Preventing Overweight and Obesity in Scotland

A Route Map Towards Healthy Weight

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The Scottish Government, Edinburgh 2010

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FOREWORD

Scotland has one of the highest levels of obesity in OECD countries with over a million adults and over 150,000 children obese. This is predicted to worsen with adult obesity levels reaching over 40% by 2030. Overweight and obesity brings with it a risk of disease and a cost to society that will directly impact on our ability to achieve sustainable economic growth. This situation is avoidable.

Overweight and obesity cannot be tackled by just relying on individuals to change their behaviour as the factors that contribute to gaining weight have been interwoven into the very fabric of our lifestyles to such an extent that weight gain is almost inevitable in today's society. The evidence also suggests that the provision of health information, although important, is not sufficient and that to make the changes necessary we have to reshape our living environment from one that promotes weight gain to one that supports healthy choices.

There are already many policies in place that have the potential to be positive contributors to prevention of weight gain. But if we are to prevent overweight and obesity we must increase the scale and range of our activities. We must also be alert when developing new policies at national and local level to ensure that they do not inadvertently increase the potential for individuals to gain weight.

The Route Map has been agreed by Cabinet and COSLA's Leaders Group, and is aimed primarily at decision-makers in central and local government. These are the people who can influence and enable the range and scale of action that we believe is required. Working together across all the public sector, the third sector, and business we can make the necessary changes that can impact on the way we lead our lives. To support this we will also develop a public health campaign, to raise the nation's consciousness about the need for change.

The levels of overweight and obesity in Scotland are a serious concern. We are committed to acting collectively to prevent overweight and obesity, both to

contribute to achieving our purpose of sustainable economic growth, and also towards achieving a healthier Scotland. We believe that this document supports a compelling case for action and presents a clear Route Map to prevent overweight and obesity in Scotland.

Nicola Sturgeon
Deputy First Minister and
Cabinet Secretary for Health and Wellbeing

Ronnie McColl
COSLA spokesperson on Health and Wellbeing

EXECUTIVE SUMMARY

In common with most of the developed world, Scotland is experiencing the obesity epidemic. Scotland has one of the highest levels of obesity in OECD countries; only the USA and Mexico having higher levels. In 2008, 26.8% of adults in Scotland were obese and 65.1% were overweight; for children the corresponding rates were 15.1% and 31.7%. As overweight has become the norm, we have developed a distorted view of normal body shape and just how many people in Scotland are overweight and obese.

Attainment of the Government's purpose of a flourishing economy requires a healthy population. Overweight and obesity pose real risks to the health of the population in Scotland and its ability to meet its overarching purpose of sustainable economic growth because of the burden of disease that accompanies overweight and obesity.

In addressing one of the main causes of premature mortality and ill-health in Scotland, the Route Map can make a significant contribution to delivering the Government's purpose to deliver sustainable economic growth and, in particular, is a key driver underpinning efforts to increase healthy life expectancy.

Obesity cannot be viewed simply as a health issue, nor will it be solved by reliance on individual behaviour change. A successful approach will require cross-portfolio and cross-sector collaboration and investment to make deep, sustainable changes to our living environment in order to shift it from one that promotes weight gain to one that supports healthy choices and healthy weight for all. As a Government we are committed to taking action now, across the whole of society, to prevent this threat becoming a reality.

The Scottish Government and COSLA are equal partners in the development and delivery of this Route Map. The policy direction set out in this document are aimed at central and local government decision-makers working with their partners in agencies, the third sector, NHSScotland and business to develop and subsequently deliver the long-term solutions to this problem.

The challenge of obesity

Obesity occurs when energy intake from food and drink consumption, including alcohol, is greater than energy requirements of the body's metabolism over a prolonged period, resulting in the accumulation of excess body fat. Being obese or overweight can increase the risk of developing a range of serious diseases, including type 2 diabetes, hypertension, heart disease, some cancers and premature death. The risks rise with weight levels and are greatest for obese

individuals. Obesity has been shown to be associated with at least as much ill-health as poverty, smoking and problem drinking and with as much premature mortality as smoking.

We estimate that the total cost to Scottish society of obesity in 2007/8 was in excess of £457 million and it is likely that this is an underestimate. Much of this cost is avoidable.

We predict that by 2030 adult obesity in Scotland could reach over 40% even with current health improvement efforts, an increase of more than 50% over 2008 levels. Alongside the increase in these levels are significant increases in the health problems associated with obesity.

These consequences of obesity will reflect, perpetuate and potentially increase social inequalities in health in Scotland.

We estimate that the direct NHSScotland costs of obesity will almost double by 2030. Using assumptions made in previous estimates, the total cost to Scottish society of obesity, including both direct and indirect costs, range from £0.9 billion-£3 billion.

This Route Map sets out the further direction of national and local government decision-making in the short and medium term to avoid these predicted consequences becoming a reality.

What we are aiming to achieve

We are aiming for the majority of Scotland's population to be in a normal weight range throughout adult life thus avoiding the adverse consequences of overweight/obesity. By achieving this aim we will impact on our economic purpose, through impacting on healthy life expectancy and a number of national outcomes, including:

- Our children have the best start in life and are ready to succeed
- We live longer, healthier lives
- We have tackled significant inequalities in Scottish society
- We have improved the life chances for children, young people and families at risk

This is a long-term aim and will take many years to achieve due to the scale of the action required. What is clear is that we must start to act now, using the best available evidence and advice, without waiting for experimental evidence for preventative measures and recognising that there will be challenges to all sectors of society.

We have already identified a national indicator to '***reduce the rate of increase in the proportion of children with their Body Mass Index outwith a healthy range by 2018***'. To highlight our commitment to this issue we will work towards developing a further indicator which will cover the whole population. Additionally, we will identify a series of milestones that must be met if we are to achieve our aim.

The challenge for Scotland is to make significant cross-portfolio investment leading to fundamental change in the environmental, social and cultural circumstances under which people continue to become more overweight and obese. Our policies need to be directed at supporting people to achieve and then maintain a healthy weight. Given that the majority of the Scottish population are already overweight or obese and will only become more so over the coming years, this will in practice mean policies directed at sustained weight loss for affected adults and children growing into a healthy weight.

The scale of change required for both diet and physical activity to reduce obesity across the population cannot rely on individual behaviour change alone. We need to act at the population level so that these changes become the norm in Scottish society.

Current Government actions contributing to tackling obesity

It is estimated that the Scottish Government's total investment between 2008 and 2011 in the kinds of activity directly and indirectly contributing to tackling obesity could be as much as £200 million. This total includes the £56 million investment from Health budgets, but excludes spending by the NHS, local government and NDPBs from their own core budgets. Local authorities are also tackling obesity both directly and indirectly through contributing to the national outcomes and local priorities in their Single Outcome Agreements (SOAs).

This is a significant level of effort and investment and it is encouraging that a broad range of policies and initiatives across portfolios and across the public sector are seeking to address healthy weight outcomes. There are, however, a number of respects in which our current delivery falls short of what is required from a concerted, sustainable and successful approach to tackling obesity in the long term. We need to redress the balance and join up initiatives such that we spend more on prevention, leading to the need for less to be spent on treatment of the effects of obesity in years to come. Scotland must be prepared to consider radical action.

A significant proportion of Government's current actions that contribute to tackling obesity do so as a secondary benefit of achieving other primary goals, for example reduction of carbon emissions. We now also require healthy weight outcomes to be amongst the explicit objectives of action across portfolios to ensure that their achievement is actively promoted and that the necessary resources are prioritised in future plans and policies.

We also need to identify where our objectives may unintentionally work against the maintenance of a healthy weight. We must be alert to these unintended consequences and seek to minimise their impacts.

By prioritising obesity prevention across Government we can ensure that policies act as drivers for maintaining healthy weight rather than contributing to weight gain.

What we will do

Section six of the Route Map groups the preventative actions we need to take under the following four categories, as the first stage of this journey:

- Energy consumption – controlling exposure to, demand for and consumption of excessive quantities of high calorific foods and drinks
- Energy expenditure – increasing opportunities for and uptake of walking, cycling and other physical activity in our daily lives and minimising sedentary behaviour
- Early years – establishing life-long habits and skills for positive health behaviour through early life interventions
- Working lives – increasing responsibility of organisations for the health and wellbeing of their employees

Significant investment in both the short and medium term across all four of these areas is needed to make an impact on current obesity trends. Delivering policy responses goes far beyond individual initiatives. It will require systemic and far-reaching change in infrastructure, environments, culture and social norms and we will not see these changes or outcomes overnight.

The combined effect of these actions will impact on the level of obesity in society, however, we cannot yet predict accurately the contribution of each element or precisely how much we need to invest in each area. For this reason we will put in place a review mechanism through which emerging evidence of effective interventions, any resulting changes to policy required and our progress towards meeting our aim will be considered. We will use this mechanism to refine the actions indicated by the Route Map.

The Route Map sets out the range of actions we believe will be required to achieve our aim. The actions described below are aimed at the population level. Our aim in implementing the Route Map is to have population wide impacts which should benefit all in society but we will also remain vigilant to ensure that we do not disadvantage any one group above another and widen health inequalities.

Management and treatment of obesity are outwith the scope of this Route Map, as it focuses on prevention. However, we are committed to ensuring that cost effective and appropriate weight management services and treatments for obesity are provided for patients in Scotland.

Alongside the preventative actions we have identified in the four broad categories above, we will take action to ensure that we raise awareness of the real threat of obesity, measure our progress and learn from our actions and support further research to continue to manage obesity prevention appropriately.

Next steps

We will establish a joint governmental leadership group, including Ministers, COSLA leaders and key stakeholders including the NHS and the public health community, to be the visible focus of the Route Map, to ensure its implementation by holding decision-makers to account. This group will:

- Oversee the development during 2010 of an action plan and identification of key milestones to support delivery of the Route Map
- Periodically, reflect on progress against key milestones and targets and consider whether decisions being taken at both local and national level are sufficient to ensure progress
- Provide governance of the integrated research strategy to ensure that emerging evidence and external developments (such as European policy or food pricing policies) are incorporated into reviews of the Route Map
- Oversee and publish in 2013 a report of the progress and actions taken towards the policy direction set out in this Route Map

In addition, we will fund a national event during 2010 to be organised by the Scottish Public Health Network to allow stakeholders from all sectors an opportunity to be involved in helping shape actions that come out of the policies identified in this Route Map.

1. INTRODUCTION

1.1 In common with most of the developed world, Scotland is experiencing the obesity epidemic. In 2008, 26.8% of adults in Scotland were obese and 65.1% were overweight[1]; for children the corresponding rates were 15.1% and 31.7%[2]. As overweight has become the norm, we have developed a distorted view of normal body shape and just how many people in Scotland are overweight and obese.

1.2 Attainment of the Government's purpose of a flourishing economy requires a healthy population. Overweight and obesity pose real risks to the health of the population in Scotland and its ability to meet its overarching purpose of sustainable economic growth because of the burden of disease that accompanies overweight and obesity.

1.3 The continued increase in obesity levels will ultimately impact on a number of the Government's purpose targets, including healthy life expectancy, productivity, and also solidarity and cohesion. It will also lead to widening health inequalities as more of Scotland's population develop long-term conditions as a result of obesity and overweight.

1.4 In addressing one of the main causes of premature mortality and ill-health in Scotland, the Route Map can make a significant contribution to delivering the Government's purpose to deliver sustainable economic growth and, in particular, is a key driver underpinning efforts to increase healthy life expectancy (HLE).

