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The ‘Healthy Living’ Social Marketing Initiative: A review of the evidence

The 'Healthy Living' Social Marketing Initiative: A review of the evidence

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Foreword

Many of the developments that we rely on in the twenty-first century, such as transport and the availability and affordability of food, have brought with them real benefits. Unfortunately, with any changes there are some downsides. Increases in the variety and abundance of food, and opportunities for a more sedentary lifestyle, expose the nation to the risk of unhealthy weight gain.

Our susceptibility to this risk of becoming obese varies due to a complex mix of genetics, behaviours and environmental factors. This complexity means that no single organisation can hope to be successful in tackling obesity. Our success depends on an holistic, societal approach whereby a broad coalition of organisations work to support families to adopt healthier lifestyles.

This report, and the key behaviours we have to influence, provides a focus for our collective work to improve dietary habits and increase physical activity. It builds on the NICE (National Institute for Health and Clinical Excellence) guidance (on the prevention, identification, assessment and management of overweight and obesity in adults and children) and input from across government on obesity. For families with children under 11, the work identifies aspects of their lives and environment where we can achieve maximum leverage in preventing further increases in obesity.

The work has been informed by the collective knowledge of 80 stakeholders from across academia and the not-for-profit and for-profit sectors. These organisations have shared their understanding of the topic and have provided comment and feedback on both the evidence and key behaviours that need influencing.

An Expert Review Group of leading academics in the fields of physical activity, nutrition and behavioural psychology took this input and their own knowledge to provide us with this detailed evidence review. I would like to express my thanks to both these experts and our partners for supporting this work.



This report is already informing our approach in tackling obesity. A programme of initiatives will begin to roll out from March 2007, beginning with the next phase of the 5-a-day programme, 'Top Tips for Top Mums'. This will focus on the key barriers to fruit and vegetable consumption – fussiness in children, costs, and lack of skills and ideas. These initiatives will comprise unilateral and multilateral action, on the part of government and our partners, focused on the behaviours that this review has identified.

Individually these initiatives will not turn the tide, but they are an important part of our overall strategy for tackling obesity. Together, the collective impact of our initiatives and work with partners offers the greatest chance of success.

A handwritten signature in black ink, appearing to read 'Caroline Flint'.

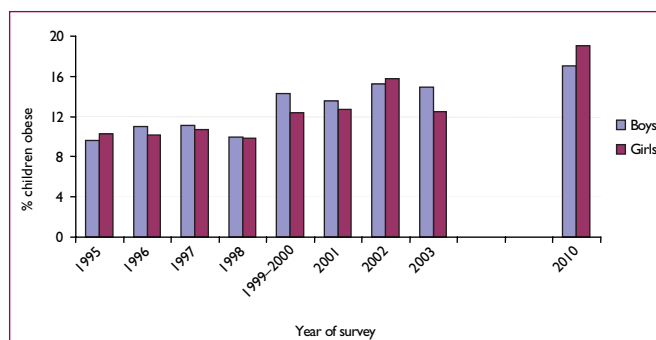
Caroline Flint MP
Minister of State for Public Health
12 March 2007

I. Background

The prevalence of obesity in the UK, in common with countries across the world, continues to rise. Data from the Health Survey for England shows an increase in men from 13.2% to 23.6% between 1993 and 2004 and a rise from 16.4% to 23.8% in women over a similar period (Health Survey for England, 2005). If present trends continue, 33% of men and 28% of women will be obese by 2010 (Zaninotto et al., 2005).

The rate of increase in obesity among children and young people is very similar to that of adults, rising from 9.6% to 14.9% in boys and 10.3% to 12.5% in girls up to the age of 11 years in 1995 and 2003 respectively, and predicted to be 17% and 19% respectively by 2010 (Zaninotto et al., 2005) (Figure 1). Given that weight is frequently gained throughout adult life, there is a legitimate concern that the prevalence of obesity is set to escalate further. Moreover, the magnitude and duration of excess weight are strongly associated with the burden of related ill-health. Accordingly, childhood obesity is sometimes referred to as 'a ticking time-bomb' of disease.

Figure 1: Increases in childhood obesity (aged 2–11 years) and future predictions (Health Survey for England: Obesity among children under 11, 2005; Zaninotto et al., 2005)



Data provided by Department of Health

The Body Mass Index

In adults, body mass index (BMI) is used to define overweight and obesity. A BMI measurement is obtained by dividing weight in kilograms by height in metres squared (kg/m^2).

The following BMI cut-offs are used routinely to designate weight status in adults:

Category	BMI kg/m^2
Underweight	<18.5
Healthy weight	18.5–24.9
Overweight	25.0–29.9
Obese	>30

Boys and girls experience different growth patterns at different ages and a single definition of overweight and obesity, as in the case of adults, cannot be used. Instead, the UK National BMI percentile classification describes childhood overweight and obesity as greater than the 85th and 95th percentile respectively, based on population values in 1990.

Obesity is acknowledged as a global health challenge. This recognises the scale of the problem and also that many of the fundamental determinants of obesity stretch beyond national borders. In November 2006, the WHO European Ministerial Conference, 'Counteracting Obesity', agreed a Charter that sets out the goals, principles and framework for action (WHO, 2006). The scope of the Charter is testament to the magnitude of social change deemed necessary to halt or reverse current trends in obesity.

Obesity is a global health challenge

In 2001 the National Audit Office report (National Audit Office, 2001) highlighted the costs of obesity. Subsequent documents, including the Health Select Committee Inquiry on Obesity (House of Commons Health Committee, 2004) and *Securing our Future Health: Taking a Long-Term View* (Wanless, 2002), have reinforced the urgency attached to tackling obesity and has identified some possible interventions.

In 2004, in recognition of the need to instigate strong and effective action to tackle the problem of obesity, the Government set a challenging Public Service Agreement (PSA) target,¹ focusing on the specific problem of obesity in children.

Obesity PSA target:

'To halt the year-on-year rise in obesity among children under 11 years by 2010, in the context of a broader strategy to tackle obesity in the population as a whole.'

This target is jointly held by the Department of Health (DH), the Department for Education and Skills (DfES), and the Department for Culture, Media and Sport (DCMS). This recognises that action to tackle obesity is not the sole responsibility of a single department, but must be shared across government.

The PSA target is jointly held by DH, DfES and DCMS

Implicit in the target is the need to treat obesity among those with an established weight problem and reduce the risk of lean and overweight individuals becoming obese. Children with obesity require specialised services but wider population measures are an important part of the overall strategy. To this end, there is a comprehensive programme of activities to support the PSA target. Many are built upon ongoing programmes of work, such as initiatives to promote breastfeeding or to increase the time spent on physical education in schools. However, the White Paper *Choosing Health* (Department of Health, 2004a) included a specific commitment to develop a new 'Social Marketing' campaign to provide a backdrop for initiatives to encourage the population to adopt healthier diets and increase levels of physical activity. This recognises that there are common lifestyle traits that underpin obesity and a range of other health outcomes.

Social marketing is about understanding people's starting point in relation to an issue, in this case unhealthy weight gain. The key questions are:

- What in their behaviours places them at risk?
- What drives their current behaviours?
- How might they be motivated to change?
- Who might be able to influence them?
- What might act as barriers to change?

This report is an integral part of developing this understanding. The challenge is then to work with relevant partners to translate this knowledge into services, initiatives and communications that support families in developing healthier lifestyles.

¹ PSA:

PSAs set out the key improvements that the public can expect from Government expenditure. These are agreed between each of the main Departments and HM Treasury. Each PSA sets out a Department's high-level aim, priority objectives and key outcome-based performance targets.

2. Lifestyle determinants of obesity

Academic research into obesity has sought to identify factors associated with an increased risk of weight gain. Research in the biological sciences has tended to focus on bio-behavioural characteristics of individuals, linking body composition to genetic, endocrine, behavioural, pathological or socio-demographic factors. Research in the social science field has considered the behavioural, environmental and cultural factors associated with obesity and some of it is more qualitative in nature. Others working outside traditional academic or health fields have sought to identify relevant aspects of consumer attitudes and behaviour using market research techniques and studies of purchasing habits. These data are frequently available for large population samples, but may lack the links to measures of health or social status or the stringent methodologies of quantitative social science research. Nonetheless they provide valuable insights and complementary evidence to underpin the development of effective behaviour change strategies. There is less data of this kind in relation to physical activity. In part this reflects the longer-standing interest in dietary habits relative to physical activity. However, it is also a consequence of the greater corporate engagement in food than in activity, especially issues such as active transport and day-to-day lifestyles.

