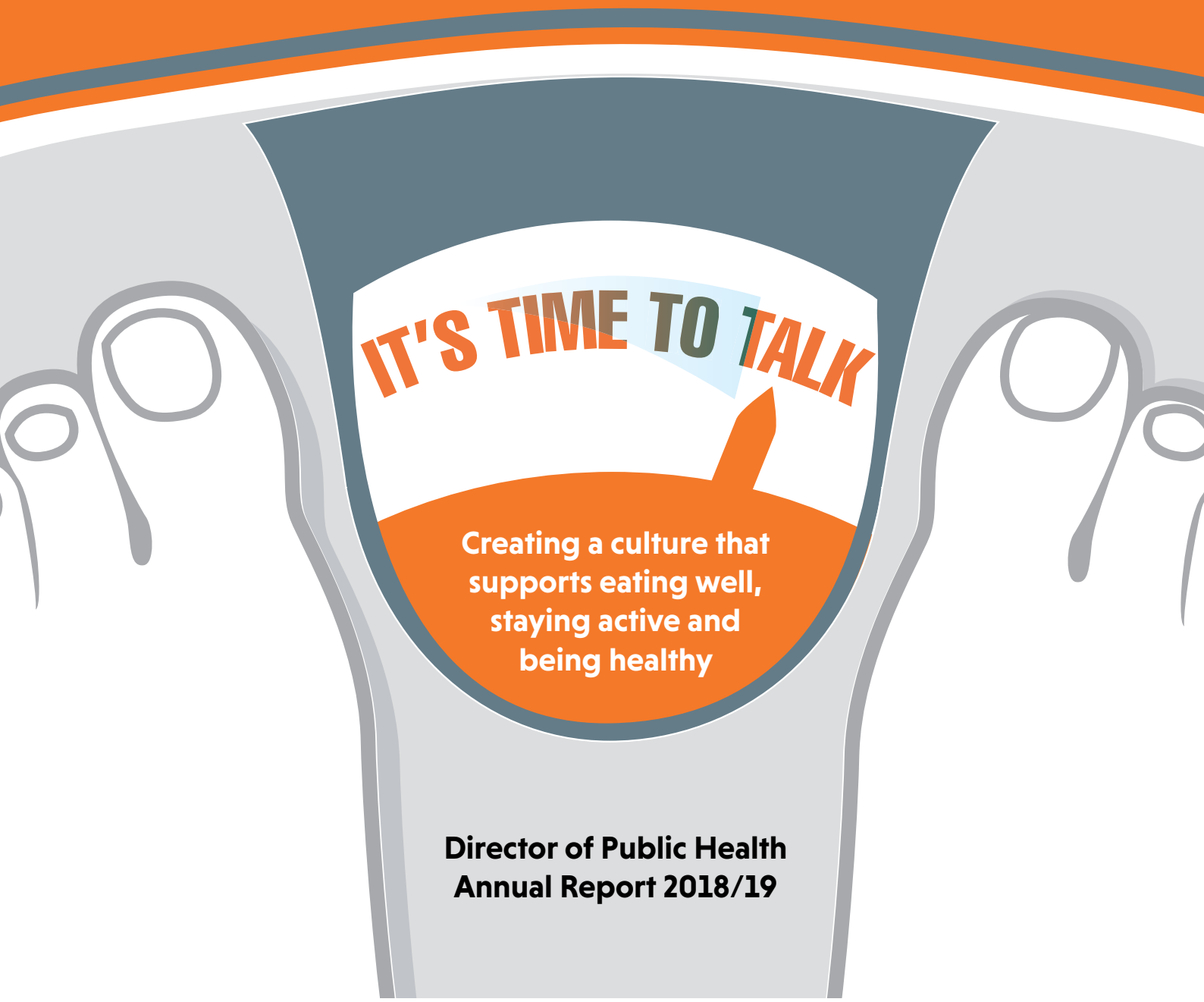
Obesity



Creating a culture that supports eating well, staying active and being healthy

Director of Public Health Annual Report 2018/19

publichealth
helping health happen

NHS Grampian

This document is also available in large print and other formats and languages, upon request. Please call NHS Grampian Corporate Communications on (01224) 551116 or (01224) 552245. Ask for publication: Director of Public Health Annual Report 2018/19.

For further information please contact Susan Webb, Director of Public Health at nhsg.dph@nhs.net

Contents

5 **Foreword**
Susan Webb, Director of Public Health, NHS Grampian

7 **Introduction**

9 **Overweight and obesity**

14 **Overweight and obesity in the North-east of Scotland**

22 **A time for action to prevent and reverse overweight and obesity**

25 **Further reading**

26 **National dietary and physical activity recommendations**

28 **References**

publichealth
helping health happen

NHS Grampian

It doesn't take much to move the scale in the upward direction but it is a lot harder to take it off.

Foreword

Susan Webb, Director of Public Health, NHS Grampian

I was a dietician when I first started working in the National Health Service (NHS) so talking about diet and body shape comes naturally to me. Yet I am still surprised that many people feel uncomfortable when talking about obesity. When I announced to a group of health professionals that my next annual report would look at reducing obesity, most of them looked at the floor, adjusted their clothes or apologised for bringing home bakes to the meeting. With younger generations becoming obese at earlier ages and staying obese into adulthood, and two thirds of our adult population overweight or obese, we need to find a way to talk about it without causing people to feel guilty or judged.

A recent keynote speaker at The Physiological Society conference highlighted that if we gain just one pound a year, 30 years on before we know, it has turned into 30 pounds. It doesn't take much to move the scale in the upward direction but it is a lot harder to take it off.

