



ASSOCIATE PARLIAMENTARY FOOD & HEALTH FORUM



The Foresight - *Tackling Obesities: Future Choices*

5-6.30pm, Tuesday 1 April 2008

Committee Room G, House of Lords

Minutes

Introduction

Lord Rea welcomed the guest speakers, Dr Susan Jebb and Dr Martin Brown, to the meeting. Before introducing them to members, he asked Jonathan Parke, the leader of the follow-up to Foresight projects, to say a few words about Foresight.

Jonathan Parke

Jonathan explained that the Foresight projects are not confined by any Departmental agenda or sector. They bring a future view to major challenges facing society – a minimum 10 year view and more often a 25 year or more perspective. Foresight seeks to inform Government policy by collating extensively researched, multi-disciplinary evidence and bringing it to the attention of Government. The obesity report is their eighth report. Foresight aims to provide cogent, cohesive advice, furnishing the Government with the scientific evidence which can act as the foundation for policy development.

Lord Rea introduced Dr Susan Jebb and Dr Martin Brown.

Dr Susan Jebb, Head of Nutrition & Health Research, MRC Human Nutrition Research, Cambridge

Susan has a particular interest in the role of dietary factors in the aetiology and treatment of obesity and her research team specialise in highly controlled dietary intervention studies. She also leads the HNR Communication team who focus on the translation of nutrition science into policy and practice, working with policymakers, industry, health professionals, NGOs and the media.

Susan is Chair of the Department of Health Interim Expert Group on Obesity, Expert Advisor to the Cabinet Office Strategy Review on Food and a member of the FSA Expert Review Panel on Nutrient Profiling. She is an Honorary Officer of the European Association for the Study of Obesity and the former Chair of the UK Association for the Study of Obesity.

Dr Martin Brown, Foresight Obesity Project

Dr Brown used to be an academic applied mathematician at Oxford. Since 1986 he has been providing mathematical, statistical and computer systems' consultancy for a wide variety of projects and clients. Last year he was responsible for the design and computer coding of the Foresight project's statistical micro simulation model of the growth and consequences of obesity in the UK. With Professor Klim McPherson (Visiting Professor of Public Health Epidemiology at Oxford University) and Tim Marsh (National Heart Forum), he is currently involved in extending that work to make it internationally available.

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Dr Susan Jebb

Obesity is a topic which is very prominent and of great importance for Government and stakeholders, including the food industry and the media. Obesity has been rising steadily year on year for the last three to four decades. Obesity is also an international issue: there is no country in the world where obesity is not increasing. In the UK we have tended to be complacent because we compare ourselves with America, but we are only ten years behind them. There is no reason to be optimistic that obesity trends will plateau or change if we do not specifically act to initiate change.

Against that background, the Government asked Foresight to look at obesity to provide evidence to inform a sustainable response to obesity over the next forty years. This long-term horizon is a new and welcome departure after a history of short-term initiatives.

The Foresight obesity report was a two year piece of work, involving some 200 scientists and numerous other stakeholders. A series of consultation exercises were held and Susan, together with Prof Peter Kopelman and Prof Klim McPherson provided technical advice alongside the future perspectives from the in-house Foresight team. Foresight began by reviewing specialist fields via the experts in those fields, who were asked for their advice. This resulted in 38 short science reviews, which illustrates the breadth of obesity issues. They include, for example, reviews of the political and economic context, the social and international context, ethics, behaviour changes and intervention strategies (see slide 7). All these reviews – indeed all the Foresight documents, including original research - are available on the website.

Our conclusion from these reviews is that humans are endowed with an ancient physiology moulded by famine and are ill equipped to handle our modern food environment, especially when we take so little exercise. In general we now take much less exercise than our forebears: more of us work in offices; we commute using transport and many of our leisure activities involve little expenditure of energy. Our biological systems are set up to encourage us to eat when we feel hungry, but not always to stop eating when we feel quite full: hunger signals are strong, but satiety signals are weak. Accordingly we can view the energy balance system as asymmetrical (see the energy map on slide 11). We are more likely to acquire energy than to use it, so we need to exercise conscious restraint to achieve a balance.

