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Psychological perspectives on obesity: Addressing policy, practice and research priorities

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Contents

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Executive summary

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Obesity has received much attention from politicians, policymakers, healthcare professionals, the media and the public over the past few decades. Since the formal recognition from the UK government in 1991 that obesity was a sufficient threat to the health of the nation, a targeted response to address the issue has been a policy priority for almost 30 years. A wide range of policies are now in place, including the establishment of nutritional standards in schools, programmes aimed to boost physical activity, and weight management services. However, while some interventions and services have been successful at the individual and community level, there has been little impact at population level.

This report looks at what psychological evidence and perspectives can add to help improve our combined response to obesity. It seeks to guide professionals and policy-makers who are working with individuals, groups and populations that are impacted by obesity to take an approach that is guided by psychology. We have sought to produce guidance that recognises and builds on existing services, while identifying areas where further resources, standards, training and staff are required.

Summary of recommendations

REDUCING WEIGHT-RELATED STIGMA

- Journalists, policy makers, service providers and anyone who produces media about weight management should use language and imagery that does not stigmatise, for example using World Obesity's online image bank.
- There are still gaps in the evidence base. To develop the evidence base around emerging psychological approaches, public health research funders should incentivise research that seeks to answer questions around what language to use and how best to frame messaging about healthy weight, nutrition and physical activity to avoid stigma and promote healthy behaviours. This should include specific research to understand how to tackle the stigma that prevents people from using services and projects.
- Public health campaigns targeting weight management could be more effective by avoiding framing obesity as a simple 'choice' and using psychological evidence and expertise to design campaigns.
- Managers and commissioners of weight management services should ensure that their premises and equipment provided minimise the risk of increasing stigma.

PSYCHOLOGICALLY INFORMED POLICY

- Building on Public Health England's 'Improving People's Health' strategy, the government should explicitly adopt a psychological framework using evidence from behavioural and social sciences and proven behaviour change frameworks to organise a cross-departmental response.
- All new government statements, policy papers and strategies aimed at promoting healthy weight must demonstrate an understanding of the causes of obesity from a perspective that is informed by psychological evidence as well as consideration of the biological and social/ environmental factors.

STANDARDS AND GUIDELINES

- Commissioners should incorporate quality standards around the full implementation of evidence-based weight management programmes.
- NICE guidelines for the treatment of obesity should provide clearer, more detailed examples of how evidence based services can be implemented most effectively in different settings. Clinical guidelines should incorporate evidence on the role that psychological factors can play in obesity, for example addressing past trauma, unhelpful attitudes and behaviours towards food and physical activity and dealing with stigma, emotional regulation, and managing setbacks for long-term maintenance.
- The NICE and SIGN guidelines for the prevention of obesity should be updated with the input of psychologists with expertise in behaviour change and weight management to guide design of services.

TRAINING AND SUPERVISION

- A nationwide training and supervision programme in the provision of psychologically informed behavioural support for weight management should be made available to all those working with people to help them to lose weight and maintain weight loss.
- Evidence-based training, aimed at health care professionals and people working in the fitness and nutrition industries, which covers the impact of weight stigma and outlines best practice, would improve clinical practice and service delivery. This should be provided by health education bodies as part of undergraduate training as well as being offered by professional bodies as part of continuing professional development (CPD) and vocational training.
- All health professionals delivering weight management initiatives should have regular supervision sessions with a practitioner psychologist to increase their awareness of how mental health conditions and psychological factors can contribute to obesity and the success of treatment. This supervision would also help professionals to understand and address their own unconscious biases within their practice, language and behaviour.

WEIGHT MANAGEMENT SERVICES

- For weight management interventions to work most effectively, they need to be implemented properly and be able to cater for everyone who is an unhealthy weight, including those with a BMI over 50. Service providers, such as local authorities or CCGs, must ensure they commission evidence-based interventions and that they are fully implemented, fully resourced and are designed and delivered by people with appropriate psychological knowledge, skills and training.
- Weight management services are best delivered by integrated multidisciplinary teams (MDTs) that include psychologists who can support and train other team members to provide psychologically informed practice. All members of these MDTs should have an appropriate level of training in the underlying principles of how to change behaviour using psychological approaches. Health education bodies should invest in ensuring both psychological awareness for MDTs and more psychologists to support them.
- Services for children should be designed in the context of engaging parents in the context of stigma, concern about the development of eating disorders and parents' understanding of children's health and wellbeing.

INTRODUCTION

Introduction and overview

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Obesity is not a 'choice'. People become overweight or obese as a result of a complex combination of biological and psychological factors combined with environmental and social influences. Obesity is not simply down to an individual's lack of willpower.

The people who are most likely to be an unhealthy weight are those who have a high genetic risk of developing obesity and whose lives are also shaped by work, school and social environments that promote overeating and inactivity. People who live in deprived areas often experience high levels of stress, including major life challenges and trauma, often their neighbourhoods offer few opportunities and incentives for physical activity and options for accessing affordable healthy food are limited. Psychological experiences also play a big role – up to half of adults attending specialist obesity services have experienced childhood adversity.[2]

This report looks at what psychological evidence and perspectives can add to help improve our combined response to obesity. It seeks to guide professionals and policy-makers who are working with individuals, groups and populations that are impacted by obesity to take an approach that is guided by psychology. Chapter one seeks to broaden our understanding of the influences that can lead to individuals and whole populations becoming and remaining overweight and obese.

Next, chapter two looks at evidence around stigma and shows how the common view that the cause of obesity resides within an individual has created negative stereotypes that have allowed weight bias and discrimination to go unchallenged. This has an impact not only on individual experiences but also on the way that policies and support services are designed. Since both services and service uptake can be compromised as a result, the importance of addressing weight stigma must be integrated as a central component of weight management services.

Behaviour change is central to the prevention, management and treatment of obesity for individuals, groups and entire populations. Reversing the trend of increasing obesity rates over the past decades requires an integrated, evidence-based approach that recognises behaviours are influenced by a combination of biological, psychological and social factors. The report outlines how psychologists working in behaviour change science have designed interventions that work for individuals, groups, communities and whole populations.

Chapter three outlines some of the policy frameworks and interventions that can bring about some of the large-scale population level behaviour change that is needed. It sets out how all these different elements and different levels of approach are connected, and why they are all needed as part of a joined-up response to obesity. While prevention activity can reduce demand, and community interventions can ease pressure on health services, the need for specialised services will not be eradicated and maintaining progress after an initial weight-management intervention is not guaranteed. A psychological understanding of obesity will add new evidence-based effective tools to policy-makers and practitioners toolkits.

Chapter four examines community level interventions that have proven successful to change the behaviour of groups and communities.

The final chapter looks at specialised services, demonstrating that, while clinical guidance is available, there is a challenge to ensure that it is followed, that recommendations are fully implemented and that specialist obesity services are able to provide holistic care.

Policy and practice is already informed by evidence on biology, nutrition and some awareness of social context, but to be most effective it needs to become better informed by psychological knowledge and practice. Psychological evidence, expertise and experience from the frontline in weight

management services can help to make efforts to tackle obesity more effective at every level. At the heart of this must be an increasingly sophisticated understanding of the underlying mechanisms that cause obesity and a commitment to an approach that responds effectively to biological, psychological and social factors.

TALKING ABOUT OBESITY: A NOTE ON LANGUAGE

There is considerable debate about the most appropriate language to describe weight and this poses a real challenge for those working with people who are classified as overweight or obese. There is a lack of evidence about the impact that language can have on the effectiveness of responses to manage obesity.

This report will predominantly use first-person language that considers people in a more holistic way, rather than by a characteristic[1] for example 'a person with obesity' or living with obesity rather than an 'obese person'. Where possible, we strive to use person-centred language and a strengths-based approach.

1. The causes of obesity – A complex interaction

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While obesity is ultimately the result of an energy imbalance, the behaviours that create this imbalance are influenced by a complex interaction of biological, psychological, sociological and environmental factors. People become overweight and develop obesity from regularly eating too many calories or living a sedentary lifestyle and taking in more energy than they expend. But many of the factors that shape these behaviours are due to influences that are outside the individual's control and are characteristics of their environment.

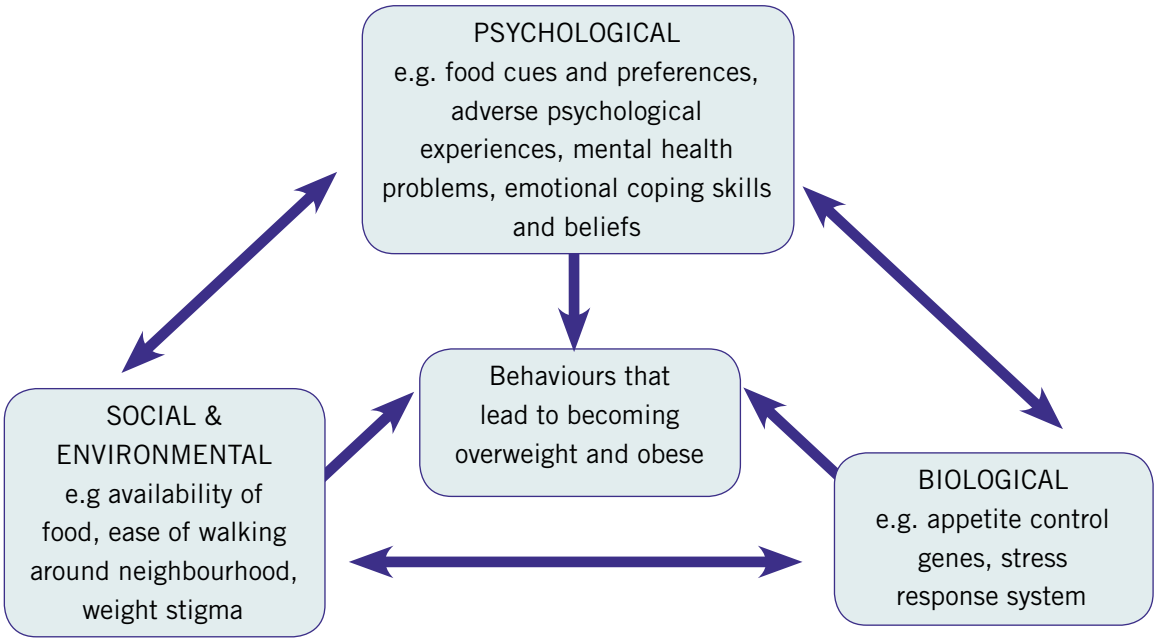
A deeper understanding of obesity that explores these different behaviours in the context of the biological, social and psychological influences that an individual experiences can lead to a more effective response to obesity.

A PSYCHOLOGICAL APPROACH TO UNDERSTANDING OBESITY

Psychologists approach obesity by considering people within the context they live in – their social influences and networks, cultural and societal norms, as well as the physical environment and physiological factors. This is referred to as the 'biopsychosocial model'[3]. Only a biopsychosocial approach can account for the fact that individuals and environments both have an important role to play in the development of obesity and influence each other.

By focusing attention on the determinants of behaviour, and not simply the behaviour itself, biopsychosocial approaches to obesity integrate the many complex influences on obesity within a single framework.

Figure 1: A bio-psycho-social approach to obesity



Biological influences

Behaviours linked to eating and physical activity originate early in life. They are underpinned by biological processes that influence how they develop and are expressed in later adulthood.

GENETIC INFLUENCES

Despite the ubiquity of the 'obesogenic' environment, not everyone is obese. Research evidence points strongly to genes being a major part of the explanation for why some people are more susceptible to becoming obese than others. Over 100 twin and family studies have established that 50–90 per cent of weight differences between people can be explained by genetic influences.[4]

Molecular genetic studies have identified more than 100 specific genes involved in weight difference and obesity.[5] Many of the genes that are associated with obesity appear to impact the part of the brain – the neurobiology – that controls appetite regulation, and these genes are therefore expressed as eating behaviour. People's differing interest in food, their ability to know when they are full, and emotional eating all have some genetic basis.[6]

Genes prime some individuals to want to overeat in response to environmental triggers, such as when an opportunity to eat arises or in response stress. As the environment has changed and pressure to eat more has increased, individuals at strong genetic risk have become more susceptible to excess energy intake than ever before.

