



DEPARTMENT OF HEALTH

Rheynn Slaynt

Plan for Tackling Childhood Overweight and Obesity in the Isle of Man

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Isle of Man
Government

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Foreword

This Plan has been developed to address the problems of overweight and obesity in children and young people in the Isle of Man.

We know that unhealthy diets and physical inactivity have contributed to the growth of childhood obesity in England and the trend is similar here in the Island.

Children's lifestyles have become increasingly sedentary, with children opting for entertainment such as television and computer games instead of outside activities. This, combined with increased access to convenience foods high in fat and sugar, has ensured that more children and young people are at risk of becoming overweight and obese.

The Plan recognises that childhood obesity is a societal issue and that we **must** all work together across Government, the private sector and the Third Sector, taking a co-ordinated approach to tackle the problem effectively. It is important to seek 'buy-in', as no Department or organisation can make progress in isolation.

One of the aims of this Government is to protect and promote the well-being of the family. Ensuring that children and young people have the opportunity to grow up with a healthy weight, through eating well and enjoying being active, will contribute towards achieving this aim.

I am aware that major changes in lifestyles and behaviours are required, which will not happen overnight, but by working together we can make a difference and improve the quality of life for future generations in the Isle of Man.



Hon D M Anderson, MHK
Minister for Health





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1. Introduction

The number of children who are overweight or obese is increasing and this is a public health concern because of the health risks involved. Obesity in childhood is associated with premature mortality, type 2 diabetes, gall-bladder disease, coronary heart disease, stroke, joint pain, back problems, eating disorders, depression and exacerbation of asthma. The 'Tackling Childhood Overweight and Obesity' (COO) Plan has been developed to offer guidance for the prevention, management and treatment of overweight and obesity in children and young people.

The Isle of Man Children's Plan 2009 – 2012 points to the need for an integrated approach to tackling issues which affect our children's health. Obesity is having, and will continue to have, a significant impact on both the physical and mental health of our young people and is as big a public health risk in this age group as tobacco and alcohol. If we are to achieve one of the key outcomes in the Children's Plan – being healthy – overweight and obesity need to be tackled at all levels, several Government Departments having key roles to play. The COO Plan proposes actions that have been shown to work in practice in various countries across the world and is therefore evidence-informed, including the evidence from the National Institute for Health and Clinical Excellence (NICE) guidance.

There has been a rapid increase in the prevalence of overweight and obesity in recent years, with the proportion of adults in England with a healthy BMI (18.5 – 24.9) decreasing between 1993 and 2007 from 41% to 34% among men and 50% to 42% among women. Currently, 24% of English men and women (aged 16 years and over) are obese.

(Ref 1)

In the Isle of Man Health and Lifestyle Survey of 2009 we found that 50.4% of adults were overweight or obese with 15.9% being obese. On the Isle of Man in 2012, we found that 7.1% of Reception class children were obese and a further 12.6% overweight, these findings being similar to those in England. In England, 20% of boys and 16.6% of girls (average 18.3%) in Year 6 (aged 10 to 11 years) are also classified as obese according to the British 1990 population monitoring definition of obesity (≥ 95 th percentile).

(Ref 2)

By 2050 the prevalence of obesity is predicted to affect 60% of adult men, 50% of adult women and 25% of children (UK Foresight report, 2007). The Isle of Man closely reflects these disturbing overweight and obesity rates because our lifestyle behaviours and dietary patterns resemble those of the UK.



The House of Commons Health Select Committee (2004) estimated conservatively that in 2002 the economic burden, to the UK, of obesity was £3.3 – £3.7 billion per year, and of overweight plus obesity was £6.6 – £7.4 billion.

2. Aim of the 'Tackling Childhood Overweight and Obesity' (COO) Plan

The Plan aims to ensure that all children and young people in the Isle of Man grow up with a healthy weight, through eating well and enjoying being active.

2.1 What does the Plan seek to do?

The Plan presents the key issues and actions needed at a local level over the next 10 – 15 years and seeks to bring about a comprehensive, well-coordinated and sustained response to the complex problem of childhood obesity among Isle of Man 0- to 18-year-olds.

Vision for reducing levels of Childhood Obesity

- To reduce levels of overweight and obesity among children and young people in the Isle of Man.

3. Drivers for Change

3.1 Isle of Man Government Key Strategies and Policies

There are several strategies, policies and plans that can influence and help shape the COO Plan, which are as follows:

Isle of Man Strategic Plan: 2007 – 2011

The Isle of Man Government Strategic Plan 2007 – 2011 states that: "The overall aim of this Government is to protect and promote the well-being of the family and provide for the economic and social inclusions of all in the Island's community."



Isle of Man Children's Plan: 2009 – 2012

This plan sets out the strategic direction for Children's Services and has identified the key outcome that all children and young people should have the opportunity to be healthy, stay safe, enjoy and achieve in their lives, make a positive contribution, and prosper.

Physical Activity Strategy: 2011 – 2016 (Isle of Man Government)

This Strategy has been developed to encourage the Isle of Man population to become more active with a view to improving their health and well-being.

Future of the Health Services in the Isle of Man - Department of Health (DH)

This document sets the strategic direction for the health services in the Isle of Man over the period 2010 – 2020.

Department of Environment, Food and Agriculture (DEFA)

Policy for the Development of Access and Recreation on the Forestry Division Estates.

Department of Community, Culture and Leisure (DCCL)

- General Leisure Strategy for the Isle of Man.
- Isle of Man Sport and Recreation Strategy 2002 – 2010 and Review 2006.
- Manx Sport and Recreation (MSR), Sports Development Unit Report May 2010: This Report details the role that the Sports Development Unit plays in enhancing quality of life, improving health and social well-being and reducing crime and anti-social behaviour.



Department of Education and Children (DEC)

The Education (Curriculum)(No 2) Order 2004 and Curriculum for Learning and Achievement 2006. These policy documents place a requirement on schools to deliver a programme of physical education.