An incontrovertible fact about the aetiology of obesity is that energy intake must exceed energy expenditure over a prolonged period of time. The relative importance of energy intake versus energy expenditure is much debated and may vary between individuals and at different stages

of life. However, it is widely accepted that at the heart of the problem of excess weight is a homeostatic biological system, struggling to cope in a fast-changing world (Prentice, 2001). Over the last century the food supply has changed beyond recognition; abundant and varied food options are now almost continuously available and at relatively low cost. Sedentary occupations have become the norm, cars have replaced more active forms of transport and society places a high value on labour-saving gadgets.

Human biology is ill-equipped to cope with twenty-first-century lifestyles

The search for specific determinants, such as particular foods, activity patterns or environmental characteristics that influence susceptibility to obesity, is fraught with methodological difficulties. Participants may alter their behaviours such that the measurements do not reflect their habitual practice, they may consciously or unconsciously misreport, and the typical questionnaire methods for collecting data may be insufficiently sensitive to detect small, but important, discrepancies in intake and expenditure. In particular, there have been limited opportunities to make precise measures of behaviours, and their constituent parts, which on their own may make a small contribution to obesity at the individual level. Comparisons with objective research tools show a trend towards under-reporting of food intake (Rennie et al., 2005) and over-reporting of physical activity (Adams et al., 2005).

Methodological difficulties hamper the search for specific causes of obesity

Measuring dietary intake outside the laboratory remains problematic, but data reviewed by the National Institute for Health and Clinical Excellence (NICE) based on observational cohort studies suggests that children who increase their energy intake, increase fat intake and/or do not eat breakfast tend to gain the most weight (NICE, 2006). Evidence from controlled experimental studies has highlighted a number of key dietary risk factors associated with increased energy intake in adults and children. These include diets with a high energy density (Stubbs et al., 1998), usually characterised by foods high in fat and low in fibre, including 'fast food' (Pereira et al., 2005; Prentice and Jebb, 2003) and large habitual portion sizes (Ello-Martin et al., 2005). Experimental studies also show that liquid calories have lower satiating properties than food (Dimeglio and Mattes, 2000) and studies show a marked trend towards an increased risk of weight gain or

obesity in sugar-rich drink consumers (Malik et al., 2006). Alcohol consumption is also likely to be a risk factor for weight gain, since it has low satiating properties. However, observational studies are confounded by misreporting of intake and other behavioural factors associated with higher alcohol intakes (Prentice, 1995).

The scientific literature encompassing diverse sources of evidence on the determinants of obesity was collated, reviewed and summarised by the World Health Organization (WHO) in 2003 and provides the framework for initiatives to promote healthier lifestyles to prevent weight gain (Table 1).

Research into effective interventions is confounded by the complexity of the obesity system

The WHO report also recognises that levels of physical activity are an important determinant of weight gain and a critical element in any obesity

Table 1: Summary of strength of evidence on factors that might promote or protect against weight gain and obesity (adapted from WHO, 2003)

Evidence	Decreases risk	Increases risk
Convincing	Regular physical activity. High dietary non-starch polysaccharides/ fibre intake.	Sedentary lifestyles. High intake of energy-dense foods.
Probable	Home and school environment that support healthy food choices for children. Breastfeeding.	Heavy marketing of energy-dense foods and fast-food outlets. Adverse social and economic conditions (in developed countries, especially for women). High intake of sugar-rich drinks.
Possible	Low glycaemic index foods.	Large portion sizes. High proportion of food prepared outside the home (developed countries). 'Rigid restraint/periodic disinhibition' eating patterns.
Insufficient	Increased eating frequency.	Alcohol

prevention strategy. Physical activity can reduce the risk of weight gain, while sedentary lifestyles may independently increase the risk. Until recently, methodological challenges have precluded a more detailed analysis, but technological advances in the measurement of physical activity have given rise to a raft of new studies into the variation in physical activity across the population and its relationship with subsequent risk of obesity. This is yielding important insights and emphasises the importance of energy expended during routine daily activities as a contributor to overall energy expenditure. Cohort studies suggest that children who do not participate in sport outside school and who are the least active tend to gain more weight than their active peers (NICE, 2006). But it is also likely that these effects are bi-directional, with activity levels decreasing among children and adults who are overweight.

Research into effective interventions for obesity is confounded by the complexity of the problem. Individually each factor may make only a small contribution to weight gain and attempts to study any one in isolation ignore the potential synergies and may underestimate the true effect. For example, experimental studies suggest that innate appetite control mechanisms operate more efficiently at higher levels of activity with greater energy turnover (Prentice and Jebb, 2004). Accordingly, physical activity may play a greater role in weight control than indicated by its contribution to energy expenditure.

Meanwhile, behavioural studies demonstrate the clustering of multiple risk factors (Wardle et al., 2001). One area of particular interest is the impact of television viewing. Many, although not all studies, have shown a link between time spent watching television and the risk of obesity (Marshall et al., 2004). Television is a sedentary

activity which has been claimed to displace more vigorous activity. However, a recent study, using objective measurements of physical activity, found a positive association between television and obesity but no relationship between television viewing and activity (Ekelund et al., 2006). This suggests a broader influence of television on food intake, possibly mediated through exposure to advertising of food high in fat, salt and sugar or other cultural and societal values which impact on attitudes and behaviours linked to diet and activity. Likewise, in recent years short sleep duration has emerged as a risk factor for obesity. A number of mechanisms have been proposed, including effects on physiological weight control systems (Spiegel et al., 2004), links to increased late-night television viewing and snacking on energy-dense foods, as well as inverse pathways from low levels of physical activity to decreased sleep requirements (Von Kries et al., 2002). These complex relationships cannot be easily disentangled.

Physical activity may play a greater role in weight control than indicated by its contribution to energy expenditure

To date, evidence of specific interventions to tackle obesity is limited. But the investment in research to identify effective interventions has increased considerably in recent years in the UK and elsewhere. It is likely that new evidence will emerge in the near future to refine and develop strategies to prevent and treat obesity. Importantly, diet and activity habits also affect other health outcomes, independent of obesity. A holistic approach to health must recognise these synergies and tackle both poor diet and inactivity. Such a lifestyle strategy for obesity prevention is consistent with existing government priorities to decrease the risk of other chronic diseases, including cardiovascular disease, diabetes

and cancer. The 'Healthy Living' Social Marketing Initiative will contribute additional support to existing UK diet and activity targets (Table 2).

Children under 2 years

There is growing evidence that factors in the early years, including the *in-utero* period, may be important determinants of the risk of later obesity and ill-health. Lifestyle habits are resistant to change and the 0–2 year period represents an important opportunity for the infant to start on a healthy trajectory. Parents are known to be receptive to information and advice at this stage and may be more willing to accept changes in their diet and activity habits for the benefit of their children than to safeguard their own health.

Indeed, supporting parents, especially first-time parents as they develop their parenting strategies, represents a rare opportunity in adult life to teach new skills rather than change established behaviour patterns.

The 0–2 year period represents an important opportunity for the infant to start on a healthy life trajectory

This period of life is a key element in the 'Healthy Living' Social Marketing Initiative and will be informed by forthcoming reports from NICE, the Scientific Advisory Committee on Nutrition (SACN) and other expert groups focusing on this age group.

