

Behaviour change, public health and the role of the state – BMA Position Statement

December 2012

Executive summary

- **Lifestyle-related disease represents the most pressing public health threat of modern times**
- **These diseases have a strong social gradient, disproportionately harming the most disadvantaged**
- **In the BMA's view tackling these problems by relying largely or exclusively on personal responsibility, 'nudging' individuals and corporate social responsibility is inadequate. It is also likely to entrench existing inequalities**
- **Freedom has a positive aspect, it involves more than being left to our own devices. Governments also have a responsibility for creating the conditions in which we can make use of our freedoms**
- **Drinks and food manufacturers can have significant conflicts of interest and the state should put the health of citizens before commercial freedom**
- **In the BMA's view, the urgency of the problems, the claims of social justice and the importance of health in the enjoyment of personal liberty require greater evidence-based intervention than proposed by the current government**

Introduction

Tackling poor health arising from personal 'lifestyle' choices presents a major contemporary public health challenge. Doctors see the consequences of poor diet, smoking and alcohol abuse every day in clinics, emergency departments and on hospital wards. Although the medical profession has a clear role to play in treating illness and in providing support and education to patients, by their nature, therapeutic health interventions tend to treat the consequences rather than the causes of these health problems. The complexity and extent of these new public health threats and their link to post-war social changes have led governments and public health professionals to consider intervening on a wider scale to influence individual choices.

How far the state can legitimately interfere in the private choices of its citizens is controversial. Few doubt that the

state has a role to play in health promotion. The successful tackling of earlier public health threats, such as infectious diseases, and the close link between health and good or flourishing lives provides clear justification. But liberal societies such as Britain also value freedom of choice. Although it is widely accepted that the government is justified in restricting the freedom of individuals to prevent harm to others, the extent to which the state should intervene in the decisions of individuals for their own benefit is far more controversial.

In its White Paper,¹ the coalition government has signalled a 'radical new approach' to these public health challenges. It has called for a move away from what it calls 'Whitehall diktat' and 'nannying' in favour of a more voluntary, local and individual approach. Ideologically opposed to any extension of the state, the coalition has called for an approach that protects the freedom of individuals and organisations while promoting personal responsibility. Central to the coalition's approach are a series of responsibility deals in which commercial, voluntary and public-sector organisations work together to achieve public health gains in relation to diet, alcohol consumption and physical activity.

The BMA has significant concerns about aspects of the coalition government's approach. The scale and complexity of these threats, the central place of health in good or flourishing lives, and the persistence of significant social inequalities in health raise serious questions about just how effective a reliance on personal choices and corporate social responsibility can be. In the BMA's view, freedom has a positive aspect. Freedom, devoid of the capacities, such as good health, that permit us to make use of it, is of questionable value by itself. The government has indicated that it wants to encourage industry to use its financial and creative energies to tackle the diseases of lifestyle. Industry does have a role to play, but the primary goal of commercial organisations is to maximise profit. It does not take much imagination to see how giving responsibility for driving public health policy for obesity and alcohol abuse to the food and drinks industries can lead to serious conflicts of interest. Corporate freedom can be in tension with the health needs of individuals. In the BMA's view, the state should put the wellbeing of its citizens before commercial freedoms.

In this briefing paper we set out the reasoning behind the BMA's position. We look briefly at a number of contemporary public health challenges, outline in slightly more detail the Government's policy approach and consider the ethical arguments in support of greater state intervention. This is a complex area and we do not wish to oversimplify the Government's position, or to put a facile gloss on issues of genuine ethical and political difficulty. Government strategies change and adapt to political pressures and the needs of the time. The government has recently committed to introducing a minimum unit price for alcohol, despite initial opposition to the policy. For many people, rich food and alcohol are also an important source of pleasure, and, taken in moderation, can contribute to wellbeing. But the diseases of lifestyle are reaching epidemic proportions. Given the scale and complexity of these issues, and that the burdens of these health problems fall disproportionately on the less advantaged, the need for effective, evidence-based action is urgent.