THE IMPACT OF STRESS

There is a well-established association between stress and obesity in adulthood.[7] Exposure to chronic stress, such as financial insecurity, family discord, the stress of being part of a stigmatised group, or mental illness, results in the person's stress response system being constantly activated.

The experience of stress increases the risk of excessive weight gain both directly and indirectly. Chronic activation of the stress response system results in greater accumulation of internal body fat (visceral fat), which is a type of body fat stored in the abdomen and surrounding the internal organs.[8] Stress also influences a range of behaviours, such as sensitivity to food cues and cravings that lead to eating more or choosing more calorific-dense foods.[9]

Having a stress response system that is persistently activated has several consequences that influence the tendency to gain weight:

- Reduced activity in the prefrontal cortex, which is responsible for a person's conscious control of planning and decision-making, makes it more likely that people will eat when they are not hungry and have a decreased ability to regulate their diet and eating behaviour.
- Disruptions to the way the brain processes reward messages are associated with increased consumption of foods that are high in fat and sugar.
- Changes to the balance of hormones responsible for regulating appetite compromise our ability to respond to signals associated with being full (satiety), resulting in increased appetite, particularly for high fat and high sugar foods.
- Tiredness as a result of reduced sleep quality or duration means tiredness can make people feel hungrier.[10]

Psychological influences

While it is difficult to separate the uniquely psychological influences on obesity from their biological and social causes, there are a number of cognitive, behavioural and emotional influences on eating and activity behaviour that are associated with the development of obesity.

EATING BEHAVIOURS

Food preferences play an important role in determining what foods people choose to buy and consume. These are shaped significantly by how often people are exposed to certain foods and as a result prefer the most familiar. Food preferences start to develop at the beginning of life and show remarkable stability from childhood through to adulthood.[11] This highlights the importance of how parents feed young children and the need to expose them to a wide range of food choices that include fruit, vegetables and whole grains. The wider food environment also shapes food preferences so that children and adults in poorer neighbourhoods or living in food poverty are more likely to be exposed to more energy dense and nutritionally poor foods.[12] This helps to explain the link between socioeconomic status and diet quality.

HOW PARENTAL BEHAVIOUR SHAPES EARLY FOOD CUES

Kate is an anxious new mother who is concerned that her baby girl Emma is on the lower percentile for weight so she begins to overfeed her. Emma learns that by drinking more milk her mother is less anxious and that makes her feel safe. She is learning that if she ignores her own need to feed until she is naturally full and instead overeats, she will feel safe. Baby Emma is learning that food helps her to feel safe and cope with emotional distress. Emma is gaining weight and the health visitor is pleased, so Kate is relieved and proud that her new approach is working so continues to overfeed.

FOOD CUES

Individuals who are more responsive to external 'food cues' tend to eat more in response to the sight, smell or taste of palatable high sugar or high fat food. Similarly, those who are less sensitive to internal feelings of fullness are at greater risk of obesity.[13] The increased availability and advertising of tasty, highly palatable energy dense foods, can lead to individuals who are highly responsive to food consuming excess amounts. These foods are often designed very carefully using psychological techniques to maximise sales.[14] Larger portion sizes encourage individuals to eat to excess, and this problem is exacerbated in those who do not easily recognise the feeling of being full.

EMOTIONAL EATING

Food and emotions are linked. People use food to respond to positive and negative emotions – to celebrate after a good day or special occasion or to feel better after a bad day. For many people this can be unproblematic. However, eating in response to emotions can become problematic when it is frequent and regular. The Masking Hypothesis suggests that individuals attempt to mask negative emotions by overeating to increase mood, comfort and distraction in the short-term.[15]

Those attempting to restrict their eating through dieting behaviour (dietary restraint) are particularly susceptible to emotional eating. Additionally, the escape theory suggests binge eating is a more extreme form of emotional eating and is a form of escapism from negative self-perceptions and emotional distress.[16] Both emotional eating and binge eating can be used to block out negative experiences temporarily with food but the emotions quickly return.

RESTRAINED EATING OR DIETARY RESTRAINT

Restrained eating occurs when someone deliberately tries to reduce their calorie intake then experiences a subjective feeling of deprivation.[17] Restrained eating is reliably associated with weight gain over time as attempts to restrain are often resisted by the body resulting in a failure of restraint that leads to overconsumption.[18]

Restrained eating also can lead to an increased risk for other negative psychological states such as low mood and body dissatisfaction, both of which are associated with weight gain as well as mental health problems such as depression and eating disorders.[19] Although restrained eating in the form of short-term, highly restrictive diets is heavily promoted in the media as a valued method of weight loss, research suggests that this form of intervention may be psychologically and physically harmful.[20] On the other hand, in the current obesogenic environment, anyone who does not watch what they eat is at risk of gaining weight due to the hidden energy content of prepared foods and excessive portion sizes.

Treatment services need to be aware of the influence of emotional, binge and overly restrictive eating and how this can be managed in services.

MENTAL HEALTH PROBLEMS

While the relationship between the presence of mental health problems and obesity is complex and bi-directional, the experience of a variety of mental health problems increases an individual's risk of obesity.[21] Individuals with a serious mental illness (SMI) have much higher levels of obesity. Since obesity often involves serious physical and psychological problems, there would ideally be an integrated approach to care across all services. For example, given that some anti-psychotic and anti-depressant medications increase appetite,[22] health professionals prescribing to people with obesity should also consider the potential for different medications to affect activity levels and weight gain.

There are distinct psychological problems such as Binge Eating Disorder (BED) in which behaviours such as ingesting large amounts of food in a short time without compensatory purging or exercise behaviour leads to weight gain.[23] The prevalence of BED in the general population is approximately 3.5 per cent,[24] it is significantly higher for individuals seeking medical help for weight loss.[25] The increased risk of developing obesity among those with mental health problems cannot explain all the dramatic shift in the proportion of the population who are living with obesity. Nevertheless, people with mental health problems may be more at risk of obesity and vice versa.

THE IMPACT OF PSYCHOLOGICAL ADVERSITY

Adverse childhood experiences (ACEs) such as abuse, a parent or caregiver that experiences stress, mental illness, trauma, and family conflict have all been associated with behaviours that are known to be related with weight gain. Greater experiences of psychological adversity are associated with an increased risk of developing obesity because of chronic activation of the body's stress response system.[26]

The causal pathways between adversity in childhood and excessive weight gain are complex. They reflect reciprocal influences between how parents and carers feed their children, how children respond to such feeding, as well as various social and cultural factors that shape one's relationship with food, eating pattern and activity behaviour over a child's development.[27]

Psychological adversity in childhood is a common cause of a range of emotional and behavioural difficulties in adolescence and adulthood, some of which may influence weight gain directly through the influence of the eating styles, such as restrained or emotional eating and a lack of motivation towards engaging in physical activity.

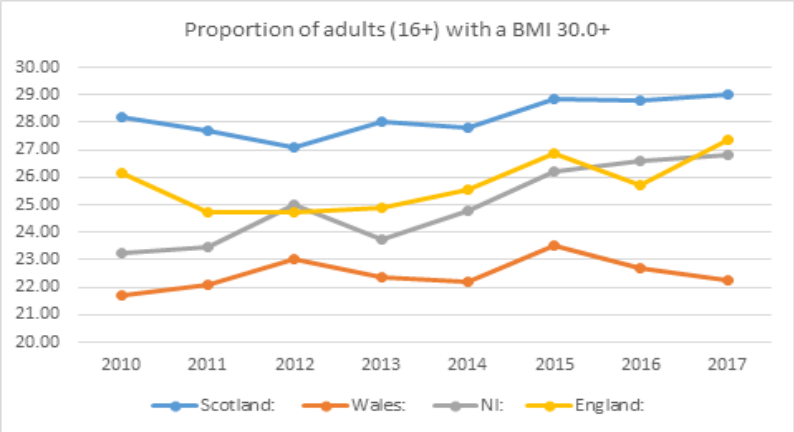
The experience of stress as an adult, caused by factors like financial insecurity and mental illness, has also been linked to an increased risk of obesity[28]. Up to half of adults attending specialist obesity services may have experienced childhood adversity or trauma in adult life.[29]

Social and environmental influences

Adult obesity levels in England increased by 18 per cent from 2005 to 2017,[30] while the proportion of adults who were obese is estimated to have increased over the same timeframe by 14.9 per cent in Scotland, 11.8 per cent in Northern Ireland and 23.8 per cent in Wales (see figures below). These increases in prevalence cannot simply be explained by a sudden loss of motivation across the population of the four nations of the UK[31]. The increase in obesity has been caused by major changes to the food supply and physical activity environment; creating what is often called an 'obesogenic' environment.[32] This section explains the social and environmental mechanisms that shape peoples' behaviour.

Figure 1: Trends in adult prevalence of obesity in the UK and Ireland (Adult (aged 16+) obesity: BMI[33] 30kg/m2)

	2010	2011	2012	2013	2014	2015	2016	2017
Scotland:	28.20	27.70	27.10	28.00	27.80	28.83	28.81	29.00
Wales:	21.69	22.08	23.00	22.36	22.18	23.51	22.70	22.28
NI:	23.22	23.44	25.00	23.73	24.77	26.20	26.58	26.84
England:	26.15	24.75	24.73	24.90	25.56	26.86	25.74	27.38



Scottish Health Survey, Welsh Health Survey (2010–2015); National Survey for Wales (2016–17, 2017–18), Health Survey Northern Ireland, Health Survey for England (2010–2017)

FOOD CHOICE

Food companies and retailers supply large volumes of high sugar, high fat food which increases their salience and shapes peoples' taste preferences, which in turn sustain and increase the demand for energy dense food. The food industry is highly adept at using peoples' psychological biases to design 'choice environments' that encourage overeating – for example placing certain food at eye level or by the checkout. Food manufacturers package foods and drinks in larger quantities that seem like good value, cost more, and are often larger than one portion size.

Foods of poor nutritional quality are promoted most aggressively because they tend to have the highest profit margins; 'healthy' foods are estimated to be three times the cost per calorie of 'unhealthy' foods.[34] Public Health England estimated that food promotions – such as price reductions and placing of energy dense foods to increase their appeal – increase total food purchases by one fifth, and sugar consumption by six per cent.[35] Portion sizes of 'fast-food' have also increased in the UK,[36] and larger portions encourage people to eat more.[37]

Food advertising disproportionately affects children and influences their food preferences, their actual consumption as well as brand loyalty, which can undermine their parent's efforts to give their children healthy foods.[38] Taken together, these influences contribute to a largely passive consumption of more calories than are needed.

PHYSICAL ACTIVITY AND SEDENTARY BEHAVIOUR

Technological advances in transportation and mechanisation have reduced the amount of physical activity required to perform a variety of tasks on a day-to-day basis, while sedentary screen-based activities have increased.[39]

Declines in physical activity in occupational as well as leisure settings have contributed to increased obesity rates.[40] At the same time, changes to the way our physical environments – homes, offices and public spaces – are built have impacted on how motivated and how able people are to engage in physical activity, such as how easy people feel it is to walk around the neighbourhood.[41] Jobs have become more sedentary and involve more screen use, which curtails people's opportunities for everyday activity. However, there is evidence that suggests that changes to the work place, such as active workstations, could help to reduce inactivity at work without impacting on productivity.[42] Studies show that clients who are obese commonly report taking 2000–3000 fewer steps per day than those in the healthy weight category (BMI <25).[43]

SOCIAL AND ECONOMIC STATUS

There are stark socioeconomic inequalities in obesity that are particularly dramatic in children. Twice the number of children in the poorest 10 per cent of the population are classed as obese compared to the richest 10 per cent.[44] Associations between low socioeconomic status, poverty, and increased body weight emerge in childhood and continue throughout adolescence and into adulthood.[45] The disproportionate burden of obesity among lower socioeconomic groups is widely believed to reflect greater 'obesogenic' environmental pressures.