> As with many things, I put this to the back of my mind until the weather turned colder and out came my winter wardrobe. The dress that once fitted so well was tighter at the seams. I stepped on the scales and found I had squeezed five years growth into one! I reflected back over the year which has seen family illness, increasing pressure at work and transitions with school, and realised that these had disrupted my once respectable eating habits and levels of physical activity. I often started the day well but, after juggling family life and work I reached for the biscuit tin mid-afternoon to give me a much needed boost. Some evenings, I would snack before tea. Determined to be more comfortable in my clothes, I thought I would just give the treats a miss. Nothing happened. I had convinced myself that I was snacking less and 'being good' but I was fooling myself. The change came when I broke the habit of what I ate and when. I now have healthier snacks and lots of water to see me through the day. But I still have to stop and think when I pass the biscuits. Sadly my physical activity is still a work in progress.

In preparing this report, I had many conversations with colleagues about how obesity is the result of where we live, work and play and what we could do to reverse the growing trends. As a System Leadership Team for NHS Grampian, we recognise that we have a role in setting the culture of the

Foreword (continued)

organisation and we are determined to make it one which supports our staff to live well. At some point in the conversation, it dawned on us that we were not talking about others but about ourselves and decided to take some collective action by signing up to do a step-challenge. Some of us are doing this to lose weight, some to be more physically active and others to support those of us who need a little help with our motivation. I hope we will be able to share our own experiences by the time this report is published.

This report sets out the case for change for individuals, for communities and for organisations. Making a sustained difference is likely to require effort on multiple fronts and I offer some options for you to consider in this report. Reducing obesity: it's time to talk.

Key Messages

We want to create a North East where people eat well, are physically active and enjoy healthy weight

- Obesity and poor diet is the single largest cause of disease and premature death across Scotland and the North East
- Being overweight or obese has become the norm – and is getting worse
- We should be able to talk about body weight openly, without blaming, shaming or guilt
- We all have a part to play in finding a solution to poor diet, inactivity and overweight and obesity

Introduction

Throughout human history, a primary concern has been the production of enough food to feed the population. During the latter half of the 20th century, industrialised food production surpassed this concern, producing surplus food on a global scale. However, not everyone has equal access to the food that is produced. People continuing to go hungry in the 21st century remains a shameful reality, but this surplus food has had to go somewhere.

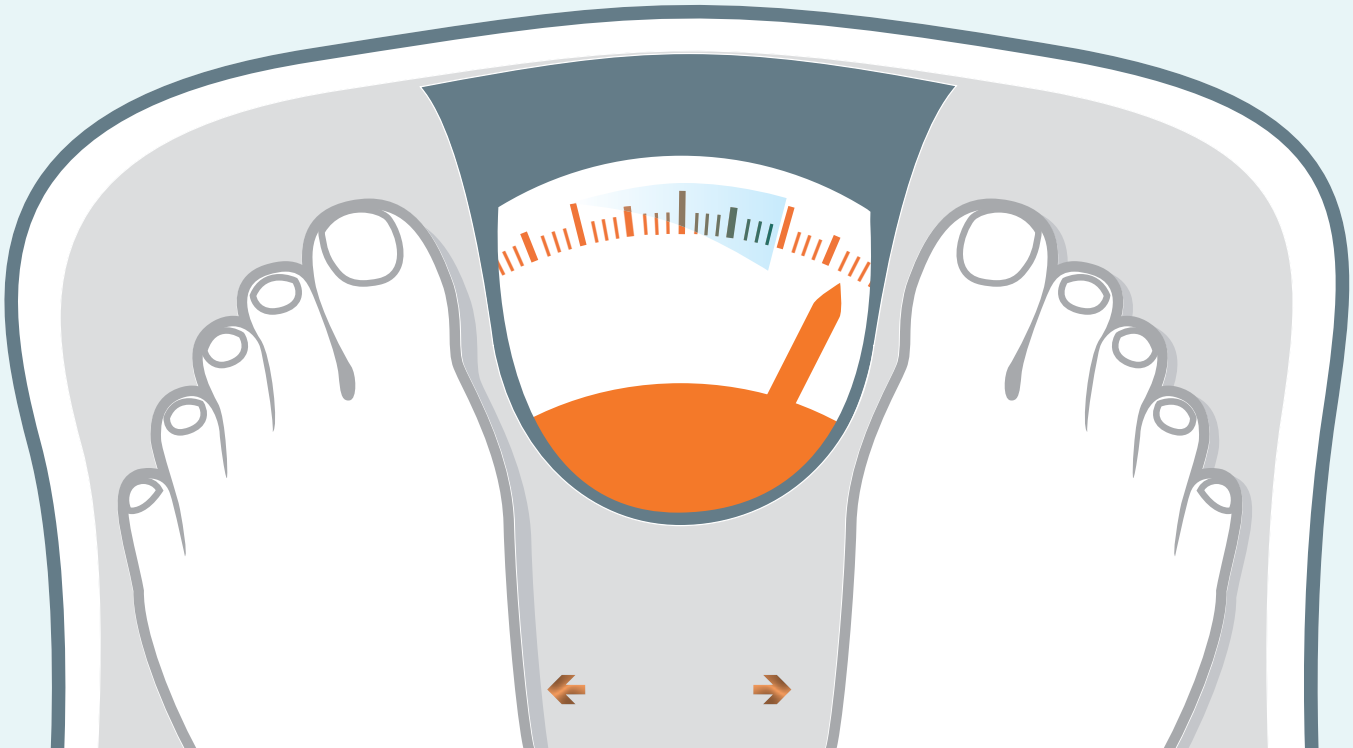
Over recent decades, processed foods and drinks have been heavily marketed, creating a culture of guilt-free snacking and continuous 'grazing'. At the same time, more and more people are finding themselves struggling to make ends meet, increasingly time-poor, overloaded, distracted, isolated, lonely, anxious and unhappy. In other words, modern life can get in the way of eating healthily and staying fit and active. It is perhaps unsurprising that large numbers of us are consuming calories in excess of our needs. Poor diet and excess body fat is now the largest cause of ill-health, disease and premature death across Scotland, including the North East.

> Of course, food has always represented much more than simple calories and survival. Food has cultural and social meanings. Food – its selection, preparation, presentation and consumption – is central to many of our social gatherings and ceremonies. We use food to collectively acknowledge significant life events such as weddings or funerals; to celebrate feasts or special occasions; and to enjoy social interaction with friends and family. We gift food to say thanks, congratulations or to express love and friendship.