Table 2: UK diet and physical activity objectives

Nutrient/foods	Dietary targets (% of total energy intake, excluding alcohol)	
	Adults	Children
Total fat	Reduce to a population average of 35%	As adults
Saturated fatty acids	Reduce to a population average of 11%	As adults
Trans-fatty acids	Reduce to a population average of 2%	As adults
Non-milk extrinsic sugars (added sugars in foods such as baked goods and table sugar)	Population average intake should not exceed 11%	As adults
Salt	Reduce to a population average of 6g per day	Reduce to a population average of: 3g per day for children aged 4–6 years 5g per day for children aged 7–10 years
Fruit and vegetables	At least five portions (5 x 80g) of fruit and vegetables per day	As adults, with proportionally smaller portion size
Dietary fibre	Increase to a population average of 18g per day	Young children require proportionally less (no specific targets have been set)
Physical activity	At least 30 minutes a day of moderate-intensity physical activity on five or more days of the week	At least 60 minutes of moderate physical activity every day

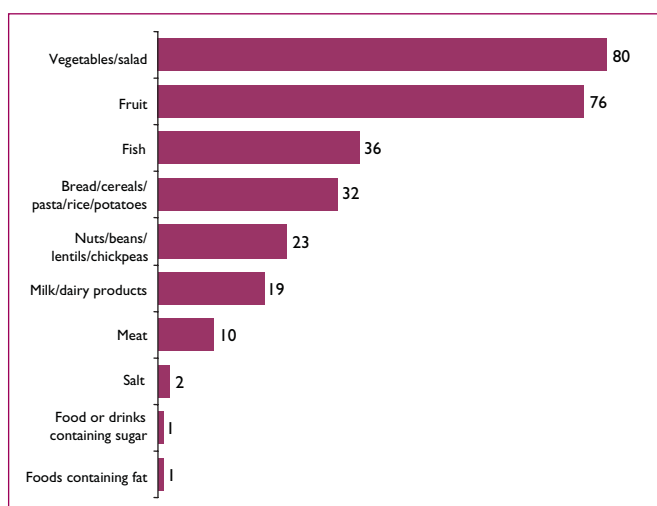
NB: These dietary targets do not apply to children under 5 years; those aged 2–5 years should progress towards these objectives. Exceptionally, specific recommendations exist for salt intake in children (0–6 months: less than 1g per day, 7–12 months 1g per day, 1–3 years no more than 2g per day).

3. Making healthier choices

Public awareness of the importance of a healthy diet and physical activity is high and increasing. The Food Standards Agency *Consumer Attitudes Survey*² shows that most people generally have a good awareness of the nutritional contribution of different foods to the diet, appropriately identifying those foods groups where intake should be increased or decreased (Figures 2a and 2b).

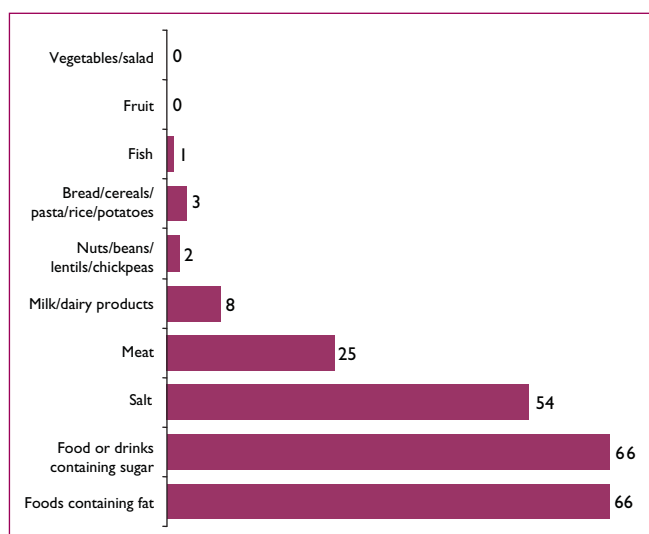
However, despite increases in nutritional knowledge in recent years, a survey conducted as part of Project Rainbow³ for the Co-op, found that 60% of parents thought children’s diets are worse than they were 10 years ago (Figure 3).

Figure 2a: Foods we should be eating more of (% respondents) (Food Standards Agency: Consumer Attitudes to Food, 2003)



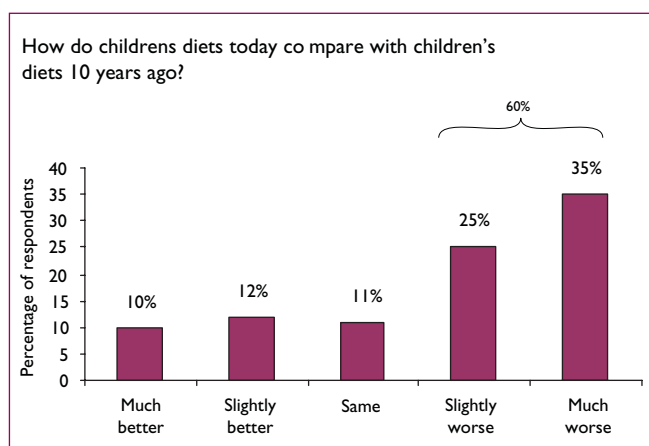
Data provided by Department of Health

Figure 2b: Foods we should be eating less of (% respondents) (Food Standards Agency: Consumer Attitudes to Food, 2003)



Data provided by Department of Health

Figure 3: Parents’ perceptions of the nutritional value of children’s diets (Project Rainbow, Co-operative Group, 2004)



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² Food Standards Agency – Consumer Attitudes Survey (2003)

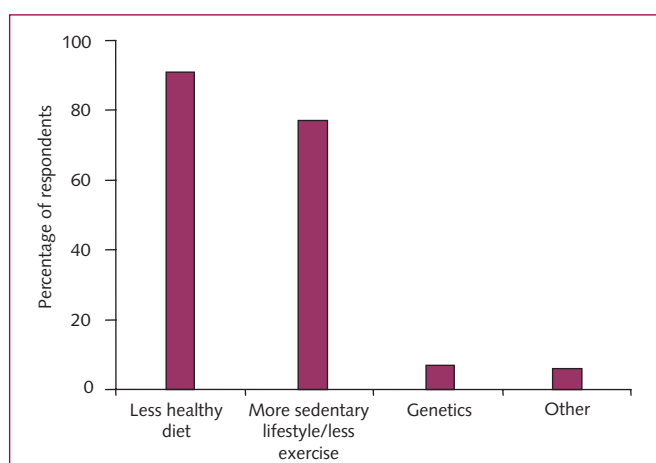
A national survey of approximately 3,000 people conducted on an annual basis to investigate attitudes to food, including issues such as safety and hygiene, nutrition, diet and shopping.

³ Project Rainbow

A survey of the attitudes of 629 parents of children aged 0–16 years in 2004.

Awareness of the importance of physical activity for health is also high. Fewer people recognise its importance in weight control, although recognition is increasing. In a survey by Taylor Nelson Sofres for Cadbury⁴, more than three-quarters of adults recognised that physical activity is an important contributor to obesity (Figure 4).

Figure 4: Parental perceptions of the contributors to obesity (Cadbury Libra Project, 2004)



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The recent NICE guidance on the prevention of obesity in children has collated the existing body of peer-reviewed research on effective interventions and developed a series of guidelines (NICE, 2006). The 'Healthy Living' Social Marketing Initiative will help to increase awareness of this information and extend knowledge and understanding of the issues.

Public awareness of the importance of a healthy diet and physical activity is high and increasing

The NICE guidelines highlight the importance of parental engagement. Obesity is an inter-generational phenomenon and this contributes

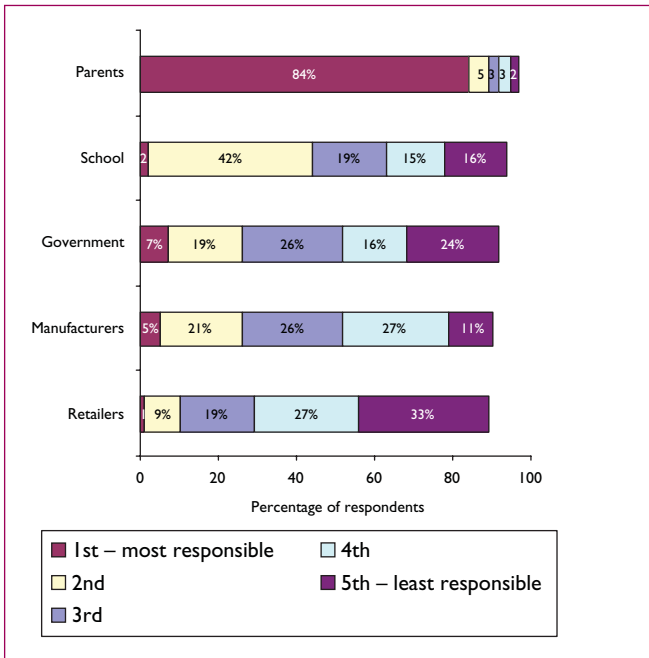
to the health inequalities observed across different socio-demographic groups. Parental obesity is a very strong risk factor for obesity in children. Existing evidence indicates that this is a consequence of both inherited genetic characteristics that determine susceptibility to obesity and a shared family environment (Koeppen-Schomerus et al., 2001). Supporting parents to make healthier choices will have a positive impact on their own health and that of their families, since parents are important role models for their children's attitudes and behaviour in relation to diet and activity. A focus on families will complement the work on healthy lifestyles that is ongoing in schools.