In high-income countries such as the UK, energy-dense foods tend to be cheaper and therefore more prevalent in areas of deprivation. In particular, there are more fast food outlets in more deprived areas,[46] and consumption of takeaway food is higher among children living in low-income households.[47] Local convenience store foods, which may be most readily available in these

communities, tend to have a low nutritional value. Energy dense food is therefore more predominant in deprived neighbourhoods and there is also less access to healthy food options.

At the same time, aspects of the environment such as walkability, lack of green space and safe play spaces impede engagement in physical activity in poorer communities.[48] These socioeconomic challenges shape individuals' food and physical activity choices. Individuals who experience more social and economic deprivation also experience greater levels of psychological adversity,[49] which through the influence of stress, makes them more vulnerable to weight gain.

EARLY LIFE NUTRITION

The biological and behavioural systems responsible for appetite and stress develop most in the first few years of childhood, making this a critical time for preventing obesity, especially given that once obesity develops it is difficult to treat successfully.[50] There is very strong evidence that the quality of nutrition during pregnancy and immediately after a child is born exerts a powerful influence over their later obesity risk in childhood and adulthood. Excessive maternal weight gain during pregnancy, gestational diabetes,[51] high birth weight,[52] and rapid growth in infancy,[53] all contribute to the risk of excessive weight gain.

Obesity in early life tracks strongly into later childhood, and on into adolescence and then adulthood, highlighting the importance of intervening during the pre-school years.[54] Children born in the poorest families are more likely to experience these disadvantages associated with early life nutrition, meaning that they are more likely to be exposed to environments that develop their biology in ways that predispose them to excessive weight gain.

BELIEFS ABOUT OBESITY

Despite increasing media attention to the issue of obesity, a significant proportion of those living with obesity do not recognise themselves as having a weight problem.[55] Furthermore, parents of heavier children are less likely to correctly identify their children as being obese, even after receiving feedback from the child's school after they have taken part in the National Child Weight Measurement Programme.[56] Failure to correctly self-identify as being overweight means that a person is unlikely to take action to change their eating and activity behaviours, thus increasing their risk of excessive weight gain.

Interactions between biological, psychological and social-environmental determinants

Psychologists work daily with people living with obesity to understand how these biological, psychological, environmental and social factors interact to cause the behaviours that lead to unhealthy weight. Psychological models help to explain how and why peoples' experiences can lead them to become obese and why their best intentions can be overwhelmed.

While an individual can only become overweight or obese through behaviours that lead to a persistent energy imbalance, the biopsychosocial approach draws attention to the complex interaction of factors that determine such behaviours. Understanding the development of obesity in this way demonstrates clearly that obesity cannot be considered a 'choice' or that it simply reflects a lack of self-control. Some individuals face

a triple risk of genetic, psychological and environmental pressure to overeat, which makes it very difficult to make healthy choices that enable maintenance of a healthy weight.

Psychologists are focusing on prevention by working with people at risk of becoming an unhealthy weight in the future. This work seeks to understand barriers to healthy eating and physical activity, provide alternative ways to deal with low mood or stress and look at how public health approaches can help. To be most effective, the best psychological evidence must be included at all levels in the government's and society's collective response to obesity; from understanding attitudes and tackling stigma, to tried and tested theoretical approaches to behaviour change, to best practice in designing specialist services that include appropriate psychological support.

SHOULD OBESITY BE CLASSED AS A DISEASE?

Opinion is divided amongst those who believe obesity should be defined as a disease, including organisations such as World Obesity and the World Health Organisation, and those who believe that defining obesity as a disease is unhelpful, which includes the British Psychological Society. Although views are divided on this point, those working to tackle obesity have been pragmatic and collegiate and have not allowed this differences of opinion to prevent partnerships or progress.

Psychologists recognise that the label of 'disease' can help to situate the cause of obesity as not solely within the individual's control, because suffering from a disease is not normally perceived as a choice or as being someone's 'fault'. The term 'disease' can also help to raise awareness of the huge health risks of obesity and unlocks support from health and care providers. However, there are limitations and disadvantages to viewing obesity as a disease as it draws attention away from some of the psychological and social influences on peoples' behaviours and make it more likely that interventions and services would be less likely to include behaviour change and psychological support. The BPS believes that it is systems and attitudes that need to change, rather than the term used to describe obesity, and psychologists are well placed to support those changes.

A psychological approach is a holistic one. It seeks to understand the underlying influences that have resulted in a person carrying out certain behaviours that have led to them becoming obese. Psychologists face similar challenges in the way that mental health conditions, such as depression or anxiety, are described and diagnosed, with practitioners increasingly using a 'formulation' approach that seeks to understand a person's history and social context.

2. Weight bias, stigma and discrimination

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Many people and policy makers believe that obesity is due to a lack of willpower and poor self-discipline and is therefore a personal characteristic with equally negative stereotypes. This leads to blaming the individual rather than addressing the underlying biological, psychological and social causes.[57]

Shame does not motivate people or help them to make sustainable changes to their lives. In fact, weight stigma perpetuates a cycle of shame and weight gain at all levels of obesity. As a person's Body Mass Index (BMI) increases, so does their perception of discrimination towards them because of their weight.[58] To understand and address obesity we must acknowledge and understand weight stigma. It is an important social and environmental factor that contributes to behaviours that lead to obesity.

A view that positions the causes of weight gain as residing within individuals has resulted in a widespread cultural view that obesity is a negative personal characteristic. Public acceptance of this stereotype allows individual, group and organisational weight bias and discrimination to go unchallenged, in a way that other forms of discrimination do not. This has an impact not only on individual experiences but also on the way that policies and support services are designed.

In an international survey of more than 300 policymakers, 90 per cent reported that they believed personal motivation was a strong or very strong influence on those living with obesity.[59] This assigns a lack of self-will as an important cause of the behaviours that lead to excessive weight gain. A model of obesity that places the responsibility on the individual impacts policy decisions and serves to impede government action or encourage the wrong policy response, which serves to further shape public opinion and perpetuates stigma.

Being stigmatised is stressful.[60] It can lead to feelings of distress, shame, guilt and failure. One way of coping with this stress is to use food to distract, soothe or anaesthetise uncomfortable feelings, but relying on this coping strategy increases food consumption and weight. Evidence has shown that stress results in biological, psychological and social mechanisms that maintain weight gain, including increased appetite, eating behaviour changes and weight.[61]

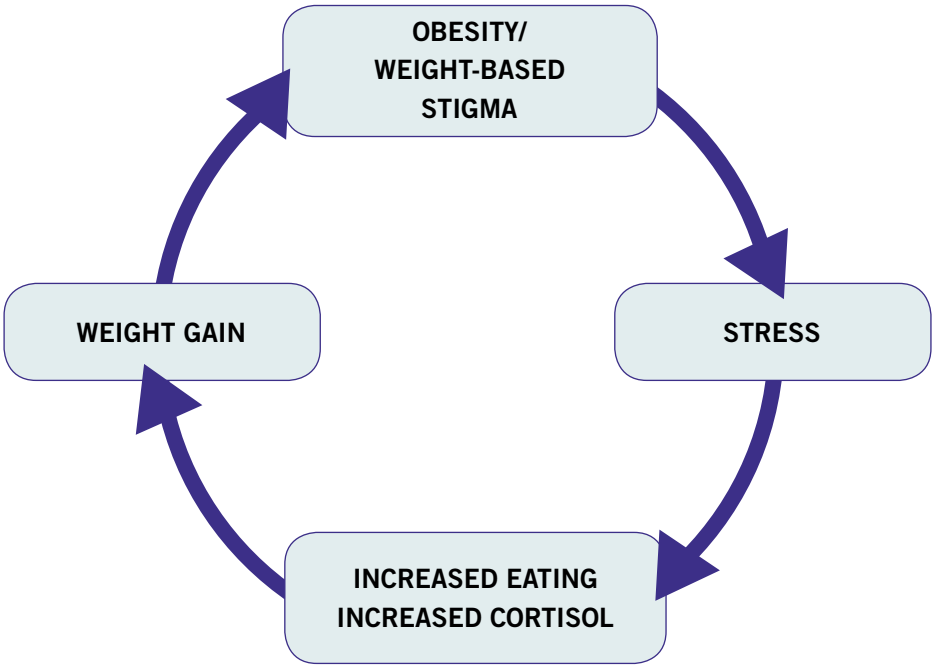
WHAT IS STIGMA?

Stigma refers to attitudes and beliefs that lead people to reject, avoid, maltreat, or fear those they perceive to be different or somehow less desirable.[62] Public stigma is the reaction that the general population has to particular groups of individuals.

Stigma and subsequent discrimination occur when there are negative cultural beliefs about the attributes of the person or group who is stigmatised, and when the difference between individuals and groups reinforce a sense of 'us' and 'them'.[64] Body size is a particularly 'visible' stigma. Many other stigmatising characteristics can be more easily concealed.

Individuals can also be a part of multiple groups that are especially vulnerable to stigma. For example, UK population level data shows that lesbian and bisexual women have higher levels of obesity than heterosexual women.[65]

Figure 2: The cycle of stigma and weight gain[66]



THE INDIVIDUAL IMPACT OF WEIGHT STIGMA

Rather than encouraging weight loss, weight stigma has negative consequences that significantly impact on people's wellbeing.

Studies have shown the negative impact that weight stigma and weight-based teasing has on children and young people. For example, stigma around weight and eating can lead to an increased likelihood of engaging in unhealthy eating patterns and avoidance of physical activity.[67] Emotional wellbeing and mental health can be impacted leading to depression, low self-esteem, poor body image and suicidal thoughts.[68] It can also affect children and young people's education in terms of missing more days of school than their peers[69] and being less likely to attend college and obtain a degree.[70]

Similarly, weight stigma for adults can lead to an increased risk of disturbed eating patterns and eating disorder symptoms[71] and an increased calorie intake while simultaneously feeling out of control with eating.[72] It can lead to an increased risk of binge eating.[73] It can prevent people from attending local weight management services that do exist, or even leaving their home for fear of abuse, so it is less likely they will get the support they need.

Stigma can interfere with people's ability to engage in physical activity. It contributes to poor body image and anxiety about discrimination that compounds the problem of people avoiding exercise.[74] Physical and emotional wellbeing can be severely impacted in terms of lowering of mood and self-esteem and higher levels of depression.[75] When people internalise weight bias, it is associated with poorer physical and mental health outcomes[76] and a reduction in both physical and mental health and quality of life independent of age, BMI and medical conditions.[77] Stigma has also been shown to lead to discrimination at work, especially for women.[78]

It is important to avoid language and explanations that locate the 'problem' of obesity within individuals. Whilst obesity is caused by behaviour, those behaviours do not always involve 'choice' or 'personal responsibility.' What individuals eat and how much physical activity they do is largely determined by their genes, psychological factors and their social environment.

Language and explanations, for example those used in public awareness campaigns, which promote the idea that obesity is largely driven by individual choices contribute to and reinforce weight bias. As such, individualistic explanations are part of the 'problem' of obesity rather than the solution.

THE IMPACT OF WEIGHT STIGMA IN HEALTHCARE

Around two-thirds of adults in the UK are overweight or obese, so all health care professionals are likely to work with people who are overweight or living with obesity. Unfortunately, many health care professionals demonstrate biases that support weight stigma.[79] Implicit or explicit prejudice against people who are an unhealthy weight affects the way services are designed and delivered.

Weight stigma is particularly harmful in healthcare settings because it complicates the mechanism that is meant to solve the problem. People living with obesity rely on healthcare services, but the inherent weight bias from those who have designed and who work within such services means that they can receive poor levels of care and experience greater physical and psychological adversity as a result.