1.5 The need to increase HLE in Scotland is a key element of the Population target within the Government Economic Strategy and recognises the importance of increasing productivity and labour market participation to sustainable economic growth.

1.6 In addition to its direct impact on levels of HLE in Scotland, tackling overweight and obesity will contribute to improved health and wellbeing which is crucial to people's ability to engage in education and training and to increase their participation in the labour market.

1.7 Obesity cannot be viewed simply as a health issue, nor will it be solved by reliance on individual behaviour change. Thus, although the NHS has a central and continuing role to play in dealing with the problems associated with obesity and its health consequences, such a

1 Overweight includes obese.

2 Scottish Health Survey, 2008 (see Appendix 1 for more information).

threat to Scotland's future requires sustained wide ranging and unprecedented levels of co-ordinated action across the whole of Government. As a Government we are committed to taking action now, across the whole of society, to prevent this threat becoming a reality.

1.8 The cultural and societal norms that we have established over the past generation have in many ways transformed our lives for the better, however they have also brought serious unintended consequences for some people's capacity to maintain a healthy weight which threatens to overwhelm us in the next generation. What is required in the long term is transformational change in society to address the threat to individual and collective wellbeing posed by weight gain and obesity. The type of change we need to make are analogous to those required to mitigate and adapt to climate change in terms of scale and complexity. In some cases solutions to both these complex problems will be complimentary. What is clear is that we must start to act now.

1.9 Our collective efforts to address the rising trend need to influence many areas of people's lives. A successful approach will require cross-portfolio and cross-sector collaboration and investment to make deep, sustainable changes to our living environment in order to shift it from one that promotes weight gain to one that supports healthy choices and healthy weight for all.

1.10 A significant proportion of the changes we need to see will take place at a community level across Scotland. The work of Community Planning Partnerships will be essential in delivering a long-term strategy for obesity prevention. Many of the mechanisms for creating environments that promote healthy weight lie within their responsibilities. This Route Map is intended to guide the allocation of resources to the prevention of obesity at a local as well as a national level.

1.11 The Scottish Government and COSLA are equal partners in the development and delivery of this Route Map. The policy direction set out in this document are aimed at central and local government decision-makers working with their partners in agencies, the third sector, NHSScotland and business to develop and subsequently deliver the long-term solutions to this problem.

2. THE CHALLENGE OF OBESITY

What is obesity?

2.1 Obesity occurs when energy intake from food and drink consumption, including alcohol, is greater than energy requirements of the body's metabolism over a prolonged period, resulting in the accumulation of excess body fat. The Body Mass Index[3] (BMI) is commonly used as a measure of obesity and overweight, with BMI greater than 30 taken to indicate obesity and BMI between 25 and 30 as overweight in adults (Appendix 1).

2.2 In 2007, the UK Government Office for Science published the Foresight *Tackling Obesities Report*. This represents the most comprehensive summary of the evidence of the causes of obesity in the UK population and demonstrates that there are many behavioural and societal factors that combine into a "*complex web of societal and biological factors that have, in recent decades, exposed our inherent human vulnerability to weight gain*".[4] As highlighted in the Foresight report an appetite which exceeds immediate need had huge evolutionary survival value when food supply was erratic, but is disadvantageous when food provision is excessive.

2.3 Being obese or overweight can increase the risk of developing a range of serious diseases, including type 2 diabetes, hypertension, heart disease, some cancers and premature death. The risks rise with weight levels and are greatest for obese individuals. Obesity has been shown to be associated with at least as much ill-health as poverty, smoking and problem drinking[5] and with as much premature mortality as smoking[6] (Appendix 1).

The current challenge

2.4 Scotland has one of the highest levels of obesity in OECD[7] countries; only the USA and Mexico having higher levels. Population-wide obesity levels in Scotland are measured by the Scottish Health Survey (SHeS). The most recent SHeS showed that nearly 27% of adults and

3 Body Mass Index (BMI) is calculated by dividing an individual's weight in kilograms by their height in metres squared. BMI cannot categorise all individuals accurately eg athletes. Waist circumference can be used as an alternative, with better categorisation of body fat; > 80cm women or > 94cm men = overweight; > 88cm women or > 102cm men = obese.

4 Foresight Tackling Obesities: Future Choices – Project Report Government Office for Science. HMSO, 2007.

5 Sturm R & Wells KB. Does obesity contribute as much to morbidity as poverty or smoking? Public Health 2001; 115:229-235.

6 Prospective Studies Collaboration. Body Mass Index and cause specific mortality in 900,000 adults: collaborative analysis of 57 prospective studies. Lancet 2009;373:1083-96.

7 Organisation for Economic Co-operation and Development.

more than 15% of children were obese and more than 65% of adults and nearly 32% of children were overweight and obese combined. There is a clear linear pattern of increasing obesity with increasing deprivation in adult women in Scotland, and it is predicted that such a correlation between deprivation and obesity may soon become apparent for adult men and children.[8]

2.5 We estimate that the total cost to Scottish society of obesity in 2007/8 was in excess of £457 million and it is likely that this is an underestimate[9] (Appendix 2). Much of this cost is avoidable.

2.6 More than £175 million of the cost of obesity is direct NHS costs, equivalent to 2% of the NHSScotland's revenue budget. However, the effect of obesity is much wider than the costs directly related to health issues and it has been estimated that healthcare costs are a minority of costs to society of obesity.[10] Obesity has been shown to adversely affect employment, production levels (via increased sickness absence from work or school and premature death) and mental wellbeing. Additionally, it is increasingly being cited as a cost burden in infrastructure planning.[11]

People with extreme obesity eg BMI > 50 are increasing in numbers most rapidly and present much greater costs, to housing, transport, social support as well as healthcare.[12]

The future challenge – 2030

2.7 Estimates from OECD[13] show continued increase in obesity rates across the world. Extrapolating from trend data from the USA, we predict that by 2030 adult obesity in Scotland could reach over 40% even with current health improvement efforts, an increase of more than 50% over 2008 levels (Appendix 3). Alongside the increase in these levels are significant increases in the health problems associated with obesity.

2.8 We estimate that by 2030 directly as a result of obesity:

- More than 860,000 people, an increase of 379,000 over 2003 levels, will have high blood pressure
- More than 150,000 people, an increase of 68,000 over 2003 levels, with type 2 diabetes (representing 75% of all cases)
- More than 48,000 heart attacks, an increase of 21,000 over 2003 levels

2.9 These consequences of obesity will reflect, perpetuate and potentially increase social inequalities in health in Scotland.

2.10 We estimate that the direct NHSScotland costs of obesity will almost double by 2030. Using assumptions made in previous estimates, the total cost to Scottish society of obesity, including both direct and indirect costs, range from £0.9 billion-£3 billion.

2.11 This Route Map sets out the further direction of national and local government decision-making in the short and medium term to avoid these predicted consequences becoming a reality.

8 OECD Health Working papers No. 45. OECD, March 2009.

9 The methodology and assumptions used to generate this estimate will be published separately.

10 McCormick B, Stone I & Corporate Analytical Team. Economic costs of obesity and the case for government intervention. Obesity reviews 2007, 8 (Supplement 1), 161-4.

11 A recent FOI request in Scotland identified £4.4 million spend on items such as extra wide beds in 10 of the 14 territorial boards.

12 Sturm R. Increases in morbid obesity in the USA: 2000 – 2005. Public Health 121 (7):492-296 (2007).

13 OECD Health Working papers No. 45. OECD, March 2009.

3. WHAT ARE WE AIMING TO ACHIEVE?

3.1 We are aiming for the majority of Scotland's population to be in a normal weight range (i.e. most with BMI 18.5-25) throughout adult life thus avoiding the adverse consequences of overweight/obesity. By achieving this aim we will impact on our economic purpose, through impacting on healthy life expectancy and a number of national outcomes, including:

- Our children have the best start in life and are ready to succeed
- We live longer, healthier lives
- We have tackled significant inequalities in Scottish society
- We have improved the life chances for children, young people and families at risk

3.2 Furthermore, as a result of the actions we will take to tackle obesity we will impact on other national outcomes, including:

- We live in well designed, sustainable places where we are able to access the amenities and services we need
- We have strong, resilient and supportive communities where people take responsibility for their own actions and how they affect others
- We value and enjoy our built and natural environment and protect it and enhance it for future generations
- We reduce the local and global environmental impact of our consumption and production

3.3 The achievement of such an ultimate aim can be broken down into three areas for action:

- Prevention of weight gain in both those of normal weight and those currently overweight through changes in our culture and environment
- Reduction in weight in those currently overweight and obese
- Prevention of adverse complications in those who are currently obese

3.4 This Route Map is directly concerned with the first of these areas. Our actions to prevent weight gain in both those of normal weight and those currently overweight will contribute some part in supporting weight reduction in those individuals that are currently overweight and obese but this alone will not be sufficient. Management of overweight and obesity and complications in those who are already obese will be addressed within NHSScotland (see section 7).

3.5 This is a long term aim and will take many years to achieve due to the scale of the action required; the Foresight report suggests that even a highly successful multi-faceted approach may be associated with a time lag of 20-30 years. What is clear is that we must start to act now, using the best available evidence and advice, without waiting for experimental evidence for preventative measures and recognising that there will be challenges to all sectors of society.

Targets

3.6 We have already identified a national indicator to '***reduce the rate of increase in the proportion of children with their Body Mass Index outwith a healthy range by 2018***'. To highlight our commitment to this issue we will work towards developing a further indicator which will cover the whole population. Additionally, we will identify a series of milestones that must be met if we are to achieve our aim.

3.7 Alongside these indicators we already have a number of goals and targets relevant to achieving our aim (Appendix 4), which identify desirable behavioural changes in terms of diet and physical activity which will contribute to reducing the prevalence of obesity in Scotland. These are important but not enough to address the issues we face.

4. THE SCALE OF CHANGE REQUIRED

4.1 The challenge for Scotland is to make significant cross-portfolio investment leading to fundamental change in the environmental, social and cultural circumstances under which people continue to become more overweight and obese. Our policies need to be directed at supporting people to achieve and then maintain a healthy weight. Given that the majority of the Scottish population are already overweight or obese and will only become more so over the coming years, this will in practice mean policies directed at sustained weight loss for affected adults and children growing into a healthy weight. This is a considerable challenge as illustrated by the scale of change required.

Improving our diet

4.2 The dietary goals re-affirmed in the National Food and Drink Policy (Appendix 4) are appropriate targets at a population level for achieving nutritional balance and protecting health across a broad range of risk factors in the long term. However, they were not directed towards tackling obesity in themselves and they do not provide guidance for the achievement or maintenance of weight loss.

The degree of overweight or obesity is determined by the degree to which an individual is in positive energy balance over a sustained period ie energy intake exceeds energy expenditure. Therefore, a small persistent positive energy balance over a relatively long period of time can result in obesity. It is estimated that the average adult man in Scotland consumes more than 54,000 excess calories every year (average of 148 excess calories a day) and the average woman consumes more than 33,000 excess calories per year (average of 90 excess calories a day).[14]

Increasing our physical activity levels

4.3 Recent evidence has shown that physical activity has a limited role in the development of obesity.[15] The physical activity recommendations in *Let's Make Scotland More Active* are important in protecting against many serious illnesses in the long-term, but they will not secure

14 Extrapolated from figures from the FSA on energy balance. The increase in kcals for both the male and female populations have been averaged and extrapolated to a year.