Furthermore, many people depend on the food industry for work – food production, distribution, retailing, catering, advertising, marketing – these are of significant importance for employment, skills development, income and wealth.

The challenges for food production and distribution have not been solved, not least as climate change and sustainability are challenging us to rethink our consumption patterns. With increasing numbers of people experiencing diet and obesity related diseases, the time has come to talk about creating a world where everyone can eat well, stay active and be healthy in their weight.

With access to plentiful calories, this evolutionary advantage has turned against us



Overweight and obesity

Obesity can be defined as *abnormal or excessive fat accumulation that presents a risk to health*[1]. Put simply, we put on weight when we eat more calories than we burn. These excess calories are stored as adipose tissue ('body fat'). Being able to store energy in this way provided a survival mechanism as we evolved across thousands of years in environments where food was scarce. With access to plentiful calories, this evolutionary advantage has turned against us.

Measuring body weight

A commonly used measure is the body mass index (BMI). BMI takes into account a person's height as well as their weight. It is measured as kilograms per metre squared (kg/m^2).

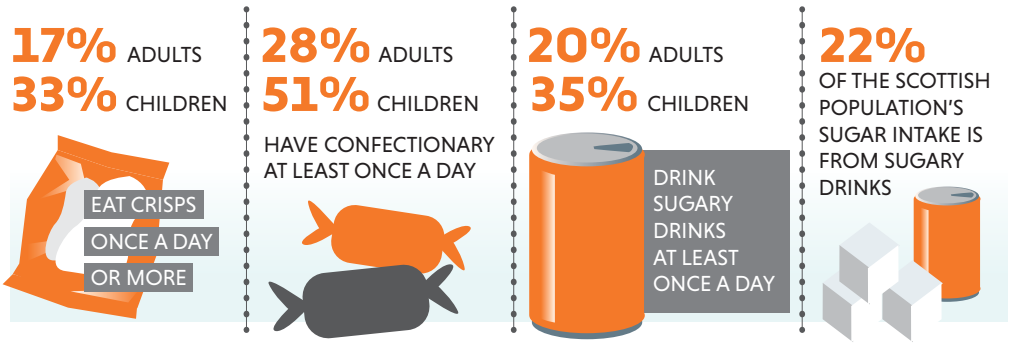
According to the World Health Organisation (WHO):

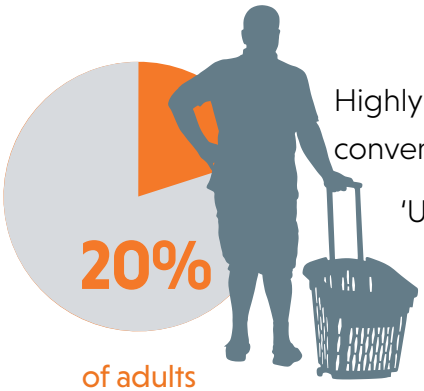
- a BMI of 18.5 to 25 is a 'healthy weight'.
- a BMI of 25 or more is 'overweight'
- a BMI of 30 or more is 'obese'

Overweight and obesity measurements for children also have to take into account the fact that children are still growing.

The obesogenic environment

An 'obesogenic environment' is one which encourages people to overeat and gain weight. Current dietary recommendations set out the components of a healthy, balanced diet. However, as much as one fifth of people's daily calorie intake comes from high fat, high sugar and low nutrient foods (e.g. crisps, confectionary, biscuits, alcohol).[2]





of adults say supermarkets cause them to go off track when attempting to lose weight [2]

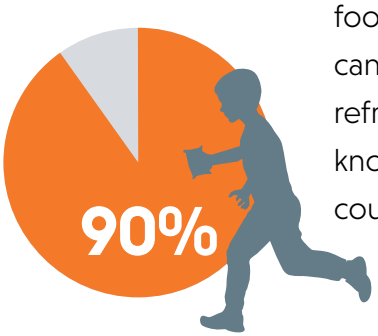
Highly processed, energy dense foods are often inexpensive, accessible, convenient and heavily promoted.

'Upstream interventions' – such as sugar taxes – effectively target the obesogenic environment.[3,4]

50% of manufacturers have reduced their sugar content since the introduction of the sugar tax. This is the equivalent of 45 million kg of sugar reduced each year.[3]

Cost and income

It can be more difficult to eat a healthy diet when money is short.[5] The less money available, the greater the proportion must be spent on food. Processed foods offer a sense of convenience, while a healthy diet can be perceived to be more expensive, more time consuming, requiring refrigeration, storage and cooking facilities, sufficient gas or electricity, and knowledge, skills and confidence to prepare. Of particular concern in a country as well off as Scotland is the growing number of people dependent upon food banks.



90% of products on display at children's eye level in supermarkets are unhealthy [2]

	Number of food parcels	
	2016	2017
CFINE Food Bank Aberdeen	10,000	15,000
Aberdeenshire North Food Bank		2,849
Moray Food Bank		2,759

For many of our beneficiaries it's financial circumstances that determine what food they buy which can lead to quantity and low cost being the key economic determinant

– Community Food Initiatives North East (CFINE)

The family context

It's important to acknowledge the crucial role of parenting on children's body weight and support parents to make healthy choices for their children. There are a number of programmes across the North East to support children to achieve a healthier diet, although only a small proportion of children referred to a dietician for obesity actually attend. We need to get better at engaging with parents, and winning their trust and active involvement in improving the health of their children.

> **In fact, the risk of being overweight or obese starts at a very early stage. Poor nutrition during pregnancy is associated with worse health outcomes in later life, including obesity.[6]**

These days, around half of women are overweight in early pregnancy, and they face a greater chance of developing gestational diabetes. Children born to mothers with gestational diabetes have higher body fat and are at greater risk of obesity in later childhood.