Weight stigma interferes with the relationship between a patient and their healthcare provider.[80] It can leave people feeling belittled, berated and disrespected. It makes them worry that they will not be taken seriously and leaves them reluctant to address their weight concerns.[81] Given that many people with obesity are highly sensitive to stigmatisation, insensitive remarks from a health care professional can disrupt the relationship and patient adherence to treatment.[82]

People living with obesity are treated differently by healthcare professionals. Health professionals have been found to spend less time in consultations, perform fewer medical interventions and to be reluctant to perform certain screenings with people living with obesity.[83] As BMI increases, physicians report having less patience, less respect and less desire to help.[84] Negative comments have been made by healthcare professionals about people living with obesity including beliefs of laziness, lack of self-control or willpower, non-compliance and patients becoming more annoying.[85] Even amongst health professionals who work with obesity, the existence of 'anti-fat' attitudes have increased over the last 10 years.[86]

Experiencing stigma from healthcare professionals is linked to increased weight gain, psychological distress, lower self-esteem, greater body dissatisfaction and a sense of shame.[87] This can ultimately mean people are ambivalent about getting treatment[88] and there are poorer outcomes from weight based interventions.[89]

People who are severely obese, with a BMI of over 50, face further stigma as many services are unable to accommodate their needs in terms of appropriate equipment, for example furniture that cannot support their weight. There are concrete steps that can be taken to encourage the cultural change that is needed to reduce weight stigma. This includes encouraging those who frame the debate to think differently and providing health care professionals with the right training, guidance and equipment.[90]

CAMPAIGNS AND INTERVENTIONS

Past behaviour change campaigns and interventions designed to tackle obesity have been criticised for fostering stigma.[91] An example is 'Making Every Contact Count (MECC),[92] which asks health professionals to use every opportunity of professional contact with a person with obesity, for example a GP appointment, to raise awareness of

risks, motivate them and recommend weight management services. The success of MECC can be limited because effective local weight management services are not routinely available for people to be referred to, and where they do exist, health professionals are not always familiar with them. Furthermore, weight-management services vary significantly across the country (see chapter five). Initial evaluation of the programme noted that, as a result of geographic disparities, the implementation of MECC can also vary significantly.[93]

In its brief intervention guidance, Public Health England also recommends health professionals calculate BMI and give advice about weight, without ensuring there is a robust referral pathway or an appropriate level of training.[94] While this guidance is welcome, it also risks oversimplifying the issue. Both the MECC and the PHE Brief Interventions guidance on weight ignore the evidence that many health providers dislike treating obesity since they feel unprepared to do so and often have little hope that people will make long-term lifestyle changes. Overly focusing on visible external markers such as 'weight' risks compounding stigma which may encourage people who live with obesity to disengage from healthcare.

However, when accompanied by the right structures and support, MECC style interventions for weight management have been reported to have very positive results, with very few people responding negatively to the issue of weight being raised.[95] This underlines the importance for intervention guidance to be communicated effectively and accompanied by opportunities and support for individuals to take action.

The language used by governments and policy makers also has an important role in shaping governmental responses and public discourse around the issue of obesity. Language that splits the causes of obesity into either an individual or environmental 'problem' should be avoided since they mask the complex interplay of biopsychosocial factors involved in the development of obesity. Where appropriate, the concepts and language of the biopsychosocial framework should be used to help frame issues in ways that attempt to address all of the complex contributing factors.

RAISING AWARENESS THROUGH TRAINING

Much work has been done to draw attention to the myths surrounding obesity but weight stigma is still not an integral part of training for many health professionals, or those working in the fitness and nutrition industries.[96] The NHS Long Term Plan states that training on nutrition and what is involved in achieving and maintaining a healthy weight varies between medical schools, with some courses offering only eight hours over the course of a five or six year degree.[97] As a result, interventions to tackle obesity can ignore the complexity and diversity of the issues people face.

Healthcare professionals should be supported to engage in specific training to understand weight stigma, its impact and to consider how to communicate sensitively and effectively to those living with obesity. Training for healthcare professionals that includes providing an understanding of the biopsychosocial complexities associated with weight has been found to reduce weight stigma.[98] For example, watching short videos about weight stigma improved negative judgments of people living with obesity, reduced the viewer's desire for social distance from people living with obesity, and supported equal rights.[99]

'Creating opportunity for positive contact between medical students and people living with obesity has been found to reduce weight stigma within medical students.'[100]

Raising awareness through training is a key recommendation in the recent PHE-led strategy 'Improving People's Health: Applying Behavioural and Social Sciences to Improve Population Health and Wellbeing in England.'[101] Health care professionals, service managers and training providers can use psychological evidence on the impact that stigma has on people who are overweight or living with obesity to design and implement services and interventions that take a more holistic approach. This approach will include interventions that consider biological, psychological and social factors that encourage the individual to engage but also acknowledges the impact of wider cultural narratives about weight on the individual, service and policies.

Psychologists are able to provide training, consultation and supervision to a range of professionals working outside of health, including those in the nutrition and fitness industries, service managers and commissioners. Psychologists report that many of these people who work in fitness and nutrition, for example wellbeing advisors, dieticians and sports coaches welcome the offer of basic training on the psychological elements of obesity and are keen to learn more. This will ultimately reduce distress and improve the psychological wellbeing of individuals, families and communities.

PHYSICAL ACTIVITY CHAMPIONS

Throughout 2017 and 2018 Public Health England have been training and supporting a cadre of health professionals to be Physical Activity Champions within their profession. The Psychology Physical Activity Champion is Dr Vicky Lawson.

The champions deliver free peer to peer training sessions on physical activity, sharing the latest data, research and evidence. These sessions have shown to increase clinicians understanding, confidence and expertise, helping them to improve outcomes for those they work with. The programme was introduced by PHE as a response to the fact that 1 in 4 patients said they would be more active if advised by a GP or nurse, but that as many as 72 per cent of GPs did not speak about the benefits of physical activity with their patients.

Early evaluation of the programme shows promising results with over 5000 health care practitioners having undergone training.[102] While the evaluation process of the programme is ongoing, the quality measures which accompany it recognise the importance of collecting evidence which demonstrate impact at the individual, community and local authority level in order to inform future policy and local strategies.[103] NICE is now in the process of reviewing evidence and responses on the subject that were received through the *Physical activity: encouraging activity in the general population* consultation.

Reducing stigma: Recommendations

FRAMING THE DEBATE

CULTURAL CHANGE IS NEEDED TO REDUCE WEIGHT STIGMA AND THERE ARE CONCRETE STEPS THAT CAN BE TAKEN TO ENCOURAGE THAT SHIFT.

- Journalists, policy makers, service providers and anyone who produces media about weight management should use language and imagery that does not stigmatise, for example using World Obesity's online image bank.
- Public health research funders should incentivise research that seeks to answer questions around what language to use and how best to frame messaging about healthy weight, nutrition and physical activity to avoid stigma and promote healthy behaviours.
- Public health campaigns targeting weight management could be more effective by avoiding framing obesity as a simple 'choice' and using psychological evidence and expertise to design campaigns.

TRAINING AND SUPERVISION

TO IMPROVE THE EXPERIENCE OF PEOPLE LIVING WITH OBESITY WHO SEEK CARE AND TREATMENT, EVERYONE WORKING IN WEIGHT MANAGEMENT SERVICES MUST HAVE AN UNDERSTANDING OF WEIGHT STIGMA.

- Evidence-based training, aimed at health care professionals and people working in the fitness and nutrition industries, which covers the impact of weight stigma and outlines best practice, would improve clinical practice and service delivery. This should be provided by health education bodies as part of undergraduate training as well as being offered by professional bodies as part of continuing professional development (CPD) and vocational training.
- All health professionals delivering weight management initiatives should have regular supervision sessions with a practitioner psychologist to increase their awareness of how mental health conditions and psychological factors can contribute to obesity and the success of treatment. This supervision would also help professionals to understand and address their own unconscious biases within their practice, language and behaviour.
- Managers and commissioners of weight management services should ensure that their premises and equipment provided minimise the risk of increasing stigma.

3. Changing behaviour

3. Changing behaviour

Behaviour change is central to the prevention, management and treatment of obesity. To reverse the trend of increasing obesity rates over the past decades, large-scale population level behaviour change is needed. Achieving this will require an integrated, evidence-based approach that recognises behaviours are influenced by a combination of biological, psychological and social factors, and are not solely the responsibility of the individual.

PSYCHOLOGICAL FRAMEWORKS TO CHANGE BEHAVIOUR

People and populations can change their behaviour but it is not a simple process. It can take several decades to achieve the necessary level of cultural, policy, legislative and practice changes to ultimately impact behaviour on a large scale (see Appendix A on smoking). The efficacy of any prevention or weight loss intervention will be enhanced by the use of the latest psychological evidence on behaviour change.

Behavioural science can be used to develop interventions aimed at changing behaviour at different levels. At the micro-level behavioural science can be used to understand and modify influences on discrete behaviours, for example how properties of a food can be manipulated to influence consumption. At the macro-level, behavioural science can be used to analyse and organise government policy such that it reflects what is known about the public's behaviour.

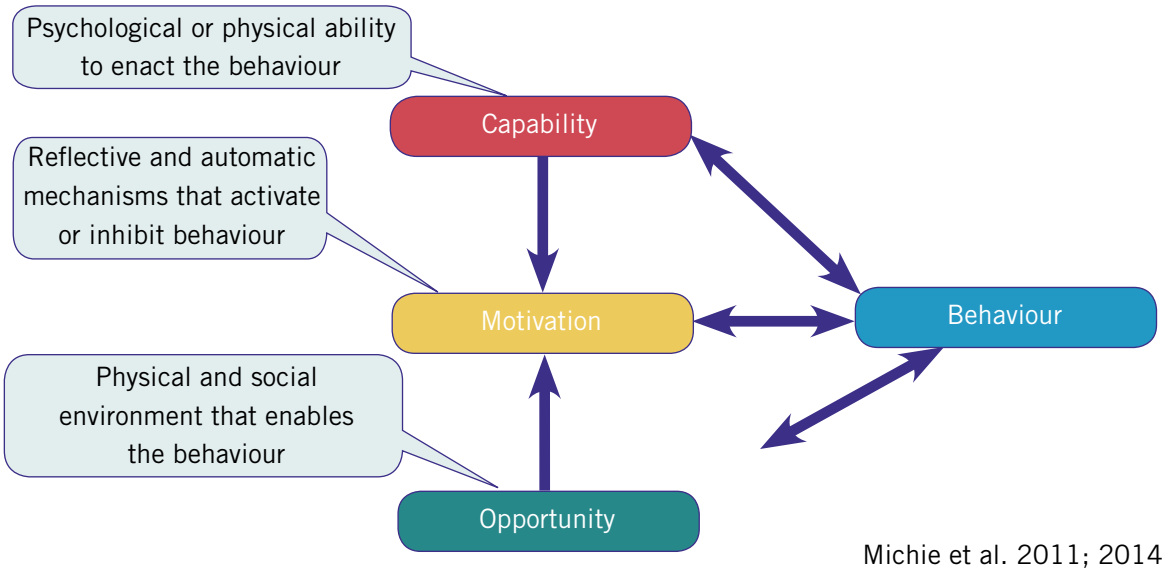
Psychologists not only have a contribution to make in the design, delivery and evaluation of interventions, but psychological theory and research can provide important insight and direction at a policy level. Psychology can help governments and public bodies to understand people's reactions to regulation and legislation, create more effective marketing and social-marketing, design better universal prevention approaches and increase the efficacy of community-interventions for those at greatest risk.