Contemporary public health challenges – the nature of the problem

The nature and focus of public health medicine has changed dramatically in recent years. The success of past population-wide interventions in tackling external threats to health, such as communicable disease and poor sanitation, has significantly reduced the burdens of these more traditional public health concerns. Now lifestyle-related disease dominates the political and public health agenda in the UK.

The BMA has produced a number of evidence-based reports on the impact of lifestyle decisions on health, in particular poor diet and lack of physical activity, smoking and alcohol consumption. Together these are the three biggest lifestyle risk factors for morbidity and mortality in the UK. Recent estimates for the future prevalence of obesity predict that 40 per cent of the population could be obese by 2025, rising to over half of the population by 2050.² Obesity is a significant risk factor for several chronic conditions including heart disease, high blood pressure, arthritis, type-2 diabetes and some cancers. The harms arising from lifestyle choices can also be widely dispersed. Alcohol misuse is related to a wide range of problems, including social disorder and crime, domestic abuse, drink driving and damage to family life and relationships. The economic burden of dealing with the consequences of hazardous lifestyle choices is also considerable. Alcohol related harm is estimated to cost society £21 billion per annum³ while the cost of treating those who are overweight and obese is predicted to double to £10 billion per year by 2050, with the wider costs to society and business estimated to reach £49.9 billion per year.⁴ There have been some public health successes in relation to lifestyle-driven health problems. Smoking prevalence for example declined from the 1970s into the 2000s as a result of public education campaigns and the

different public health interventions employed by the government. But the fact that one in five of all adults in Great Britain still smoke⁵ shows the need to sustain and strengthen tobacco control policies in the UK.

The government's response

The government set out its vision for tackling these problems in its 2010 white paper *Healthy Lives, Healthy People: Our strategy for public health in England*.⁶ Subsequent publications on tackling obesity,⁷ on tobacco control⁸ and reducing alcohol-related harm⁹ have sought to apply the approach to specific public health priorities.

As outlined in the box below, *Healthy Lives, Healthy People* argues for a reduced role for central government in improving individual health and wellbeing. For the government, as people are ultimately responsible for their own private decisions over what they eat, how much physical activity they do and whether they smoke or drink alcohol, centralised interventions and initiatives that restrict choice or 'lecture' people in these areas are unjustified and ineffective. Instead, the coalition favours a more localised and individual approach that respects the rights and freedoms of individuals and commercial organisations. Eschewing traditional mechanisms of change, such as regulation, the government believes it can improve individual health and wellbeing through voluntary partnerships with business and by concentrating on strengthening personal responsibility, promoting healthy lifestyles and adapting the environment so that healthier choices are easier to make. The white paper outlines several different approaches through which the Government aims to apply this underlying philosophy in practice.

The 'ladder of interventions'

The government intends to use the Nuffield Council of Bioethics 'ladder of interventions'¹⁰ in deciding when and how to intervene to promote health and wellbeing. The Nuffield ladder is a model by which policy makers compare and contrast the different types of interventions by virtue of their relative intrusiveness in the private lives and freedoms of individuals. Doing nothing or providing information to people sit at the bottom of the scale whilst regulation banning or restricting choice lies at the top. The government extends the scope of the Nuffield ladder to incorporate industry. Where central government intervention is required, it intends to use the ladder to identify and implement the interventions that interfere least in individual freedoms and commercial interests necessary to achieve a particular goal, only 'moving up the ladder' should these approaches fail.