15 Swinburn BA et al. Estimating the change in energy flux that characterize the rise in obesity prevalence. Am J Clin Nutr 2009;89:1723-8.

the achievement or maintenance of healthy weight loss. We also know that sedentary behaviour[16] makes an additional contribution to weight gain. Therefore, to achieve a healthy weight it is important that we both participate in enough activity, and that when we are not doing this we are careful to minimise how much time we spend sitting down, for example, in front of the television or computer. In addition, there is evidence[17] that weight gain is linked to watching television not simply because we are sedentary and more likely to be snacking while doing so, but also because while we watch television we are exposed to more advertisements for unhealthy food and drink which influences our behaviour.

4.4 To achieve sustained weight loss, for the majority of Scotland's population who are already overweight, requires both a change in eating habits to reduce calorie intake and an increase in physical activity. For adults, at least 60 minutes of moderate activity, such as walking, is required on most days of the week to both lose weight and maintain weight loss.[18] The current reality is that the majority of the population take less than the recommended physical activity levels (30 minutes of moderate activity) which is sufficient only to maintain their existing weight.

4.5 The scale of change required for both diet and physical activity to reduce obesity across the population cannot rely on individual behaviour change alone. We need to act at the population level so that these changes become the norm in Scottish society.

4.6 There is little evidence of such society-wide change from across the world which can be used to guide a cross-government approach, although this is an aspiration in the majority of OECD countries.[19] Societies that have achieved significant decreases in obesity rates, such as Cuba,[20] have done so because of catastrophic economic events, rather than as an aspiration to improve the health and economic wellbeing of the country.

4.7 The Foresight report is clear; if we are serious about challenging rising obesity levels then we need to recognise that isolated or partial activity in one or two policy areas is futile. This is not simply because of the scale of the challenge, but also because of the complex inter-dependency of the factors influencing obesity. This means that an intervention in one part of the system alone risks a counterproductive effect elsewhere in the system. For example:

- At a biological level our bodies are designed to conserve energy if we simply start to consume fewer calories. Efforts to support healthy eating must be complemented by opportunities to expend more energy.
- At an environmental level we can also imagine how increasing walkable pedestrian areas in our town centres, without parallel actions to influence the kinds of high calorie snacks and drinks offered by cafes, takeaways and convenience stores could have the opposite outcomes to those we intended by increasing exposure to energy-dense foods and drinks.

16 Healy GN et al. Objectively measured sedentary time, physical activity and metabolic risk: the Australian Diabetes, Obesity and Lifestyle Study. Diabetes Care 2008; 31:369-371.

17 Jackson DM, Djafarian K, Stewart J & Speakman JR. Increased television viewing is associated with elevated body fatness but not with lower total energy expenditure in children. Am J of Clin Nutr 2009; 89: 1031-6.

18 Note that this is twice the amount of activity currently recommended for health gain or maintaining healthy weight. This may change as new evidence emerges.

19 Crombie et al. Targets to tackle the obesity epidemic: a review of twelve developed countries. Public Health Nutrition 2008;12:406-413.

20 During the 'Special Period' of five years in the 1990s levels of per capita daily energy intake fell gradually from 2899 kcal to 1863 kcal and daily energy expenditure increased, so that the proportion of physically active adults increased from 30% to 67%. This resulted in the prevalence of obesity falling from 14% to 7%, the proportion of those with normal weight increasing from 60 to 66% and the rates of death from the consequences of obesity falling significantly in the following years. (France M, Ordunez P, Caballero B & Cooper RS. Obesity reduction and its possible consequences: what can we learn from Cuba's Special Period? CMJ 2008;178:1032-1034).

5. CURRENT GOVERNMENT ACTIONS CONTRIBUTING TO TACKLING OBESITY

5.1 It is estimated that the Scottish Government's total investment between 2008 and 2011 in the kinds of activity directly and indirectly contributing to tackling obesity (Figure 1) could be as much as **£200 million**. This ranges from funding specifically targeted at tackling obesity to £100 million for **sport**scotland, much of which may not impact on population obesity levels (see Appendix 6 for breakdown of contributions). This total includes the £56 million investment from Health budgets, but excludes spending by the NHS, local government and NDPBs from their own core budgets.

5.2 Local authorities are also tackling obesity both directly and indirectly through contributing to the national outcomes and local priorities in their Single Outcome Agreements (SOAs). Some examples from SOAs that highlight their contribution include: participation in "active schools" and *Hungry for Success*; the creation of cycle pathways and walking paths; children's play areas and sports and leisure facilities; the protection and enhancement of safe green spaces; and community support through educational and skills development for the sourcing and preparation of less energy-dense food options.

5.3 Furthermore the extension of free school lunch entitlement to all P1-P3 pupils from August 2010 is a significant measure aimed to improve the health of pupils. Expected to benefit approximately 118,000 additional pupils, this concordat commitment underpins many of the Government actions highlighted in this report. The extension of free school lunch entitlement encourages children to eat nutritious, balanced meals from an early age and taken together with the Schools (Health Promotion and Nutrition) (Scotland) Act 2007, teaches them to make healthy, informed choices. Establishing healthy eating patterns from a young age and carrying that skill into adulthood will have, it is expected, a positive impact on obesity.

5.4 This is a significant level of effort and investment and it is encouraging that such a broad range of policies and initiatives across portfolios and across the public sector are seeking to address healthy weight outcomes. There are, however, a number of respects in which our current delivery falls short of what is required from a concerted, sustainable and successful approach to tackling obesity in the long term. We need to redress the balance and join up initiatives such that we spend more on prevention, leading to the need for less to be spent on treatment of the effects of obesity in years to come.

Figure 1: Current areas of Government investment in obesity (detailed in Appendix 5)

Direct contributions to managing obesity

- The **HEAT H3** target for child healthy weight intervention programmes
- **Counterweight** (evidence based obesity management in Primary Care)
- **Scottish Enhanced Services** for childhood obesity in the Western Isles

Direct contributions to prevent obesity

- The implementation initiatives in ***Let's Make Scotland More Active***
- The National Food and Drink Policy ***Recipe for Success: Scotland's National Food and Drink Policy***
- Eight **Healthy Weight Communities** programmes across Scotland
- Seven **Smarter Choices Smarter Places** active travel demonstration towns across Scotland
- The **Take Life On** national social marketing campaign aims
- **Beyond the School Gate** and NHS Health Scotland's **Healthy Weight Outcomes Framework** will provide guidance to support community planning partners to create health-promoting communities

Indirect contributions to preventing obesity

There is a wide range of activity across Government and national agencies contributing to this goal, even if in some cases addressing obesity is not the primary purpose of the work.

Healthier

- **The CommonHealth Programme – Active Nation: A Games Legacy for Scotland**
- **CEL 36 (2008) – Nutrition of Women of Childbearing Age, Pregnant Women and Children Under Five in Disadvantaged Areas**
- ***Changing Scotland's Relationship with Alcohol: a framework for action***

Greener

- The draft **Cycling Action Plan for Scotland**
- The ***Scottish Sustainable Communities Initiative***
- The **Climate Change Fund**
- The **Go-greener campaign**
- Environmental volunteer managers
- Promoting the countryside for outdoor recreation and education

Smarter

- ***Early years framework***
- The new **Curriculum for Excellence**
- The **Schools (Health Promotion and Nutrition) (Scotland) Act 2007**
- Extended **Free School Meals** entitlement
- The **Active Schools** programme
- **Getting it Right for Every Child**

Safer and stronger

- Scottish Planning Policy on placemaking and open space and physical activity, including **SPP Designing Streets**

Scale

5.5 The evidence of current population BMI statistics and the levels we predict in section 2 make it clear that, despite good existing action, our current approaches to tackling obesity are still not sufficient to turn around rising trends. We believe that the kinds of actions we are taking are right, but that their scale and reach are insufficient. We should not be surprised that this is the case. The Foresight report emphasises the extent to which our environment, culture and social norms have developed to make weight gain an almost inevitable part of modern life. Turning this around is a significant task. No country has yet succeeded in making sufficient change to reverse the obesity epidemic intentionally. Scotland must be prepared to consider radical action.

Cross-cutting commitment

5.6 A significant proportion of Government's current actions that contribute to tackling obesity do so as a secondary benefit of achieving other primary goals, for example reduction of carbon emissions. Often these benefits are obvious; substituting cycling for travelling by car will reduce both carbon emissions and unhealthy weight. The complex interaction among factors such as deprivation, early life experiences and obesity mean that more initiatives such as the *Early Years Framework*, Curriculum for Excellence and the Getting it Right for Every Child methodology with their emphasis on the child's development as a whole can encourage healthy approaches to diet and activity. Win-win outcomes are to be welcomed, and we believe that pursuing policies with double benefits such as these will be an important part of our long-term approach to tackling obesity. We now also require healthy weight outcomes to be amongst the explicit objectives of action across portfolios to ensure that their achievement is actively promoted and that the necessary resources are prioritised in future plans and policies.

Recognising and managing trade-offs

5.7 As stated above we already pursue a range of Government actions that help to promote healthy weight. However, we need to identify where our objectives may unintentionally work against the maintenance of a healthy weight. We must be alert to these unintended consequences and seek to minimise their impacts. This is possible, for example, through the National Food and Drink policy in which we address the trade-off between the desire of the Government to expand and develop the food and drink industry by supporting Scottish food and drink producers through distribution of grants which help create or sustain jobs, while at the same time limiting the potential adverse impacts on health of particular products. These are not incompatible goals – there is commercial sense in meeting consumer demand for, and promotion of, healthier options.

5.8 By prioritising obesity prevention across Government we can ensure that policies act as drivers for maintaining healthy weight rather than contributing to weight gain. We are exploring the development of integrated impact assessments on our policies, strategies and programmes that will help us to identify where our activities may contribute to obesity through encouraging excessive consumption of calories or by inhibiting an active lifestyle. It will be challenging to find a balance between objectives that unintentionally promote unhealthy weight outcomes, but it is a challenge we must accept if we are to avoid the stark consequences for our health and our economy set out in section 2.

6. WHAT WE WILL DO

6.1 The Foresight report describes the extremely complex mix of underlying factors and causes that contribute to obesity. Foresight itself does not provide answers as to the most effective interventions at a population level. However, the report recommends four areas in which concerted action is likely to have the greatest impact on obesity prevention. These are the areas in which the relationships between weight gain and the environments to which we are exposed, and how we behave are the strongest. For this reason we have grouped the preventative actions we need to take under the following four categories as the first stage of this journey (these are not listed in priority order):

- Energy consumption – controlling exposure to, demand for and consumption of excessive quantities of high calorific foods and drinks
- Energy expenditure – increasing opportunities for and uptake of walking, cycling and other physical activity in our daily lives and minimising sedentary behaviour
- Early years – establishing life-long habits and skills for positive health behaviour through early life interventions
- Working lives – increasing responsibility of organisations for the health and wellbeing of their employees

6.2 Significant investment in both the short and medium term across all four of these areas is needed to make an impact on current obesity trends. Delivering policy responses goes far beyond individual initiatives. It will require systemic and far-reaching change in infrastructure, environments, culture and social norms and we will not see these changes or outcomes overnight.

6.3 The combined effect of these actions will impact on the level of obesity in society, however, we cannot yet predict accurately the contribution of each element or precisely how much we need to invest in each area. For this reason we will put in place a review mechanism through which emerging evidence of effective interventions, any resulting changes to policy required and our progress towards meeting our aim will be considered. We will use this mechanism to refine the actions indicated by the Route Map.

6.4 In the following sections we set out the range of actions we believe will be required to achieve our aim. The actions described below are aimed at the population level.