The obesity system map (slide 14) was designed to illustrate the diversity of factors which are involved in the development of obesity and the complex interrelationships. It illustrates why intervention in one area alone will not solve the problem. The overall issues can be broken down into seven specific sub-sections: biology, food production and consumption, societal influences, individual psychology, individual activity habits, and the activity environment. These areas overlap, for example, individual decisions to incorporate exercise into daily routines is affected by the built environment (the provision of cycle paths, safe walks to school, etc). There are key issues in each of these areas, which may provide targets for intervention.

Martin Brown

Martin was deeply involved in the modelling work undertaken by Foresight and he explained that it sought to answer two fundamental questions: where are we now and where do we expect to be in 15 years time.

The Health Survey for England (HSE) and the Office of National Statistics (ONS) were a very useful starting point for the Foresight work. Foresight used their data to develop two separate programmes. The first looks at the distribution of obesity and how it is likely to develop over the next 40 years. It processed the data and contributed the evidence for the second programme, which looks at the consequences of obesity for health and by how much these consequences can be attenuated with what we currently know and might come to know. That work is divided into two

parts. One follows individuals and their varying risks; the other looks at issues over various time periods.

Martin showed two slides which illustrated the probability of belonging to a defined BMI group by age, sex and social class. He made the point that such graphs could be produced for ethnicity, geographic region and other factors, subject to adequate numbers being available (the smaller the sample group, the larger the margin for error).

The data shows a clear and steady rise amongst the in the proportion of overweight and obese in the population; the most severe cases of obesity (BMI greater than 40) are rising only slowly in the UK – there has been very little change between 1993 and the present day. This is at odds with the experience of the USA, where this group is rising very rapidly. This may be a true difference or it may reflect errors in the sampling frame. It may be that this group is under-sampled because of the way in which the HSE data is collected:

It is more difficult to assess obesity in children than in adults because analysts cannot simply look at age and sex independent of BMI categories. Foresight adopted the International Obesity Taskforce definition of obesity and over-weight, but whatever definition is adopted, the results are similar. There are more obese boys and relatively fewer over-weight boys compared with girls (see slide 20) but both boys and girls show a clear trend to decrease the proportion having a healthy weight. Slide 20 shows what the situation will be by 2050 if current trends continue.

Using the data derived from the Health Survey for England, Foresight built a computer model encapsulating the predicted obesity growth over time. This obesity micro-simulation models the UK population from 1993 to 2060 and beyond. A series of Individuals (typically several million) people are simulated and monitored each year of their lives. These individuals have sex, social class, ethnicity and geographic region allocated according to current distributions. The population of individuals accurately reflects known age profiles, birth, death and health statistics and is capable of making projections into the future. Obesity distributions among population are determined by predictions and specified scenarios. The model specifically targets the relationship between individuals' evolving body mass indices and the incidence of disease. The model can also simulate and compare the impact of various public health interventions.

Micro-simulation allows easy calculation of complex, dependent chains of disease, for example, linking obesity, diabetes and coronary heart disease. The model focusses on 12 particular diseases. The micro-simulation was used to assess the impact on the developing costs of the consequences of obesity if the nation's BMI were controlled in a number of scenarios (see slides 22-24). The scenarios for the period 2008-2070 ranged from no interventions; no BMI growth for children aged 6-10; capping all ages' BMI at 30 for 50% of the population; to reducing the BMI of all adults aged 20-100 by 4.

Slide 23 illustrates the predictions for diabetes and coronary heart disease costs between now and 2050, based on these four scenarios. The scenarios were also used to estimate the overall increase in NHS costs related to obesity from the present to 2070 (see slide 24). Martin emphasised that the figures beyond 2025 or so were very broad estimates and would need to be refined year by year as evidence accumulates. All the costs are expressed in terms of current prices; Foresight made no attempt to anticipate future increases in the cost of treating disease. The slide shows that the extra NHS costs due to obesity will be £5.5 billion by 2050, contributing to a total cost of £9.7 billion, some 13.9% of NHS costs. The overall cost of obesity (including health, employment and other costs) is conservatively estimated to be £50 billion by 2050.

The graphs suggest that focusing interventions solely on children would deliver health cost benefits only in the long term: Intervening to restrict the BMI growth of 6-10 year olds shows no discernible difference from the no-intervention scenario until after 2050.