Greater focus on nudges and behavioural interventions

Motivated by the desire to move away from potentially unpopular and restrictive 'bureaucratic' policies and

implement more purportedly cost-effective interventions, the government strategy emphasises the potential role behavioural science and in particular ‘nudging’¹¹ can play in helping people to make healthier choices. Drawing on influential work by Richard Thaler and Cass Sunstein¹² and the findings of the Institute for Government ‘MINDSPACE’ report,¹³ the government believes that there is significant scope to use nudges to help steer people towards making healthier choices but without banning or significantly restricting the options available to them.¹⁴ The Behavioural Insights Team (BIT) was set up to investigate where behavioural science can help inform and improve state interventions with public health a core work stream of the group, focusing on issues such as organ donation, smoking cessation and alcohol misuse.¹⁵

Engaging business and third parties through the Public Health Responsibility Deal

The Government’s preferred mechanism for working with voluntary and public sector bodies, and in particular commercial organisations, to work towards public health goals is the Public Health Responsibility Deal.¹⁶ Across a number of different networks, including food, alcohol, physical activity and health at work, the Government and participating organisations agree and work towards set targets aimed at improving public health and addressing inequalities.¹⁷ Signatories agree to a set of core commitments and sign up to meet objectives, in the form of ‘collective’ or ‘individual pledges’, from one or more of the network domains. Only if these voluntary commitments are unmet will the government then consider introducing change through regulation.¹⁸

Private choices, social lives – the other half of the problem

The Government is right that our private choices are critical to our wellbeing. As adults, our choices about what to eat, whether or not to take exercise and how much we drink are, within limits, ours and ours alone. In promoting freedom and responsibility the coalition government is drawing on key liberal insights. Our freedom to make our own choices, to shape our lives according to our own values, to seek our own version of a good life is central to liberal societies. Promoting personal responsibility for health is therefore an essential part of any long term public health strategy. It is also critical for the long-term sustainability of the NHS through reducing health costs. But individual choices are only one part of the picture. Although characterised as ‘lifestyle-driven’ health problems, obesity, smoking and alcohol use are not attributable solely to private choices or to a collective failure of personal responsibility. They each have complex origins. Private choices are shaped by environments. The rise in alcohol misuse is linked to, amongst other causes, post-war

social changes, the greater affordability of alcohol, and the liberalisation of licensing laws in recent years. Coupled with aggressive marketing from manufacturers and the pressures of modern living they have changed our relationship with alcohol. Similarly, the rise in obesity is partially linked to factors that are outside the control of individuals. These include changing patterns and modes of transport; a shift from manual to sedentary working; the greater availability and affordability of energy dense food, including products high in fat and sugar (and in salt) and the heavy advertising and marketing of these foods, especially to children.¹⁹ In the BMA’s view therefore the government’s insights about the nature of freedom in a liberal society can only ever be a part of the picture. Autonomy is much more than freedom from interference, more than just being left to our own devices. For autonomy to be meaningful we need the means to shape our lives. If the state is serious about protecting and promoting individual autonomy, in enabling citizens to make use of genuine, substantive freedoms, then it has an obligation to address the underlying conditions in which autonomy can flourish. Critical among these conditions is our health. Without a reasonable level of health our ability to realise our life goals is inevitably compromised. Yes there are times when individual freedom and the public good will be in tension. But there are also times when they complement each other. In its white paper the Government presents the central political dilemma in public health as a choice between individual freedom and state ‘nannying’. This does scant justice to a complex contemporary problem that can benefit from insights across the political spectrum. Individual freedoms are vital to wellbeing, but so is the ability to make use of them.

Freedom and inequality

We have seen that there are two linked dimensions to the public health challenge presented by the diseases of lifestyle. One is the dimension of private freedoms and personal choices. The government’s key insight here is the need to link freedom with responsibility and encourage people to take control of their own health. The other dimension relates to the socially conditioned nature of our choices. We do not make our choices in a vacuum: they are conditioned by our upbringing and our environment. Nowhere is this more obvious than in the social gradient of health. As the work of Sir Michael Marmot and his team has demonstrated, the lower we are in the social gradient, the worse our health. As Sir Michael writes:

People with higher socioeconomic position in society have a greater array of life chances and more opportunities to lead a flourishing life. They also have better health. The two are linked: the more favoured people are, socially and economically, the better their health.²⁰

Given the inequitable distribution of life chances across the social gradient, in the BMA's view, too great an emphasis on personal freedom and responsibility to the detriment of structural factors risks further compounding already steep inequalities in health. It is true that our environments do not determine us. Some individuals will always make positive decisions in difficult circumstances. But statistically, people higher up the social gradient are simply better positioned to make healthy choices and take advantage of health-promoting interventions. Given the scale of the public health problems we are confronting, and the steepness of the social gradient in health, in the BMA's view greater intervention by the government is justified.