Parental obesity is a very strong risk factor for obesity in children

The Project Rainbow Survey for the Co-operative Group showed that parents largely recognise that they have the primary responsibility for their children's diet (Figure 5). However, despite awareness of the importance of diet and activity, this does not always translate into good practice (Brewis and Gartin, 2006). The 'Healthy Living' Social Marketing Initiative will focus on the underlying elements that act as barriers and enablers to adopting a healthy lifestyle. To be effective, this must go beyond raising awareness by motivating, empowering and enabling individuals to change.

⁴ **Cadbury Libra Project, 2004, Family Food Panel**
 A continuous panel of 4,200 households containing 11,000 individuals recording their usage of all food and drink in the home. Started in 1974, it is the largest database on food and drink consumption in the UK.

Figure 5: Parents recognise their responsibility for ensuring that the food children eat is healthy (Project Rainbow, Co-operative Group, 2004)



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The Obesity PSA target is focused primarily on children under 11 years, while recognising the importance of tackling obesity in the population as a whole. This broad public health approach is important since the adverse health consequences of obesity are not limited to those at the extreme of the BMI distribution. Indeed the greatest burden of disease occurs among the overweight group where the number of affected individuals is the greatest. Moreover, although the number of children who are overweight or obese is increasing, most children remain lean and many only gain weight as adults. Accordingly, a distinction between lean and obese children is unlikely to be helpful in the context of this broadly based initiative and may increase the risk of discrimination.

Prevention strategies must therefore address the whole population. Concerns have been expressed that a population-wide approach may increase the risk of underweight and, in particular, the incidence of eating disorders among vulnerable groups. There is at present no evidence to support this contention. However, any public health messages must be sensitive to these concerns, focusing on a healthy weight, achieved through positive attitudes towards a balanced diet and regular physical activity.

Prevention strategies must address the whole population

4. Barriers to healthy living in families

Evidence from diverse sources points to a number of issues that act as barriers to lifestyle change within families:

- limited parental awareness of weight status and associated health risks;
- parental beliefs that healthy lifestyles are too challenging;
- pressure on parents that undermines healthy food choices; and
- pressure on parents that reduces the opportunities for active lifestyles.

Limited parental awareness of weight status and associated health risks

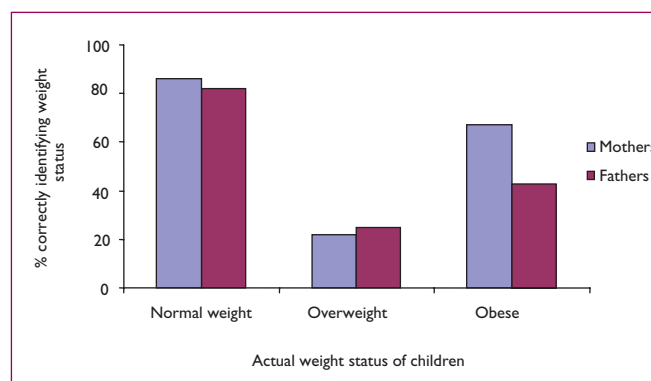
There is widespread acceptance that obesity is an important and growing public health issue, but the recognition of obesity or the associated health risks at a personal or family level is limited. In consequence, parents may fail to personalise the need to implement the public health messages calling for lifestyle changes and may not provide children with the support they need to achieve or maintain a healthy weight.

People have a poor perception of their own weight status

A number of surveys have now shown that many people have a poor perception of their own weight status. For example, in a study of 277 parents of children aged 7–8 years, 40% of overweight mothers and 45% of overweight fathers estimated their own weight to be ‘about right’ (Jeffrey et al., 2005). The definition of overweight and obesity in children is more complex than in adults, and many

parents rely on comparisons with children of similar age. This leads to a progressive distortion in the perception of appropriate body size, as the population trends towards obesity continue. In the same study, approximately half of obese children were correctly identified by the parents, but only a quarter of overweight children were correctly classified (Figure 6).

Figure 6: Distorted perceptions by parents of children’s weight status (Jeffrey et al., 2005)



Parents have similar misperceptions of the weight of younger children. In a study of over 500 children who attended nursery and reception classes in the outer London area, only 6% of parents with overweight or obese children described their child as overweight (Carnell et al., 2005). The perception of overweight was not associated with the parent’s age, weight, educational attainment or ethnic background. These findings are supported by a larger NOP survey⁵ of over 1,000 parents and their children,

⁵ **National Opinion Poll for Ofcom (2004), *Childhood Obesity Food Advertising in Context*, July 2004**

A quantitative survey of over 1,000 interviews with parents and their children to examine children’s consumption of food in general and of high-fat, high-sugar foods in particular, as well as the factors that influence food choice.

aged 4–7, which reported that only 14% of parents with an obese child, considered that their child was overweight.

Obesity is a critical risk factor for a range of chronic conditions, including the key features of the metabolic syndrome (hypertension, dyslipidaemia and insulin resistance), some cancers (especially colon, breast and endometrial cancer), mechanical problems, such as back pain, musculo-skeletal complaints and breathing difficulties, as well as psychological and social problems (WHO, 1998). However, the public perception of the links to ill-health is poor. Recent data (in press) from Cancer Research UK shows that only 38% of adults recognise that obesity is a risk factor for heart disease and just 6% are aware of the link to cancer.

Public perception of the link between obesity and ill-health is poor

Awareness of the health risks of obesity in children is particularly low, reinforced by the long lag phase in the aetiology of chronic diseases. In a study of primary-aged children, parents were asked to rate their concern about their child's weight on a five-point scale ranging from 'very worried about underweight' to 'very worried about overweight'. About half of the parents of obese children reported some concern about their child's weight but among parents of overweight children, only a quarter were even 'a little worried' (Jeffrey et al., 2005).

There is growing evidence that even early weight gain may be a risk factor for later obesity. A recent systematic review demonstrated that infants, up to 2 years of age, who were obese, compared with non-obese infants, had a relative

risk⁶ of subsequent obesity ranging from 1.35 to 9.38 (Baird et al., 2005). In addition, infants who gained weight rapidly during the first two years of life, without necessarily becoming obese, had a relative risk of obesity later in life ranging from 1.17 to 5.70. Historically, when the prevalence of obesity in the population was lower, there was some evidence that some overweight children, especially those in families of high socio-economic status, shed their excess weight as they grew older and many parents continue to subscribe to this view. However, contemporary data shows that this is no longer the case. The evidence demonstrates that excess weight, even in young children, is a risk factor for obesity in later life, with little sign of spontaneous remission (Wardle et al., 2006).

Lack of awareness of weight status and the links to ill-health by individuals is underpinned by societal attitudes towards weight. Media reports of obesity frequently focus on dramatic images and personal circumstances leading to the perception that obesity is an extreme condition, beyond the usual population distribution of weight. Alternatively, individuals view obesity as a specific medical condition in its own right, rather than as a simple description of excess fatness, which increases the risk of disease. Waiting for the diagnosis of disease to define obesity tends to preclude early intervention.

Unhealthy diets and inactivity are risk factors for obesity but also underpin other adverse outcomes in relation to both physical health and well-being. However, there is very low awareness of these links. Moreover concerns about diet and activity may not be a priority, especially in

⁶ **Relative risk** is a measure of the risk of disease or death among the exposed to the risk among the unexposed. For example, a relative risk of 2 means that individuals have double the risk of having a disease or dying compared to persons without that risk factor.

communities with low socio-economic status. A study in the East of Scotland found that concerns about the health effects of diet were relatively unimportant compared to the risks associated with drugs, smoking, alcohol and sex (Backett-Milburn et al., 2006).