Breastfeeding is encouraged due to its significant health benefits for both mother and baby, including a reduced risk of obesity in later life. At present, half of infants are being breastfed at two months.[7] More could be done to support younger mothers to breastfeed and to make breastfeeding the norm in lower income groups.

One in three of us impulse purchase unhealthy products because they are on special offer [2]

Physical activity

Physical activity has been described as a 'miracle cure' because it can prevent and improve so many health conditions.[8] Physical activity and exercise has a vital role to play in improving health and preventing disease, and can help with maintaining a healthy body weight.

However it is not the sole solution to overweight and obesity. Two thirds of adults meet the physical activity recommendations of 150 minutes of moderate intensity exercise per week,[9] meaning that at least one third of adults are getting enough physical exercise though are still overweight. This means we have to take action on the other causes of obesity too.

Overweight and obesity now looks normal

Only a quarter of people correctly identify individuals as obese

That still leaves one third of adults not getting enough physical activity, and one in five children aged between 2 and 15 in the North East do not meet national guidelines for physical activity.[10] This is important not just for healthy weight, but because a sedentary lifestyle increases the risk of a number of health conditions and premature mortality.

Half of children walk and 1% cycle to school; they are less likely to walk to secondary than primary school [11]

Under one third of journeys in the North East are made on foot, and a very small proportion of journeys are made by bicycle [11]

Psychological factors

There is also a link between stressful events during adulthood, or a history of traumatic experiences during childhood, and excess weight gain.[12] Around half of adults attending specialist obesity services have experienced an adverse childhood experience or trauma in adulthood.[13]

> There are often significant psychological issues that require addressing and it is important to have links with mental health and psychology. Often patients do not open up to issues and feel embarrassed to come forward for support.
> **– Clinical Practitioner, NHS Grampian**

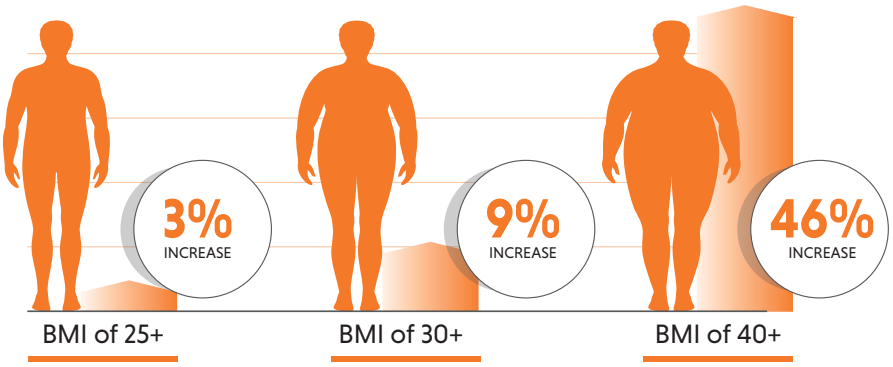
Overweight and obesity now looks normal

As more people have become overweight and obese we have become less able to recognise overweight and obesity in ourselves and others.[14]

- Only a quarter of people correctly identify individuals as obese
- Most people only recognise obesity in those who are much larger than the medical definition of obesity
- Men need to be more overweight than women before they are recognised as being obese

Overweight and obesity in the North East of Scotland

Two thirds of adults in the North East are overweight or obese, equally distributed across Aberdeen City, Aberdeenshire and Moray.[9]



Number of women and men in the North East of Scotland in three Body Mass Index categories (Source: Scottish Health Survey[15])

	2012		2016	
	Women	Men	Women	Men
25+ (overweight & obese)	147,000	159,000	151,000	165,000
30+ (obese)	67,000	62,000	72,000	69,000
40+ (severely obese)	7,900	4,600	11,000	7,000

In other words, within the space of four years, the Scottish Health Survey estimated that in the North East of Scotland:

An additional **4,000** women and **6,000** men had joined the overweight or obese category

An additional **5,000** women and **7,000** men had joined the obese category

An additional **3,100** women and **2,400** men had developed a BMI over 40

Almost a quarter of five year old children are overweight and one in ten are obese.[16] Amongst women and children, the prevalence of obesity increases alongside deprivation.[5]

A BMI of 30+ reduces life expectancy by an average of 3 years while a BMI of 40+ reduces life expectancy by 8-10 years[18]

The health consequences of overweight and obesity

Being overweight or obese increases the risk of a number of physical health problems, including cancer, type 2 diabetes, hypertension, stroke, heart disease, sleep apnoea, back pain, osteoarthritis, infertility and gestational diabetes.[17,18] However, poor health outcomes are not reserved for those who are considered to be obese. The risk of poorer health outcomes start to increase with overweight, including prediabetes, type 2 diabetes and hypertension.[17] Diet and body weight combined is now the largest cause of disease and premature death in Scotland.[18]

More than **one in twenty** cancers in Scotland are attributable to overweight or obesity[19]

A BMI of 30+ reduces life expectancy by an average of **3 years** while a BMI of 40+ reduces life expectancy by **8-10 years**[18]

There are approximately **25,000** people with type 2 diabetes across the North East[20]

There are approximately **10,000** people across the North East with prediabetes[20]

Type 2 diabetes

The level of sugar in our blood is normally well controlled by insulin, a hormone released from the pancreas. Overweight and obesity can stop insulin working so effectively, a condition called insulin resistance. As a result, the level of sugar in the blood increases. Once this is persistent it is called type 2 diabetes and it can worsen as the pancreas goes on to stop producing as much insulin. High blood sugar is important because it can damage our blood vessels, our kidneys and our eyes.