Behavioural science is a rapidly evolving field incorporating theories and methods from a range of academic disciplines including psychology, neuroscience, sociology, anthropology and economics. Psychologists have been at the forefront of developing frameworks for organising and integrating theories, methods and evidence across these disciplines in order to design and successfully deliver behaviour change interventions at individual, community and population levels. One such framework is the Behaviour Change Wheel (BCW), developed by Health Psychologists Michie, West and van Stralen in 2011.[104] The BCW brings together 19 different frameworks of behaviour change interventions into one model to help practitioners understand and influence the drivers for change.

CAPABILITY, OPPORTUNITY, MOTIVATION-BEHAVIOUR

At the centre of the BCW is the 'COM-B model of behaviour'. The model sets out that behaviour change relies on whether an individual has the **Capability** to enact the behaviour (e.g. the physical and psychological skills, knowledge and abilities); whether their social and physical environment offers them the **Opportunity** to enable the behaviour; and if they have the **Motivation** to perform or avoid the behaviour. These components interact to determine whether a desired behaviour happens. Interventions must impact one or more of these components to change behaviour. Once the influences on a desired behaviour are understood, the Behaviour Change Wheel can be used to design interventions to change those influences (through intervention functions) and then embed those interventions to enable long-term change (using policy functions) at different levels. It builds on the COM-B model

Figure 3: COM-B model



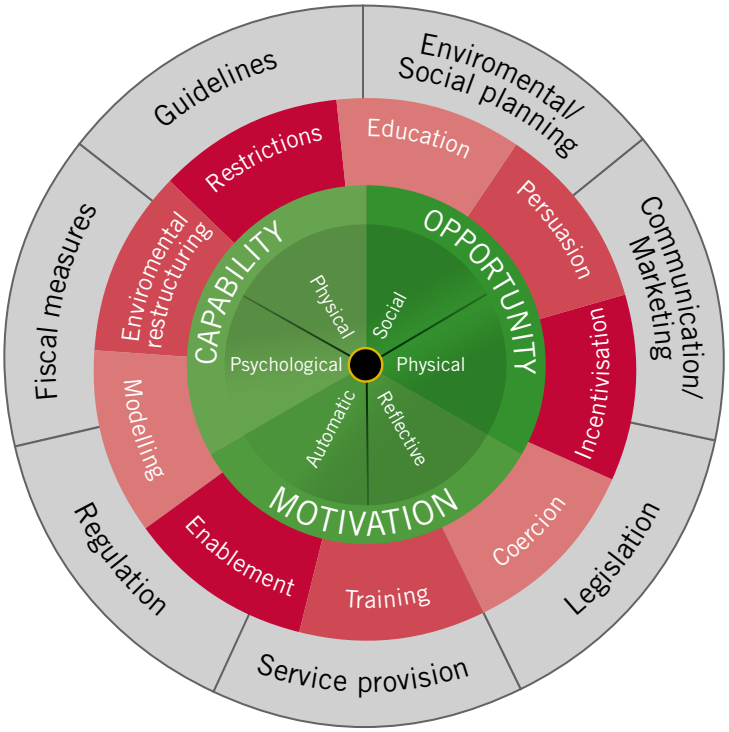
Michie et al. 2011; 2014

The COM-B model in practice

An example of how COM-B can be applied to a behaviour that can lead to obesity is outlined by Atkins, West and Michie who describe an app developer attempting to understand capability, opportunity and motivation in terms of portion size control (2014). Through focus groups with parents of children who were overweight, they established that 'psychological capability needed to shift as parents reported a lack of knowledge and monitoring of appropriate food portion sizes and difficulty understanding food packaging portion guidelines; reflective motivation needed to shift as parents were not confident in their ability to provide correct portion sizes; social opportunity needed to shift as partners were not always supportive of efforts to provide appropriate portion sizes and continued to give too big portion sizes'.[105]

by offering different 'Intervention Functions' that target different components of a desired behaviour. These intervention functions include education, training, restrictions, persuasion and incentives. The outer layer of the wheel then identifies seven 'Policy Categories', such as legislation, service provision, regulation or guidelines that can support the delivery of these interventions, generally at population level. There is not scope to cover the whole process of intervention design in this report, but guidance is available via the Behaviour Change Wheel website.[106]

Figure 4: The Behaviour Change Wheel



Michie et al. 2011; 2014

Defining specific behaviour change techniques (BCTs), such as the ones listed in the BCW, in order to clarify the active components of obesity interventions, would allow for faithful replications, and enable accurate evaluations of such interventions. In practice, this has enabled reviews of obesity interventions to be carried out and help indicate which BCTs are likely to be most effective in different settings and populations.[107]

PSYCHOLOGICAL EVIDENCE AND POLICY CHOICES

Population level interventions are a vital part of a co-ordinated approach to reducing and preventing obesity. They can help to increase focus on the environmental and social influences of weight gain, and reinforce the message among the public and medical professionals that obesity is not simply the result of an individual's choices.

Population level interventions should reflect our understanding of the mechanisms of action and risk factors that contribute to the development of obesity to be most effective. They should also reflect an understanding of how people's impulses, habits, priming and decision-making affects their daily choices about diet and physical activity in the context of how both external factors and personal factors interact. Knowledge of this psychological evidence is essential in modelling which population-level policies and interventions are likely to be most effective.

The success of the UK's tobacco control strategy owes much to the fact that it was based on a scientific understanding of the mechanism of nicotine addiction. A similarly robust scientific understanding of the behaviours and risk factors for the development of obesity must be embedded in government policy. Public Health England's 'Improving People's Health' strategy already highlights the role of behavioural science in protecting and improving the health of the population and the need to apply the 'insights and riches' from psychology and other social sciences to champion best practice.[108] While the tobacco control strategy cannot be replicated directly in

the obesity domain, not least as the behaviours targeted are very different, reviewing the breadth of strategies used can help us ensure that we are optimising policy approaches to enhance obesity prevention and treatment. Appendix A of this report provides an overview of current policy levers that have been used to address smoking and obesity.

PSYCHOLOGICAL INSIGHTS RELATED TO OBESITY REGULATION AND LEGISLATION

People need to work with, rather than react against, policies in order for them to be successful. An understanding of psychology helps us to predict how people may react. The way that food is formulated, displayed and manufactured can contribute to the increased consumption of energy dense food, especially for children, including the contribution of advertising through social media, impact of food insecurity, and availability.[109] Policy change through regulation and legislation can be used to change the food environment in an attempt to shape the current obesogenic environment in a way that leads to more positive outcomes.

Population level policies like advertising bans and point of sale restrictions can be very effective in limiting the visibility or availability of unhealthy options. Applying the COM-B model can help us to understand how these policies influence behaviour. For example by reducing the opportunity to eat unhealthy foods governments can also reduce the activation of motivational processes (e.g. habitual behaviour) driving unhealthy eating. A recent evaluation of the Scottish Government's Healthcare Retail Standard (which restricts the availability of unhealthy foods and drinks sold in hospital shops and cafes) suggests that such strategies can be successful in changing what people buy and consume.[110]

Insight from psychological theory can also help us to understand why some policies are found to be helpful while others induce public reactance (an emotional, negative response such as anger against an intervention).[111] People can react negatively when they feel like policies are removing or limiting their choices or freedom. Deeper understanding of the social context (such as stigma) can help predict and avoid reactance and associated 'boomerang effects' (e.g. eating more of a target food rather than less when freedom to choose feels threatened) by helping policy makers understand when people are ready for change, what they are willing to change and how contextual factors may influence how a message is received. For example, policies which promote positive actions (e.g. price promotions on healthy options) may be more acceptable to the certain stakeholders than restrictive measures.[112]

Once again, much can be learned from the success of advertising regulations and legislations on smoking. Although smoke-free legislation may have appeared to curb smokers' freedom, there was widespread support even from smokers forced to smoke outside. This positive response was considered to be facilitated in part by a positive shared rationale for the policy (i.e. smokers taking positive action to protect friends, family and co-workers from second hand smoke), and only possible when introduced once non-smoking had become the norm and the harms of smoking well accepted. Conversely, there has been opposition in many countries to taxes on sugar sweetened beverages when these policies have been introduced at a point where the public and policy understanding of the rationale and benefits of doing so did not align.[113]

Regulation can also have unanticipated consequences. The recent ban on food advertising during children's television has been associated with an *increase* in exposure to adverts for high fat, high sugar containing foods as industry found ways to reach children through non-regulated channels.[114] A focus on behaviour without due consideration of the full range of its causes contributes to an unhelpful

public and political discourse of individualism and personal responsibility, which is an expression of weight stigma.

Including a psychological impact assessment and the latest evidence in policy formation may help to reduce the likelihood of unanticipated negative public responses.

COMMUNICATIONS AND MARKETING

Advertising campaigns to change behaviours, known as social marketing, have been used as one part of the government's national approach to prevention and by local areas in their own weight management services. Social marketing attempts to persuade, educate and incentivise populations and seeks to shape social norms and create opportunity for healthy behaviours. Psychology can help to inform the tone of social marketing, for example through frameworks that help us to advise and encourage without being perceived as controlling,[115] and focusing on approach rather than avoidance goals (e.g. eat five pieces of fruit and vegetables a day versus *avoid* high fat foods) that are shown to be more effective health messages.[116]

The largest recent example of a social marketing approach is the Public Health England's Change4Life campaign. The campaign aims to change attitudes and behaviours across a range of risk factors associated with childhood obesity such as sugar consumption, portion size control, eating five-a-day and getting regular physical activity. Evaluation of this intervention showed that, despite high levels of awareness about the campaign, there were few changes in attitudes or behaviour.[117] This exemplifies the need for psychological involvement in the design of public health initiatives in order to ensure that increased awareness is accompanied by higher levels of engagement.[118]

Psychologists have highlighted that a risk of social marketing approaches is the tendency to construct obesity as an individual problem and personal choice, which can work to the advantage of the food industry. In the same way that it took years for cigarette companies to take responsibility for the effects of smoking, the narrative of personal choice allows manufacturers of food with high levels of fat, sugar and salt to refute their role in perpetuating obesity.[119,120]

INFORMING FUTURE PUBLIC POLICY

Public Health England has recognised that many of the behaviours that have been targeted by information and education campaigns in the past would have been more effectively changed by addressing psycho-social and structural issues (e.g. food environments) and other wider determinants of health.[121]

Policies do not change behaviour in themselves but work by imposing restrictions, mandating, or recommending interventions that help individuals within a population to develop the required capabilities and motivations for behaviours that help regulate energy balance, and shaping the physical and social environment so that individuals have the opportunity to enact them. Improving health and reducing inequalities between more and less socio-economically deprived communities will require interventions that make minimal demands on individuals and have sustained impact across the entire community.

Currently, policy is not routinely informed by behavioural science although there is increasing recognition of the value of this approach to policy making. A 'health in all policies' approach supported by sound psychological and behavioural science based insights is likely to bring about the desired scale of change required to reverse this wider population trend.

With over half the population in UK now overweight or obese, a legislative framework such as the model of Wales' Future Generations Act may is required to enable a co-ordinated, cross-governmental approach to tackle obesity.