Concerns about diet and activity may not be a priority, especially in communities with low socio-economic status

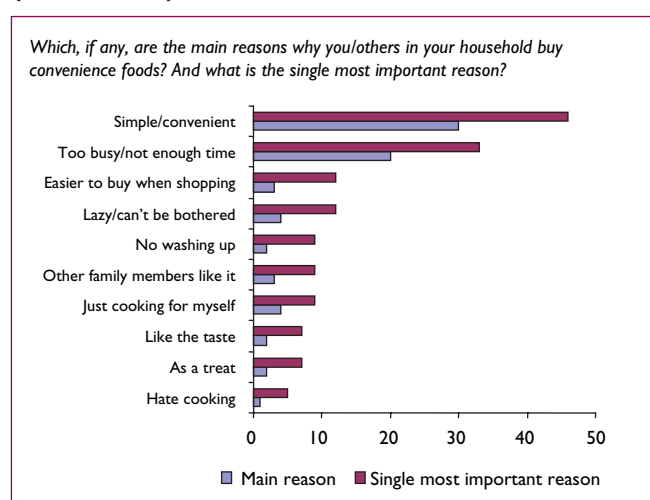
Parental beliefs that healthy lifestyles are too challenging

Parents may not embrace healthy lifestyles because of beliefs, whether real or perceived, that a healthy diet and a physically active lifestyle are difficult to achieve. This arises in part from the disjunction between healthy lifestyles and the present social norms for eating and exercise behaviours. Studies in adults indicate that people are very sensitive to social norms for food consumption and use these to judge what they should be eating (Wansink, 2004).

There has been a good deal of work directed towards asking consumers why they don't choose a healthier diet. In a study of over 14,000 individuals across Europe, the younger adults and those with a higher level of education were most likely to cite lack of time, due to 'irregular work hours' and a 'busy lifestyle', as a reason for not making healthier food choices (Kearney and McElhone, 1999). In a time-poor world there is a high demand for convenience (in terms of food and activity options). Around a third of people questioned in a MORI poll⁷ said lack of time was

the single most important reason for buying convenience foods (Figure 7). This is despite the fact that the Project Rainbow survey for the Co-op found that half of parents believe too much fast-food/convenience food is the main contributor to childhood obesity. However, it is unclear whether these 'reasons' are the real barriers or simply quoted explanations.

Figure 7: Reasons for buying convenience foods (MORI, 2001)



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There are no clear, systematic differences in food habits or the risk of obesity among children of working or non-working parents. However, it is the case that time pressures are especially common in families with working parents and managing limited time at home is a daily challenge (Devine et al., 2006). In two-thirds of families in the UK both parents now work outside the home, compared to under a half of parents in the 1980s. People are working longer hours and, for many, journey times to work have increased, particularly in the South-East of England. Parents, particularly those on low incomes, are under intense financial and other pressures that leave them feeling unable to change their situation to reduce work commitments. Many parents report a lack of control over work and family life and an inability to provide their children with healthier

⁷ MORI (2001), *Eating and today's lifestyle* – Nestlé Family Monitor

A survey of 525 adults, aged 16+, interviewed at home by MORI in 44 sampling points across Great Britain between 29 September and 10 October 2001. The Nestlé Family Monitor is part of a series of research studies into family life in Britain undertaken on behalf of Nestlé by MORI. *Eating and today's lifestyle* is issue number 13.

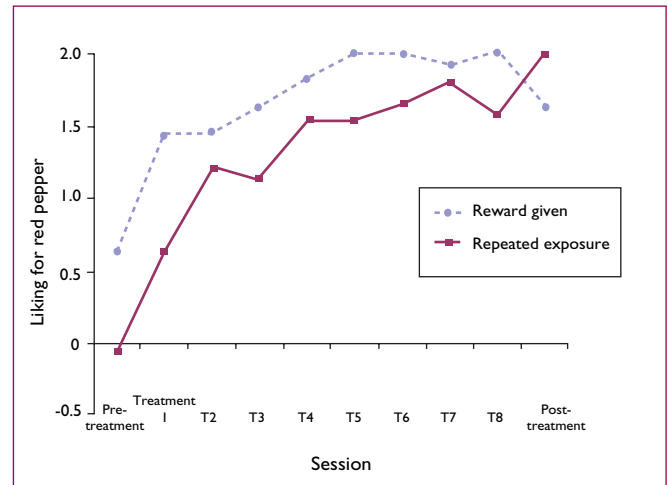
food choices. This loss of self-efficacy in turn contributes to poorer food choices (AbuSabha and Achterberg, 1997).

Time spent preparing meals has been reduced from 2 hours in 1980 to 20 minutes in 2000

Transition times between home and school/work, when parents are trying to get children ready for school in the morning or for bed in the evening, can be particularly tense. Parents and children share the view that a healthy diet is inextricably linked to the consumption of fresh produce and cooking from scratch. Preparing a meal is often seen as just one more task to be completed, and consequently time spent preparing meals has been squeezed from 2 hours in 1980 to 20 minutes in 2000. This allows minimal time for meal preparation and a reliance on ready-prepared foods. Meanwhile other families have abandoned family meal times, leaving individual family members to eat at different times, again favouring greater use of convenience foods.

Other barriers to the adoption of healthier lifestyles, especially around food, link to parent-child interactions. When faced with the prospect of resistance from their child to eat healthier foods, nutritional goals often become secondary to maintaining a pleasant atmosphere and getting their child to eat at mealtimes (Brewis and Gartin, 2006). Exerting control over food choice by children impacts adversely on the social quality of mealtime interactions (Hoerr et al., 2005). Research has shown a number of specific strategies to successfully introduce healthier food choices such as fruit and vegetables (Figure 8). Critical factors include the exposure to new food items and an incentive to try it (Wardle et al., 2003).

Figure 8: Strategies for increasing acceptability of new food items (Wardle et al., 2003)



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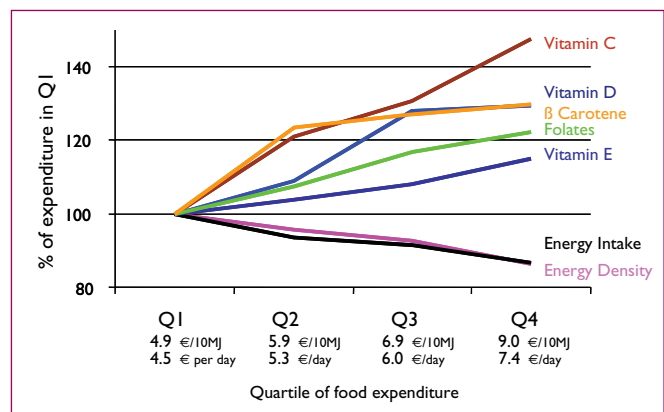
Nutritional goals are secondary to maintaining a pleasant atmosphere at mealtimes

Improvements in children's diets will be fostered by positive parental attitudes to healthier options and active parental role-modelling of desirable eating behaviours (Cooke et al., 2004). Parents are unlikely to introduce their children to foods that they themselves dislike (Skinner et al., 2002). This demonstrates the need for change among both parents and children in a co-ordinated manner in order to drive sustained improvements in dietary habits. The challenge is to deliver such interventions to the population at large, beyond the confines of controlled research projects. Interventions must seek to break the vicious downward spiral of rejection of healthy food by children, leading to reduced willingness to offer such items by parents and hence reduced familiarity. Instead this needs to be replaced with a virtuous circle where the child's willingness to accept new foods is encouraged by a wide variety of healthy options available at home, leading to continuous improvement.

Dietary choices are also driven by real and perceived issues of cost, access and availability. Making the healthy choice is frequently more difficult, especially for low-income families (James et al., 1997). There is a large and complex literature on the relationship between food costs and purchases. The proportion of income spent on food has declined substantially in the period since World War II. Low-income groups, however, spend a much larger proportion of their gross income on food than their high-income counterparts. For example, the UK *National Family Food Survey* (Department for Environment, Food and Rural Affairs, 2005) shows that around 10% of total income in higher-income households was spent on household food and drink compared to 28% of total income spent in households where individuals were unemployed or had never worked. Since food is a major component of expenditure for low-income groups, the perception that healthy eating may be more expensive acts disproportionately in this group to deter changes in eating habits.

The UK *National Family Food Survey* also shows differences in the nature of foods purchased by people of different incomes in the UK. Those in the lowest-income group purchased more milk, cream, fats, oils, sugars, preserves and cereals than those families in the highest-income groups. The opposite trend was observed for household purchases of cheese, fruit, vegetables and alcoholic drinks. In a survey based on the French national food consumption data it was shown that participants in the lowest quartile of diet cost (in Euros/10 Mega Joules) had diets with a higher energy density, yet fewer micronutrients (Andrieu et al., 2006) (Figure 9). Although it is possible to construct a healthy but inexpensive diet, the evidence from food purchases suggests that those spending the least on food do tend to select a less healthy diet.

