THE GIANTS OF EXCESS: A CHALLENGE TO THE NATION'S HEALTH

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Summary

Sir William Beveridge in his famous report wanted to eliminate the five giants of want, squalor, idleness, ignorance and disease: the giants of too little. However, the problems facing welfare states are more the giants of too much: the giants of excess. For health in particular, excessive behaviours of various kinds contribute significantly to the major sources of morbidity and mortality in our society, including cancer, heart disease, stroke, diabetes, and kidney and liver diseases. There are few good theories as to why individuals engage in excess behaviours. But it is clear that one of the main problems that face both individuals and the government or other agencies tasked with improving health is that the costs of most unhealthy activities impact in the future, whereas the benefits from them occur in the present. Policies have to be developed that either bring some of the costs from unhealthy activities (or the benefits from healthy ones) back from the future, or reduce some of the benefits from unhealthy activities (or reduce the costs of healthy ones) in the present. To avoid the danger of the 'nanny state', they should also not impact too greatly on individual freedom or autonomy. Promising ideas that meet these criteria, derived from the philosophy of libertarian paternalism, include smoking permits and exercise hours.

Keywords: Tobacco, alcohol, obesity, public health, paternalism, smoking permits, exercise hours

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'It [social security] is one part only of an attack upon five giant evils: upon the physical Want...., upon Disease, which often causes that want and brings many other troubles in its train, upon Ignorance which no democracy can afford among its citizens, upon Squalor… and upon the Idleness which destroys wealth and corrupts men' Sir William Beveridge

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As the quotation indicates, in his famous report of 1942 Sir William Beveridge identified five giants that the welfare state had to tackle: want, disease, squalor, ignorance and idleness (Beveridge, 1942, p.170)[1]. While it would be too much to claim that now, sixty five years later, all these giants have been slain, it would be fair to argue that they have diminished considerably in size. Although inequality is rampant (and almost certainly greater than in Beveridge's time), there are very few people in absolute want in Britain today (Hills 2004). So far as ignorance is concerned, every child in the UK now goes to school until 16 – soon to be 18 – while 43% go on to university in England and 47 % in Scotland – soon to be 50% in both countries[2]. UK life expectancy has risen from 62 (males) and 67 (females) in 1942 to 77 (males) and 81 (females) in 2004-6: an average rise of almost three months every year[3]. There are more dwellings than households in the United Kingdom – although they are not all in the right places - while 92% of households in Great Britain have central heating[4,5]. And few people are idle: unemployment is low by international standards, and working hours are the longest in Europe[6,7].

But the relative shrinking of Beveridge's giants has allowed others to take their place – ones that are in some respects the mirror images of Beveridge's. His giants could basically be described as the giants of too little: too little income, too little work, too little education, too little housing, too little health care. Whereas some at least of today's giants are the giants of too much - what we might term the giants of excess. The rise in income inequality since Beveridge's time derives in large part from the increases in incomes of the very wealthy to levels that few would dispute are excessive. Many people would argue that British working hours are too high. And some might even claim

[1] For a discussion of these and of the Beveridge Report itself that is both important and entertaining, see Timmins (2001).
[2] Percentage of 17-30 year olds domiciled in each country at an institution of higher education (Universities UK 2007)
[3] http://www.statistics.gov.uk/downloads/theme_compendia/UK2004/13_1.xls (1942); http://www.statistics.gov.uk/CCI/nugget.asp?ID=168&Pos=1&ColRank=1&Rank=374 (2004-6). Both accessed 5 January 2008
[4] http://www.statistics.gov.uk/census2001/profiles/commentaries/housing.asp. Accessed 5 January 2008
[5] Centre for Housing Policy (2007) Table 22.
[6] Thus the UK unemployment rate in 2004 was 4.7%: lower than any other major European economy and almost half the EU average of 9.2% (Mlady, 2005, Table 1, p.2).
[7] European Industrial Relations Observatory (2005)

that keeping all children in school to 18, and then expecting half of them to go on to college, is perhaps also a little excessive[8].

But nowhere are the giants of excess larger than in health. The major health problems of today are no longer the problems of infectious diseases such as TB, cholera, typhoid or diphtheria: what might be described as the diseases of poverty. Rather, they are cancer, heart disease, cerebro-vascular conditions and diabetes. And these are diseases that in many cases arise from excess consumption of various kinds: of tobacco, of food high in calories, fat and sugar, of alcohol and illegal drugs, and of sedentary pursuits such as watching television, playing computer games and driving cars. They are the diseases of excess.