6.5 The distribution of overweight and obesity in OECD countries consistently shows pronounced disparities by education and socio-economic conditions in women, while mixed

patterns are observed in men.[21] The most recent evidence, from the 2008 Scottish Health Survey, showed a clear linear relationship in women, with levels of obesity increasing as deprivation increases. For men there are high levels of obesity across all deprivation quintiles.

6.6 Our aim in implementing the Route Map is to have population wide impacts which should benefit all in society but we will also remain vigilant to ensure that we do not disadvantage any one group above another and widen health inequalities.

Energy consumption

6.7 We need to reduce the energy intake of Scotland's population. This means consuming smaller quantities of energy from food and drink, including alcohol. The reduction in consumption need only be small, but must be supported at the food supply level. There is no need for this to have a negative impact on profitability in Scotland's food industry.

6.8 *Recipe for Success: Scotland's National Food and Drink Policy* is a major step forward in ensuring that for the first time public health issues, along with environmental sustainability are integral to the Scottish Government's aim to continue to support the sustainable economic growth of the food and drink industry. It highlights how food can impact on the nation's health and its environment and identifies areas where we can influence and support the Scottish supply chain to achieve a Healthier, Greener Scotland.

6.9 This Route Map is intended to build on *Recipe for Success* and the key proposition that there are gains to be made by bringing together the perspectives of health, sustainability and business. Historically, these three policy themes have been pursued separately and the current challenges make it imperative that we find points of synergy, growth and opportunity. To deliver the longer term solution to the obesity challenge interventions and incentives, and levers to change, need to be integrated across Government policy.

6.10 In the development of overweight and obesity the roles played by temptation and current social norms regarding body weight should not be underestimated. Multiple aisles of high energy-dense foods and drinks in retail outlets, as well as a wide range of easily accessed eateries in our high streets, present a myriad of opportunities for consumers to make less healthy choices more frequently, influenced by the balance of foods and drinks on sale. The availability of large portion sizes of high energy-dense foods, drinks and meals adds to the risk of consumers purchasing and consuming excess energy. For these reasons, we need to create environments in which access to healthier, less energy-dense, food and drink, and smaller portion sizes becomes the norm in Scotland. Providing a higher proportion of less energy-dense food as well as smaller portions or pack sizes can be a profitable goal for Scottish businesses. We can help secure this by providing clear regulation and guidance with particular support for small to medium size enterprises (SMEs) so that businesses are competing in a fair environment.

We must work to shift social norms by increasing demand for, and affordability of, less energy-dense, lower energy healthier options and smaller portions.

We will control exposure to foods that are high in energy by:

Shops, eating out, and consuming on the move

- Working with the Scottish Retailers' Forum[22] to reduce the ratio of energy-dense food and drinks to lower energy options (e.g. smaller and less energy-dense portions) stocked by supermarkets and convenience stores to better reflect the needs of a healthy balanced diet.

21 OECD Health Working papers No. 45. OECD, March 2009.

22 The Scottish Retailers' Forum is the Government's leadership group with major retailers and supporting organisations.

- Continuing our collaboration with key food partners in Scotland to support SMEs to reformulate[23] mainstream food and drink options and to encourage responsible use of 'healthier' as a strategic marketing tool. Reformulation of processed and prepared foods should not focus only on the premium end of the market or on food explicitly marketed as healthy options; the highest priority should be on everyday basics and products at the more affordable end of the market.
- Using our financial support schemes and integrated impact assessment to provide incentives to producers and manufacturers of lower energy food and ingredients and to restrict subsidies for those producing high energy products.
- Continue to work with the Food Standards Agency to support the industry to reduce salt, saturated fat and sugar levels and portion sizes in their products.
- Working with producers, retailers and caterers to ensure that portion sizes served or suggested by labels better reflect consumers' energy needs. This will include activity to standardise portion sizes in ready meals and restaurants. In retail outlets it will also mean basing assessment of energy density on realistic quantities people actually eat in 'a portion' and the cumulative energy content of linked products marketed as meal deals. There need be no obstacle to marketing high-calorie meals, but consumers need to be informed.
- Where voluntary approaches to reformulation, portion size adjustment and stocking policies do not achieve sufficient progress towards a healthier balance in the meals, food and drinks sold in Scotland we will consider appropriate statutory means to increase the rate of change.
- Working with Consumer Focus Scotland to extend the Healthyliving Award to all caterers within public sector organisations and to have a stronger presence on the high street. For all organisations already participating, the Healthyliving Award Plus offers an opportunity to achieve step increases in the required ratio of healthy options to other options on menus from participating caterers.
- Encouraging the use of the Nutritional Requirements for Food and Drink in Schools (Scotland) Regulations 2008 to inform standards in commercial catering.
- Working with the Scottish Grocer's Federation (SGF) to extend the reach of the SGF Healthy Living Programme within participating neighbourhood food shops, for example moving confectionary displays from till points and expanding the range of healthier choices offered and promoted under the scheme.

Schools

- Continuing the excellent progress of the Schools (Health Promotion and Nutrition) (Scotland) Act 2007 and the subsequent Nutritional Regulations in making schools exemplary health-promoting environments. We will encourage the uptake of balanced and nutritious schools meals across all age groups by:
  - working towards providing free school lunches to more pupils in the earliest years of primary schools;
  - working with the food industry to deliver a wider variety of reformulated popular options complying with the nutrition regulations; and
  - supporting schools to make remaining in school for lunch more attractive to secondary school pupils through a range of innovative approaches.
- Exploring measures to restrict access by children to nutritionally inappropriate meals and high energy and energy-dense foods from businesses located in the vicinity of schools.
- Facilitating collaborations between schools and local food outlets to promote appealing, affordable lower energy and less energy-dense options for pupils who choose to leave school for lunch.

23 By reformulation we mean the reduction of salt, saturated fat and sugar levels in food products.

- Reinforce messages for parents on the content of lunchboxes and provision of snacks in and around the school day.

Communities

- Working across the public sector to promote and support the procurement of lower energy and less energy-dense products and to support the adoption of nutritional standards analogous to the school Nutritional Regulations 2008 to vending machines, retail outlets and public and staff catering facilities in NHS and Local Authority premises and other public sector organisations. The leadership of the public sector will set an important example which we would wish to see emulated by the private sector.
- Supporting implementation of the 'Beyond the School Gate' benchmarking guidance for community planning partnerships on provision of lower energy and less energy-dense food options in the community, for example through limiting the number of fast food outlets near schools, leisure centres, parks and youth centres and encouraging the provision of outlets for healthy convenience food and drink.

We will support consumers to make less energy-dense food choices by:

Labelling

- Producers, manufacturers and retailers should take a responsible approach to prioritising the clarity of health messages on food and drink packaging:
  - labels identifying the salt, saturated fat and sugar content of products should be clear and easily understood by consumers who may not have high levels of literacy or health literacy;
  - the FSA's recommendations for front of pack labelling should be implemented consistently across products and retailers to minimise consumer confusion;
  - where images and labels are used to indicate positive features such as local provenance, premium quality or environmental credentials of high energy and energy-dense products it is important that these do not confuse or distract consumers from their nutritional properties; and
  - methods for communicating the energy density of products in a simple way for consumers who may be less health-literate, for example how far you would have to walk to burn the energy contained in the product, should be investigated further.
- Increasing people's understanding related to food and diet across the population, including through the Curriculum for Excellence. Schools are a crucial setting in which to equip children and young people with the skills to choose, purchase and prepare lower energy and less energy-dense meals and snacks. While schools offer valuable opportunities to increase awareness of healthy weight, it is important that this is done in a sensitive way that does not increase stigma and undermine the mental wellbeing of children and young people.
- Investing in broadening tastes in the early years. As the Schools (Health Promotion and Nutrition) (Scotland) Act 2007 recognises, learning about healthy eating is not limited to curriculum content, but should be at the heart of all school activities. The food provided in schools has a vital role to play in developing children and young people's tastes and demonstrating that lower energy and less energy-dense meals and snacks can be appealing.
- Ensuring that everyone has access to opportunities to learn how to shop for and cook affordable healthy meals from raw ingredients.
- Using social marketing to influence social norms and empower healthier food choices. We will extend the Scottish Government's 'Take Life On' campaign to include a wider range of community partnerships including supermarkets and community food schemes to increase consumer awareness of the benefits of healthy eating and encourage healthier food choices through incentives such as price promotions.

- Ensuring simple, direct and consistent communication of what a lower energy, less energy-dense diet is for an audience that is more likely than not to be overweight. Official guidance to the public on a healthy diet needs to provide easily understood practical advice about recommended total quantities and energy consumption, not just a healthy balance when portion sizes may be excessive.

Marketing

- Working with retailers to target all promotional activity on food and drink towards incentivising eating for a healthy weight, including price promotions, vouchers, in-store product placement, direct mail marketing and multiple-buy offers such as 2 for 1s. This means:
  - removing incentives for consumers to purchase high energy and energy-dense food and drink, particularly incentives to buy these products in large quantities, for example bulk value pricing structures; and
  - introducing incentives for consumers to purchase lower energy and less energy-dense food and drink options.
- We are exploring opportunities to restrict advertising of foods high in fat, salt and sugar (HFSS) foods through non-broadcast media as outlined in the National Food and Drink Policy and we will continue to support a pre-9pm ban on advertising in broadcast media of HFSS.

Energy expenditure

6.11 As discussed in Chapter 4, the majority of the population in Scotland are overweight and may require up to 60 minutes of moderate physical activity every day in order to achieve or maintain a healthy weight. To make this achievement realistic, this activity needs to be integrated into people's everyday routines. One of the most effective ways to absorb this much activity in a busy day is to reduce reliance on motorised transport, changing our means of everyday travel to walking and cycling.

6.12 Currently almost two-thirds of adults in Scotland are not even achieving 30 minutes moderate physical activity a day[24] and only 13% of journeys to work are made by bicycle or on foot.[25]

Foresight is clear that we cannot simply depend on individuals changing their travel habits without modifications to our physical and cultural environments. We need to make walking and cycling accessible, safe and appealing enough to be the default means of travel for short and local journeys.

National and local government needs to support this shift towards active travel as a mainstream choice by considering how all our policies impact on built environments so that they represent opportunities for rather than barriers to active travel.

We will create environments that make walking and cycling part of everyday life for everyone by:

Transport policy

- Addressing obesity prevention through active travel specifically in the review of the National Transport Strategy.
- Encouraging Regional Transport Partnerships to work towards conducting integrated impact assessments on all Regional Transport Strategies.
- Delivering the Cycle Action Plan for Scotland. This draft plan proposes that by 2020 10% of all journeys are made by bicycle.

24 Scottish Health Survey 2008

25 Scottish Household Survey 2007

- Continuing to provide support to Sustrans to maintain and extend the National Cycle Network and provide safe routes to schools for children who wish to cycle or walk to school and to Cycling Scotland to promote cycling more generally.
- Ensuring that in all our actions responding to the national indicator to **reduce the proportion of driver journeys delayed due to traffic congestion** we are promoting active travel, not creating incentives for greater personal car use for short and local journeys.

Planning policy

- Using the opportunity afforded by the National Planning Framework for Scotland 2 (NPF2), which specifically seeks to '*promote development which helps to improve health, regenerate communities and enable disadvantaged communities to access opportunities*', to ensure that policies in development plans have a positive impact on active living and healthy weight.
- Implementing the lessons learned from pilots such as the Equally Well Test Site in Glasgow about ways community partners can work effectively together to integrate health improvement into city planning.
- Applying robustly, in development plans and development management decisions, the priority order for personal travel opportunities (walking, cycling, then public transport, followed by the car and other means of motorised vehicles) as set out in Scottish Planning Policy (SPP).