Figure 9: Relationship between expenditure on food and the nutritional content of diets (Andrieu et al., 2006)



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Many parents are concerned about the cost associated with wasted food, either the deterioration of fresh food before it is consumed, especially fresh fruit and vegetables or those foods not enjoyed and therefore not consumed by the family. In low-income families there is no economic flexibility to experiment or for food to be rejected (Dobson et al., 1994). Ensuring that food is available predominates over the nutritional quality of the food (Backett-Milburn et al., 2006). Studies have examined the nutritional adequacy of diets among lone parent families on low incomes (Dowler and Calvert, 1995). Those with the lowest income had the least healthy dietary pattern, less variety and greater likelihood of inadequate nutrient intakes. Importantly, those parents expressing positive attitudes to healthy diets achieved more positive dietary scores than those not mentioning this goal in their food selection. There has been less research on the links between food costs and excess weight gain, but a study in the USA found that lower real prices for fruit and vegetables were associated with significantly smaller gains in BMI in children aged 4–6 years over a three-year period (Sturm and Datar, 2005).

Ensuring that food is available predominates over the nutritional quality of the food

The impact of access to food stores or other food outlets has also been studied. Previous suggestions that the growth of out-of-town supermarkets contributed to health inequalities by increasing costs (Ellaway and Macintyre, 2000) or limiting access for families reliant on public transport, have been disputed (Pearson et al., 2005). A study in Glasgow found that large supermarkets were more likely to be located in, or near, deprived areas and that a range of basic food items were either similar in price or cheaper than in affluent areas (Cummins and Macintyre, 2002). Studies in Northern Ireland suggest that consumers shopping at local stores paid higher prices (Furey et al., 2002), but there was little evidence that getting to a supermarket was difficult (Furey et al., 2001). In a study in Newcastle, there was little association between access to affordable foods and the diets of individuals (White et al., 2004). Instead, factors that predicted the healthiness of the diet, e.g. fruit and vegetable intake, were dietary knowledge and other lifestyle aspects such as activity, alcohol intake and socio-economic factors. Food retail access per se seems not to have a significant effect on dietary choices. However, the perceptions of access and availability may still become barriers to the adoption of a healthier diet. Wider considerations, including the nature of the built environment and the impact of local shops, are the subject of ongoing research using postcode mapping. Some studies in the UK suggest the occurrence of out-of-home food outlets, especially 'fast-food', is more common in low socio-economic status areas (Cummins et al., 2005; MacDonald et al., 2006).

There has been much less work on physical activity, although similar factors are likely to be important. In a study in Australia, the impact of individual interventions to increase physical activity through counselling or exercise referral schemes, has usually been small and the sustainability of these interventions is relatively low (Hillsdon et al., 2005). This has focused attention on the barriers to physical activity in twenty-first-century lifestyles and has heralded a growing recognition of the importance of the built environment as a determinant of physical activity. However, this research is at an early stage and few studies have been conducted in the UK. Parents commonly identify safety, park facilities and urban design as important in creating opportunities for, or conversely as barriers to, active transport or free-play (Veitch et al., 2006). Parental support for activity in all its forms is crucial, but may be constrained by 'time-poor' lifestyles and real or perceived issues of cost and access.

The built environment is an important determinant of physical activity

A review of the correlates of physical activity in children (3–12 years) and adolescents (13–18 years) found that in the children, sex (boys only), intention, previous preference for physical activity, healthy diet, access to facilities and time spent outdoors were consistently positively associated with physical activity. 'Perceived barriers' was the most consistent negative correlate. In adolescents, sex (boys only), ethnicity, perceived competence, intention and previous physical activity, sensation-seeking, participation in community sports, parental and other adult support, sibling physical activity, and physical environment including opportunities to exercise were all consistently positively associated with physical activity. Sedentary behaviour after school and at

weekends and depression were consistently negatively associated with physical activity (Sallis et al., 2000).

Barriers to healthier lifestyles, in terms of diet and activity, relate to physical and emotional issues. The barriers may be real or perceived but the net impact is to foster the parental belief that healthy lifestyles are too challenging, which reduces motivation to change.

Pressure on parents that undermines healthy food choices

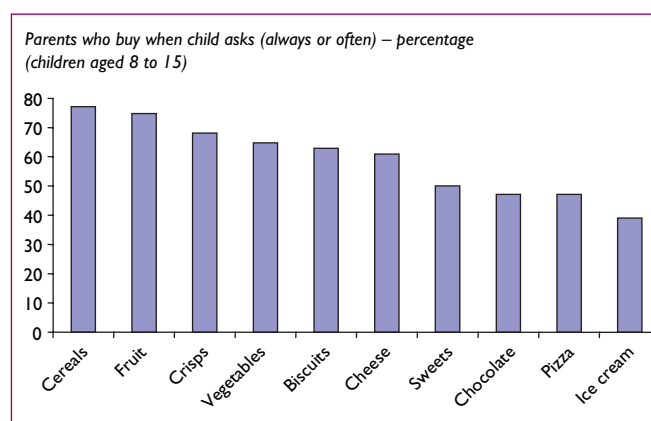
Parents are important gatekeepers in the provision of food to children, both at home and, to a lesser extent, outside the home. However, parents must now face the challenge of the external environment, including the abundance, availability and marketing of foods that frequently undermine healthy choices.

Parents are important gatekeepers in the provision of food to children

The largest share of advertising during children's television is for food products, and a large proportion of these products are foods that are high in fat, salt or sugar (Lewis and Hill, 1998). A review of the evidence for the Food Standards Agency showed that advertising for food did have an effect on children's food habits, although it was not possible to quantify the effect size (Food Standards Agency, 2003). The effect of food marketing is wider than just television advertisements and includes promotion in schools, leisure centres, etc. A survey by NOP⁸ showed that most mothers (always or often)

respond to requests from their children to purchase products, even if they are recognised as foods to be eaten infrequently (Figure 10).

Figure 10: Proportion of parents who respond to pestering, even for unhealthy products⁸



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These external influences also contribute to the setting of social norms and, alongside peer pressure, can contribute to a vicious cycle of poor food habits. Children want to be accepted and belong to their peer group through their choice of food as much as their choice of clothes or music (Birch, 1980). In a study by Barnardo's,⁹ children expressed positive views of images of children who were eating burgers and negative views of images where children were eating healthy food (Ludvigsen and Sharma, 2004).

External influences can contribute to a vicious cycle of poor food habits

A practical example of the consequences of these attitudes is the social norm for school packed lunches to typically include foods rich in fat and/or sugar. A child with a packed lunch which contains healthier choices may face ridicule, as

⁸ National Opinion Poll for Ofcom (2004), *Childhood Obesity – Food Advertising in Context*

A quantitative survey of over 1,000 interviews each with parents and their children conducted by the NOP to examine children's consumption of food in general and of high-fat, high-sugar foods in particular, as well as the factors that influence food choice.

⁹ *Burger Boy and Sporty Girl: Children and young people's attitudes towards food in school (2004)*

A survey involving interviews with 174 children and young people (aged 4–15 years) in nine schools in England, Wales and Scotland. The survey focused on children's views and opinions of social and environmental factors that influence their food preferences in school settings.

these tend not to be aspirational foods. Parents are probably reluctant to create a situation where their child might be excluded from their own peer group and will tend to provide foods that ensure the child conforms to the social norms which at present favour a less healthy packed lunch (Food Standards Agency, 2004). Accordingly, children now exert considerable control over the contents of a packed lunch and this has elevated its status within school as a symbol of personal freedom of choice. Foods previously considered as a 'treat' have become everyday options.