And the giants of excess present a real problem for Beveridge's welfare state, and more generally for government policy. Dealing with too much is very different from dealing with too little. At its simplest, too little can be dealt with by providing more of whatever is absent: more income, more health care, more housing, more education, more employment. Dealing with too much cannot be resolved by anything so simple. Taking things away is much more difficult than giving things out – especially since, on the whole, the outcomes of excess are not forced on people but arise from their own choices and behaviour[9]. And it is with the issues for government health policy raised by this fact – or more generally by the role of individual choice and behaviour in contributing to the giants of excess – that is the theme of this lecture.

THE GIANTS OF EXCESS

But first some facts about the giants of excess themselves[10]. As so often, the best data come from the United States. Table 1 shows that the behavioural factors associated with the principal causes of death in the US. The causes of death themselves are given in the left-hand column, together with the proportion of total deaths attributable to each in 1997; the middle column show both physiological risk factors and behavioural risk factors that contribute directly to the diseases concerned; and the right hand column gives the behavioural factors that contribute to the physiological factors. It is apparent that excessive consumption of tobacco, calories, salt, fat, and alcohol all contribute not only to the principal fatal illnesses, such as heart disease, malignant neoplasms and cerebro-

[8] Already more than half of workers in a large set of occupations believe that they are overqualified for their jobs (Financial Times, 29 Oct 2007, p.3).

[9] As a typical academic I immediately want to qualify these rather bald assertions. Obviously some problems of poverty arise because of the choices that individuals make and the behaviour they indulge in: the profligate, the lazy, the irresponsible do exist and are not simply figments of the imagination of the hard right (although that imagination almost certainly exaggerates their prevalence). Likewise some problems of excess arise from factors that are really beyond individual control, such as genetic factors leading to obesity – or indeed government regulations compelling people to stay on at school to 18, if that is regarded as excess. Nonetheless, I would argue that the issues raised by individual choices and behaviours that lead to excess are quite different both in kind and scale from those that arise when dealing with those that arise from choices leading to too little.

[10] Other reviews of the relevant information can be found in Nuffield Council on Bioethics (2007) and Jochelson (2005).

vascular diseases, but to many of those associated with high morbidity such as diabetes and liver and kidney diseases.

TABLE 1 ABOUT HERE

Table 1 does not give data on the relative importance of the behavioural factors. However, a separate study has estimated that 40% of premature mortality in the US is the result of behavioural factors, compared with 30% arising from genetic predisposition, 20% from social and environmental factors and 10% from health care deficiencies (McGinnis *et al.* 2002).

Although we do not have directly comparable estimates for the United Kingdom, it is unlikely that the broad picture differs significantly from that in the US. The major causes of death are broadly the same, and there is every reason to suppose that the behavioural factors play a similarly important role in their determinants[11].

So it has been estimated that every year more than 85,000 deaths occur in England from smoking-related causes: 18% of all deaths[12]. Though alcohol-related deaths are not so widespread as smoking (in 2005 they were estimated as 6253: 1.3% of all deaths[13]), mortality rates from alcohol abuse are on the rise for both men and women, and the number of deaths has almost doubled since 1991. Death rates are increasing faster for men than women, with the male death rate at 17.9 per 100,000 population in 2005 now more than double that of the female rate at 8.3 per 100,000. The National Audit Office estimated the number of deaths attributable to obesity in England in 2001 as 30,000 (about 6% of the total), and that it shortened life expectancy by nine years (NAO, 2001, p.1). The number of deaths directly attributable to the over-use of heroin and cocaine in England and Wales rose by five times between 1993 and 2006; the trend is significant, even if the numbers are still small (825 deaths in 2006) [14]

And, of course, premature mortality is not the only health or social problem created by the giants of excess. Smoking creates costs for health services, estimated at £1.7 billion for the British NHS in 1998 (Department of Health 1998). No estimate has been made of the production or other economic losses due to smoking-related illness but these are likely to be considerable. Alcohol not only creates costs for health services and costs to the economy but also contributes to violence and accidents. It has been estimated that the total cost of alcohol-related related harms amount to £20 billion per annum (Prime Minister's Strategy Unit, 2004). The total cost of obesity to the economy (including the NHS) have been variously estimated as £2.5 billion (NAO, 2001), £3.3-£3.7 billion (House of Commons Health Committee 2004) and over £8 billion (McCormick and Stone 2006). Calculations in a Foresight report used the House of Commons estimate to

[11] For principal causes of death in England see Department of Health (2007) Table 2E

[12] In 2005 there were 86,500 deaths attributable to smoking, and 479, 678 deaths from all causes. Department of Health (2007) Table 2E.