Design and placemaking

- Ensuring that the placemaking provisions of the SPP, in particular those in '*Designing Places*', '*Designing Streets*' and the provisions for open space and physical activity from the SPP are put into practice through ongoing training, promotion and dissemination.
- Encouraging excellence and innovation in designing communities that incorporate a range of features that reduce car dependency, increase active travel and create attractive, accessible open spaces for recreation through the Scottish Sustainable Communities Initiative. The sharing of this innovation and practice will help improve the quality of Scotland's built environment.
- Working with Architecture and Design Scotland to investigate the potential to improve standard practice in the design of new and refurbished buildings on issues such as:
  - safe direct access by pedestrians and cyclists;
  - sufficient secure storage for bicycles;
  - facilities for cyclists to shower and change; and
  - stairs which are at least as accessible as lifts.
- Supporting the creation and maintenance of safe, attractive and accessible greenspace, including green transport corridors, close to where people live.

Supporting behaviour change

- Make our communities safer and stronger and reduce the fear of crime through the Safer Streets Programme and the Safer Communities Programme so that more people feel comfortable and secure being active outdoors in their neighbourhoods.
- Divert young people away from crime and disorder by getting them involved in sporting activities through the CashBack for Communities Programme.
- Responding to people's concerns about the safety or convenience of active travel by using a diverse range of means including:
  - expanding safe cycling and pedestrian routes to link key community destinations including public transport hubs, hospitals, supermarkets and centres of employment;

  - publicising the availability and benefits of local pedestrian and cycle routes and improving signage to popular destinations;
  - clearing up environmental dereliction such as poor lighting, vacant sites and animal faeces that discourage people from walking in their local neighbourhoods; and
  - using social marketing approaches tailored appropriately to audiences depending on their current levels of activity and motivation, with particular attention on those who are especially inactive or vulnerable in other respects.
- Implementing widely the lessons learned from the Smarter Choices Smarter Places active travel demonstration towns about which interventions, including both incentives for active travel and disincentives for car use, are most effective in achieving greater uptake of travel options, particularly by the least active groups.

Sport and recreation

- Providing and maintaining physical environments in every community that promote healthy lifestyles for children including opportunities for play, physical activity and healthy eating.
- Working with **sport**scotland to ensure the provision of opportunities for all children and young people to participate in physical activity and sport and enabling the creation of pathways from the school to the wider community.
- Working together to find realistic ways of maximising physical activity within the school environment.
- Developing curricular and non-curricular activities for children to gain the skills and confidence to enjoy more active lives, through Active Schools, Safe Routes to Schools and opportunities for outdoor learning.
- Maximising the opportunities of the Active Nation campaign to encourage people of all ages and abilities to become more physically active in the run up to the 2014 Games and beyond.

Early years

6.13 To give children the best start in life, early life interventions need to begin before and during pregnancy, continue through infancy, in early years settings such as nurseries and childminders and onto school. The early years offer the best opportunity to put in place healthy behaviours around food and physical activity which will be sustained into adulthood. Central to this is the involvement of families, and every opportunity must be taken by all involved to shape and deliver services using health professionals and the Third Sector in a way which best provide support.

6.14 The rise in the number of women who are obese during pregnancy gives cause for concern due to the risks that obesity poses to the health of both the mother and infant, as well as its influence on long-term adult health. Maternal obesity can have an adverse effect on birth weight which, in turn, may affect risk of obesity later in life.

6.15 In infancy there is evidence that breastfed babies show slower growth rates which may contribute to the reduced risk of obesity later in life shown by breastfed babies.[26] Infants who gain weight rapidly in the first two years of life are more likely to be overweight later in childhood. There is also evidence to suggest that infants who are weaned onto solid foods at an early age (before 15 weeks) are more likely to be overweight later in childhood.[27]

26 For example, Von Kries R et al. Breastfeeding and obesity: cross sectional study. BMJ 1999;319:147-50, Gillman MW et al. Risk of overweight among adolescents who were breastfed as infants. JAMA 2001;285:2461-7, Singhal A, Lanigan J. Breastfeeding, early growth and later obesity. Obesity Reviews 2007;8 (Suppl 1):51-54.

27 Wilson AC, Forsyth JS, Greene SA et al. Relation of infant diet to childhood health: seven year follow up of cohort of children in Dundee infant feeding study. BMJ 1998;316:21-5.

We will encourage healthy behaviours around food and physical activity in the early years by:

- Promoting positive environments for children and families through all our planning, regeneration and transport policies.
- Implementing the forthcoming Maternal and Infant Nutrition Strategy.
- Continuing to develop and roll out the Getting it Right for Every Child change management programme for services affecting children and young people, founded on wellbeing indicators including healthy and active that encourage attention to diet and activity.
- Investing to ensure that all pregnant women, and women of children aged under 4 who are eligible for Healthy Start are aware of, and apply for the Healthy Start vouchers.
- Investing to ensure that more babies are breastfed, and for longer.
- Investing to support pregnant women and new mothers to develop healthy lifestyle behaviours, for example through the key elements of parenting programmes and community capacity building in the Early Years Framework.
- Investing to support parents knowledge about how they feed themselves and their babies particularly when babies make the transition onto solid foods.
- Investing in a programme of education and support for health professionals on maternal and infant nutrition to provide the best quality information and support to all women about how they feed themselves and their babies.
- Investing in communications aimed at women of childbearing age pre-conception about the relationship between maternal obesity and adverse outcomes in pregnancy.
- Ensuring that the guidance set out in *Nutritional Guidance for Early Years* is implemented across all services for children between 1 and 5 years, regardless of the providers of those services.
- Supporting the third sector to increase opportunities for play through our investment in Inspiring Scotland's Go Play Programme.
- Ensuring that nurseries and other childcare facilities minimise sedentary activities during playtime, and provide regular opportunities for enjoyable active play and structured physical activity sessions.

Working lives

6.16 As noted in the Scottish Government's recently published *Health Works Strategy*, a healthy workforce is essential to help Scotland increase sustainable economic growth. It has been shown[28] that:

- Physically active employees take 27% less sick days than non-active employees
- Individual work performance[29] can be improved by between 4% and 15% when people engage in regular physical activity
- An on-site fitness programme can reduce staff turnover by between 8% and 15%

6.17 Rising levels of obesity will make a significant and growing contribution to levels of illness and subsequently sick absences in the workforce and whilst employers alone cannot solve the obesity problem, they can contribute to the solution. Currently 2.5 million people in Scotland are in employment with total weekly hours of work of 81 million.[30] Their work

28 Figures from the British Heart Foundation.

29 Effects include higher mental concentration, improved complex decision making, improved reaction time and enhanced full efficiency periods.

30 Annual Population Survey (boosted annual Labour Force Survey). Jan-Dec 2008.

sustains the economy and is critically dependent on their working capacity. Given the amount of time individuals spend at work, there is a real opportunity to engage a large proportion of the adult population in activities to prevent obesity.

6.18 It is unlikely that the business plan of any new business, or the core aim of an established business will explicitly include addressing preventing obesity in their workforce, and yet a healthy, motivated workforce is essential for high productivity levels. With more than 50% of the Scottish workforce in organisations with fewer than 250 employees and 99% of all businesses in Scotland employing fewer than 250 people,[31] we have to recognise that there is a disparity in what we can expect large corporate employers, such as the public sector to achieve, and what is reasonable to expect of smaller businesses. Our Route Map identifies a range of actions that will support both small and large businesses.

6.19 Most employers are already aware that a healthy workforce is important to their continued success, and many are now more active in supporting their employees in achieving a healthier lifestyle. Our primary challenge is to raise the awareness of all employers of the potential costs to their business of obesity, and of the benefits of health promotion policies and practices that can contribute to prevent their workforce from becoming overweight or obese in the first place or helping them achieve and maintain a healthy weight.

6.20 We already have in place the Scottish Healthy Working Lives Award and we want to motivate and make it possible for the diverse range of employers established in Scotland to achieve it, or to initiate other health promoting activity for the benefit of both their employees and ultimately the productivity of their business.

We will invest in encouraging public and private sector employers to increase their responsibility for the health of their employees, and support them to do so where possible by:

- Working together to develop a clear vision of the role of the public sector in promoting the healthy working lives approach, given that the public sector in Scotland accounts for around 25% of the workforce.
- Continuing to invest in the Scottish Centre for Healthy Working Lives and ensuring that obesity prevention is embedded in its strategy.
- Continuing to invest in the Healthyliving Award by securing commitment from all other public sector employers with catering outlets to register for and achieve the Healthyliving Award in the first instance and thereafter the Healthyliving Award Plus.
- Encouraging all private sector employers with canteen/cafeteria facilities to participate in the Healthyliving Award.
- Following up CEL 14 (2008), *Health Promoting Health Service – Action in Acute Care Settings*, to ensure that action is being taken by NHS Boards to achieve the eight health promoting actions (alcohol, smoking, healthy eating, etc); that all hospitals with catering facilities for staff and/or the public have achieved the Healthyliving Award and that those who have held the Award for 2 years are now working to achieve the Healthyliving Award Plus Award.
- Encouraging NHS Boards to consider possible roles for public health and occupational health in supporting the establishment of partnerships involving local businesses, and in supporting the implementation of workplace programmes for the promotion of healthy weight management, taking account of any relevant national and local schemes.
- Encouraging all public sector organisations to set an example to other landowners by using their estate to support greater activity by signposting walks and cycle routes.

31 High level summary of statistics. Trends for business, enterprise and energy.

- Supporting Paths for All to increase coverage of their workplace walking programme.
- Encouraging employers to support their workforce to adopt more active means of travelling to and from work as a contributory element to an individuals levels of physical activity.
- Encouraging businesses to support their employees to participate in Active Nation: A Games Legacy for Scotland.
- Continuing to fund the national Institute for Sport, Parks and Leisure physical activity accreditation award and encourage NHS and local authority engagement.

7. MANAGEMENT AND TREATMENT

7.1 Management and treatment of obesity are outwith the scope of this Route Map, as it focuses on prevention. However, we are committed to ensuring that cost effective and appropriate weight management services and treatments for obesity are provided for patients in Scotland. We will:

- Invest in resources for the continuing professional development of primary care professionals to develop a better understanding of obesity, its management and treatment.
- Review and, if necessary revise the HEAT target in the light of the Scottish Obesity Action Resource (SOAR[32]) report, to help Boards and their local partners establish effective child healthy weight intervention programmes and consider expansion to include adult weight management services.
- Ask the National Planning Forum[33] to approve the establishment of a pan-Scotland group to develop clinical pathways, in the light of forthcoming advice from SIGN,[34] extant advice from SMC and the SOAR report.
- Take account of the National Planning Forum recommendations on equal access to clinically effective services for morbidly obese patients from all areas of Scotland, taking into account waiting time requirements.
- Regularly assess progress in developing local obesity management and treatment strategies by NHSScotland at the NHS Boards' Annual Reviews.

32 ScotPHN Report 2007.

33 The National Planning Forum has been established as a high level NHS/SGHD group to secure greater joint ownership of the national planning agenda. The Forum includes members from all 22 Health Boards, as well as representatives from the Academy of Medical Royal Colleges, the Scottish Association of Medical Directors, NHS Board HR and Finance Directors and now also the Scottish Partnership Forum and Directors of Public Health.