Insulin resistance and diabetes can also be caused by diets that are high in sugar and fat, and low in protein and fibre, by sedentary lifestyles, and by smoking.[21,22,23]

For those who develop diabetes, it is very important to take steps to control the condition. Without such steps, people with diabetes can face an increased chance of heart attack, stroke, blindness, kidney failure, and gangrene.[21] The latter decades of the 20th century saw a doubling in the number of people newly developing type 2 diabetes in the Western world.[24] While incidence rates appear to have stabilised in Scotland in recent years, the prevalence of diagnosed type 2 diabetes has doubled within the past decade.[25]

It can be difficult to talk about obesity

Some people with overweight or obesity shoulder all the responsibility for their body weight

The key actions for managing diabetes are losing weight, changes in diet, increased physical activity and stopping smoking. These lifestyle changes are twice as effective as medicines in preventing people with early signs of prediabetes from going on to develop type 2 diabetes[21] and there is growing evidence that type 2 diabetes can be reversed through medically supervised very-low calorie diets.[26]

Talking about obesity – and its links to mental health and wellbeing

It can be difficult to talk about obesity.

> *My plea to those who are engaged in it is please take care. Think about those who might be listening, many of whom are trying hard to do the right thing* – **Layla Moran, The Guardian**[27]

No one is exempt from our obesogenic environment. Recent research suggests that the nursing profession is the occupational group at greatest risk for overweight and obesity in Scotland.[28] This should give us pause against thinking that the solution is more information, better education or greater health literacy. In fact, this kind of approach in isolation can increase health inequalities.[29,30]

> *I am overweight and feel I'm a hypocrite when offering advice. Then I tell the families of the long-term implications on their children's health such as type 2 diabetics etc., which I have* **– Health Visitor, NHS Grampian**

Some people who are overweight or obese shoulder all the responsibility for their body weight, blaming themselves and experiencing guilt and shame. Those working with them can know how difficult it is for people to lose weight – and to keep it off – and so don't wish to make feelings of guilt or shame worse.

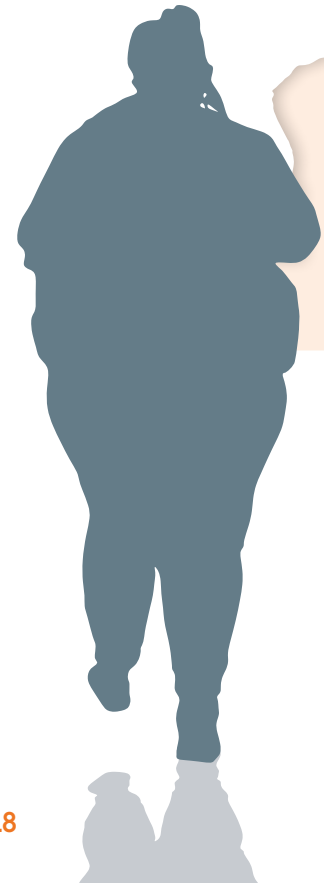
> *Patients often express embarrassment and feeling undignified despite reassurance by staff* – **District Nurse, NHS Grampian**

Others refuse to be shamed and can react against those who raise the issue. People don't usually want to cause distress, and so can find it difficult to raise the issue in fear of causing offence.

For workers who are themselves overweight or obese, there is the concern that raising the issue could appear hypocritical or that their advice could be undermined by their own situation.

People will laugh at me because I am fat
– Patient in diabetic service: female 17 years old

We need to find ways of talking about overweight and obesity which avoid stigma, discrimination and victim-blaming. To support these conversations are a number of different approaches, including Making Every Opportunity Count (MEOC), and training packages such as Helping People Change for Health and Health Behaviour Change. These can be applied across all sectors and organisations. Allowing the individual to identify their own concerns and potential solutions, while taking seriously factors such as money worries or time constraints, will be more productive than 'telling people what to do'.



I was working hard then, 50 hours a week. I was very active before but then I was slowing down. I felt horrible. I had to stop work due to becoming bigger and bigger. And then I was housebound, I mean I couldn't go the length of this room without stopping and gasping for air. And I needed oxygen cylinders to do basic stuff. I couldn't climb stairs. I wanted it all to be over. I mean, I wasn't living, I was surviving, just. And I was so miserable and angry, very angry, with myself and with everything, I just hated it.
– Adult weight management service case study: Male 30s

As the number of people with overweight and obesity has increased, services have had to adapt in response. For example, there can be a need for special lifting equipment, beds and chairs to accommodate people safely. Surgical interventions can carry greater risk of complications and childbirth carries additional risks for mother and baby.

I felt completely isolated because of my size. I couldn't walk far. I hated going out. It was just always people staring, pointing, saying stuff, it was embarrassing. You just didn't feel like a human, you felt like a mistake, you didn't want to be seen.

– Adult weight management service case study: Male 30s

Obesity can be an obstacle to participation. On reaching an unhealthy weight, people may feel that they lose the ability to choose between travelling actively such as walking and cycling and become increasingly dependent on private cars.

– NESTRANS, Development Worker

Making every Opportunity Count (MeOC)

Our award winning strategic and operational approach is both simple and inclusive, underpinning self-care within Realistic Medicine and the Grampian Clinical Strategy. It is helping to shift culture - in a sustainable way over time - amongst people who provide services, as well as people who use services. At a systems level, partners are embedding the model in their day to day work, building the volume and value to have an impact at population level.

Last year in Aberdeen City alone, 6,000 people benefited, with 17,000 people benefiting to date in Grampian by making small pockets of good practice consistent practice, across the whole system. At a practical level, the MeOC approach involves a brief conversation and signposting by front line staff, to enable people to live as well as they can.

To assist staff to communicate with non-English speaking patients and their families, the "Language Line" telephone interpretation service is available. By prior arrangement, "face to face" interpreters are also available. If the patient and their family members have a communication disability, appropriate communication support, such as British Sign Language (BSL) interpretation, can be provided. Information in other formats can also be made available.

From our work, we know that people are concerned about being overweight.

In the Ear Nose and Throat Clinic, for example, over the last four years, more than 4,000 people have benefited from MeOC. The most common issues include nutrition - with some 60% of people eating less than the recommended daily intake of fruit and vegetables; and overweight – with 45% of people indicating this. In Moray, for example, 1,300 people benefited from a MeOC interaction, with weight management being one of the top five community services that people were signposted to.