Healthy Futures

Healthy Futures is a partnership between Education and Children, Health, and DCCL Manx Sport and Recreation, in the Isle of Man. It is a jointly-funded Government initiative, which aims:

- to support children and young people in developing healthy behaviours
- to help to raise pupil achievement
- to help to reduce health inequalities
- to help to promote social inclusion.

Department of Infrastructure (DoI)

- The following are areas of DoI responsibility and would contribute to promoting, encouraging and making provision for physical activity:
- Maintain various cycle-paths and have a strategy to expand cycle routes where possible.
- Maintain public rights of way, footways in general and coastal paths to help to promote walking.
- Safer routes to school.
- The Town and Country Planning Act 1999, The Isle of Man Strategic Plan 2007 – 2011, Towards a Sustainable Future (DoLGE, June 2007).



4. Partnership Working

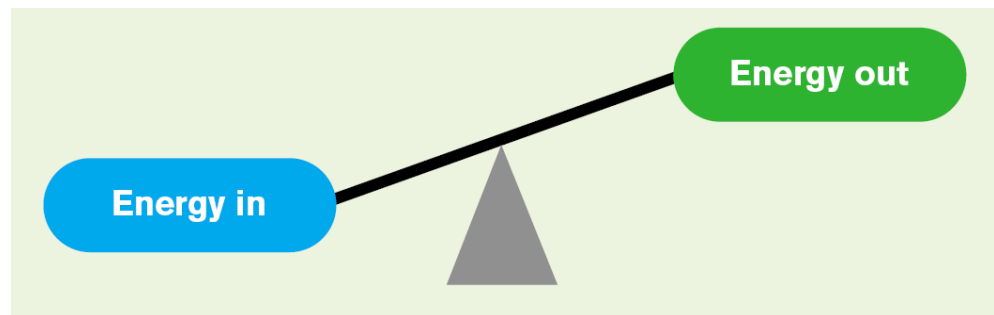
Creating new opportunities for partnerships at a strategic and operational level between different sectors such as health, sport, education and infrastructure will be a major emphasis, recognising shared responsibility and potential for mutual benefit. No single Government Department, private or Third Sector organisation can deliver the COO Plan on its own. The success of the Plan depends on all partners remaining involved throughout and making valuable contributions to achieve the targets.

5. Background Information

5.1 Causes of Obesity

Overweight and obesity occur when energy intake from food and drink consumption is greater than energy expenditure through the body's metabolism and physical activity, over a prolonged period, resulting in the accumulation of excess body fat.

Figure 1: Energy Balance diagram



Source: Investing for Health Update (2004 – Ref 3)

In terms of energy intake, modern diets contain greater amounts of fat and sugar. Eating high-fat, energy-dense foods can create an overeating effect and contribute to obesity. It is also recognised that evolving eating patterns have a key role to play; for example, there is more snacking and greater dependence on prepared foods.



In relation to energy use, many people today are less active than in previous generations. The National Audit Office has previously estimated that the extra physical activity involved in daily living 50 years ago compared with today was equivalent to running a marathon a week.

(Ref 4)

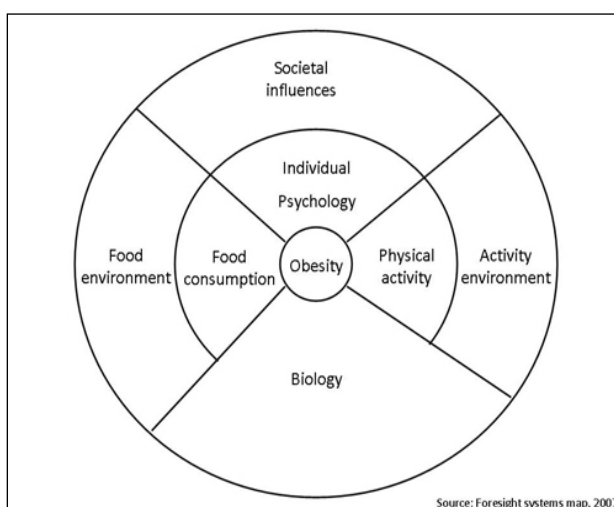
5.2 Foresight 'Tackling Obesities: Future Choices' Project

Foresight is the UK Government's science-based futures think-tank based in the Government Office for Science. The aim of the project is to build on the scientific evidence-base, providing challenging visions of the future to help inform Government strategies, policies and priorities.

The Foresight report (2007) 'Tackling Obesities: Future Choices' highlighted the importance of tackling the growing obesity trend, in a coherent and comprehensive manner. The report 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 presented an obesity system map with energy balance at its centre. Around this, over 100 variables directly or indirectly influence energy balance.

For simplicity the Foresight map has been divided into 7 cross-cutting predominant themes as seen below:

Figure 2: Interventions across the System Map



Source: Foresight Obesity Project: Tackling Obesities: Future Choices (2007 - Ref 5)



Terms:

Biology: an individual's starting point – the influence of genetics and ill-health.

Activity environment: the influence of the environment on an individual's activity behaviour; for example, a decision to cycle to work may be influenced by road safety, air pollution or provision of a cycle shelter and showers.

Physical Activity: the type, frequency and intensity of activities an individual carries out, such as cycling vigorously to work every day.

Societal influences: the impact of society; for example, the influence of the media, education, peer pressure or culture.

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; for example, a decision to eat more fruit and vegetables may be influenced by the availability and quality of fruit and vegetables near to home.

Food consumption: the quality, quantity (portion sizes) and frequency (snacking patterns) of an individual's diet.

5.3 Defining Childhood Obesity

Key to determining childhood obesity levels is the issue of how we should define obesity. The 1990 UK National BMI percentile reference charts are most commonly used to report the national picture. The classification uses the 85th and 95th percentiles of the 1990 UK data cut-off points for overweight and obesity respectively. This means that when the reference data was compiled in 1990, the prevalence of overweight and obesity among children of each age was held to be 15% and 5% of children respectively. This has caused much debate not only because of what is an arbitrary assumption but also because there is no indication that these cut-off points relate to health risk.