34 Scottish Intercollegiate Guidelines Network. Obesity in adults and children, forthcoming Spring 2010.

8. FURTHER GOVERNMENT ACTIONS

8.1 Alongside the preventative actions we have identified in the four broad categories above, we will take action to ensure that we raise awareness of the real threat of obesity, measure our progress and learn from our actions and support further research to continue to manage obesity prevention appropriately.

Raising awareness amongst decision-makers:

- We will promote a range of preventative actions by creating awareness and understanding amongst decision-makers in the public sector and business leaders about the severity and consequences of the obesity epidemic and the need to take ambitious and wide-ranging action beyond the health sector.
- To achieve this we will pursue a communications strategy amongst key groups to facilitate their understanding of their own role in meeting this challenge.

Changing public attitudes:

- We will underpin our range of preventative actions with investment in a public communications strategy to increase public understanding of why tackling obesity matters, that it is a serious health risk not a value judgement on character or appearance.
- As social norms have changed, we have become less able to judge on sight whether someone is overweight or obese, so we also need to re-establish our understanding of what unhealthy weight looks like.
- Communications will have two important purposes – to provide motivation for individuals to make changes in their own lives and to create wider understanding of the need for obesity prevention and acceptance of the kind of significant environmental and cultural changes and persuasive measures that may be needed to change personal behaviour. In this respect obesity policy can learn from communications under the Greener strategic outcome.
- Our public communications strategy will need to be empowering and enable change, and should not be alarmist, perpetuate stigma or exacerbate poor mental wellbeing associated with body image. In this regard we will work with the Scottish media partners in Scotland to address the sensationalist approach to obesity reporting.

Supporting local delivery:

- NHS Health Scotland are developing a healthy weight outcomes framework as a resource to support local partners in the development of Single Outcome Agreements. This will be aligned with the recommendations for action set out in Section 6 above and help community planning partners identify how their activities will contribute to the short, medium and long term outcomes needed to realise the aims of this Route Map.

Tracking progress and filling the evidence gaps:

We will develop an integrated strategy for research in obesity and establish a monitoring and evaluation framework to:

- Bring together the research and decision making communities to facilitate the rapid translation of policy imperatives into research and research findings into delivery and outcomes
- Take account of emerging international evidence
- Track the effectiveness and cost effectiveness of our preventative actions
- Identify any unintended outcomes or displacement effects (including on health inequalities)
- Understand better the relative contributions, costs and benefits of actions in diverse policy areas
- Consider any necessary amendments or adjustments to our priorities
- Build further the evidence base for effective interventions to tackle obesity in Scotland.

Data and monitoring:

- We will ensure the collection of high quality public health data to allow us to track the success of our interventions and progress against our current and any new national target. This will also ensure that we can monitor and address inequalities.
- We will look at how BMI measurement in school age children might better support delivery of our policies to tackle childhood overweight and obesity.

9. NEXT STEPS

9.1 We will establish a joint governmental leadership group, including Ministers, COSLA leaders and key stakeholders including the NHS and the public health community, to be the visible focus of the Route Map, to ensure its implementation by holding decision makers to account. This group will:

- Oversee the development during 2010 of an action plan and identification of key milestones to support delivery of the Route Map
- Periodically, reflect on progress against key milestones and targets and consider whether decisions being taken at both local and national level are sufficient to ensure progress
- Provide governance of the integrated research strategy to ensure that emerging evidence and external developments (such as European policy or food pricing policies) are incorporated into reviews of the Route Map
- Oversee and publish in 2013 a report of the progress and actions taken towards the policy direction set out in this Route Map

9.2 In addition, we will fund a national event during 2010 to be organised by the Scottish Public Health Network to allow stakeholders from all sectors an opportunity to be involved in helping shape actions that come out of the policies identified in this Route Map.

APPENDICES

APPENDIX 1: THE SIZE OF THE PROBLEM

Defining obesity

Obesity is the disease process of excess body fat accumulation, with multiple organ-specific pathological consequences (ICD-9 code 281).[35] Definitions of obesity and overweight used in epidemiology are based on the relationship between height and weight, Body Mass Index (BMI) calculated by dividing an individual's weight in kilograms by their height in metres squared, or on measures of central fatness including waist circumference. In adults, overweight is defined as a BMI between 25-29 kg/m^2 and obesity is defined as a BMI greater than or equal to 30 kg/m^2. As children have different growth patterns at different stages of childhood, obesity in children is defined as having a BMI within the top 5% of the 1990 UK reference range for their age and sex and overweight as BMI within the top 15% of the range.

Below 18.5	Underweight	
18.5 - under 25	Normal	
25 - under 30	Overweight	Waist: women >80cm men >94cm
30 and above	Obese	Waist: women >88cm men >102cm

Prevalence of obesity and overweight in Scotland

The Scottish Health Survey provides information on the prevalence of disease and risk factors and lifestyle behaviours for a representative sample of the Scottish population. One of the risk factors measured is BMI.

35 Haslam D, Sattar N, Lean MEJ. Obesity – time to wake up. ABC of Obesity. BMJ 333:640-642 (2006).

Prevalence of overweight and obesity measured by Body Mass Index (BMI) in Scotland: men and women aged 16+ ('all adults')

	Overweight (including obese)			Obese		
	Men	**Women**	**Adults**	**Men**	**Women**	**Adults**
1995			No data			
1998			No data[36]			
2003	65.4%	59.7%	62.4%	22.4%	26.0%	24.3%
2008	68.5%	61.8%	65.1%	26.0%	27.5%	26.8%

Prevalence of overweight and obesity measured by Body Mass Index (BMI) in Scotland: children aged 2-15

	Overweight (including obese)			Obese		
	Boys	**Girls**	**Children**	**Boys**	**Girls**	**Children**
1995	Not available					
1998	27.8%	28.3%	28.0%	13.0%	13.1%	13.0%
2003	32.4%	28.9%	30.7%	15.6%	12.3%	14.0%
2008	36.1%	26.9%	31.7%	16.8%	13.2%	15.1%

Note - Due to changes in the methodology for calculating children's BMI, figures for 1998 and 2003 were revised on publication of the 2008 report. Full details of the change in methodology are provided in the Scottish Health Survey 2008 report (chapter 7). http://www.scotland.gov.uk/Publications/2009/09/28102003/0

Causes of obesity

The UK Government's Foresight report (2007) referred to a "*complex web of societal and biological factors that have, in recent decades, exposed our inherent human vulnerability to weight gain*". The report included an obesity system map with energy balance at its centre, covering more than 100 variables that directly or indirectly influence energy balance. These variables can be grouped into seven predominant themes:

- Biology: an individuals starting point survival advantage of an appetite which exceeds immediate need the influence of genetics and ill health on fat accumulation
- Activity environment: the influence of the environment on an individual's activity behaviour
- Physical Activity: the type, frequency and intensity of activities an individual carries out
- Societal influences: the impact of society
- Individual psychology: for example a person's individual psychological drive for particular foods and consumption patterns, or physical activity patterns or preferences
- Food environment: the influence of the food environment on an individual's food choices
- Food consumption: the quality including energy-density, quantity (portion sizes) and frequency

36 The 1995 and 1998 surveys only covered 16-64 and 16-74 respectively.

Small daily increases in energy intake can explain weight increase at a population level over time, assuming that physical activity levels have remained low. It should, however, be recognised that at an individual level, large variations in energy intakes and eating behaviours exist. For most people these variations are quite modest.

Consequences of obesity

Overweight and obesity pose a serious threat to long-term health. During childhood obesity can be associated with asthma, type 2 diabetes, musculoskeletal problems and psychosocial impacts relating to stigma and bullying. There is evidence of a high rate of unhealthy weight continuing into adulthood, but whether or not overweight and obese adults were overweight as children, they face multiple accelerated pathologies resulting in an increased risk of:

- Hypertension (high blood pressure)
- Osteoarthritis
- Dyslipidaemia (low HDL cholesterol and high triglycerides)
- Type 2 diabetes and its complications
- Coronary heart disease
- Stroke
- Gallbladder disease
- Sleep apnoea and respiratory problems
- Indigestion
- Venous thrombosis
- Asthma
- Cancers of the colon, rectum, prostate, endometrium, breast and ovary
- Low back pain
- Pregnancy and childbirth complications (including increased risk of caesarean section, postpartum haemorrhage and maternal death)
- Psychological ill-health

For any individual when there are major changes in physical activity, the number of calories/day required increases with body weight. Obese people must consume more calories to avoid weight loss. To maintain each 10kg weight gained, as fat, demands an extra 150-250kcal every day.

Obesity is associated with a significant increased risk of dying prematurely. The largest ever published study,[37] analysing data from around 900,000 people in Western Europe and North America, showed that BMI of 30-35 leads to a reduction in median survival of 2-4 years and BMI of 40-45 (morbid obesity) leads to a reduction of 8-10 years. This is comparable to the effects of smoking, and it has been suggested that it may mean that normal weight parents may have to face their morbidly obese children dying before them.

Severe obesity (eg BMI>50) is increasing most rapidly, and although still relatively uncommon presents enormous costs through disability and social care, transport and attendance allowances, special housing demands and greatly increased costs of hospitalisation.

37 Prospective Studies Collaboration. Body mass index and cause-specific mortality in 900,000 adults: collaborative analyses of 57 prospective studies. Lancet 2009;373; 1083-96.

APPENDIX 2: THE COST OF OBESITY

The total cost to NHSScotland of obesity in 2007/8 was in excess of £175 million (approximately 2% of the budget allocated to NHS Boards), of which £4.5 million was associated with drugs for obesity.[38] The majority of costs were associated with the consequences of obesity, most notably type 2 diabetes (£48 million) and hypertension (£38 million). These costs relate to obesity alone – using the assumption made in the Foresight report that the costs per person of being overweight are half the costs per person of being obese could add a further £137 million, giving a total NHS cost of £312 million.

The effect of obesity is much wider than the costs directly related to health issues and it has been estimated that healthcare costs are a minority of costs to society of obesity.[39] Obesity has been shown to adversely affect employment, production levels (via increased sickness absence from school or work and premature death) and mental wellbeing. Additionally, it is increasingly being cited as a cost burden in infrastructure planning.

Obesity influences employment in a negative way both directly and indirectly via its effect on health status, with the probability of being in employment estimated to be up to 25% lower for those with BMI >30.[40] Furthermore, BMI has a negative effect on occupational attainment for women, although the results are mixed for males.[41]

Obesity affects production though both increased sickness absence, but also as a result of premature death. Using incapacity benefit caseload figures for February 2008 by diagnostic group, it can be estimated that approximately 4% of claims result directly from the consequences of obesity. This equates to some 2.6 million days of work lost per year, or a potential cost of lost work days of around £195 million. This figure excluded those associated with short term sickness absence, although it has been shown that people with BMI greater than 30 have a 51% higher short and long-term sickness absences than those in the normal weight range.[42]

Data on premature deaths in Scotland from conditions attributable to obesity are more difficult to obtain. A report from the House of Commons Health Committee[43] showed that 7% of total deaths in England in 2002 were attributable to the consequences of obesity, resulting in 45,000 years of working life lost. In 2002, 23.5% of the English population was obese; this is comparable with data from the 2003 Scottish Health Survey which gave obesity rates of 24% in women and 22% in men. Applying the 7% estimate to Scottish deaths in 2007 would give 3394 deaths and 4480 years of working life lost. Using the Scottish median gross weekly earnings for Scotland in 2007[44] gives an estimate of lost production for Scotland, associated with premature death, of £87 million. This figure is likely to be an underestimate as the prevalence of obesity has risen since 2002.