Promoting public health *and* individual freedoms

We have argued that there are strong ethical and political reasons why the state might be justified in certain circumstances in intervening in the private lives and choices of individuals. In this section we set out in more detail why this might be so. We also look at some criticism of an approach favoured by the government that relies on 'nudging' people to make beneficial choices. We also argue that commercial liberties are not equivalent to private freedoms and the case for intervention here is correspondingly stronger.

Autonomy and health – a complex picture

Most of us will remember times when our long term preferences are sabotaged by our short-term actions. We may for example desire to lose weight, but there are times when highly calorific food proves irresistible. While people may choose to eat rich and fatty foods because of the pleasures they bring, it is difficult to imagine people actively choosing to be obese. It is the undesirable long-term consequence of a series of short-term choices. While many smokers maintain their habit, often aware of the risks involved, a significant majority still want to quit. When policy-makers talk of protecting individual freedom from state interference, which freedoms do they have in mind?

In the BMA's view, the state can play a central autonomy-promoting role in aligning these short and long-term health preferences by creating conditions in which healthy choices are easier to make, for example by making nicotine replacement therapies cheaper and more readily available whilst making tobacco products more expensive. It is difficult for us to change our environments unaided. Collective action is usually required to introduce the necessary changes and we look to the state to introduce them. The evidence is strong that people welcome even restrictive interventions if they help them make healthier choices and create environments conducive to healthy living. A YouGov survey conducted on behalf of the Faculty of Public Health in 2010 found a strong level of support for banning smoking in cars when children

are on board, raising the age at which people can buy tobacco or alcohol to 21, and banning TV advertisements before 9pm for junk food.²¹ In the BMA's view, rather than restrict personal freedoms, evidence-based government intervention that seeks to remove barriers to freedom of choice can actively enhance personal choice and autonomy.

Children

Although the extent to which the state should intervene in the lives of adults is controversial, its obligation to protect those who cannot protect or promote their interests is far less so. Children in particular are a vulnerable group who often cannot take personal responsibility for their own choices and depend on adults for their health and wellbeing. As they can be more susceptible to manipulation and influence from their environment, they can also be at greater risk from lifestyle-related health threats. Unhealthy habits developed by children can affect both current and future adult health. We know, for example, that most smokers start before the age of 18 and a significant proportion start before 16.²² Childhood obesity affects a child's physical and psychological health and is associated with higher chance of obesity, premature death and disability in adulthood.²³ There is therefore a strong case for state intervention to protect children from damaging their own health; to mitigate the affect of unhealthy influences; and to empower parents to make the best decisions on their children's behalf.

Nudging and behavioural insights

Public health interventions which raise the possibility that beneficial changes in behaviour can be achieved without recourse to regulation hold obvious appeal for governments. By promising to preserve individual autonomy, they offer a way out of polarised debates between freedom and intervention, enabling governments to avoid controversy and sidestep accusations of 'nannying' whilst still introducing beneficial change.

The use of nudges for population-wide behaviour change in public health however has been criticised. There are concerns about the lack of evidence for their effectiveness and cost-effectiveness in improving population health on a large scale.^{24,25} Doubts also exist over their impact on entrenched inequalities in health.²⁶ Governments need to be aware of environmental influences on behaviour and how insights from behavioural science can be used intelligently to steer individuals towards healthy choices. But are nudges a proportionate response to the scale of the problems they are designed to tackle?

Although using nudges minimises government intervention, there are good arguments to suggest that there are times when this freedom can be better promoted by substantial interventions, even where some degree of choice may be restricted. There is a rich history of these interventions in

public health, including increasing duty on tobacco and alcohol products and banning smoking in public places.