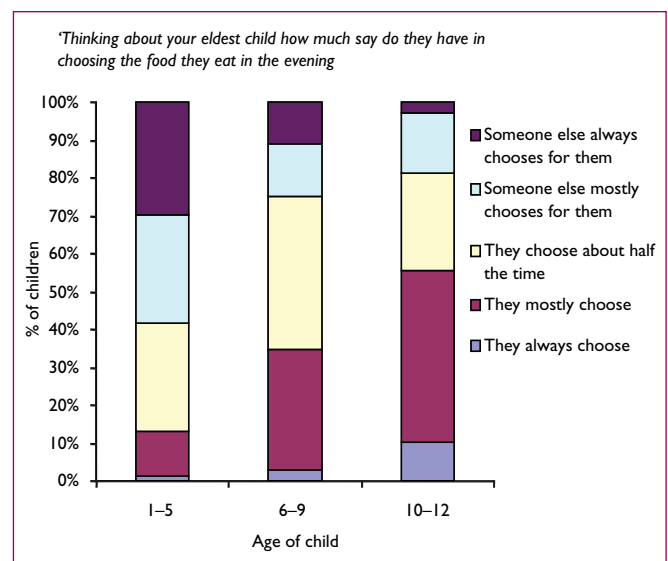
Foods previously considered as a 'treat' have become everyday options

In older children/teenagers, socialising and spending time with friends is prioritised over sitting down and eating with the family. Parents from lower socio-economic groups in the East of Scotland were more concerned that their child/teenager had friends, participated in activities outside the home and were not being bullied or doing badly at school than how their children ate (Backett-Milburn et al., 2006). As a consequence, meals are prepared and eaten at different times by different members of the family to allow food to fit in with social and leisure activities, often contributing to a reliance on convenience food. A US study supports the notion that a perception of the importance of eating together as a family is associated with a reduced risk of obesity, although there was no significant association between the number of times a family actually ate together and the risk of obesity (Mamun et al., 2005).

Food is perceived as a considerable source of family stress for nearly half of all families. Parental anxiety tends to centre more on inadequate, rather than excessive, food intake. In young children there are concerns over a failure to grow and develop rapidly. By school age, parents

are often concerned that their children have enough energy for the multitude of activities that they have to do. In older children there is a perceived risk of eating disorders such as anorexia nervosa or bulimia nervosa, despite the absence of evidence that parental behaviour can affect the risk of developing these conditions. For many families it is easier and less stressful to let children take a greater role in selecting their own food choices. *The British Household Panel Survey*¹⁰ showed that around 40% of 6–9-year-old children chose their evening meal on at least half of all occasions (Figure 11). Parents express the desire to offer healthy choices but their children's diets rarely meet these ideals.

Figure 11: Children have a powerful voice in food selection (*British Household Panel Survey – Changing Lives, The Future Foundation*)



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In contrast there is a low level of parental awareness of the risk of developing habits that predispose to excessive intake. Parents often act anxiously when feeding children healthy food (e.g. vegetables) and excitedly when giving less healthy foods, such as ice cream. Parents may use 'treat'

¹⁰ *The British Household Panel Survey*

A survey of 5,500 households, focusing on social and economic change at the individual and household level.

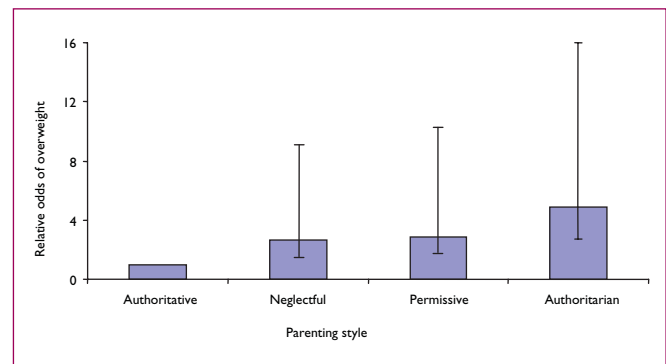
foods as a substitute for lack of time together (Devine et al., 2006) or as a reward (Birch et al., 1984). Parents may use threats or food rewards to encourage children to eat, yet coercive strategies to force children to eat certain healthier foods can decrease the liking of that particular item (Benton, 2004; Birch et al., 1984). Children may be pressurised to 'clear the plate' with insufficient regard to appropriate portion sizes for children of different ages (Birch et al., 1987). Encouraging children to eat, even if they are not hungry, and food-trading practices, for example offering a bowl of ice cream for eating vegetables, tends to result in higher intakes of calorie-rich foods (Brewis and Gartin, 2006). These parenting practices can inadvertently lead to inappropriate perceptions of the relative status or desirability of certain foods and may establish risk behaviours in relation to food for later life, including the loss, or weakening of, children's innate abilities to respond to signals of hunger or satiety. However this is a very complex area requiring judicious balancing skills, since over-restricting access to foods can serve to make food more desirable (Benton, 2004).

There is a low level of parental awareness awareness of habits that predispose to excessive intake

There is growing evidence that parenting styles are an important determinant of food choice and of the risk of excess weight gain. Figure 12 shows that the risk of overweight, among children aged 4.5 years, is significantly greater among parents classified as permissive (indulgent, lacking discipline), neglectful (emotionally uninvolved, lacking rules) and particularly authoritarian (strict disciplinarians), compared to authoritative parents (respectful of child's opinions but maintaining clear boundaries), even after adjustment for other related factors (Rhee et al., 2006). Parents need education and support in order to develop

highly refined parenting skills in relation to food, especially since some strategies may conflict with the parenting styles of grandparents and the wider community.

Figure 12: Parenting styles influence the risk of excess weight gain (Rhee et al., 2006)



Pressure on parents that reduces the opportunities for active lifestyles

Societal changes have resulted in a scenario where physical activity is no longer an integral part of everyday life and sedentary lifestyles are the default for most children and adults. Parents need to take specific steps to facilitate activity within the family in terms of sport, outdoor play and active transport.

Parents need education and support to develop highly refined parenting skills in relation to food

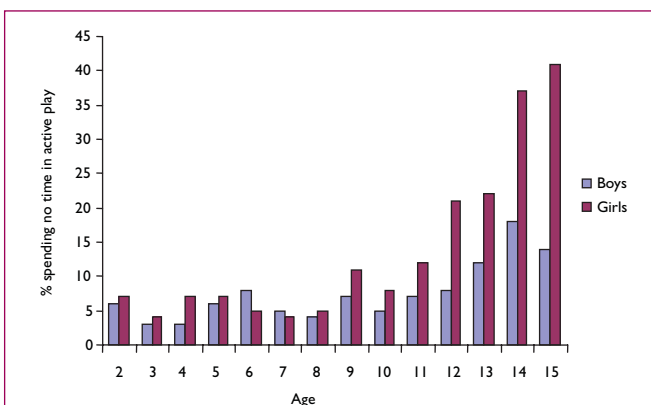
About two-thirds of men and three-quarters of women report less than 30 minutes of moderately intense activity a day on at least 5 days per week (Department of Health, 2004b). However, many people overestimate their activity. *The Allied Dunbar National Fitness Survey*¹¹ in 1990 showed that 70% of men and 80% of women fell below their age-appropriate activity level to

¹¹ *The Allied Dunbar National Fitness Survey*
A random sample of 5,698 individuals, aged 16 years and over in England in 1990, with interviews conducted in 76% of cases identified.

achieve health benefits, yet 80% of men and women believed themselves to be fit. About half of adults (47% of men and 57% of women) who reported no physical activity over the last four weeks believed themselves to be 'very' or 'fairly active'. Bridging the gap in awareness between individual beliefs and objective assessments of activity is an important step towards increases in physical activity.

Activity in children is higher than in adults but declines with age, especially in girls (Figure 13).

Figure 13: Increasing population of inactive children with age (Health Survey for England, 2002)



Data provided by Department of Health

Parents are important role models for their children in terms of attitudes to, and participation in, physical activity. Studies show that children whose family members participate in sport are more likely to do so themselves (Bogaert et al., 2003) and participation tracks into adult life (The Sports Council and the Health Education Authority, 1992). Parental support also extends beyond direct participation to prioritising time and money to support active interests. Family priorities, leading to lack of time and the perceived safety of the physical environment, are the main barriers, particularly among

ethnic minority and low-income women (Eyler et al., 2002; Eyler et al., 2003).

Parents are important role models for attitudes to, and participation in, physical activity

In recent years there has been renewed emphasis on physical activity within schools, with a government commitment to a minimum of 2 hours' physical education per week within the curriculum. However, one study has suggested that time spent in activity within school is not a significant determinant of overall activity habits (Wilkin et al., 2006). Instead the major differences in activity between lean and obese children occur outside the school, especially at weekends, when there is greater opportunity for free choice, reinforcing the importance of the home environment as a determinant of activity habits (Page et al., 2005).

Active play is an undervalued component of physical activity and the increased proximity to parks and green spaces is associated with greater vigorous activity (Roemmich et al., 2006). Young children are innately active, but this natural tendency is easily overridden by external constraints, including adult supervision. Even among adolescent girls, those left unsupervised for more than 2 hours after school, report greater levels of physical activity than those with greater adult supervision (Rushovich et al., 2006). Although parents recognise the benefits of unstructured activity, such as social interaction and creative development, these may be insufficient to outweigh other concerns.