[13] *Ibid*

[14] http://www.statistics.gov.uk/STATBASE/Expodata/Spreadsheets/D7892.xls. Accessed 3rd January 2008. The numbers refer to the mention of heroin and cocaine on the death certificate; as such they are almost certainly an under-estimate of the deaths wholly or partly attributable to the over-use of these drugs

scale up the costs to obtain a projected figure for the year 2050 of £45 billion (Foresight 2007). But the basis for these calculations has been challenged: a more realistic estimate for 2050 calculated by Professor David Spiegelhalter is (a still very sizeable) £32 billion[15].

Even more worrying are the trends and distribution in the excess behaviours concerned. Although smoking prevalence has declined considerably since the 1970s, the rate of decline has almost stopped since 1998. In 1974, the General Household Survey (GHS) found that 45% of the adult (16 and over) population smoked. By 1998 that had declined to 27%; but it stabilised at around that figure until 2004 and 2005 when there was a slight downturn to 24% (Goddard, 2006, Table 1.1, p. 16). Moreover, much of the long-term decline has taken place in the higher social groups, with the result that smoking is increasingly concentrated in poorer and socially disadvantaged groups. In 2004, households where the household reference person was in a higher professional or higher managerial position had prevalence rates of 12% and 15% respectively whereas those where the household reference person was in a routine occupation had prevalence rates of 33% respectively (*ibid*, p.7).

Of particular interest for reasons to become apparent is the behaviour of the young. A survey of pupils aged 11-15 in 2006 found that 9% of pupils smoked regularly with the proportion rising to 20% of fifteen year-olds. Girls were more likely to smoke than boys. (Fuller, 2007, p.1). Due to a tendency to under-report, especially when interviewing takes place in the family home, GHS data are less reliable for the young; however, they suggest that some 24% of 16-19 year-olds smoke (Goddard, 2006, Table 1.1, p. 16). More women of that age smoke than men: 26% compared with 23%. The data also indicates that has been an increase in the proportion of women taking up smoking before the age of 16: in 1992, 28% of women who had ever smoked had started before the age of 16, but this had risen to 35% in 2004. There was no equivalent increase among men (*ibid*, p.13).

Alcohol consumption has increased sharply over the last fifty years, with per capita consumption doubling over that time[16]. It is now higher than the EU average[17]. During the 1990s, the General Household Survey showed a slight increase in men's average weekly alcohol consumption, from 15.9 units (equivalent to about eight pints of beer) in 1992 to 16.4 in 1998[18]. There was a proportionately greater increase in women's consumption from 5.4 units in 1992 to 6.4 in 1998. Since then there appears to have been no change in female consumption, but a slight decline in male consumption, which is now standing at 15.8 units a week (*ibid*, Table 2.18, p. 74). The reason for the decline is unclear, but it may be due in part to publicity about binge drinking leading to an increase in interviewees' under-reporting of their own consumption (*ibid*, p. 54)[19].

[15] http://news.bbc.co.uk/2/hi/health/7106219.stm. Accessed 5 Jan 2008
[16] Academy of Medical Sciences (2004).
[17] Department of Health (2007) Chart 3.3.
[18] One unit of alcohol is half a pint of normal strength beer, a single measure of spirits or a glass of wine.
[19] Also, the 2005 figures are weighted for non-response but the earlier figures are not.

There is little difference between the social classes in the amount they drink. However, the GHS found big age differences, with the young drinking more than the old. During the 1990s there was a sharp increase in alcohol consumption by 16-24 years old, from 19.1 units weekly in 1992 to 23.6 in 1998 for males and 7.3 in 1992 to 10.6 in 1998 for females. Since then it seems to have stabilised for women, but may have fallen for men (to 18.2)[20]. The survey of pupils aged 11-15 found that 21% reported having drunk alcohol in the last seven days, including 41% of 15 year-olds. There was little difference in the proportion reporting between boys and girls. Boys consumed on average 12.3 units a week, girls 10.5 units (Fuller, 2007.p.2). These were higher than the GHS reported figures for over-65s (10.4 and 6.5 respectively).

In 2005 it has been estimated that 10% of all adults used illegal drugs and 3,4% Class A drugs (including heroin and cocaine)[21]. The pupil survey found that 24% of pupils aged 11-15 had ever used drugs and 17% said they had taken drugs in the past years. These proportions are down on 2001.However the proportion of pupils who had taken Class A drugs has stayed constant since 2001 at around 4% of the total (Fuller, 2007, p.3).