Caution is required when interpreting childhood obesity data to ensure like comparisons are being made.

(Ref 6)

6. Maternal Obesity and Child Health

In 2005, 22.9% of mothers who had late foetal loss were obese, as were 30.4% of the women who experienced stillbirths, and 30.6% of those who experienced neonatal deaths. These are significantly higher rates than were experienced in women of a normal weight.

An explanation for the link between maternal obesity, increased stillbirths and late foetal loss could be the potential to misdiagnose conditions such as macrosomia (big baby syndrome) or growth restriction *in utero*, leading to appropriate measures not being taken during delivery. Foetal distress may not be detected due to a reduced ability to accurately monitor the foetal heart rate during labour.

There is a significant relationship between maternal obesity, macrosomia and the subsequent development of childhood and adult obesity in their offspring. Further studies have shown mothers tend to pass their dietary habits on to their children. This evidence supports the need for more interventions to make it easier for parents of young children to give their babies a healthy start (breast-feeding and parenting skills). This will assist in establishing early positive behaviour patterns that may be carried on into adulthood.

7. Prevalence of Childhood Obesity

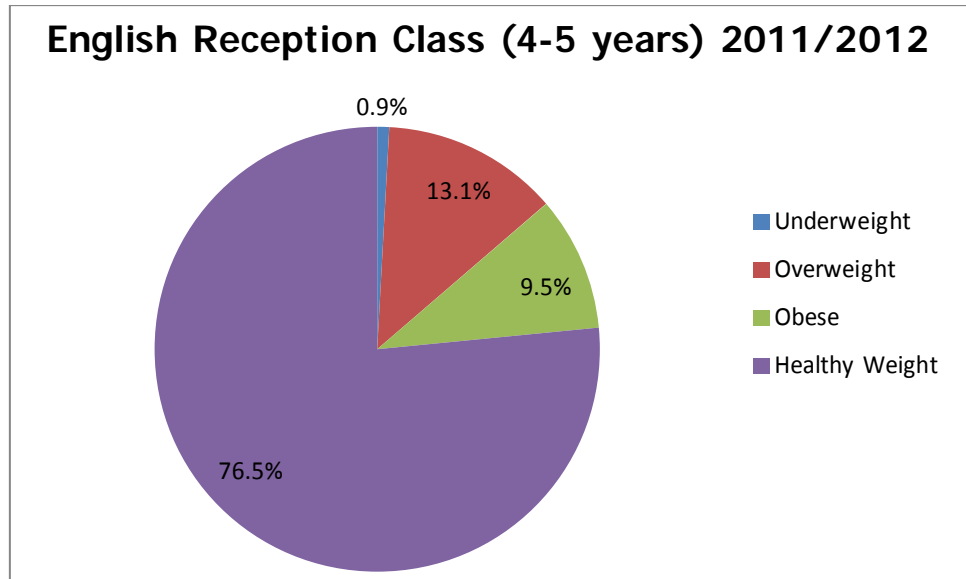
In England between 1995 and 2011, the prevalence of obesity among boys aged between 2-15 years increased by 6 percentage points (from 11% to 17%), and the equivalent increase for girls was 4 percentage points (from 12% to 16%). However, the pattern has not been one of uniform increase during that period. The prevalence of obesity increased steadily in most years up to around 2004 and 2005, and since then the pattern has been slightly different for boys and girls. Among boys the proportion that was obese has remained at a similarly high level - between 16% and 19% - since 2001. Among girls, there was a significant decrease in obesity between 2005 and 2006, and levels have been maintained at this slightly lower level between 2006 and 2011.

(Ref 7)



7.1 Trends of overweight and obesity among English Reception class (4-5 years) schoolchildren 2011/12

In Reception, over a fifth (22.6%) of children measured were either overweight or obese.



Among the Reception year children, the prevalence of overweight pupils (13.1%) was greater than the prevalence of obese pupils (9.5%), and 76.5% of children were of a healthy weight.

(Ref 2)

In the North West of England 23.1% of children aged 4-5 years were overweight or obese and 9.7% of children aged 4-5 years were obese, indicating that this is just above the national average.

(Ref 2)

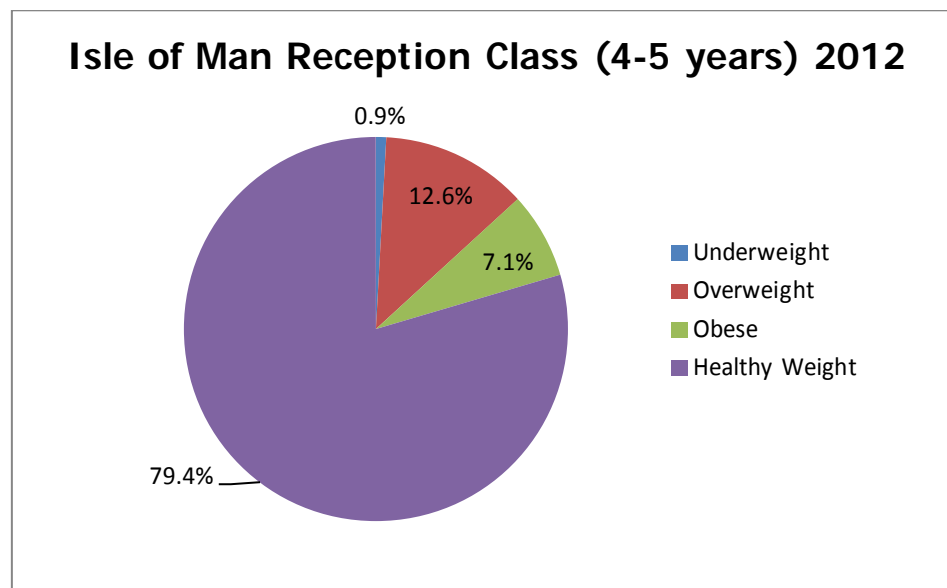


7.2 Trends of overweight and obesity among Isle of Man Reception class (4-5 years) schoolchildren 2012

In Reception, 1 in 5 children (19.7%) measured were either overweight or obese.