The 2011 House of Lords Select Committee report into behaviour change found that the Government preference for non-regulatory measures such as nudging had led officials to exclude consideration of regulatory measures despite there being evidence to support their introduction.²⁷ While there is potential for behavioural insights to inform health policy, the BMA would have concerns if relatively untested and unproven interventions were used as a substitute for more direct evidence-based interventions, including, where the evidence supports it, regulation.

The case for regulating commercial freedoms

Business and industry have a significant role in shaping the public health environment. Retailers control how products are promoted and how different choices are presented to consumers; manufacturers have control over the constituents of their products; and packaging, advertising and marketing can all exert a powerful influence on decision-making. The decision by government to utilise the insight and technological expertise of industry to introduce changes for the benefit of public health is therefore a good one. Commercial activity also adds to the public good through tax revenue, employment and wealth-generation. But while working co-operatively with business is a necessary condition for promoting public health it is not a sufficient one. We have already mentioned the potential for serious conflicts of interest where food and drink manufacturers are driving public health agendas in obesity and alcohol misuse. The primary motivation for industry is to maximise profit and businesses have a vested interest in influencing policies which restrict their commercial freedom. Allowing powerful commercial actors a partnership role in setting public health targets could lead to health priorities becoming distorted or undermined. Given the responsibilities businesses have to their shareholders, it is unlikely they will sign up to targets which would significantly conflict with their commercial interests or which they deem to be too onerous to meet, irrespective of the public health goals that could be achieved.

In the BMA's view, individual and commercial liberties are not equivalent. Economic growth is important, but not as important as our health. Research commissioned into perceptions of the role of the state highlighted that people look to the government to intervene in how businesses pursue their commercial interests where these have a negative effect on the ability of individuals to choose between healthy and unhealthy options.²⁸ Where there is conflict between the two that cannot be reconciled, the government's priority should be ensuring the conditions necessary for healthy living. Although the state has a duty to consider the impact of policies on business this should not be its main concern.

Criticism of the Public Health Responsibility Deal

The coalition government Public Health Responsibility Deal has been controversial and medical bodies, public health specialists and select committees in both the House of Lords and the House of Commons have all raised concerns over the effectiveness and viability of the policy.

In 2011, the BMA, the Royal College of Physicians and several other key stakeholders declined to sign up to the Responsibility Deal Alcohol Network (RDAN) because the pledges in the RDAN were insufficiently robust to bring about real change.²⁹ Among the concerns listed were that the industry pledges did not specify what would constitute evidence of success and were not measurable and the process prioritised industry views, not giving public health organisations an equal voice in forming the network's pledges. The Academy of Royal Colleges has also been critical of the government policy on obesity and sceptical that any significant progress could be achieved through partnership with the food and drink industry.³⁰

Freedom, paternalism and stewardship

We have seen that the government's preference is to limit the extent to which public health interventions restrict individual and corporate liberties. The government's approach is anti-paternalistic – opposed to restricting people's liberties for the sake of their own welfare. In doing so it has drawn on the Nuffield Council's 'intervention ladder', in part because a ladder suggests that one should start at the bottom rung – the rung of least intervention. We have argued that such an approach is inadequate for two strong and linked reasons. Firstly that freedom has a positive aspect and governments have legitimate grounds for creating the conditions – such as a reasonably healthy environment – in which freedom can have meaning. And secondly an emphasis on negative liberties, on freedom from interference alone, risks further entrenching deep social inequalities. Current levels of behaviour-related ill-health show that an approach that focuses primarily on interventions at the bottom of the ladder is often not enough. The BMA's preferred approach has affinities with a model that the Nuffield Council put forward but that found less explicit favour with the government – the stewardship approach.³¹ The stewardship approach recognises that the state has responsibilities above and beyond protecting negative freedoms. According to the Nuffield Council:

Public policies should actively promote health, for example, by providing appropriate access to medical services, establishing programmes to help people combat addictions, and supporting the conditions under