The value of colleagues offering people the opportunity to access expertise in the community to enable them to take some small steps to address this cannot be underestimated. Self-reported data from over 1,000 people attending five of our outpatient clinics shows a remarkably consistent pattern on wellbeing issues, the most common of which include weight, nutrition and physical activity.

In a conversation between doctor and patient in the Maxillo-facial clinic, the patient volunteered in a light hearted joke that she was a bit overweight. On the way out from the consultation, the staff nurse who had been present indicated she heard Mrs A's remark. The nurse indicated she knew good sources of help. Would Mrs A be interested in that information? The nurse said she could suggest Healthy Helpings which is free and she had heard positive reports about this from other people. The staff nurse gave Mrs A the relevant information. Some months later Mrs A returned to clinic and made a point of telling the nurse what a 'brilliant resource' Healthy Helpings had been for her. With considerable pride, she showed the staff nurse how loose her coat was!

In summary, both at individual and population levels, the MeOC approach is helping us to enable people who use our services across the public and third sectors, our own staffs, friends and family to live as well as we can by working towards a healthy weight for all. In this case, the volume and value of a focused approach with partners gives us the scale we need to tackle the issue and make the best use of all of our assets in the community.

Our workplaces can influence what we eat, how active we are, and our mental health.

Health in the workplace

Work tends to be the place where we spend most time outside of the home. Adherence to work and safety practices has improved the protection of people's health at work, but there are many other ways in which work can influence our health. Healthier employees tend to be more productive.

Our workplaces can influence what we eat, how active we are, and our mental health. Many employers across the North East have worked to improve the health of their employees through engagement with the Health Working Lives programme, improving nutrition, exercise and mental wellbeing through policy development, provision of support, and special activities.

> **There are 129 workplaces registered with Healthy Working Lives across the North East, reaching more than 60,000 employees**

NHS Grampian is a large employer of around 17,000 people. Overweight and obesity amongst NHS staff requires action to improve people's diet at work.

> *We need to look at our own working environment. Lack of good food choices within hospitals etc. When you work nights or weekends there are often no catering facilities and a reliance on processed and junk food and drink.*
> **– Clinical Practitioner, NHS Grampian**

A time for action to prevent and reverse overweight and obesity

Over the past decade, a series of major reports have set out recommendations to prevent and reverse population overweight and obesity (see *further reading*). These include *A healthier future* which focuses on healthy diet and healthy weight and *A more active Scotland* which focuses on physical activity and exercise. Both of these national strategies have been explored from a local perspective in *A healthier and more active future for the North East of Scotland*, which invites partners from across the North East to join forces to make healthy eating, physical activity and maintaining a healthy weight easier.

www.imagineahealthyfuture.co.uk

We need a healthy food environment to encourage healthy diets

Together we should find ways to positively influence food production, advertising, consumer labelling and information, and marketing and retailing practices

Together we should encourage and nurture the development of **local community food initiatives**

Together we should support the provision of healthy food at work – and encourage engagement with the ***healthy working lives*** programme

Together we must address **poverty** in all its forms – ensuring accessibility of emergency food aid is important, but **eradicating the need for emergency food aid** must be the priority

Together we should promote and encourage **breastfeeding** as a social norm.

We need to enable a physically active population

Together we should enable safe and enjoyable physical activity through the built environment and travel infrastructure, making use of **the Place Standard**, and with particular focus on green space and other developments in less affluent neighbourhoods

Together we should encourage **physical activity,** active travel to work, and as a routine intervention for the prevention and treatment of a range of health conditions

Together we should ensure physical activity is included in nursery and educational settings, including the Scottish Government's **Active Schools programme** and **the daily mile**

We need to promote health and help people achieve a healthy weight

Together we should deliver **healthy eating and physical activity programmes for children** which include parents, carers and families

Together we should continue to ensure people have access to **food preparation and cooking skills** training

NHS staff should be supported to discuss weight, portion control and eating behaviour in a sensitive and supportive manner, as a **routine part of treatment** for relevant health conditions

Together we should explore ways in which people can support one another to manage their weight, while NHS **weight management services** should be available to those with health conditions, such as type 2 diabetes

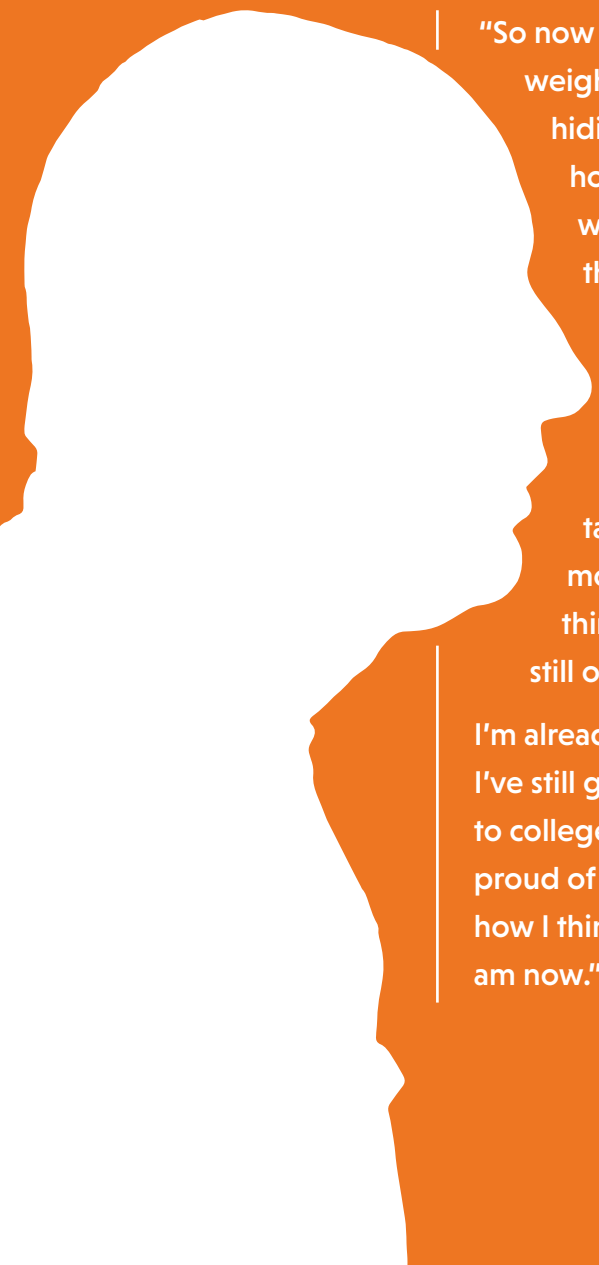
A range of weight management resources, including information about NHS weight management services, are available at **www.healthyweightgrampian.scot.nhs.uk**

Overweight and obesity: it's time to talk.

