be critical to address these knowledge gaps by putting the consumer at the very heart of the matter.

#### THE UNANSWERED CONSUMER QUESTIONS



What are the acceptable levels of sweetness for stealth reformulation?



How do people respond to new sweetener solutions?



What is the potential for a range of new lower sugar variants?



How best to create simple and informative labelling solutions?



How do misperceptions influence behaviour?



What role does our understanding of the social norm play in our own behaviour?



How much government or other regulatory intervention will the public stand?



How can revision in portion size help consumers whilst still delivering delight?

To get in touch with us,  
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