Among the Reception year children, the prevalence of overweight pupils (12.6%) was again greater than the prevalence of obese pupils (7.1%) and 79.4% of children were of a healthy weight. The local data shows levels of overweight and obesity amongst Reception class children to be similar to that portrayed by the English data.

(Ref 8)



Therefore, it is important to monitor trends in the future because evidence suggests that rates of obesity increase among children as they get older, which does not augur well.



8. The Health Impact of Childhood Overweight and Obesity

8.1 Psychological Impact

Evidence shows childhood obesity to be associated with the following:

Psychological Risks

- Poor self-esteem
- Depression
- Poor social functioning
- Bullying
- Social exclusion

One study reports obese children as having a quality of life impaired to a point comparable with children being treated for cancer. Reductions in self-esteem are especially characteristic of children victimised for their fatness, something reported by about 50% of overweight and obese young teenagers. The cost to peer interactions is also noted in social network analyses, showing obese children to be over-represented in those with few friends, and to have fewer close friends overall.

(Ref 9)

8.2 Physical Impact

Recent research has shown that 58% of children with a BMI above the 95th percentile have hypertension, hyperlipidaemia or insulin resistance. Two or more of these diseases are found in 25% of these children.

(Ref 10)

A small but increasing number of children have been found to have developed Type 2 diabetes mellitus, a condition until recently only seen in adulthood within the UK and the Isle of Man. Children with severe obesity also commonly experience a range of sleep-associated breathing



disorders, including sleep apnoea. Studies have shown sleep-associated disorders to have a clinically-significant negative effect on learning and memory function, in addition to the physical risks they pose to the individual's health.

(Ref 11)

The greatest health problems will be seen in the next generation of adults as the present childhood obesity epidemic passes into adulthood – these are as follows:

Physical Risks

- Respiratory disorders (for example, asthma)
- Endocrine disorders (for example, type 2 diabetes)
- Orthopaedic disorders (for example, joint problems)
- Cardiovascular disorders (for example, high blood pressure, coronary heart disease [CHD])
- Stroke

The links between obesity and a range of cancers is less well-defined but in recent years there has been a growing recognition of this link.

(Ref 12)

9. Other factors related to the Development of Obesity

9.1 Genes

Genes associated with obesity have been identified, suggesting that some variation in BMI may be explained by genetic factors. Genetic factors alone, however, are unlikely to explain the rapid increases in the prevalence of obesity seen in many developed countries.



9.2 Obesogenic Environment

The 'obesogenic environment' relates to the influences that contribute towards obesity, such as our surroundings, opportunities, or life conditions.

9.3 Contributing Causal Factors for Childhood Obesity

The table below identifies the key contributing causal factors for childhood obesity that operate at different population levels:

Level	Key associated causal factors
Individual	<ul style="list-style-type: none"> • High intake of energy-dense foods; for example, sugary soft drinks • Low levels of physical activity • Sedentary lifestyle
Family customs and choices	<ul style="list-style-type: none"> • Not breast-feeding • Early weaning and weaning with wrong feeds • Family customs and practices promoting unhealthy lifestyle • Parenting skills
School practices and peer influences	<ul style="list-style-type: none"> • Unhealthy school meals, too much sugar, too-big portions • Vending of unhealthy snacks and drinks • Poor physical activity provision both within and outside the curriculum • Healthy eating information and skills given insufficient priority within and outside the curriculum • Poor management of bullying of fat children



Level	Key associated causal factors
Community	<ul style="list-style-type: none"> • Deterioration of local neighbourhoods perceived to be unsafe • Lack of community venues and activities to promote healthy living • Poor access or difficult access to leisure facilities and voluntary sports clubs; for example, too expensive • Few children walking or cycling to school
Local planning controls and strategies	<ul style="list-style-type: none"> • Lack of attractive green and play spaces • Highways and Public Right of Way networks inadequate to encourage walking and cycling. • Residential areas perceived as unsafe by parents and carers; for example, lack of 20 mph zones • Food 'deserts': A food desert is an area with little or no access to foods needed to maintain a healthy diet but often served by plenty of fast food restaurants.
Organisational and commercial practices	<ul style="list-style-type: none"> • Development and promotion of wide range of high-fat and high-sugar food products • Targeted advertising of energy-dense foods to children • 'Super Size Promotions' offering larger portion sizes as best value for money • Sweets promoted at checkout and other impulse-buy locations



Level	Key associated causal factors
Social policies and national legislation	<ul style="list-style-type: none"><li data-bbox="778 479 1398 651">• Food labelling, advertising regulation, pricing and taxation policies that support consumption of energy-dense foods; for example, high concentrations of fast food outlets<li data-bbox="778 680 1398 786">• Lack of planning and transport policies that encourage regular physical activity as part of everyday life

While not all contributing factors will fall easily into one of these levels, and while these levels are not mutually exclusive, the above framework serves as a useful tool for understanding this complex problem.

The framework implies that a complex mix of interventions is needed at many levels. There is an emerging consensus among experts that it is both ineffective and unethical to target individual- and family-level factors without due regard for policy-level factors and the other factors listed above. Simply targeting obese individuals will not deal with the population-level problem and overall rates of overweight and obesity will continue to increase. The success rate for individual- and family-level interventions is extremely low and so this public health problem is not simply a Health Services issue. Preventing children becoming overweight or obese is the key to success for tackling this problem.