Obesity is affecting planning and infrastructure across many sectors – airlines, transport companies, hospitals – with the need to provide larger seats and fuel for airlines for example.[45] A survey of 150 hospital trusts in England in 2008 found that, on average, each spent £60,000

38 NHSScotland cost of obesity. Analytical Services Division, Scottish Government.

39 McCormick B, Stone I & Corporate Analytical Team. Economic costs of obesity and the case for government intervention. Obesity reviews 2007, 8 (Suppl 1), 161-4.

40 Morris S. The Impact of Obesity on employment in England. London Tanaka Business School, 2004.

41 Morris S. Body Mass index and occupational attainment. London, Tanaka Business School, 2005.

42 Fernie JE et al. BMI, obesity and sickness absence in the Whitehall II study. Obesity 2007,15,1554-64.

43 House of Commons Health Select Committee. Obesity: Third report of Session 2003/4. The Stationery Office: London 2004.

44 2007 Annual survey of Hours & Earnings, National Statistics.

45 Prentice AM. Obesity – the inevitable penalty of civilisation? British Medical Bulletin 1997;53:229-237.

on specialist equipment per annum. Such equipment includes larger hospital beds, chairs, wheelchairs, surgical instruments, hoists and delivery beds. In Scotland, the Scottish Ambulance Service has recently adapted 63 vehicles to allow the anchoring of the trolley in the middle of the vehicle at a cost of £189,000 to manage obese patients. Morbidly obese patients in the West of Scotland have to be transported to Aberdeen to use the 'bariatric' MRI scanner.

The indirect costs of obesity calculated above suggest a ratio of direct to indirect costs of obesity of 1.6:1 (£282 million compared with £175 million). Literature estimates of the indirect costs of obesity range widely. The House of Commons report[46] estimates used a ratio of 2.4:1 for indirect to direct costs, the National Audit Office Report[47] used a ratio of 4.4:1 and some studies in the United States have suggested that direct costs may be lower than indirect costs.[48] These reports all suggest that the estimates are likely to be an underestimate of the true indirect costs to society of obesity, but these cannot be measured in an accurate way. The Foresight report uses a ratio of 7:1. This last figure includes the costs of welfare payments.

Applying literature estimates gives a range of indirect costs of obesity from £420 million to £1.225 billion. This would result in estimates of total cost to society of obesity in 2007/8 ranging from £0.6 billion to £1.4 billion.

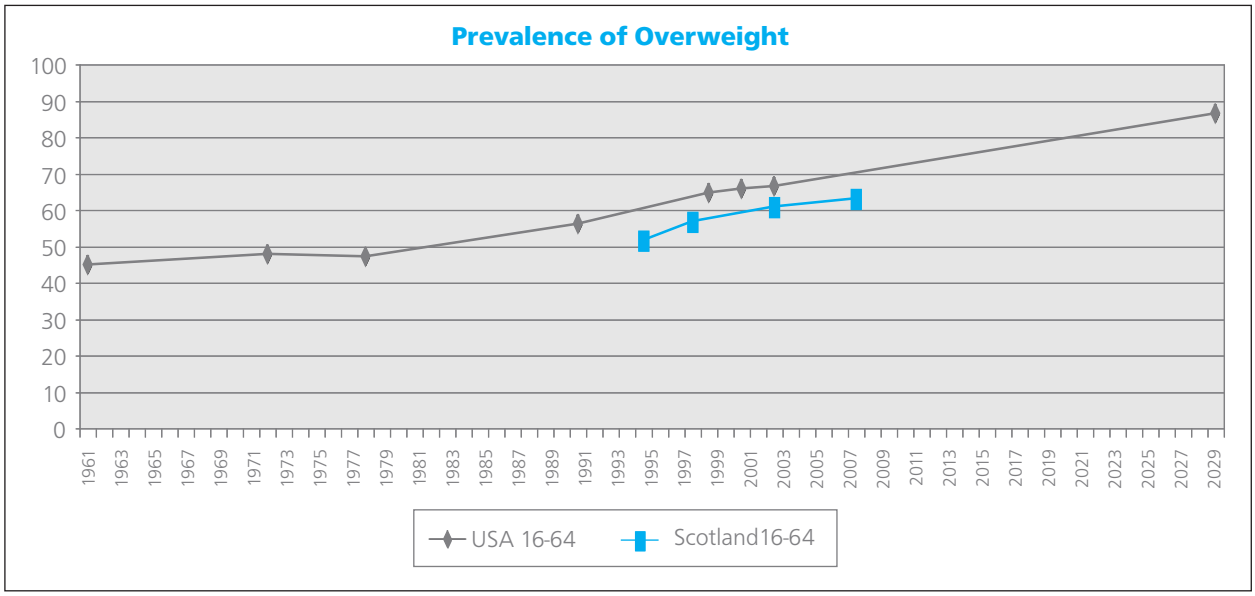
46 House of Commons Health Committee. Obesity: Third report of Session 2003-4 Vol 1. HMSO: London, 2004.

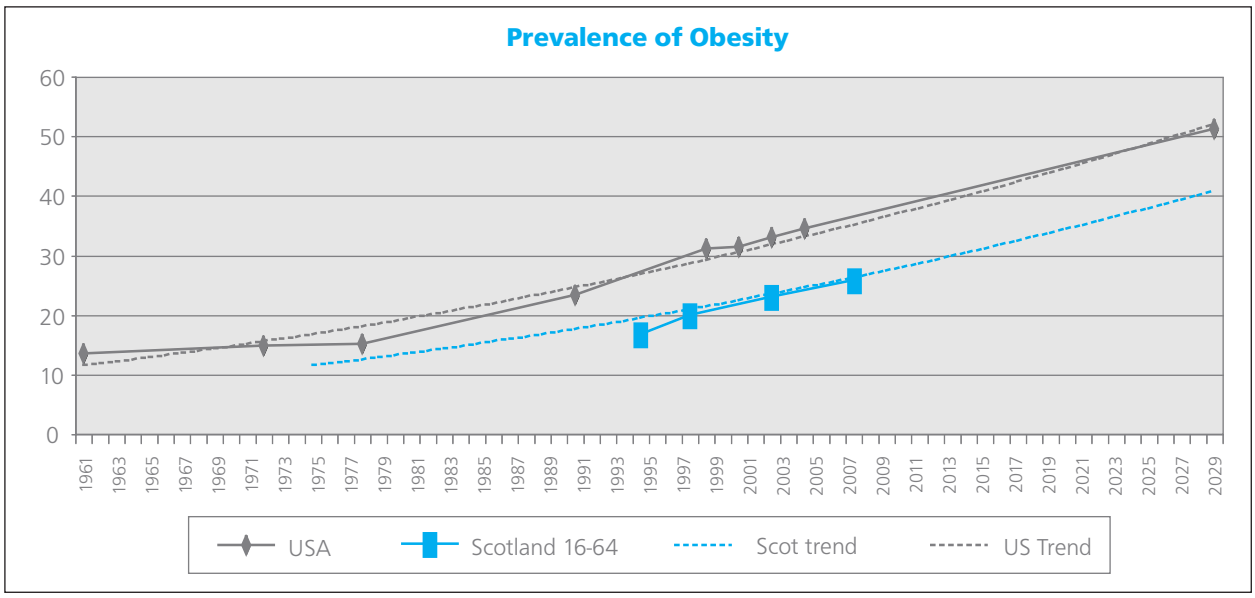
47 National Audit office. Tackling obesity in England. HMSO: London, 2001.

48 Finkelstien EA, Ruhm CJ and Kosa KM. Economic causes and consequences of obesity. Annu.Rev. Public Health 2005:26:239-57.

APPENDIX 3: FUTURE ESTIMATES

USA trend data on obesity levels amongst adults suggest that Scotland is around 10-15 years behind the USA in terms of obesity prevalence. The levels In Scotland in 2003 (22.9%) were similar to USA levels in 1991 (23.2%).[49] The data suggest that obesity levels in the USA will reach 52% by 2030. Applying this trend to Scotland with a 12 year time lag, assuming no additional effective obesity prevention in Scotland, predicts an obesity level for the 16-64 year age group of 41% in 2030, an increase of 58% over 2008 levels. When adjusted to reflect levels in the 16+ population, the projection becomes 43%.





The predicted prevalence of obesity in Scotland in 2030 and information from the ScotPHOs' report *'Obesity in Scotland: an Epidemiological Briefing, 2007'* on the proportions of different diseases attributable to obesity in 2003 can be used to derive estimates of the additional number of people with long term conditions in 2030. As the morbidly obese (BMI > 40) group are predicted to rise at the fastest rate,[50] these are conservative estimates.

49 These figures are based on 16-64 age group to give the closest match to the USA data which is based on 20-74 year olds.

50 Sturm R. Increases in morbid obesity in the USA 2000-2005. Public Health 2007; 121:492-496.

Increased prevalence of diseases associated with predicted increases in obesity levels, 2030 assuming no effective obesity prevention

Condition	2003		2030		
	Total cases	Total cases attributable to obesity (%)	Total cases	Total cases attributable to obesity (%)	Predicted increase due to obesity
Hypertension	1,351,185	488,496 (36%)	1,730,561	867,872 (50%)	379,376
Angina Pectoris	249,909	40,151 (16%)	281,091	71,333 (25%)	31,182
Type 2 diabetes	139,881	87,216 (62%)	207,615	154,950 (75%)	67,734
Myocardial infarction	133,869	27,111 (20%)	154,924	48,166 (31%)	21,055
Stroke	92,252	6,174 (7%)	97,047	10,969 (11%)	4,795

In addition, obesity also is a major contributory cause of certain cancers (including cancers of the colon, rectum, prostate, endometrium, breast and ovary), osteoarthritis, gout and gallstones. The prevalence of all of these conditions is predicted to rise by 2030.

The consequences of obesity will perpetuate social inequalities in health in Scotland, as the conditions attributable to obesity are associated with significant current social inequalities:

- Recent work shows a flattening of the decline in mortality from coronary heart disease in the two most deprived fifths of younger adults in Scotland. The authors concluded that "unfavourable trends in the major risk factors for coronary heart disease (smoking and poor diet) provide the most likely explanation for these inequalities.[51]
- Type 2 diabetes has been shown to be strongly related to deprivation.[52]
- Survival after stroke in the under 65s has been shown to be related to deprivation.[53]

51 O'Flaherty M et al. Coronary heart disease mortality among young adults in Scotland in relation to social inequalities: time trend study. BMJ 2009;339.

52 Wild S et al. Impact Of Deprivation On Cardiovascular Risk Factors in People With Diabetes: An Observational Study *Diabetes Medicine. 2008 Feb 25(2):194-9.*

53 Better Coronary Heart Disease and Stroke Care. Scottish Government, Edinburgh, 2008.

Cost implications 2030

Using predicted increases in the conditions associated with obesity and unit costs from 2007/8, the direct cost to NHSScotland of obesity is estimated to be more than £342 million per year, almost doubling current expenditure. This figure assumes no change in current treatment practice for obesity, such as increases in use of pharmacological products or an increase in the numbers of people undergoing bariatric surgery.

Furthermore, the predicted cost of overweight has been estimated at a further £172 million. The total cost to NHSScotland in 2030 of obesity and overweight is therefore predicted to be more than £0.5 billion.