Recommendations

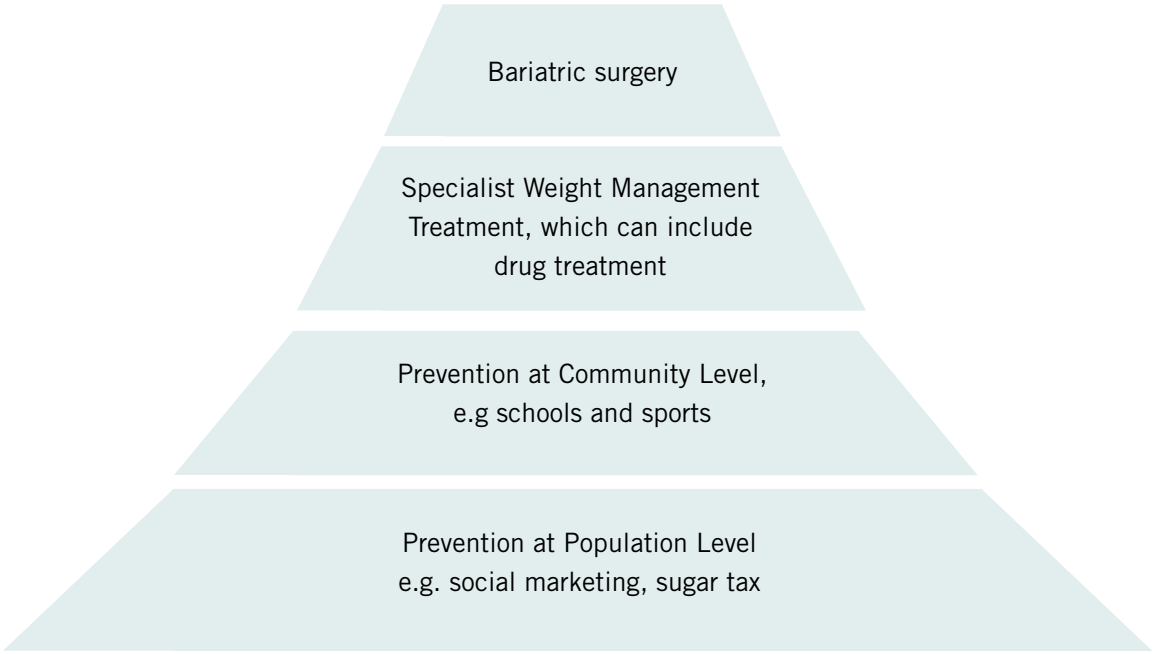
- Building on Public Health England's 'Improving People's Health' strategy, the government should explicitly adopt a psychological framework using evidence from behavioural and social sciences and proven behaviour change frameworks to organise a cross-departmental response.
- All new government statements, policy papers and strategies aimed at promoting healthy weight must demonstrate an understanding of the causes of obesity from a perspective that is informed by psychological evidence as well as consideration of the biological and social/ environmental factors.

4. Prevention and community-based obesity services

4. Preventive and community-based obesity services

Psychologists working in behaviour change science have designed interventions that work for individuals, groups, communities and whole populations. This chapter will build on the population level perspective outlined previously by focusing on community level interventions. These are known among health professionals as Tier 1 and Tier 2 respectively. Chapter five will examine interventions for specialist interventions aimed at individuals, which include therapeutic clinical interventions at Tiers 3 and 4. There is some overlap between the tiers.

Figure 5: Intervention and treatment for obesity



COMMUNITY INTERVENTIONS

Interventions delivered in the community are generally aimed at people who are overweight or obese but who do not have any additional complications or any indicated need for secondary care. The existing guidelines on obesity and the prevention of type 2 diabetes, such as NICE and SIGN (Scottish Intercollegiate Guidelines Network) guidelines,[122] are well informed and include a range of evidence-based behaviour change techniques to promote changes in diet and physical activity.[123] However, clear descriptions of the psychological components of what is needed to support effective behaviour change are missing, for example guidance around effective techniques such as self-monitoring, or setting action or coping plans. Psychological evidence is not routinely included in the design or implementation of programmes developed locally.

The clinical guidelines also fail to provide clear evidence-based interventions on effective communication and how to deliver behavioural change, either at an individual or population level. For example, it is important to guide choice rather than to give prescriptive advice, moving from a 'telling' approach to a more person-centred 'asking' approach.

In practice, few Tier 2 weight management services in the UK are informed by psychological theory and research, and

Figure 6: From Telling to Asking…

From Telling	To Asking	Behaviour Change Technique
'Why don't you try to… [move more]?'	'What do you want to achieve?'	Goal setting
'Don't worry about… [what you look like]?'	'What is currently stopping you?'	Problem Solving
'Have you thought about… [joining a gym]?'	'What will you do differently?'	Action Planning
'Why don't you… [buy a new top when you lose 5kg]?'	'How will you reward yourself for success?'	Self-Reward

a significant number do not include a psychologist.* The increasing volume and specificity of behaviour change research based on psychological theory[124] should be harnessed to provide ongoing updates to recommendations that provide greater detail and clearer guidance for implementation.

COMMUNITY INTERVENTIONS FOR CHILDREN AND YOUNG PEOPLE: IMPLEMENTATION AND ENGAGEMENT

Childhood obesity is of major concern, given the increase in prevalence and the likelihood that it will continue into adulthood.[125] Psychologists working in weight management report that some community level interventions for children could be improved with additional psychological input and deeper consideration of the mechanisms of behaviour change.

A number of promising models for psychologically-informed community weight management services for children have been developed (e.g. Henry, Mend, Shine). However, when these have been rolled out, their efficacy in practice has been challenged by a lack of engagement from potential participants.[126]

The levels of enrolment into child weight management services is a factor in the success of services, and psychologists have reported that engagement among those who may benefit is typically very low. This may be partly due to stigma associated with such programmes, which deters families from signing up.

* To determine the numbers of psychologists specified in the service design and recruitment in tier 1, 2 and 3 weight management services, a freedom of information request has been sent by the Society to more than 200 CCGs in the UK. However, identifying the primary source for these details appears to be extremely complex with significant variation across CCGs, health trusts, local authorities etc. It has therefore been particularly difficult to obtain the specific information relevant to our concerns regarding current psychological staffing levels in weight management services in the UK which would allow for top line comparisons.

The National Child Measurement Programme (NCMP) in England can shed light on these implementation challenges. The NCMP was initially set up as a surveillance programme to measure the weight and height of children in Reception (aged 4–5) and Year 6 (aged 10–11) annually and reaches 95 per cent of children in England. In most local authorities, parents of overweight or obese children are now informed of their child's weight by letter and offered support to help reduce their child's excess weight, usually through referral to weight management services or dietician advice.[127] But while the NCMP provides excellent monitoring data, providing this feedback by letter has as yet had little impact on the uptake of services or obesity rates.[128]

Research and annual media reports have shown that many parents are upset by the NCMP programme in its current form, and object to the feedback they receive.[129] A common complaint is that the policy can exacerbate feelings of shame and stigma for parents. Engagement by policy-makers with psychologists when designing ways to work and communicate with parents more constructively could help to improve the outcomes of this policy.[130]

Research investigating why such approaches fail to engage parents suggests this could be due to their failure to understand, acknowledge and respond to parents' priorities and beliefs. Parents report concern that engaging in weight management activities with a child, or simply letting a child know that they are overweight, will undermine their wellbeing and potentially lead to eating disorders.[131] These concerns stretch beyond the NCMP, and relate to working with families more broadly in relation to children's weight management.

Targeted research is needed to understand why local authorities are facing challenges in implementing these programmes, how to better engage with and support parents in taking early action to help children maintain a healthy weight, and what steps can be taken to reduce perceptions of stigma associated with parents seeking help when their child is overweight. Public research funders, such as the Public Health arm of the National Institute of Health Research should make answering these questions a priority in order to support the effective delivery of community-based provision for children and adolescents and reduce demand on weight management services and the NHS further down the line.

There are evidence gaps on whether services for children and young people are most effective when they are delivered in schools, community settings or elsewhere. Further research to compare the effectiveness and sustainability of interventions in different settings would help local areas design and deliver the best interventions. It is vital that psycho-social needs of children and young people are understood and met by these services, whatever the setting, and that all interventions are delivered by staff expert in supporting behaviour change who understand the need to minimise stigma and the risk of harm to children's wellbeing.

COMMUNITY BASED PROGRAMMES FOR ADULTS

The NICE obesity guidelines recommend both community level initiatives and action by NHS staff to encourage people to engage in programmes promoting health behaviour change.[132] Many adults who are overweight or obese will be encouraged by their GP or other health professionals to join community-based weight management groups. This includes programmes such as Counterweight, or referrals to commercial weight management programmes such as Weight Watchers or Slimming World.

Community based weight management interventions for adults are usually structured, group-based programmes generally offered to people with a BMI between 25 and 40. Evidence suggests that targeting multiple health behaviours (diet and physical activity together) lead to greater weight loss.[133] These

weight management groups are a vital part of the national drive to tackle obesity so it is important that their approach is based on the latest evidence and delivered by people with the appropriate skills to support behaviour change.

The more successful behaviour change techniques found to be associated with weight loss in adults include encouraging social support, problem-solving, self-regulation techniques and providing structured, individually tailored programmes that include face to face contact with an empathic and well-trained health professional.[134] Psychological input in terms of both the content of behavioural support and style of delivery are central to the best practice and implementation of such approaches to behaviour change.

Effective programmes based on behaviour change techniques, such as 'Football Fans in Training and Active Herts' (see below), have developed clear protocols to enable them to be delivered in a standard way and replicated across different locations.[135] These programmes have been developed using insight from behavioural science and models such as COM-B and based on behaviour change techniques that have been found to be effective in other interventions. This approach is essential if the programmes are to be successfully rolled out and fairly evaluated.

CASE STUDY: FOOTBALL FANS IN TRAINING

The Football Fans in Training programme has been one of the most successful community based weight loss programmes in the UK, resulting in cost-effective clinically meaningful sustained weight loss at 12 months.[136] The programme incorporates a set of clearly specified and evidence-based behaviour change techniques, achieved through the input of two psychologists as part of a multidisciplinary working group. It is sensitive to the socio-ecological context, by providing support in a format and setting that is acceptable, familiar and attractive to the population it aims to attract.

The aim is to help overweight men (BMI ≥28 kg/m2), most of who are football fans, to lose weight through a 12 week group based programme which combines a classroom based component with 'pitch side' physical activity sessions. It is now offered by most Scottish Premier League football clubs, as well as a host of non-premier league football, rugby, netball and cricket clubs across the UK and Europe.

Photo credit: SPFL Trust

CASE STUDY: ACTIVE HERTS

Active Herts is a community physical activity programme for inactive adults with additional risk of cardiovascular disease or poor mental health. The programme has received over 4000 referrals in the Hertfordshire area. It involves a 45 minute consultation with a Get Active Specialist, signposting to local physical activity sessions (free in two of four localities), a telephone follow-up after two weeks and then additional follow-ups at three, six and twelve months.

Get Active Specialists are registered exercise professionals who are trained specifically in psychological approaches to behaviour change to improve the likelihood of success, rather than simply being provided with the content of the programme. This includes training on micro-skills (i.e. open-ended questions), Behaviour Change Techniques and the provision of ongoing supervision.

The content of the programme was built from theory and evidence-based research to translate behavioural science evidence into making a difference to public health.[137] Interim results show that at the end of the 12 month programme, the percentage of participants reporting that they did more than 30 minutes of activity per week had significantly increased from 68 per cent to 89 per cent, as did other measures linked to their physical health and wellbeing.

Photo credit: Active Herts

Despite the success of some interventions, the evidence for community based interventions helping individuals maintain weight loss beyond 3 to 6 months is weak.[138] This may not all be down to the quality of the intervention; often community based interventions are only funded short term by local authorities or are not implemented in a manner which takes into account all the psychological and behavioural components included in the initial design.[139] In addition, work to evaluate the effectiveness of the programme (an essential part of the review and improvement process) is often not a high priority for service providers and not undertaken consistently across services. Crucially, many of the staff delivering interventions lack sufficient skills and training in the design, delivery and evaluation of behavioural support.[140] With better training and attention to full implementation the outcomes of many existing services could be significantly improved.

When community based weight management interventions that are based on existing models that have been shown to work are not implemented fully it can undermine their effectiveness, and lead to lower success rates for participants. When service providers

are implementing existing evidence-based programmes, they need to ensure that they are delivered in full and include all the psychological and behavioural components. They must also be delivered by staff who have had sufficient training and who are able to evaluate the intervention to ensure it is effective when transferred to a new setting.