(Ref 13)



10. The Evidence to guide the Development of Preventative Interventions

The table below summarises the levels of current evidence for factors that may affect the risk and prevalence of obesity in children:

Evidence	Decreases Risk	No Relationship	Increases Risk
Convincing	<ul style="list-style-type: none"> Regular physical activity High dietary fibre intake 		<ul style="list-style-type: none"> Sedentary lifestyles High intake of energy-dense foods
Probable	<ul style="list-style-type: none"> Home and school environments that support healthy food choices for children Breast-feeding 		<ul style="list-style-type: none"> Heavy marketing of energy-dense foods and fast food outlets Adverse social and economic conditions (developed countries, especially for women) High-sugar drinks
Possible	<ul style="list-style-type: none"> Low-glycaemic-index foods; for example, apples, oats, peanuts 	<ul style="list-style-type: none"> Protein content of the diet 	<ul style="list-style-type: none"> Large proportion of food prepared outside the home (Western countries) Disorganised family eating patterns
Insufficient	<ul style="list-style-type: none"> Increased eating frequency 		<ul style="list-style-type: none"> Alcohol

(Ref 14)



11. Preventative Interventions

Preventative interventions are often described as down-stream, mid-stream or up-stream in public health literature, depending on which level of causal factors they are attempting to address; for example, interventions targeted at the individual or groups are described as down-stream, with those focussing on organisation- and community-based solutions being classified as mid-stream. Those activities designed to bring about government policy changes are termed up-stream interventions. Examples of these interventions are as follows:

11.1 Down-stream Interventions

Promoting healthy eating and physical activity messages to children and parents.

11.2 Mid-stream Interventions

Interventions at an organisational level, focussing predominantly on schools. The Isle of Man Healthy Futures programme is a good example of a mid-stream intervention vehicle for tackling childhood obesity.

11.3 Up-stream Interventions

Population-wide policy-related issues such as food marketing, labelling and pricing; planning controls and transport policies.



12. A Commonsense Model

Given the complex nature of this public health problem and the need to consider in a real sense what changes are needed to move us forward in the Isle of Man, a useful model, adapted from Ebbeling et al (2002), is presented, providing a simple guide to the areas where we should take action in the context of the current evidence-base:

Home

- Set aside time for healthy meals and physical activity. Limit time spent on TV viewing and computer use.
- Encourage breast-feeding and good weaning practice.
- Include healthy lifestyles in parenting skills programmes.

School and wider community:

- Increase access to quality physical activity – not just organised PE but activities such as skipping, dancing, hiking and cheer-leading.
- Implement compulsory healthy standards for all school meals, including for packed lunches.
- Eliminate access to, and sale of, unhealthy foods on school premises; for example, soft drinks and high-fat and sugary snacks.
- Increase ease of access to healthy snacks; for example, 'healthy vending' machines and subsidies for low-income families for healthy food.
- Include healthy lifestyles skills in parenting classes and maternity classes.
- Improve family cooking skills and expand 'Take-away Skills' Programme.
- Implement local Isle of Man Physical Activity Strategy.
- Organise free provision of recreational facilities for low-income families.
- Promote emotional well-being and self-esteem – prevents 'comfort eating'.



Planning:

- Protect existing, and build new, attractive open and green spaces that encourage play and activity among children and older people.
- Undertake Health Impact Assessments on future plans for large developments.
- Build good quality pavements, bike paths, parks, playgrounds.
- Provide more pedestrian-only zones; for example, in residential areas.
- Make 20mph the default speed limit in residential and built-up areas and support this with an active message that we are killing our children for saving a few minutes on our journeys. This has worked in Portsmouth and London.
- Area Development Plans should encourage increased human physical activity.
- School Travel Plans / 'Safer Routes to School' should be implemented and sustained across the Island.

Health Care:

- Improve access to multi-discipline prevention and treatment, including school nurses, a community nutrition service and easy access to weight management programmes.

Marketing & Media:

- Subsidise nutritious foods; for example, fruit and vegetables.
- Require nutrition labels on fast food packaging.
- Require compulsory and standardised front-of-pack labelling.
- Increase funding for public health campaigns such as '5-a-day' and the Healthy Lifestyles 'Change4Life' campaign.



Politics and Government:

- Acceptance by political leaders of the importance of tackling obesity from health, social and economic perspectives.
- Regulations for fast food nutritional content; for example, no use of industrially-produced trans-fatty acids in food sold to the public, as is the case in New York.
- Food labelling – compulsory and standardised front-of-pack labelling on pre-packaged foods; for example, utilise advertising regulations, pricing and taxation policies that support consumption of fewer energy-dense foods.
- Planning and Transport guidance to encourage regular activity as part of everyday lifestyle.
- No junk food advertising before the watershed.
- Obtain a Treasury commitment of a sufficient proportion of transport funds for 'active travel' initiatives so that safe cycle networks and aesthetically-attractive pedestrian networks become the norm.

To implement some of the above recommendations would require policy changes in a number of Government Departments and significant co-operation between key Departments. However, issues such as food labelling are being addressed by other UK Governments and the European Parliament rather than our own Government.

Overweight and obesity is not simply a matter for the Department of Health – in fact, the health services have a relatively insignificant role in a plan to tackle this problem at a population level. The health services do, however, have a significant role to play in treating the consequences of overweight and obesity. These consequences are costly to the taxpayer and detrimental to the quality of life of the individuals and families concerned.



13. Social Marketing

An important guiding principle of the COO Plan is social marketing, a process that identifies what motivates people to change behaviour, and makes them 'offers' or propositions that will encourage that change. Segmentation of the local community is integral to social marketing and will be vital to any successful intervention with obesity. The Plan focuses on overweight and obesity of children and young people; therefore, the priority is social marketing to families with children.

(Ref 15)

14. How do we get to where we want to be?

Close, co-operative working between all Government Departments and agencies responsible for health improvement and protection, children, food, sport, the environment, transport, employment, community development and regeneration, will ensure that the Plan is effectively integrated and implemented.

15. Strategic Aims and Objectives

The Plan aims to ensure that all children in the Isle of Man grow up with a healthy weight, through eating well and enjoying being active.