Applying the ratio of direct to indirect costs estimated in 2007/8 (1.6:1), gives indirect costs of £548 million and the resulting total cost to Scottish society of obesity in 2030 as £890 million. This is very likely to be an underestimate as sickness absence levels and premature deaths associated with obesity will rise.

Using literature estimates for the ratio of indirect to direct costs (between 2.4 and 7) gives a range of indirect costs to Scottish society from £1.2 billion-£2.7 billion. The resulting total cost to Scottish society could therefore be as high as £3 billion.

APPENDIX 4: CURRENT TARGETS IN SCOTLAND

There is a national indicator relating to children to '***reduce the rate of increase in the proportion of children with their Body Mass Index outwith a healthy range by 2018***'. Other targets relate to desirable behavioural changes in terms of physical activity and diet which are likely to contribute to reducing the prevalence of obesity in Scotland.

There are no other targets for obesity or weight management yet.

National Physical Activity Strategy – by 2022 50% of adults and 80% of children will be expected to meet the current recommended levels of physical activity and that adults should accumulate at least 30 minutes of moderate intensive activity on most days of the week and that children should accumulate at least one hour of moderate intensity activity on each day of the week.

Scottish Dietary Goals – re-affirmed in the National Food and Drink Policy[54]

Fruit & vegetables	Average intake to double to more than 400 grams per day.
Bread	Intake to increase by 45% from present daily intake of 106 grams, mainly using wholemeal and brown breads.
Breakfast cereals	Average intake to double from the present intake of 17 grams per day.
Fats	Average intake of total fat to reduce from 40.7% to no more than 35% of food energy. Average intake of saturated fatty acids to reduce from 16.6% to no more than 11% of food energy.
Salt	Average intake to reduce from 163 mmol per day to 100 mmol per day.
Sugar	Average intake of non-milk extrinsic (NME) sugars in adults not to increase. Average intake of NME sugars in children to reduce by half i.e. to less than 10% of total energy.
Total complex carbohydrates	Increase average non-sugar carbohydrates intake by 25% from 124 grams per day, through increased consumption of fruit and vegetables, bread, breakfast cereals, rice and pasta and through an increase of 25% in potato consumption.
Fish	White fish consumption to be maintained at current levels. Oily fish consumption to double from 44 grams per week to 88 grams per week.

These goals were not designed for obesity prevention, but will support specific goals for obesity.

In addition, NHSScotland performance targets for 2009/10 include two targets of direct relevance to obesity:

- Increase the proportion of new-born children exclusively breastfed at 6-8 weeks from 26.2% in 2006/7 to 32.7% in 2010/11
- Achieve agreed completion rates for child healthy weight intervention programme by 2010/11

54 A target for breastfeeding was included but this has been superseded by a HEAT target.

Related national indicators and targets

Health National Indicators and Targets:[55]

- Increase **healthy life expectancy** at birth in the most deprived areas
- Reduce mortality from **coronary heart disease** among the under 75s in deprived areas

Non-health National Indicators and Targets

- Increase the percentage of adults who rate their **neighbourhood** as a good place to live
- Increase the proportion of **journeys to work** made by public or active transport
- Increase the proportion of adults making one or more **visits to the outdoors** per week

55 http://www.scotland.gov.uk/About/scotPerforms/indicators

APPENDIX 5: CURRENT GOVERNMENT ACTIONS TO TACKLE OBESITY

Direct contributions to tackling obesity

Healthy Eating, Active Living focused on work lead by Health Directorates and funded by Health budgets to tackle obesity. The policies below (except for SCSP) are funded and address obesity as their primary function.

- Eight communities across Scotland will be taking part in the **Healthy Weight Communities** programme. The objective of these pathfinders is to demonstrate the ways in which gathering together diverse projects, under the shared purpose of tackling obesity, may have a greater impact on health outcomes than dispersed activity. There are also seven ***Smarter Choices Smarter Places*** active travel demonstration towns across Scotland. This partnership project between the Scottish Government and COSLA aims to increase active travel and public transport use through a range of educational and structural measures.
- **HEAT (health improvement, efficiency, access, treatment) H3** and **Counterweight** – The H3 Target is to achieve agreed completion rates for child healthy weight intervention programme by 2010/11. Counterweight is an evidence-based approach to managing weight in primary care that helps obese patients achieve a healthier lifestyle and lose weight.
- The **Take Life On** national social marketing campaign aims to tackle unhealthy weight, prevent long term illness such as heart disease, type 2 diabetes and certain cancers, and make people feel more positive about themselves, by motivating behaviour change in healthy eating, physical activity and alcohol moderation habits.

Let's Make Scotland More Active and its programme of implementation initiatives remain essential means of influencing Scotland's inactive population. Of particular relevance here is the restatement of the need to create and make accessible environments that encourage people to be more active in everyday life.

Recipe for Success: Scotland's National Food and Drink Policy is a major step forward in ensuring that for the first time public health issues will be considered alongside those of the needs of business as well as the impact on the environment when developing policy on food and drink. The Government recognises the need to continue to grow the food and drink industry in support of our overall aim, however, it is important that we have the means and capability to understand the impact of our actions on the nation's health as well as the impact on the environment. The National Food and Drink Policy places us in a position to consider these issues in a coherent and effective way and will enhance our potential to achieve a Healthier Scotland.

Indirect contributions to tackling obesity

There is a wide range of activity across Government and national agencies contributing to this goal, even if in some cases addressing obesity is not the primary purpose of the work.

Healthier

- **The CommonHealth Games Legacy Programme** aims to encourage people to improve their health by motivating and inspiring people of all ages and abilities to become more physically active in the run up to the 2014 Games and beyond.
- CEL 36 (2008) identified investment to improve the nutrition of women of childbearing age, pregnant women and children under 5 in disadvantaged areas. The funding also supports activity to improve breastfeeding rates in Scotland.

Greener

A range of work is being undertaken to promote the use of outdoor and green spaces for physical activities including recreation and active travel:

- We are currently consulting on the draft **Cycling Action Plan for Scotland** and its vision that by 2020 we will have created communities where people of all ages and abilities can cycle safely and comfortably with access to information, materials and incentives to make day to day cycling a realistic choice to achieve a target of 10% modal share for cycling.
- The Climate Challenge Fund (£27.4m over 2008-11) is to enable communities to come forward with their own solutions to make a significant reduction in carbon emissions. Eligible projects to cut energy use include those which encourage or support physical activity, for example by walking and cycling more, becoming involved in community gardens and woodlands or the development of other indoor and outdoor community spaces. Healthy eating is indirectly supported through projects encouraging local food production.
- The Scottish Government Go-Greener Campaign (www.infoscotland.com/gogreener) aims to encourage and support individuals to make environmentally-responsible behaviours and choices in their every day lives. The campaign promotes more sustainable travel options, including walking and cycling as modes that can reduce environmental impacts as well as contribution to health and wellbeing. The campaign's work on food waste supports the healthy eating agenda indirectly, by encouraging the greater uptake of unpackaged, local and seasonal food.
- As well as the work on access, we are also helping more people to be active in the outdoors by targeting support to increase the capacity of environmental volunteer managers.
- We are working with partners including local authorities, Scottish Natural Heritage and Forestry Commission Scotland, to help more people enjoy the outdoors and improve opportunities for outdoor recreation and education. A great deal has been done to make it easier to access the countryside, including through the Land Reform (Scotland) Act 2003, which requires access authorities to provide a system of core paths in their areas, and promotion of the Scottish Outdoor Access Code. Our national indicator to increase the proportion of adults making one or more visits to the outdoors per week increased by 3% in 2008 to 47% of the population.

Smarter

In many ways Scotland's schools have led the way in building cross-sectional healthy promotion in to the foundations of policy and delivery. These changes are an important step towards making healthy choices a default part of everyday life for school-aged children.

- The *Early Years Framework* signals national and local government's joint commitment to break the cycle of inequalities in education, health and employment being passed from one generation to another through prevention and early intervention, and give every child in Scotland the best start in life.
- The **Schools (Health Promotion and Nutrition) (Scotland) Act 2007** places health promotion at the heart of schools' activities and makes this a criterion for inspection. This legislation ensures that food and drink served in schools meets nutritional requirements as set out by Scottish Ministers in the Nutritional Requirements for Food and Drink in Schools (Scotland) Regulations 2008 and ensures that Local Authorities promote the uptake and benefits of school meals.
- **Free School Meals** entitlement has been extended to all primary school and secondary school pupils whose parents or carers are in receipt of both maximum Child Tax Credit and maximum Working Tax Credit from August 2009, which will benefit approximately 44,000 pupils. Also local authorities will provide free school meals to all P1-P3 pupils from August 2010 and this will benefit approximately 118,000 pupils.
- The new **Curriculum for Excellence** experiences and outcomes for health and wellbeing highlight the need for children and young people to understand the value of being active and eating healthily. Curriculum for Excellence also makes it the responsibility of all staff to develop, reinforce and extend learning in health and wellbeing across all of school life.
- Since 2004 the Government has invested in developing **Active Schools** throughout every local authority. This programme is making significant progress in delivering a wide range of new sport and physical activities in and around the school day, and is making a considerable impact on participation rates. The SNP Government has a manifesto commitment to help Scottish schoolchildren develop the habit of physical fitness by ensuring that every pupil has **2 hours of quality PE** each week delivered by specialist PE teachers.

Safer and stronger

Our land-use planning system offers one of the most important opportunities for shaping our living environments to make active living easier, safer and more appealing.

- Scottish Planning Policy on placemaking and open space and physical activity, including **SPP Designing Streets** which promotes a best practice approach that can deliver the infrastructure necessary to achieve places that build safety and active lifestyles into Scottish communities.

APPENDIX 6: CURRENT EXPENDITURE RELATING TO PREVENTION OF OBESITY (excludes local authority spend) Expenditure in millions 2008/11

	Health & Wellbeing	Education	Economy (includes transport)	Environment	Justice & Communities (includes housing)	NDPBs / delivery agencies
Initiatives directly related to prevention of obesity	Tackling Obesity (HEAT target, Healthy child weight intervention programmes, Healthy weight community projects, Counterweight) **£15m**					NHS Health Scotland (HEAL support) **£1.4m**
Initiatives which indirectly relate to obesity prevention*	Maternal and Infant Nutrition **£19m** Breastfeeding **£0.60m** Physical activity (YDance, Play@home etc) **£12m** Other nutrition (healthyliving programme and awards) **£10m** Take Life on campaign **£1.5m** Healthy Living Centres **£1.3m** Healthy Working Lives **£1.7m** Alcohol initiatives **£2.5m** Keep Well & anticipatory care **£33m** Quality and Outcome Framework (QOF) – local BMI Register **£1.1m**	Active Schools Programme **£36m** Curriculum for Excellence **£0.27m** PE in schools development **£0.03m** Go Play Fund **£4m** Playtalkread (advertising campaign) **£0.5m**	Active travel **£24m** Smarter Choices, Smarter Places **£8.5m**	Climate challenge fund **£27.4m** Scottish Sustainable Communities Initiative **£0.15m** Greenspace Scotland **£0.45m** Environmental volunteering **£0.57m** EDPHIS **£0.15m** RERAD – health related research programmes **£9.2m** Grants to healthy food producers **£12m**	Community safety initiatives **£7.6m**	**sport**scotland **£102m** Healthy eating budget (FSAS) **£6.1m** Accessing outdoor environments (Forestry Comm and SNH) **£11.2m** NHS Health Scotland (Breastfeeding) **£0.75m**

*Only a proportion of expenditure in these areas relates to obesity.

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