Active play is an undervalued component of physical activity

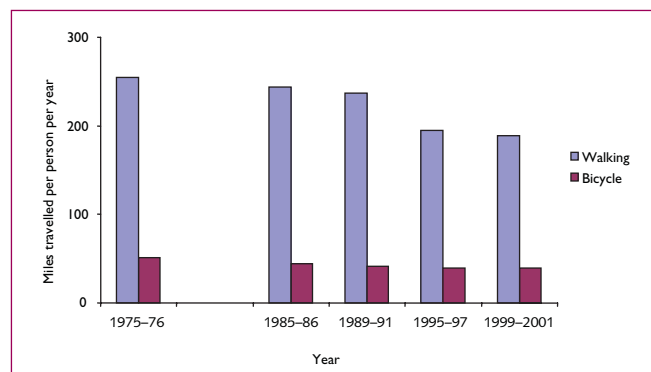
A MORI *Survey of Sport and the Family*¹² found that 80% of parents believed 'children today get less exercise because parents are afraid to let them go out alone'. Meanwhile, children report busy roads, car pollution or lack of playground equipment as barriers to outdoor play (Hesketh et al., 2005). Additionally, protests from neighbours about noise are another hindrance to active outdoor play. The impact of these negative attitudes has seen a dramatic reduction in the freedom of children to play outdoors. The radius from home in which children can roam alone (their play range) had shrunk to a ninth of what it was in 1970 (Whewey and Millward, 1997). The net effect was that a child of 9.5 years was allowed to play outside to the same extent as a 7-year-old in a similar survey conducted 20 years earlier.

There has been a marked decline in walking and cycling over the last 20 years

Habitual forms of transport can make a significant difference to energy expenditure and there has been a marked decline in walking and cycling over the last 20 years (Figure 14).

The aesthetic attributes of the environment, convenience of facilities for walking, accessibility of destinations and perceptions about the level of traffic and hence safety were all important determinants of walking for other specific purposes (Cerin et al., 2006).

Figure 14: Secular trends in walking and cycling 1975–2001 (At Least Five a Week, Chief Medical Officer report, 2004)



Data provided by Department of Health

Statistics from the Department of Transport¹³ show that the number of 5–10-year-olds driven to school increased by more than a third, from 28% in 1989/91 to 39% in 1999/01. Children who report walking or cycling to school are more physically active than their counterparts who report using motorised transport (Cooper et al., 2003; Cooper et al., 2005). Studies of the determinants of walking have shown that the proximity to schools is an important determinant of active transport to school. Conversely, parental perception of few other children in the neighbourhood or busy roads acts as a disincentive to active transport to school (Timperio et al., 2006).

Computer games and videos are among the most highly valued and preferred activities for children

The disincentives to activity are reinforced by the appeal of sedentary pursuits for both parents and children. Computer games and videos are among

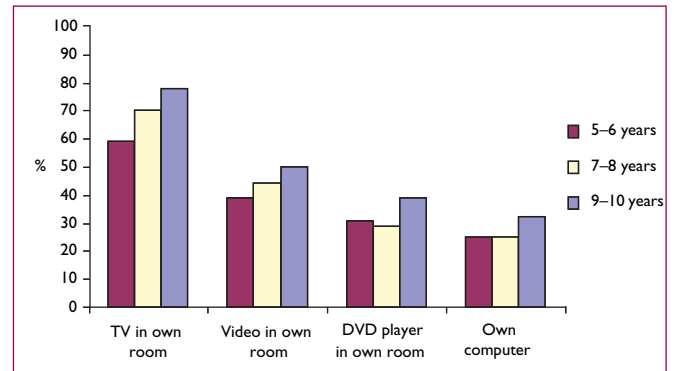
¹² **MORI (2000), *Sport and the Family***
A nationally representative survey carried out by sportdevelopment.org.uk in 2000 to investigate attitudes to sport and children's development, opportunities for participation and restricting participation in sport. The sample consisted of 543 adults aged 16+. Fieldwork was carried out between 5 April and 23 April 2000.

¹³ **National Travel Survey**
A continuous household survey of over 5,700 private addresses sampled annually and designed to provide a databank of personal travel information for the United Kingdom.

the most highly valued and preferred activities for children (Epstein et al., 2004). For time-poor parents these activities offer simple, home-based and thus convenient entertainment options (Figure 15). A survey by ChildWise¹⁴ showed that a large and growing proportion of children have access to a TV or computer in their own room: among 5–16-year-olds, eight out of ten have their own TV, seven out of ten have their own DVD player and four out of ten have their own PC. Although historically these activities have been viewed as isolating children from their social network, these concerns are decreasing with the rise in usage of electronic communication. Moreover, parents express growing anxiety about negative interactions between children and their peer group. Despite growing concerns over the use of internet chat rooms by children, television and computers are seen as relatively safe options.

The importance of these sedentary behaviours as a risk factor for obesity is reinforced by intervention studies that show decreases in television viewing are associated with decreased weight gain (Robinson, 1999). Studies that have combined interventions to decrease television viewing with objective feedback of physical activity levels have shown significant increases in activity and decreases in sedentary habits relative to a control group of subjects (Goldfield et al., 2006).

Figure 15: Technology in children's bedrooms (ChildWise Monitor, 2004)



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Decreases in television viewing are associated with decreased weight gain

Changes in the built environment appear to be critical in the maintenance of inactive lifestyles. Individual interventions may be insufficient to boost levels of physical activity among children and their families, and systemic change in the physical infrastructure is likely to be an important component in a long-term strategic plan to promote healthier lifestyles. The evidence suggests that opportunities to increase activity need to be identified in multiple areas, including transport, activities of daily living, unstructured play and opportunities for sport. In the short term, investment is needed to shift perceptions and positively impact on attitudes towards activity.

¹⁴ **ChildWise Monitor**

An annual report focused on children's and teenagers' media consumption, brand attitudes and key behaviour. Each year around 1,200 children (5–16 years) are interviewed in depth on a range of topics including TV, internet, computers, games consoles, radio, mobile phones, magazines, money and sports activities.

5. Driving change

Arresting, and ultimately reversing, the growing prevalence of obesity is a major health challenge which has not yet been successfully achieved anywhere in the world. Tackling obesity and other chronic diseases requires unprecedented change, within government and through local governance structures, across industry and in the lifestyle choices of individuals.

Tackling obesity and other chronic diseases requires unprecedented change

The WHO Charter calls upon governments to provide strategic leadership, but recognises that the public sector needs to work with others to deliver systemic change and support healthy lifestyle choices of individuals. In the UK the PSA target and its associated delivery plan, set out the need for a broad strategy to tackle obesity, with a focus on children. A review of the evidence in relation to the attitudes and beliefs that underpin diet and activity habits has identified parents as key agents for change within the family. However, there are important synergies with work ongoing in schools that will reinforce the pace of change.

It is also important to recognise that many other groups shape attitudes and beliefs towards diet, activity and other lifestyle traits. In the present environment, excess weight gain is the default for most individuals and a raft of factors that favour inactive lifestyles and over-consumption are working against the best interests of individuals. Accordingly, a wide range of external groups share the responsibility for the nation's health, including the food industry, leisure sector

and the media. In recent years there has been a growing awareness of this duty of care, but the magnitude of change required in some organisations should not be underestimated.

A wide range of groups share responsibility for the nation's health

It would be naive to believe that the necessary transformation in the lifestyle of individuals can be accomplished with simple or isolated initiatives or interventions. The 'Healthy Living' Social Marketing Initiative provides a framework to deliver a concerted programme of work, backed by consistent messages, that drives deep-rooted shifts in cultural values and social norms. A key aim must be to reduce the negative impact of the 'obesogenic' environment and instead create a positive climate that supports and facilitates the necessary changes in the diet and activity habits of parents and their children to achieve and maintain a healthy weight.

We must reduce the impact of the 'obesogenic' environment and create a positive climate for change

The development of the 'Healthy Living' Social Marketing Initiative has been the result of sustained co-operation between government, scientists, industry, NGOs and consumer groups. To be effective, this must be perpetuated through collective working towards the common goal of improved health and well-being for the population at large and children in particular.

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