*which people enjoy good health such as through the provision of opportunities for exercise.*³²

The stewardship model also recognises that health is both an individual and a collective undertaking, that public health interventions can draw their legitimacy from the promotion of goods held in common. As the Council states:

*Public health often depends on universal programmes which need to be endorsed collectively if they are to be successfully implemented. Although the ... liberal framework supports the promotion of public goods and services, it presents these primarily as ways of promoting individual welfare. Hence, it does not adequately express the shared commitment to collective ends, which is a key ingredient in public support for programmes aimed at securing goods that are essentially collective.*³³

Rhetorical assaults on straw men like ‘Whitehall nannyng’ notwithstanding, the history of public health in the UK suggests considerable political mandate for some forms of state interventions to promote health. Seat belt and motorcycle helmet legislation, tobacco and alcohol duties and bans on smoking in public places are all restrictive of liberty and while not always welcomed by everyone when first introduced have rapidly become accepted parts of our common life. Continuing public support for the NHS, despite the tax burden it brings, is perhaps the strongest example of our willingness to forego some freedoms in order to ensure, as far as possible, both our individual and collective thriving. Where the evidence base is strong, where the intervention is proportionate to the problem and where there is a reasonable democratic mandate, good tradeoffs can be made between private liberty and common goods.

Conclusion

Lifestyle-related disease represents the most pressing public health threat of modern times. Obesity, alcohol misuse and tobacco consumption are amongst the leading risk factors of disability, morbidity and mortality in the UK. Treating consequences of poor lifestyle decisions represents a significant drain on already scarce NHS resources. Addressing the causes of life-style related disease though is not straightforward. Making changes to cultural, environmental and societal influences on behaviour and encouraging people to take more responsibility for their health represents a considerable undertaking. The entrenched nature of the many of the issues mean it may take time for any benefits to feed through to individuals.

In the BMA’s view, the government strategy for promoting health and wellbeing is not sufficient to tackle the scale of the problem. Given the range of influences that affect individual behaviour, a reliance on personal responsibility and nudge-type interventions will not be enough to help people make positive changes to their lifestyles. The conflicts of interest engaged where powerful commercial actors have influence over public health priorities raise serious doubts as the effectiveness and viability of voluntary partnerships with industry in working towards public health goals.

For the BMA the state has an ethical duty to create conditions where people are able to exercise their freedom of choice without undue influence and to ensure, as far as possible, that individuals have the capacities, including good health, to take advantage of their life chances. Decisions on when and how to intervene should be based primarily on available evidence of effectiveness and the scale of the problem rather than on ideology.

The prevalence of lifestyle-related disease in the UK and the overwhelming evidence of the individual and wider harms they cause present a compelling case for the government to take decisive and urgent action in this area. By doing more to remove barriers to healthy living, to mitigate the impact of commercial and cultural influences on behaviour and by empowering people to make informed choices, the Government can play a central role in enabling people to take greater responsibility for their own health and in reducing the burden of lifestyle-related disease on society as a whole.

Appendix

Public health priorities: key BMA policy

Obesity

- Delivery of 'an appropriate physical education curriculum' in schools
- The expansion of safe cycle paths and networks
- A halt to school playing field sales
- A reduction in salt, sugar and hydrogenated fats added to pre-prepared foods
- A ban on advertising unhealthy food and drink to children
- Mandatory 'traffic light' labelling on food packaging

Tobacco

- Introduce standardised packaging for all tobacco products
- Introduce minimum pricing
- Strengthen nicotine regulation in the UK
- Initiate a positive licensing scheme to reduce the number of tobacco outlets
- Continue to reduce tobacco marketing opportunities
- Limit pro-smoking imagery in entertainment media
- Support smokers to quit by provided adequately funded, targeted smoking cessation services