Aim 1:

- To understand the local trends in overweight and obesity.

Objective:

- To collect and analyse local data about the prevalence of overweight and obesity in children and young people in the Isle of Man.



Aim 2:

- To prevent overweight and obesity developing in children and young people in the Isle of Man.

Objective:

- To promote healthy eating and physical activity to adults and children.

Aim 3:

- To manage existing cases of overweight and obesity in children and young people in the Isle of Man.

Objective:

- Provide care pathway guidelines for the treatment and management of overweight and obesity in children and young people.

Aim 4:

- To ensure strategic planning includes focussing on overweight and obesity prevention.

Objective:

- Engage partners in a multi-discipline approach to reducing levels of overweight and obesity in children and young people.



16. Recommendations

- Use evidence-based practice and the NICE Guidelines to influence work.
- Monitor and evaluate progress towards achieving the Plan's aims and objectives.
- Review and amend actions to keep up-to-date with new and amended policies so that the Plan remains current.
- Obtain support from key decision-makers within the Departments, local authorities and the private sector to ensure that obesity prevention remains high on the agenda of those agencies whose remit may impact on the health and well-being of the population.

17. Implementation Plan to support the Delivery of the COO Plan

To assist with the delivery of the COO Plan an Implementation Plan will be developed in collaboration with key partners. This will outline the operational objectives, and also the responsibilities of partner agencies. An example of a detailed implementation plan can be seen in Appendix 1.

18. Implementation, Monitoring and Evaluation

To support the implementation of the COO Plan there will be a partnership between key organisations within the Government, local authorities and the private sector, with the focus being on reducing levels of overweight and obesity in children and young people to improve health and well-being into adulthood. This document will be reviewed in 2016 and the Implementation Plan accompanying the COO Plan will be reviewed on an annual basis.

19. Conclusion

Obesity is a major public health concern. The causes are complex and the consequences it presents to society are far-reaching. Overweight and obesity are mostly preventable through lifestyle changes. The best long-term approach to tackling this problem is prevention from childhood, by promoting the benefits of breast-feeding, increasing physical activity levels and improving diet. However, success can only be achieved through long-term partnership working by key Government Departments and agencies in the private sector and the Third Sector.

Sample Implementation Plan

Aim:

- To understand the local trends in overweight and obesity in children and young people.

Objective	Activity	Setting	Lead	Timeframe	Key Performance Indicator
To collect and analyse local data about the prevalence of overweight and obesity in children and young people in the Isle of Man	Annual weighing and measuring of Reception class and Year 6 schoolchildren	Schools	School Nurses		



Aim:

- To prevent overweight and obesity developing in children and young people in the Isle of Man.

Objective	Activity	Setting	Lead	Timeframe	Key Performance Indicator
Healthy Eating					
To promote healthy eating to adults and children	Promote breast-feeding and provide breast-feeding support groups with weaning advice	Primary Care Hospital	GPs Practice Nurses Midwives		
	Introduce healthy lifestyle skills in parenting and maternity classes	Primary Care Hospital	GPs Practice Nurses Midwives		
	Introduce weight management programmes for overweight and obese children and their parents, which offer individual counselling or group support to families whose members want to lose weight	Primary Care Hospital Community	GPs Practice Nurses Dieticians Commercial slimming clubs (Weight Watchers) Physiotherapists / Fitness Instructors		
	Ensure individuals and families have a good understanding of the impact of a healthy diet on their health	Primary Care Hospital Public Health	GPs Practice Nurses Dieticians Health Improvement Officers		

Objective	Activity	Setting	Lead	Timeframe	Key Performance Indicator
Healthy Eating (continued/...)					
To promote healthy eating to adults and children	All schools to implement and achieve the Healthy Futures standard with regard to healthy eating.	Schools	Head teachers Schools Catering Manager		
		Schools	Head teachers Schools Catering Manager		
	Promote and implement healthy packed lunch options within schools.	Public Health	Health Improvement Officers		
		Schools	Head teachers Schools Catering Manager		
	Eliminate access to, and sale of, unhealthy foods on school premises.	Public Health	Health Improvement Officers		
			Health Improvement Officers		
Expand the 'Take-away Skills' programme.					



Objective	Activity	Setting	Lead	Timeframe	Key Performance Indicator
Physical Activity To promote physical activity to adults and children	Ensure individuals and families understand the links between physical activity, exercise and health	Primary Care	GPs Practice Nurses		
		Hospital	Dieticians Physiotherapists		
		Public Health	Health Improvement Officers		
	All schools to implement and achieve the Healthy Futures standard with regard to physical activity	Schools	Head teachers		
	Promote physical activity as being enjoyable and worthwhile	Public Health DCCL Manx Sport and Recreation	Health Improvement Officers Coaches and Instructors		

Objective	Activity	Setting	Lead	Timeframe	Key Performance Indicator
Physical Activity (continued/...)					
To promote physical activity to adults and children	In partnership, further develop evidence-based physical activity projects focussing on: <ul style="list-style-type: none"> • Building activity into daily life • Walking and cycling as active travel • Safer routes to school and school travel plans 	Primary Care	GPs Practice Nurses		
		Hospital	Physiotherapists		
		Public Health	Health Improvement Officers		
		Department of Infrastructure	DOI, Highways DEFA, Forestry Local authorities		
Increase the number of physical activity opportunities available to whole-school communities (for example – skipping, dance and cheer-leading).		DCC L Manx Sport and Recreation	Coaches and Instructors		
		Schools	Teachers		
		Public Health	Health Improvement Officers		



Objective	Activity	Setting	Lead	Timeframe	Key Performance Indicator
Marketing and Media					
To promote healthy eating and physical activity to adults and children	Increase funding for Public Health campaigns to promote the benefits of healthy eating and physical activity	Public Health	Multi-agency		
	Using social marketing techniques, develop awareness campaigns to meet the needs of the target groups	Public Health	Multi-agency		

Aim:

- To manage existing cases of overweight and obesity in children and young people in the Isle of Man.