Evidence-based support for weight loss maintenance should always be a key goal of interventions.[141] Making major changes to diet or being more active can generate psychological, social or physiological tension for individuals, so the provision of support by people trained in behaviour change techniques can be a powerful service to offer.[142]

TRAINING AND SUPERVISION

The Public Health Workforce Review and Public Health Skills Framework both conclude that 'while much is understood about human behaviour… there is relatively little evidence on how this could be applied in practice to change behaviour of populations'. PHE's *Improving People's Health* strategy calls for a system leadership approach to develop the necessary skills and knowledge amongst health professionals and those designing interventions.

A successful example of system leadership was the approach to tobacco control, where a national accessible training programme for practitioners was introduced as part of the government's wider efforts to tackle smoking. While a similar scheme at a national level has not yet been rolled out for obesity, such a scheme could play a vital role in shifting public views and optimising the structures currently in place to provide much needed support.

An in-depth understanding of the principles of psychological models for behaviour change and sufficient skills to deliver interventions successfully is a key part of training. The BPS, alongside other professional bodies such as the Royal College of Physicians[143] recommends that all members of multidisciplinary teams (MDTs) should be trained and experienced in such techniques and approaches (for example motivational interviewing) and supported to incorporate them into their clinical practice. However, to do this safely and effectively, one-off training is rarely sufficient. Ongoing supervision is necessary to ensure that face to face interventions are being delivered correctly to manage risk. This means that weight management services that are commissioned need to include an appropriate level of psychological expertise to support and supervise other members of the MDT, as well as clients.

Health professionals are often asked to 'make every contact count' but without the knowledge and skills required to change behaviour they will inevitably be limited in what they can achieve. A useful resource is the NHS Education for Scotland training programme which was developed by health psychologists.[144] This blended learning programme targets frontline staff from a variety of disciplines, who have an opportunity to offer behaviour change support, and aims to increase their competence and confidence in using evidence based behaviour change techniques.

Recommendations

- The NICE and SIGN guidelines for the prevention of obesity should be updated with the input of psychologists with expertise in behaviour change and weight management to guide design of services.
- A nationwide training and supervision programme in the provision of psychologically informed behavioural support for weight management should be made available to all those working with people to help them to lose weight and maintain weight loss.
- Commissioners should incorporate quality standards around the full implementation of evidence-based weight management programmes.
- Policies and services for children should be designed in the context of engaging parents in the context of stigma, concern about the development of eating disorders and parents' understanding of children's health and wellbeing.

5. Weight management services

5. Weight management services

Eating does more than keep us alive, it meets a range of social and psychological needs. For many, over-eating has developed as a way to regulate emotions and cope with emotional distress.[145] So, for some people who are living with obesity, strategies to support weight loss and maintenance need to go beyond simply promoting new healthy behaviours. When lower-intensity interventions have proven unsuccessful, psychological input is always needed, particularly if medication or surgery is being pursued as a course of treatment.

People with enduring obesity problems can also have psychological issues related to obesity. This includes issues that contributed to their gaining weight in the first place, issues that helped to maintain their obesity and issues that are caused by being visibly obese and 'different'.[146] These kinds of issues all develop together. For example, sometimes the person was bullied or criticised for being overweight as a child. Some children turn to comfort eating to cope with the feelings that result. This can develop into comfort eating to cope with the negative body image consequences of overeating; a vicious circle that often persists and leads to consistent weight gain. Children bullied for other reasons can also learn to use food as solace.[147]

People who are obese can experience years of stigmatisation (see chapter two) which damages their self-esteem. Many people who are obese have dieted in the past and lost weight only to regain it, which is demoralising and makes weight loss seem futile. This is worsened by the fact that the amount of weight needing to be lost to achieve a healthy weight can seem unachievable. Obesity often adversely impacts health and wellbeing, which leads to additional problems, including common consequences of chronic health conditions such as pain, depression, anxiety, social withdrawal, reduced motivation and reduced self-esteem.

Psychological input to obesity interventions can help people address these difficulties by helping them change their view of their weight problem. Interventions can address self-esteem and self-efficacy, help individuals to cope with the re-emergence of old habits, especially under stress, tackle unhelpful thoughts and beliefs about themselves and encourage healthy lifestyles rather than dieting. Interventions should provide clients, teams and systems with an integrative formulation in order to understand the complex interplay of challenging environments, emotional dys-regulation and the use of food to cope with emotional distress.

WHAT IS FORMULATION?

It is useful to think about formulation as a story that is 'constructed rather than discovered'.[148] Psychologists combine psychological evidence and their clients' personal thoughts, feelings and meanings through a 'collaborative sense-making' process to develop a shared account that indicates the most helpful way forward.[149]

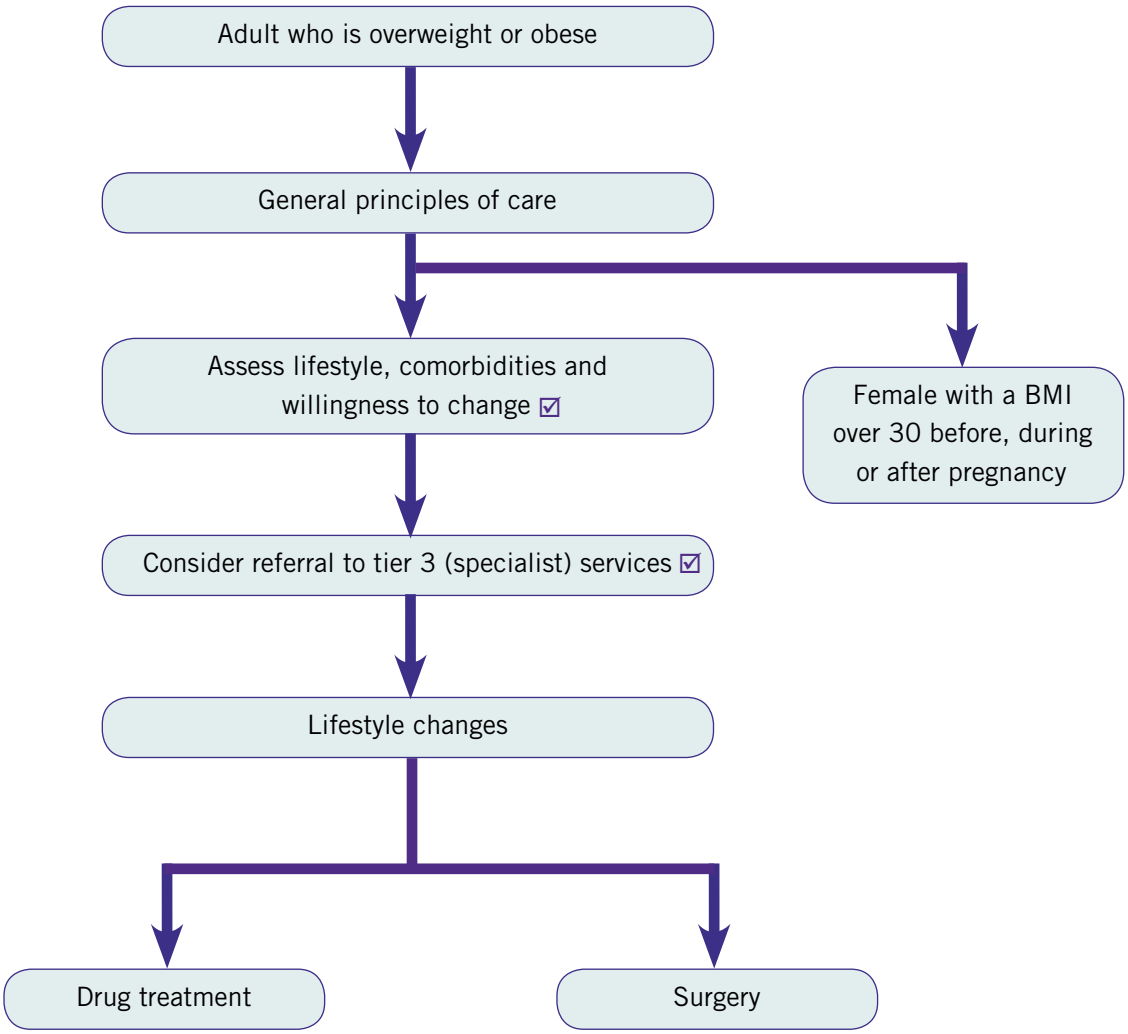
The emergence of formulation can be traced back to the 1950s with the development of the scientist-practitioner model. Through this model, psychologists draw on the science of psychology in order to generate hypotheses about individual patients.[150] By doing so, the presenting problems become a puzzle which can be solved by engaging with clients in the process.

'Formulation' was first included in clinical psychology regulations in 1969 and is now one of the core competencies of the profession.[151] The ability to access, review, critically evaluate, analyse and synthesise data and knowledge from a psychological perspective remains one that is distinct to psychologists, both academic and applied.

National guidelines, such as those developed by NICE and SIGN already recommend that all weight management interventions include a psychological component.[152] This means that interventions should be based on behaviour change evidence and psychological evidence in the design or the presence of a psychologist with experience of working with trauma at all levels.[153] NHS England's 'Five Year Forward View' recommends more psychological input and integration in obesity services.

The challenge is to ensure that these guidelines are followed, that recommendations are fully implemented and that specialist obesity services are strengthened to provide holistic care. However, in practice, provision of specialist obesity services across the UK is highly variable with significant gaps. Many services do not take an approach that includes an understanding of biological, psychological and social factors and are thus based on incomplete evidence.

Figure 7: NICE Pathways: Obesity management in adults



LIVING WITH OBESITY AND IIH[154]

IIH is a neurological condition which raises intracranial pressure (ICP) in the absence of any other identifiable cause (i.e. cancer).[155] Typical symptoms involve headaches, visual difficulties, tinnitus, back pain, dizziness, neck pain, visual blurring, cognitive disturbances, radicular pain and typically horizontal diplopia.[156] It most frequently occurs in women of childbearing age.[157]

Studies indicate a correlation between BMI and the condition[158] with increasing BMI associated with reoccurrence of symptoms[159] which leads to increased use of medical services.[160] Patients are often seen by multiple health professionals before a diagnosis is given. Psychological insights can be crucial to help understanding of this condition and support individuals to engage successfully in weight management services.

SPECIALIST TREATMENT PROGRAMMES (TIERS 3 AND 4)

Interventions should be matched to the specific needs of groups and individuals, with increasingly comprehensive and intensive programmes available to those with complex and enduring obesity. Effective interventions can be life-changing for individuals living with obesity, as well as dramatically reducing the associated health and social care costs. The inclusion of psychological evidence and psychologists in service design, delivery, evaluation and training for prevention and treatment programmes must be central, rather than an add-on.

Specialist weight management services for adults are generally offered to individuals with a BMI of 40 or above, who have been unsuccessful in addressing their obesity via other structured interventions like community based healthy eating or physical activity programmes and commercial slimming programmes. Many have complications from other long term conditions that are exacerbated by their high BMI. Often the physical complications are severe, so consequently the focus of interventions is on the medical management of them, with psychology being seen as of secondary importance. Sometimes this is appropriate, but sometimes it can ignore the key underlying question of why a person should persist with behaviours maintaining obesity despite very serious health problems? When psychological issues are explored, often it turns out that there are reasons for this that are amenable to psychological interventions.

Tier 3 services typically provide a planned intervention lasting at least six months, often in a group format. In practice the make-up of the multidisciplinary team delivering the intervention and the nature of the intervention is very variable.

Specialist multidisciplinary teams should be available for children and young people living with obesity, particularly those with complex needs and serious co-morbidities, and should incorporate psychological assessment while involving wider family members where possible. Up to half of adults attending specialist obesity services may have experienced adversity or trauma in childhood or adult life, one of the psycho-social causal factors as outlined previously in this document,[161] compounding weight related shame and stigma. Moreover, the challenges of living with obesity can themselves be traumatic. It is essential that these services provide a psychologically informed assessment at the start of the intervention, undertaken either by a practitioner psychologist with experience of obesity or a health professional trained, supervised and supported to develop a psychological 'formulation' of the individual's obesity related precipitating and perpetuating concerns.[162]

OBESITY AND MENTAL HEALTH: THE NEED FOR INTEGRATION

A 'formulation' is a collaborative understanding of the context and role of obesity related behaviours and other associated difficulties in a person's life. The formulation is openly shared with the service user to build trust and awareness, avoid shame and self-blame, and ensure that an intervention that is most appropriate for that individual is agreed. Occasionally, interventions to address early trauma, for example, may be more appropriately provided by specialist mental health services prior to or alongside specialist obesity services. Those involved in such services should know the process of referral and work within professional boundaries, drawing on specialist psychological support where needed.