Ian Gibson asked if there is a genetic tendency to avoid obesity. **Susan Jebb** said in the same way that there is a clear genetic tendency to obesity, there is likely to be a genetic effect on

leanness. As obesity becomes more common it may be more informative to look at what genetic factors contribute to leanness. **Ian** also asked whether **Susan** thought that if the genetic factors were identified it would encourage people susceptible to obesity to act to protect themselves. She said they may, or they make take a fatalistic view and use their genetic susceptibility as a reason for doing nothing. There is a need to understand better how whether personalising the risk through genetic screening/counseling increases motivation for lifestyle change.

Susan Jebb

The obesity micro-simulation illustrates the cost of inaction. Foresight spent a lot of time thinking about how to develop a sustainable response to this evidence. It is clear that there is no simple, single solution. The world today is very different from 20 years ago and it will be very different again in 20 years time and we had to take account of that. We looked at different scenarios ranging from a society which focuses on individual responses to a societal response. We also considered what would happen if we were to anticipate and prepare for change and/or only if we only react when the need to change is critical and focus on mitigating the impact of obesity (see slide 28). None of these were intended as predictions of what might happen, rather they were intended to open up the thinking around a range of possible alternative future scenarios.

We identified a number of response options in different policy domains (family, social structure, regulation, education, fiscal, research, health, built environment). The darker the box, the more likely the option is to be effective (see slide 29). There is no option which works brilliantly in all areas, so we need to develop a range of responses. There are five areas of response which seem generally more effective and scenario 2, where there is a social rather than individual response and we anticipate and prepare for change, appears to be the most promising. Investment in early life intervention, giving children the best start in life, appears to be the single most effective policy response. Making all organisations responsible for employees' health is another promising option. Changing the upstream determinants of diet and activity were also highlighted. Targeting interventions to those at highest risk is clearly, theoretically, an effective response, but in practice is hampered by the need to identify the group and to identify an effective intervention.

The single most important conclusion Foresight reached is that we do not need a new initiative; we need an overarching strategy. This conclusion echoes that of the Commons Health Select Committee, but the Foresight report explains how this might be achieved.

To date, society has put a lot of emphasis on individual's choices, without sufficient recognition that these are affected by the circumstances in which they live. If we want individuals to make different choices we have to ensure the environment supports and facilitates the healthier option, so it is easier for people to make the change that is requested. If we want to achieve sustained results, we need to act across the map. Research evidence suggests intervention only works while it is applied, so we need a series of policies that will deliver change across a lifetime.

We need a range of different initiatives ranging from focused interventions (for example, changing school food), to enabling interventions (for example, clearer nutritional food labelling) which enable people to make positive changes and amplifying initiatives (for example, controls on advertising foods high in fat, sugar and salt), which change social and cultural norms. Alone the latter may be ineffective but they are key to major sustained shifts in obesity trends. Any strategy should include a whole range of these types of initiatives.

We need to take a long term approach and learn from the success of the smoking cessation campaign, which has used a series of policy changes, where early policies such as social marketing initiatives, have been built upon as the evidence mounts and the tide of opinion from the public and other stakeholders begins to change. The range of interventions possible is likely to increase over time and the combination of a sustained approach and an increase in the options available should ensure that the impact of polices rises over time.

We recognise that obesity is not an area where the evidence is perfect, so we need to ensure that new evidence is continually fed into policy development and interventions are evaluated to see what works, creating a positive model of continuous improvement, integrating science and policy.

The Foresight obesity team has been encouraged by the cross-Departmental approach which the Government has adopted and it regards the new PSA target as much more appropriate and realistic. Foresight also welcomes the Government's recognition that simply focusing on children will not deliver sufficient change. The Government's obesity strategy, *Healthy Weight, Healthy Lives*, has five key themes, which reflect the five key areas identified by Foresight as offering the best means of tackling obesity. Critically the strategy recognises that although Government has an important leadership role, it cannot achieve a successful response to obesity by itself, but it must work alongside other stakeholders who can be important levers for change. The need to take account of the public view is also important in order to assess which interventions are likely to be acceptable.

Developing a mandate for change will be difficult, but many of the issues we need to address to tackle obesity fit well with steps that need to be taken to address other issues, such as climate change, so they may attract the broad support necessary.