Objective	Activity	Setting	Lead	Timeframe	Key Performance Indicator
	Provide care pathway guidelines for the treatment and management of obesity in children and young people	Primary Care			

Aim:

- To ensure strategic planning includes focussing on overweight and obesity prevention.

Objective	Activity	Setting	Lead	Timeframe	Key Performance Indicator
Engage partners in a multi-discipline approach for reducing levels of overweight and obesity in children and young people	Encourage Government, local authorities and the community to support physical activity, by developing policies to create environments where walking, cycling and other forms of physical activity are accessible, safe and the norm				
	Undertake Health Impact Assessment on future plans for large developments				



Maternal Obesity and Child Health

The UK Confidential Enquiry into Maternal and Child Health (CEMACH) report for the period 2003 – 2005 identifies the risks of maternal obesity to the child as:

- Stillbirth
- Neonatal death
- Congenital anomalies
- Prematurity.

In 2005, 22.9% of mothers who had late foetal loss were obese, as were 30.4% of the women who experienced stillbirths, and 30.6% of those who experienced neonatal deaths. These are significantly higher rates than were experienced in women of a normal weight.

These findings are consistent with published research showing an association between obesity during pregnancy and increased risk of:

- Late foetal loss (late spontaneous abortion)
- Stillbirth
- Congenital anomalies including: spina bifida and other neural tube defects, cardiovascular anomalies, septal anomalies, cleft lip and palate, anorectal atresia, hydrocephaly, limb reduction anomalies
- Post-date and pre-term deliveries
- Increased requirement for neonatal intensive care.

An explanation for the link between maternal obesity, increased stillbirths and late foetal loss could be the potential to misdiagnose conditions such as macrosomia (big baby syndrome) or growth restriction *in utero*, leading to appropriate measures not being taken during delivery. Foetal distress may not be detected due to a reduced ability to accurately monitor the foetal heart rate during labour. The increased risk of congenital anomalies may be linked to undiagnosed diabetes and hyperglycaemia in obese pregnant women, or to lower levels of circulating nutrients – specifically folate.

Women who are overweight or obese are less likely to have a live birth following *in-vitro* fertilisation (IVF) than women who are not overweight.



Appendix 3

The Estimated Prevalence of Obesity-related Diseases

Obesity-related Diseases	Prevalence
Hypertension (Obesity is the significant risk in 36% of cases of high BP)	36%
Angina pectoris	15%
Myocardial infarction	18%
Stroke	6%
Type 2 diabetes	47%
Colon cancer	29%
Ovarian cancer	13%
Prostate cancer	3%
Endometrial cancer	14%
Rectal cancer	1%
Osteoarthritis	12%
Gout	47%
Gallstones	15%

Based on the attributable percentages for obesity, it is estimated that, in the UK in 2003, obesity may have accounted for nearly 500,000 cases of hypertension (high blood pressure) and over 50,000 cases of coronary heart disease (angina pectoris plus myocardial infarction). Nearly 900 cancers, mostly cancer of the colon, could be attributed to obesity. Obesity also accounts for over 30,000 people with type 2 diabetes, 14,000 people with osteoarthritis and 10,000 people with gout. A study in Renfrew and Paisley in Scotland recently reported that overweight and obesity accounted for a major proportion of type 2 diabetes in men and women aged 45 to 64 years, as identified from hospital discharge and death records. The health effects of the diseases listed above vary – some will be fatal; others like gallstones may go largely unnoticed.



Evidence of Effectiveness of Interventions

1. Diet, Nutrition and the Prevention of Chronic Diseases – World Health Organisation (2003)

Preventative interventions are often described as down-stream, mid-stream or up-stream in the public health literature, depending on which level of causal factors they are attempting to address. For example, interventions targeted at the individual or groups are described as down-stream, with those focussing on organisational and community-based solutions classified as mid-stream. Those activities designed to bring about government policy changes are termed 'up-stream' interventions.

2. Down-stream interventions

There is evidence to show that promoting healthy eating and physical activity messages to children and parents has resulted in positive changes in eating and exercise behaviours and therefore the marketing of these messages should be an important component of a childhood overweight and obesity prevention plan. However, evidence suggests that these messages are insufficient, in themselves, to bring about the necessary **sustainable** changes in behaviour required to reduce obesity prevalence across a population. Down-stream interventions need to be supported by environmental and social changes that make the healthy choice the easy choice.

Those interventions designed to bring about a single simple behaviour change – for example, reducing sedentary behaviour or reducing consumption of sugary fizzy drinks – have been found to be successful in terms of their impact on obesity levels.

(Ref 11 and Ref 13)

3. Mid-stream interventions

There are few studies examining the impact of interventions at the organisational level. Most focus on schools and show that the school can be an effective setting for preventative activity. The Leeds-based APPLES Study was one of the first UK-based randomised control trials of a whole-school approach which illustrated the potential of this setting. The recently-revised National Healthy School Standard has subsequently been identified as the main focus of the UK Government's Obesity Prevention Strategy. There are currently no good-quality studies testing the effectiveness of interventions at the community level, although these interventions are also thought to hold potential.



The Isle of Man Healthy Futures programme should be the main mid-stream intervention vehicle for tackling childhood overweight and obesity locally.

4. Up-stream interventions

The most recent and comprehensive review of the literature on childhood overweight and obesity prevention found no good-quality studies dealing with population-wide policy-related issues such as food marketing, labelling or pricing, planning controls or transport policies. The lack of interventions at this level reflects their political sensitivity given the commercial impact that making changes of this type would have. There is a strong consensus among experts that action here would have the most impact. The belief that children and families are responsible for their own problems and that there is still insufficient evidence to underpin planning and policy changes is often cited by those with vested interests to maintain the status quo.