Psychologists in weight management services can play an additional role in assessing and addressing mental health difficulties, particularly in severe and complex cases. This element of the psychologist's role must be acknowledged and resourced with sufficient time allocated for this work to be carried out effectively.

It is important to have a strong connection between weight management and mental health services so that referrals between the two are seamless and that staff in both services are aware of how mental health and obesity are connected. Greater integration between mental and physical health services can be encouraged by establishing clear referral pathways between mental health services and weight management services in both directions. It is important that all health and care professionals working with individuals who are hoping to lose weight are aware of psychological disorders that can increase the risk of excessive weight gain or may hinder response. Some people with obesity have complex health needs involving a range of different services. When these are not well joined-up then there can be problematic consequences, including people being prescribed medications for mental health issues that affect weight gain or reduce activity levels, non-specialist staff avoiding mention of the patient's obesity, and staff inadvertently stigmatising patients (see chapter two).

Adults with severe and enduring mental distress and adults with learning difficulties both have an incidence of obesity much higher than the general population.[163] The evidence indicates that such individuals can benefit from weight management programmes similar in content to those outlined above, but interventions should be tailored to support engagement.[164] However, very few of these services for these vulnerable populations currently exist. The problematic consequences for obesity apply all the more so to vulnerable populations whose other severe problems may be felt to make obesity less of a priority.[165]

Eating disorders such as bulimia, night eating syndrome, and binge eating, are a significant component of obesity for many attending specialist weight management services, and can be significantly reduced through psychological intervention.[166]

PSYCHOLOGICAL THERAPIES: MEASURING OUTCOMES

Specialist services that use behavioural therapy and cognitive behavioural therapy (CBT) report clinically significant weight loss.[167] Comparisons between programmes are difficult because of methodological differences in programme lengths and modality and significant BMI differences between the population participating. Evaluation should go beyond simple measures of weight lost to include a broader range of outcome measures including behavioural change, indicators of well-being such as mood, quality of life and biological markers of health risk, and health economic indicators like reduction in medication and return to employment.[168] Moderate weight loss is associated with significant improvements in mood and quality of life.[169] A significant weight loss such as 5

per cent of body mass may still leave a person who is severely obese very far from a healthy weight, so maintaining motivation and the weight loss trend is very challenging for both staff and patient.

Specialist services should provide interventions in line with the current evidence base in the first instance. However, in cases where an individual does not respond well to first line intervention and where their formulation suggests that they would benefit, new psychological interventions with emerging evidence may also be considered. These are known as 'Third Wave CBT' and include skills in mindfulness, regulating emotions, compassion, behaviour change and long-term maintenance, and helping individuals develop more fulfilling lives.[170] This developing area of treatment is showing potential. Further research, for example multi-centre randomised controlled trials comparing emerging therapies with traditional CBT is needed to develop this evidence base so that it can be incorporated into guidance to shape future services.

PSYCHOLOGICAL SUPPORT A KEY ELEMENT OF MEDICAL INTERVENTION

For people with severe obesity who have not lost weight through other interventions, medical interventions such as drug treatment or surgery are offered as part of the pathway for managing obesity. Psychologists can work collaboratively with patients to explore the reasons for non-adherence to medication in order to help them establish the behaviour of taking their medication as prescribed.[171]

Prescribed drug therapies are only available to those with a BMI over 30. The main form of drug therapy acts on the gastrointestinal system to reduce fat absorption. The most common product, Orlistat (Xenical), can assist in reducing fat absorption and also in behaviour change due to the motivation to reduce the effects of the drug when fat is eaten (such as liquid stools and anal leakage).[172] Similar medications such as Saxenda are increasingly used. People who are prescribed drug therapies should be provided with psychological support alongside to facilitate the behaviour change required to get the most from their treatment.

Bariatric surgery is a psychologically demanding procedure[173] and positive long-term outcomes depend on people significantly changing their behaviour both before and after the surgery and their ability to develop new coping skills.[174] Surgery is most effective in the long-term when broader psychological aspects of weight, eating and physical activity behaviours are also addressed in Tier 3 specialist obesity services beforehand.

National guidelines recommend that individuals who are considering bariatric surgery should complete behavioural lifestyle interventions, such as those offered by specialist obesity services, in addition to more in-depth psychological assessment[175] to ensure they are psychologically ready for the procedure and maintain the positive gains in the long-term. Clinical guidelines normally state that to be considered for bariatric surgery, individuals will usually have a BMI of over 40, or 35 with co-morbidities (i.e. diabetes, sleep apnoea).[176]

Every person who undergoes bariatric surgery, including in private healthcare, should receive a psychological assessment and psychological support both before and after the procedure. This is to help them understand, using appropriate psychological interventions, the psychological factors that contributed to their unhealthy weight as well as how to sustain behaviours relevant for weight loss in the future. In reality this support is patchy and inconsistent and some people face delays and lengthy waits for follow-up appointments.[177]

ADDRESSING STIGMA AND INEQUALITY IN THE PROVISION OF SPECIALIST SERVICES

Tackling negative perceptions around people living with obesity is essential, particularly in health and social care settings. Under the Equality Act 2010 and its statutory Code of Practice, service providers are expected to make 'reasonable adjustments' to ensure that disabled persons are 'provided access to a service as close as is reasonably possible to get to the standard normally offered to the public at large'. According to the Public Sector Equality Duty (PSED) it is ultimately the organisation's responsibility to ensure that suitable arrangements are in place for patients in any given area to receive necessary care and treatment. A key implication is that if a professional believes a patient cannot be treated safely in their clinical environment access to 'a reasonable alternative' for care must be sought.

The Equality Act 2010 and the PSED have serious implications for the NHS and Social Care sector when considering an emerging cohort of patients who have a BMI of 50 or higher sometimes referred to as the super obese.[178] Upon admission to hospital, these patients require more resources compared to individuals within a healthy weight range and are also a greater risk of re-admission to hospital within 28 days of discharge.[179] They often require specialist equipment or a higher number of staff involved in their care. When admitted to hospital, these patients are also more likely to require admission to an intensive care unit and tend to stay in hospital for double the length of time than an individual who is not obese. Research has also shown that, the higher the BMI at time of hospital admission, the lower likelihood of being discharged directly home.[180]

However, there are currently no commissioned specialist services or agreed UK pathways that consider the needs of housebound individuals with a BMI over 50. Such patients do not meet the criteria to access Level 3 services due to being housebound and do not meet NICE guidelines to access bariatric surgery within level 4 services. As the majority of services are not designed considering the needs of housebound bariatric patients, healthcare staff are struggling to meet patient need and are unable to provide reasonable alternatives of care.

Recommendations

- NICE guidelines for the treatment of obesity should provide clearer, more detailed examples of how evidence based services can be implemented most effectively in different settings. The guidelines should be updated with the inclusion of psychological evidence and the input of psychologists to guide the design of services. Clinical guidelines should incorporate evidence on the role that psychological factors can play in obesity, for example addressing past trauma, unhelpful attitudes and behaviours towards food and physical activity and dealing with stigma, emotional regulation, and managing setbacks for long-term maintenance.
- For weight management interventions to work most effectively, they need to be implemented properly and be able to cater for everyone who is an unhealthy weight, including those with a BMI over 50. Service providers, such as local authorities or CCGs, must ensure they commission evidence-based interventions and that they are fully implemented, fully resourced and are designed and delivered by people with appropriate psychological knowledge, skills and training.
- There are still gaps in the evidence base. The National Institute of Health Research and other research funders should incentivise research that will answer questions about how to improve the development, implementation, uptake and variety of weight management interventions; using a suitable evaluation framework. This should include specific research to understand how to tackle the stigma that prevents people from using services and projects to develop the evidence base around emerging psychological approaches.
- Weight management services are best delivered by integrated multidisciplinary teams (MDTs) that include psychologists who can support and train other team members to provide psychologically informed practice. All members of these MDTs should have an appropriate level of training in the underlying principles of how to change behaviour using psychological approaches. Health education bodies should invest in ensuring both psychological awareness for MDTs and more psychologists to support them.

Further information

- The Association for the Study of Obesity have produced a position paper on weight bias and stigma and detailed recommendations for the presentation of information about obesity: https://www.aso.org.uk/wp-content/uploads/2014/10/ASO-position-paper-on-weight-bias-and-stigma.pdf
- For useful advice about how to address weight stigma for healthcare commissioners, clinicians and researchers see http://www.obesity.org/obesity/resources/facts-about-obesity/bias-stigmatization.
- For an example of good practice in using language and imagery that does not stigmatise, see the Canadian Obesity Network, obesitynetwork.ca/images-bank
- EPODE International Network (EIN) – is a capacity building network of over 40 Community-Based Programmes working to prevent childhood obesity. It uses a multi-angle and community based approach and has some evidence of efficacy https://epodeinternationalnetwork.com/

Appendix A. Policy levers used to address smoking and obesity

The following policy levers were included in Public Health England's *Improving People's Health: Applying behavioural and social sciences to improve population health and wellbeing in England.*

	Smoking	Obesity
Legislation	• Bans on tobacco advertising (2002) • Prohibition of names such as 'light' or 'mild' (2002) • Legal smoking age increased from 16 to 18 years (2006) • Smoking ban in public places, workplaces and cars (2006) • Mandating pictorial warnings on cigarette packets (2008) • Ban on point-of-sale tobacco product displays (in large stores, 2012 and small stores in 2015) • Standardised Packaging (2015)	• Restrictions on advertising of unhealthy food and drink to children • Strategies such as using popular children's cartoon characters have been prohibited
Regulation		• Front of Pack Labelling • Sugar Reduction
Fiscal Measures	• Increased cost of tobacco products	• Soft Drinks Industry Levy (2018) used as a policy lever to encourage reformulation
Guidelines	• National Tobacco Control Strategy • National Guidelines to support the implementation of local stop smoking services • Tobacco Harm Reduction • Guidance on E-Cigarettes • Guidance for the training of Stop Smoking advisors and specialists	• National Childhood Obesity Plan • Change4Life Retail Guidance • Weight Management Guidance for Adults • The EatWell Guide • Front of Pack Nutritional Labelling • School based meal standards • Start4Life • Government Buying Standards for Food and Catering services

	Smoking	Obesity
Environmental and Social Planning	• Smoke free places • Designated smoking areas • Tobacco products not on display • Ban on advertising and sponsorship	• Improving access to active travel • Healthy Urban Planning Checklist • Removal of confectionery from supermarket checkouts • National Child Measurement Programme (NCMP)
Communications and Marketing	• Social Marketing Campaigns such as Stoptober, January Health Harms, No Smoking Day, and World No Tobacco Day • Health warnings on tobacco products	• Change4Life Campaigns including Food Smart and 100 calorie snacks • Start4Life – breastfeeding
Service Provision	• Stop smoking services • Brief Interventions • Making Every Contact Count • Development of digital stop smoking interventions	• Weight-management services
	• National Tobacco Control Strategy • National Guidelines to support the implementation of local stop smoking services • Tobacco Harm Reduction • Guidance on E-Cigarettes Guidance for the training of Stop Smoking advisors and specialists	• National Childhood Obesity Plan • Change4Life Retail Guidance • Weight Management Guidance for Adults • The EatWell Guide • Front of Pack Nutritional Labelling • School based meal standards • Start4Life • Government Buying Standards for Food and Catering services

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