Effectiveness of Adult Weight Management Service: Case Study

Male in his 30s who was very obese (40 stone) was referred to specialist weight management service. Prior to this, he had been admitted to hospital on a number of occasions for various obesity related health problems. He was invited to attend a group programme of fortnightly sessions over six months. Unfortunately, after about two or three sessions, his health worsened and he was hospitalised and told he would not survive more than one month or so. His health stabilised and he was able to attend group sessions for 6 months and individual appointments.

The patient lost enough weight to be suitable for bariatric surgery. Across his whole journey he lost 80kg (14 stones) and has had no further hospital admissions.



"So now I'm a totally different person. Part of it is due to the weight loss, I mean before I was so embarrassed, I was hiding myself, I wouldn't talk to no-body, I was staying at home. But now, I mean I went into town just yesterday, was walking up and down Union Street, never thought a thing about it. I went into shops. I go on buses and I've even been to the cinema. I take the dog for walks.

I'm so much happier. I was on close to 50 tablets a day and I'm right down to about 14, I mean that alone is a major boost. Because my life consisted of tablets, four, five times a day. I was on morphine for 18 months for pain. That is absolutely huge. And the GP, I think she phones me once a month just to make sure I'm still ok!

I'm already thinking I want to get back to work. I do know that I've still got a while to go but I'm thinking, do I need to go back to college. I'm looking at that in the next couple of years. I'm proud of what I've done. And it's not just what I've done, it's how I think. Life's 10 times better. I mean I wasn't living before. I am now."

Further reading

Foresight projects are undertaken under the UK Government Office for Science and are intended to provide a scientific evidence-base that policy makers can draw on to ensure that their decisions are 'future-proofed'. One of the first projects explored the science of obesity, and the Foresight report on obesity was published in 2007. While over a decade old, the report and the scientific reviews that informed it remain relevant to decision-making today.

- www.gov.uk/government/collections/tackling-obesities-future-choices
- https://foresightprojects.blog.gov.uk/2017/10/04/dusting-off-foresights-obesity-report

McKinsey

McKinsey undertook and published a comprehensive review of the scientific evidence underpinning interventions to tackle population obesity. Their report identified 44 interventions, supported by evidence and assessed as relevant to the UK.

- https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/how-the-world-could-better-fight-obesity

A Healthier Future and A More Active Scotland

The development of the national strategies for diet, physical activity and healthy weight has been led and published by the Scottish Government and can be aligned against the new national public health priorities.

- www.gov.scot/publications/healthier-future-scotlands-diet-healthy-weight-delivery-plan
- www.gov.scot/publications/active-scotland-delivery-plan
- https://publichealthreform.scot/media/1578/a-scotland-where-we-eat-well-have-a-healthy-weight-and-are-physically-active.pdf

National dietary and physical activity recommendations

Food Standards Scotland and Scottish Government dietary recommendations:

- Five fruit and vegetables per day*
- Two portions of fish per week
- One portion of oily fish per week*
- About one-third of food consumption should be starchy carbohydrates such as potatoes, bread, rice and pasta
- 30g of fibre per day for adults from foods such as wholegrains, cereals, fruits and vegetables*
- No more than 70g of red and processed meats per day such as sausages and bacon*
- No more than 35% and 11% of total energy intake to come from fat and saturated fat, respectively.* No more than 5% of energy intake to come from free sugars; this doesn't include, for example, sugar in milk and fresh fruits.* No more than 6g of **salt** per day for adults*
- Discretionary foods should be limited to small amounts and infrequently, if at all. These are foods that are not nutritionally required and include cakes, sweets, chocolate, biscuits, crisps and full-sugar soft drinks.
- 6 to 8 glasses of fluid per day; predominantly water, milk and sugar-free drinks

*Scottish Dietary Goals

World Health Organisation recommendations (supported by Scottish Government):

- Babies should be exclusively breastfed until they are six months old
- Children should continue to be provided breast milk until they are two years old

UK Chief Medical Officer moderate/vigorous physical activity guidelines

Minimum for **children under 5 years:**

- Floor based play and water activities encouraged from birth
- Unaided walkers active for 180 minutes per day

Minimum for **children 5-18 years:**

- Moderate activity for 60 minutes per day
- Vigorous and muscle strengthening activity three days per week

Minimum for **adults:**

- Moderate activity for 150 minutes a week OR
- Vigorous activity for 75 minutes a week
- Muscle strengthening activity two days per week
- Older adults at risk of falls – activities to improve balance and coordination at least two days per week

References

1. World Health Organisation (no date) Health topics: *Obesity* www.who.int/topics/obesity/en

2. Department for Environment, Food and Rural Affairs (2015) ***Family Food Survey 2015*** www.gov.uk/government/collections/family-food-statistics

3. HM Treasury ***Soft Drinks Industry Levy comes into effect*** www.gov.uk/government/news/soft-drinks-industry-levy-comes-into-effect

4. Briggs AD, Mytton OT, Kehlbacher A et al (2017) Health impact assessment of the UK soft drinks industry levy: a comparative risk assessment modelling study ***The Lancet Public Health 2:e15-22 https://doi.org/10.1016/S2468-2667(16)30037-8***