Questions

Ivan Bartolo of the Seafish Industry Authority queried the Foresight view that focussing simply on young children will not work. He suggested that the aim of holding their BMI constant was too simplistic. **Susan** accepted his point on the limitations of the modelling and explained that the conclusion was based on wider evidence, which showed that if you want to change children you also have to change their environment and the attitudes of adults with whom the children engage, both in school and at home. There is little evidence to show that the very intensive and resource heavy interventions to prevent obesity in children are effective, so we need to look at other options as well. They are worth doing, but alone they are not a sufficient response. There is no evidence to show that the very intensive and resource heavy interventions with children are effective, so we need to look at other options as well. They are worth doing, but they are not a sufficient response. **Martin Brown** explained that the model had used the scenario of keeping the BMI of children under 11 years constant was a PSA target, which was why it had been included in the model.

Dr Jenny Lisle of the Royal College of Physicians, Faculty of Public Health expressed interest in the scope for employers to help tackle obesity and encouraged the Foresight team to engage with the food industry to encourage them to take greater responsibility for providing healthy food. **Susan** said Foresight are focussing on disseminating the findings of their obesity report and responsibility for taking forward initiatives lies with the Government's cross-Departmental team. However, she welcomed the work of Dame Carol Black, whose independent review of the health of Britain's working age population was published in March and said that research in other countries has shown that there is a good business case for employers to support the health of their employees. **Martin** added that it would be helpful for policy development if, where businesses take such initiatives, they recorded the results which could then be evaluated by the Foresight model.

Professor Jack Winkler of Food and Health Research asked how Foresight built into its general work, and the obesity report in particular, increasing knowledge about genetic influences. **Susan** said Foresight had spent a lot of time on genetic susceptibility to obesity, but it is difficult to factor the consequences of this knowledge into policy responses. Foresight recognise that there will be a genetic spectrum in response to initiatives – it may help explain, for example, where individuals lies in the spread, but genetic influences will not influence the spread over the period covered. **Jack** suggested that the expression of genetic influences may change over the period. **Susan** agreed but said Foresight had not found a way to address this. **Jonathan Parke** said that as a general rule, where there is an opportunity to consider genetic factors, Foresight will do so. **Martin** said that their research had indicated that obesity growth has taken place relatively recently and it may be too early for genetic influences to be apparent.

Susan said there may be environmental factors, for example certain chemicals, that are triggering the rise in obesity levels. Foresight had not undertaken new research on such issues but some, slightly speculative, research was included in the evidence which they evaluated.

Lord Lindsay, a member of the Risk and Regulation Advisory Council, asked to what extent the scenarios Foresight considered and the options they evaluated had been influenced by the current climate of what is politically acceptable and unacceptable. He explained that his question had been prompted by a US commentator who had suggested that if obese people were treated in the same manner as smokers, that is less patiently and sympathetically, much more could be achieved at less public cost. **Susan** said Foresight had worked in an “open space”, not according to what is politically acceptable, and that some of the options they had considered, such as punishing parents for their children’s obesity, could be regarded as quite outrageous. Foresight then looked at how effective different options could be, how easy they would be to achieve and how we might move to a stage where valuable initiatives could be introduced. Political realism entered the equation when the Foresight report was transposed into the Government’s obesity strategy.

Summing up, Susan said that Foresight had spent a great deal of time considering how adults and children could achieve and maintain a healthy weight, but engaging people on this is not easy because most people do not become concerned about their weight until they are over-weight and obese. It is very difficult to persuade people to address the risk of becoming obese.

Lord Rea observed that over the last 50 years people had been able to observe the effect of smoking on their friends and family, which had led to greater support for smoking cessation policies. He suggested this might happen with obesity over the next 50 years. **Susan** agreed, but said the challenge for those seeking to tackle obesity is that the problem and the message is much more complex. The clearest risk is that linking obesity and type II diabetes, but better treatment and management of diabetes may have contributed to a reduced fear of the disease.

Alain Wood of Country Markets said that the majority of the population are unaware of their BMI and he suggested that better education would be a cheap means of tackling obesity. **Susan** said that for adults at least, a person’s weight is the simplest indicator, but work was needed to persuade adults to accept that weight stability was a worthwhile goal. She added that the scale of what has to be achieved if we are to tackle obesity successfully is monumental: we need sustained action over time and keeping momentum going will be a significant challenge in itself.

Conclusion

Lord Rea thanked Susan Jebb and Martin Brown for their excellent and comprehensive presentation. He then reminded members that the next FHF meeting will be on Tuesday 20 May, when we will be discussing “food additives – have they outgrown their usefulness?”.

CLC, April 2008