Alcohol

- Increase and rationalise tax to ensure it is proportional to alcoholic content
- Reduce licensing hours
- Ensure licensing legislation is strictly enforced
- Prevent irresponsible marketing practices
- Improve labelling, to include alcohol content and recommended daily guidelines
- Introduce a compulsory levy on the alcohol industry to fund an independent public health body to oversee alcohol-related research
- Reduce the legal limit for the level of alcohol permitted while driving from 80mg/100ml to 50mg/100ml
- Ensure the detection and management of alcohol misuse is an adequately funded and resourced component of primary and secondary care
- Increase and ring-fence funding for specialist alcohol treatment services
- Lobby for and support the WHO in developing and implementing a legally binding international treaty on alcohol control

BMA Board of Science reports

Obesity

- Healthy transport = Healthy lives (2012)
- Trans fats and health briefing paper (2011)
- Early life nutrition and lifelong health (2009)
- Preventing childhood obesity (2005)
- Adolescent health (2003)
- Growing up in Britain: ensuring a healthy future for our children (1999)

Tobacco

- E-cigarettes in public places and work places (2012)
- Smoking in vehicles (2011)
- Policy position statement on a tobacco-free approach to harm reduction (2009)
- Forever cool: the influence of smoking imagery on young people (2008)
- Breaking the cycle of children's exposure to tobacco smoke (2007)
- Smoking and reproductive life: the impact of smoking on sexual, reproductive and child health (2004)
- Adolescent health (2003)
- Towards smoke-free public places (2002)

Alcohol

- Reducing the affordability of alcohol (2012)
- Under the influence: the damaging effect of alcohol marketing on young people (2009)
- The human cost of alcohol: doctors speak out (2009)
- Mythbusting on minimum pricing (2009)
- Alcohol misuse: tackling the UK epidemic (2008)
- Making Scotland's roads safer – reduce the drink driving limit (2007)
- Fetal alcohol spectrum disorders – a guide for healthcare professionals (2007)
- Adolescent health (2003)