5. Bromley C, Todd E, McCartney G (2017) ***Obesity and health inequalities in Scotland: Summary Report*** www.scotpho.org.uk/media/1154/scotpho170727-obesity-and-health-inequalities-in-scotland-summary-report.pdf

6. National Maternity and Perinatal Audit (NMPA): Clinical Report 2019. Based on births in NHS maternity services between 1 April 2016 and 31 March 2017. London: RCOG; www.hqip.org.uk/wp-content/uploads/2019/09/NMPA-Clinical-Report-2019.pdf

7. Information Services Division ***Infant Feeding in Scotland Dashboard: 2016/17*** https://isdscotland.scot.nhs.uk/Health-Topics/Child-Health/Publications/2017-10-31/visualisation.asp

8. Academy of Medical Royal Colleges (2015) ***Exercise – the miracle cure*** www.aomrc.org.uk/reports-guidance/exercise-the-miracle-cure-0215

9. ***Scottish Health Survey: Results for Local Areas 2013/2014/2015/2016*** www.gov.scot/Publications/2017/10/6398

10. NHS Grampian Health Intelligence Department ***Scottish Health Survey: Grampian data for 2016***

11. Transport Scotland (2016) ***Transport and Travel in Scotland Report 2016*** www.transport.gov.scot/media/39692/sct09170037961.pdf

12. The British Psychological Society (2019) ***Psychological perspectives on obesity: Addressing policy, practice and research priorities*** www.bps.org.uk/news-and-policy/psychological-perspectives-obesity-addressing-policy-practice-and-research

13. Hemmingsson E, Johansson K, Reynisdottir S (2014) Effects of childhood abuse on adult obesity: a systematic review and meta-analysis *Obesity Reviews* 15:882-93 https://doi.org/10.1111/obr.12216

14. NHS Health Scotland (2017) *Public attitudes to reducing levels of overweight and obesity in Scotland* www.healthscotland.scot/media/1705/public-attitudes-to-reducing-obesity-in-scotland.pdf

15. NHS Grampian Health Intelligence Department. Scottish Health Survey: Grampian data for 2012-2016 combined

16. NHS Grampian Health Intelligence Department. *Grampian P1 Children BMI Report 2010 to 2016*

17. Butland B, Jebb S, Kopelman P et al (2007) *Tackling Obesities: Project Report – Future Choices* Foresight Project: London https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/287937/07-1184x-tackling-obesities-future-choices-report.pdf

18. Prospective Studies Collaboration (2009) Body-mass index and cause-specific mortality in 900 000 adults: collaborative analyses of 57 prospective studies *The Lancet* 373:1083-1096 https://doi.org/10.1016/S0140-6736(09)60318-4

19. Brown KF, Rumgay H, Dunlop C et al (2018) The fraction of cancer attributable to modifiable risk factors in England, Wales, Scotland, Northern Ireland, and the United Kingdom in 2015 *British Journal of Cancer* 118:1130-1141

20. Scottish Care Information Diabetes Collaboration *Scottish Diabetes Survey* www.sci-diabetes.scot.nhs.uk/wp-content/uploads/2016/08/Scottish-Diabetes-Survey-2015.pdf

21. Schulze MB & Hu FB (2005) Primary prevention of diabetes: What Can Be Done and How Much Can Be Prevented? *Annual Review of Public Health* 26:445-67 https://doi.org/10.1146/annurev.publhealth.26.021304.144532

22. Bi Y, Wang T, Xu M et al (2012) Advanced research on risk factors of type 2 diabetes Diabetes/Metabolism Research and Reviews 28(suppl 2):32-39 https://doi.org/10.1002/dmrr.2352

23. Richelsen B (2013) Sugar-sweetened beverages and cardio-metabolic disease risks *Current Opinion in Clinical Nutrition and Metabolic Care* 16(4):478-484 https://doi.org/10.1097/MCO.0b013e328361c53e

24. Fox CS, Pencina MJ, Meigs JB et al (2006) Trends in the Incidence of Type 2 Diabetes Mellitus From the 1970s to the 1990s: The Framingham Heart Study *Circulation* 113:2914-2918 https://doi.org/10.1161/CIRCULATIONAHA.106.613828

25. Hamer M, Kengne AP, Batty GD et al (2011) Temporal trends in diabetes prevalence and key diabetes risk factors in Scotland, 2003 – 2008 *Diabetic Medicine* 28:595-598 https://doi.org/10.1111/j.1464-5491.2011.03254.x

26. Lean MEJ et al (2018) Primary care-led weight management for remission of type 2 diabetes (DiRECT): an open-label, cluster-randomised trial *Lancet* 391:541-551 *https://doi.org/10.1016/S0140-6736(17)33102-1*

27. Moran L (2019) I know from painful experience how poisonous the debate around obesity is *The Guardian: Opinion* www.theguardian.com/commentisfree/2019/jul/11/poisonous-debate-obesity-reporting-language

28. Kyle RG, Neall RA, Atherton IM (2016) Prevalence of overweight and obesity among nurses in Scotland: A cross-sectional study using the Scottish Health Survey *International Journal of Nursing Studies* 53:126-33 https://doi.org/10.1016/j.ijnurstu.2015.10.015

29. Beauchamp A, Backholer K, Magliano D et al (2014) The effect of obesity prevention interventions according to socioeconomic position: a systematic review *Obesity reviews* 15(7):541-54 https://doi.org/10.1111/obr.12161

30. Lorenc T, Petticrew M, Welch V et al (2013) What types of interventions generate inequalities? Evidence from systematic reviews *Journal of Epidemiology and Community Health* 67(2):190-3 https://doi.org/10.1136/jech-2012-201257

With thanks to the following organisations for their contribution to the report:

NHS Grampian

NESTRANS

CFINE

Stagecoach

Rowett Institute

Patient representatives

Robert Gordon University

Aberdeen City Health & Social Care Partnership

Aberdeenshire Health & Social Care Partnership

Health and Social Care Moray

publichealth
helping health happen

NHS
Grampian