(Ref 16)

5. The importance of mid- and up-stream interventions

The evidence-base shows that the focus of most interventions to date has been downstream, increasing the knowledge of children and parents about what they need to do to maintain a healthy weight. Current school, home, and local neighbourhood conditions may not generally support children wishing to change their lifestyle behaviour. The many subtle, usually very well-resourced, influences from the media, on food labels in the supermarket and in restaurants, provide a further set of pressures working to prevent children sustaining healthy lifestyle choices. It is therefore not surprising that knowledge is not readily translated into the sustained behaviour change needed to stem the rise in overweight and obesity.

Recent systematic reviews have highlighted the need to focus on developing and evaluating more complex multi-level interventions, particularly focussed on mid- and up-stream interventions to develop local environments supportive of the healthy lifestyle changes. This will require a greater degree of inter-Department and multi-agency working than we have seen to date, including a greater willingness for individual agencies to pool resources to develop these new interventions. Managing such challenges is considered critical given that many view prevention as “the only solution (realistic and cost-effective) for addressing childhood obesity”.

(Ref 16)



6. The importance of a preventative approach that targets all children and families

Some programmes to prevent overweight and obesity in children start by identifying those children at greatest risk. However, the IOTF (International Obesity Taskforce)(2004) highlights that while this type of screening can help the targeting of resources, such screening is stigmatising. Given that genetic studies suggest that most children are at risk of weight gain and that, while strategies to prevent obesity in a child population will benefit the health of all children, whether at increased risk of obesity or not, interventions targeted at **all** children should be favoured above those that simply target obese children. It should be noted that the focus of these interventions should be on promoting healthy eating, increasing physical activity, supporting emotional well-being and discouraging sedentary behaviour; this will benefit all children irrespective of weight status. Interventions should not focus on weight and weight control, as this may do more harm than good by creating unnecessary body image and weight concerns, dieting and disordered eating.

(Ref 17)



Summary of four key Overweight and Obesity Prevention studies

Four of the most widely-recognised intervention studies are summarised to illustrate the type of prevention interventions currently deemed to hold potential.

1. Robinson 1999 (UK) showed that a school-based health promotion intervention encouraging 8- to 9-year-olds to spend less time watching television and playing video games had a significant impact. At a seven-month follow-up, the children in the intervention group watched significantly less television, ate fewer meals in front of the TV and played fewer video games than the control group. They also showed small but statistically-significant decreases in body mass index, waist circumference and waist-to-hip ratio.
2. A large Randomised Control Trial (RCT) called 'Planet Health' targeted ethnically-diverse older children between the ages of 11 and 13 years, in the United States. This used a school-based inter-discipline intervention which focussed on reducing television viewing, reducing consumption of high-fat foods, increasing fruit and vegetable consumption and encouraging increases in physical activity. Teachers in intervention schools received training workshops, lesson and physical activity materials (with resources for students), wellness sessions and fitness funds. After 18 months the prevalence of obesity among girls in the intervention schools was reduced by a small but significant amount, compared with the control group. The programme significantly reduced television viewing hours for both boys and girls.

(Ref18)

3. One of the key studies reported in the review literature was carried out in Leeds. The Active Programme Promoting Lifestyle in Schools (APPLES) RCT worked with children aged 7 to 11 years, for one year, tackling the school environment at several levels. It included teacher training, modification of school meals, introduction of fruit tuck shops, playground activities and enhancing the curriculum. The involvement of all key stakeholders in producing school-based action plans was highly successful with schools achieving on average around 89% of the action points they selected, of which 64% were sustained at four-year post-intervention follow-up. Measures of self-worth showed that overweight children in the intervention group gained from the trial. Intervention children also showed higher scores for knowledge, and attitude. The intervention was less successful in changing behaviour, most likely because it lasted less than a year.

(Ref19)



4. A UK-based RCT evaluated the effect of reducing carbonated drink consumption in children aged 7 to 11 years. Six hundred and forty-four children were randomised by class in 6 schools. Each intervention class received three one-hour sessions (one per term) delivered by trained personnel with the assistance of teachers, who were asked to reiterate the messages in lessons. The sessions promoted drinking water or dilute fruit juice and tasting fruit. Children took part in a quiz, music competition, a Ditch the Fizz song, developed a rap song, and were encouraged to visit the project website. After a year, obesity prevalence in the boys' intervention classes remained the same as at baseline, while prevalence among the boys from the control classes had increased slightly. Obesity prevalence among girls in the intervention classes had reduced slightly while a small increase was seen in the control classes. However, these differences were not statistically significant. There was a reduction in self-reported soft drink consumption – 0.6 glasses – among the intervention groups compared with an increase of 0.2 glasses in the control groups. The study shows the potential value of targeting a specific behaviour to bring about dietary change.

(Ref 20)



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Useful Website Links

Foresight

<http://www.foresight.gov.uk/OurWork/ActiveProjects/Obesity/Obesity.asp>

Scottish Government News Release

<http://www.scotland.gov.uk/News/Releases/2011/01/17112215>

Obesity Hub

<http://obesity.thehealthwell.info/>

Change4Life

<http://www.nhs.uk/change4life/Pages/change-for-life.aspx>

Soft Measures – Hard Facts

The value for money of transport measures which change travel behaviour – A Review of the Evidence
<http://www.erpho.org.uk/ViewResource.aspx?id=21632>

Healthy Weight for Children Hub

<http://www.healthyweight4children.org.uk/>

National Obesity Forum

<http://www.nationalobesityforum.org.uk/>

Centre for Maternal and Child Enquiries

<http://www.cemach.org.uk/>

National Audit Office

http://www.nao.org.uk/publications/0001/tackling_obesity_in_england.aspx

National Institute for Health and Clinical Excellence (NICE)

<http://www.nice.org.uk/search/guidancesearchresults.jsp?keywords=childhood+overweight+and+obesity&newsSearch=true&searchType=Guidance>

World Health Organisation

<http://www.who.int/dietphysicalactivity/childhood/en/>

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<http://www.biomedcentral.com/content/pdf/1471-2458-11-93.pdf>



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