References

- 1 Department of Health (2010) *Healthy Lives, Healthy People: Our strategy for public health in England*. London: The Stationery Office. http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_127424.pdf (accessed 21 February 2010).
- 2 Government Office for Science (2007) *Tackling Obesity: Future Choices – Project Report*, 2nd edn. London: Government Office for Science, pp.5-6.
- 3 Home Office (2012) *The Government's Alcohol Strategy*. London: The Stationery Office, p.3. <http://www.homeoffice.gov.uk/publications/alcohol-drugs/alcohol/alcohol-strategy> (accessed 15 April 2011).
- 4 Government Office for Science (2007) *Tackling Obesity: Future Choices – Project Report*, 2nd edn. London: Government Office for Science, p.5.
- 5 Dunstan S (2012) *General lifestyle survey overview. A report on the 2010 general lifestyle survey*. Newport: Office for National Statistics, p.5.
- 6 Department of Health (2010) *Healthy Lives, Healthy People: Our strategy for public health in England*. London: The Stationery Office. http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_127424.pdf (accessed 21 February 2010).
- 7 Department of Health (2011) *Healthy lives, healthy people: a call to action on obesity in England*. London: DH. http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_130401 (accessed 15 April 2012).
- 8 Department of Health (2011) *Healthy lives, healthy people: a tobacco control plan for England*. London: DH. http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_124917 (accessed 15 April 2011).
- 9 Home Office (2012) *The Government's Alcohol Strategy*. London: The Stationery Office. <http://www.homeoffice.gov.uk/publications/alcohol-drugs/alcohol/alcohol-strategy> (accessed 15 April 2011).
- 10 Nuffield Council on Bioethics (2007) *Public health: ethical issues*. London: NCB, pp.41-42.
- 11 A nudge is defined by Thaler and Sunstein as "any aspect of the choice architecture that alters people's behaviour in a predictable way without forbidding any options or significantly changing their economic incentives". RH Thaler, CR Sunstein (2009) *Nudge: Improving Life Decisions About Health Wealth And Happiness*. London: Penguin, p.6.
- 12 RH Thaler, CR Sunstein (2009) *Nudge: Improving Life Decisions About Health Wealth And Happiness*. London: Penguin.
- 13 Dolan P, Hallsworth M, Halpern D et al. (2010) MINDSPACE: Influencing behaviour through public policy. London: Cabinet Office, Institute for Government.
- 14 Department of Health (2010) *Healthy Lives, Healthy People: Our strategy for public health in England*. London: The Stationery Office, p.30.
- 15 Cabinet Office Behavioural Insights Team (2011) *Annual update 2010-11*. London: Cabinet Office Behavioural Insights Team. http://www.cabinetoffice.gov.uk/sites/default/files/resources/Behaviour-Change-Insight-Team-Annual-Update_acc.pdf (accessed 16 February 2012).
- 16 Department of Health (2011) *The Public Health Responsibility Deal*. London: DH. <https://www.wp.dh.gov.uk/responsibilitydeal/files/2012/03/The-Public-Health-Responsibility-Deal-March-2011.pdf> (accessed 23 April 2012).
- 17 A full list of collective and individual pledges and signatories to the each of the responsibility deals can be found at <http://responsibilitydeal.dh.gov.uk>.
- 18 Department of Health (2010) *Healthy Lives, Healthy People: Our strategy for public health in England*. London: The Stationery Office, p.30. http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_127424.pdf (accessed 21 February 2010).
- 19 Nuffield Council on Bioethics (2007) *Public health: ethical issues*. London: NCB, pp.84-85.
- 20 Marmot M, Allen J, Goldblatt P. et al (2010) *Fair Society, Healthy Lives. The Marmot Review: Executive Summary*. p.3.
- 21 Faculty of Public Health (2010) *Healthy nudges – When the public wants change and the politicians don't know it*. London: FPH, pp.12-13.
- 22 Dunstan S (2012) *General lifestyle survey overview. A report on the 2010 general lifestyle survey*. Newport: Office for National Statistics, p.11.
- 23 World Health Organisation (2011) *Obesity and Overweight: Fact Sheet NO311*. <http://www.who.int/mediacentre/factsheets/fs311/en/index.html> (accessed 2 July 2012).
- 24 Marteau TM, Ogilvie D, Roland M. (2011) Judging nudging: can nudging improve population health. *BMJ* 2011;342:d228.
- 25 House of Lords Science and Technology Select Committee (2011) *Behaviour Change: 2nd Report of Session 2010-12*. London: The Stationery Office Limited, para 5.10.
- 26 Bonell C, McKee M, Fletcher A et al. (2011) Nudge smudge: UK Government misrepresents "nudge". *Lancet* 2011;377: 2158-2159.
- 27 House of Lords Science and Technology Select Committee (2011) *Behaviour Change: 2nd Report of Session 2010-12*. London: The Stationery Office Limited, p.5.
- 28 Richard Reeves (2010) *A Liberal Dose? Health and Wellbeing – the Role of the State*. http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/@ps/documents/digitalasset/dh_111695.pdf (accessed 16 February 2012), p.11
- 29 Alcohol Concern, British Association for the Study of the Liver, British Liver Trust, British Medical Association, Institute of Alcohol Studies, Royal College of Physicians (2011) *Key organisations do not sign responsibility deal*. Press release, 14 March 2011. <http://www.rcplondon.ac.uk/press-releases/key-health-organisations-do-not-sign-responsibility-deal> (accessed 14 February 2011).
- 30 Campbell D, Boffey D. (2012) Doctors turn on No 10 over failure to curb obesity surge. *The Observer*, April 14. <http://www.guardian.co.uk/society/2012/apr/14/obesity-crisis-doctors-fastfood-deals-ban> (accessed 30 April 2012).
- 31 Nuffield Council on Bioethics (2007) *Public health: ethical issues*. London: NCB, pp.25-26.
- 32 Nuffield Council on Bioethics (2007) *Public health: ethical issues*. London: NCB, p.25.
- 33 Nuffield Council on Bioethics (2007) *Public health: ethical issues*. London: NCB, p.23.