Over ten years ago, the National Study of Health and Growth drew attention to a 'worrying increase in obesity in Britain' (Rona *et al* 1999, p.98, referring to Hughes et al 1997). By 2005, 24.3% of females were obese and 22% of males in England and Wales[22]. The Foresight Report (2007) has projected that by 2050 60% of adult men, 50% of adult women and 25% of all children could be obese.

What of the behavioural factors leading to obesity? Basically these can be categorised into two: those involving to an increase in calorie consumption (basically food intake) an those involving a decrease in calorie expenditure (basically exercise). Perhaps surprisingly, the best survey of the evidence suggests that in the UK at least total calorie consumption has increased little, if at all, over the past three decades, although there is, a suggestion of a small upward trend since the late 1990s (McCormick and Stone 2006, p. 14). Intriguingly this is different from some other countries, notably the United States, which show a big increase in calorie intake over that period. The same study goes on to accumulate suggestive evidence that there has been a substantial fall in exercise, including a fall in the number of miles walked (24%) or cycled (20%) between 1980 and 2000, a halving in the proportion of those working in exercise-intensive activities in primary or manufacturing industry over the same period, a fall in the proportion of those doing recreational physical exercise, and, of course, a massive growth in labour-saving devices in the home and at work.

[20] *Ibid*, Table 2.18, p.74. But see previous footnote.
[21] Department of Health (2007) Table 2D
[22] Obesity is defined as a Body Mass Index (BMI) of over 30. The BMI is the weight of the individual in kilograms divided by his or height squared.

HOW SHOULD THE STATE INTERVENE?

So the giants of excess are real. They exist, they are damaging the nation's health, its economy, and indeed the wider society. Moreover, in most cases the giants are growing in stature and hence in their potential to increase the damage. So there would seem to be a *prima facie* case for government intervention of some kind to cut them down to size. But what form should that intervention take?

In fact, there are a number of fundamental problems that confronts any attempt by government to do something about the giants of excess. One of these is that we do not have a properly developed theory as to why people engaged in excess behaviour. Avner Offer in his book *The Challenge of Affluence* (2006) suggests it is the absence of individual self-control. Oswald and Powdthavee (forthcoming) have suggested that it may be due to people's relative position in the distribution of the relevant factor. So, for instance, people's decisions with respect to their food consumption or their exercise may be due less to their absolute weight than their 'relative' weight: their weight as compared to that of the people around them. This is supported by very recent work in the US suggesting that social networks do appear to be important in 'transmitting' obesity (Christakis and Fowler 2007).

A much more ambitious set of theoretical explanations comes from we might call the revolutionary wing of the public health community. Here the idea is that any focus on individual behaviour is misplaced and that the risks to the nation's health laid out in the previous section arise from fundamental flaws in the structure of society: from the persistence of long-term poverty and the growth of inequality through to the existence of powerful private corporations pushing tobacco, alcohol and fast food (See e.g. Siddiqi and Hertzman, 2007, Davey Smith et al 1999). The solution therefore requires nothing less than fundamental changes in the nature of society.

A very recent illustration of this view (or least one that comes close to it) is the Foresight (2007) report. It argues that the 'fault' for the behaviours of excess does not lie in the individual; rather it is that of the wider society and the context in which the individual finds him or herself. In the case of obesity, the Foresight report calls it the 'obesogenic environment'.

Now there is clearly something to this. Obesity and other health problems resulting from excess behaviour do clearly have multiple social causes which are difficult to untangle Also a focus on the individual can lead to unhelpful attempts to allocate blame, and to devise over-simplistic solutions: all that is needed is to convince people that their health difficulties are their own fault, and tell them that what they have to do is to pull themselves together.

But I am not convinced that these analyses are really very helpful. One of their dangers is that they present the problem as so enormous, so complex, that its resolution seems daunting at best, and impossible at worst – impossible, that is, short of a revolution. Heavy emphasis on the scale and complexity of the fundamental causal mechanisms –

and the message often accompanying it that there is no magic bullet that will resolve it all - can mean that people stop looking for any kind of bullet, magic or otherwise. And that would be undesirable; for the fact is that individual behaviours can and do change, positively or negatively, in relatively short spaces of time without social revolution: witness the decline in smoking in the 1970s and 1980s, and the more recent falls in the amount of exercise that people take.

There are simpler analyses that can help us understand the problems of individual behaviour with respect to their health and take forward the development of policy. In fact, there is a fundamental problem that bedevils the adoption of measures designed to improve the nation's health, but it is not that of the nature of society. It is the inexorable fact – which would be true in any society, feudal, capitalist or socialist – that *the costs of most unhealthy activities impact in the future, whereas the benefits from them occur in the present.*

So, for a 20 year old, the smoking of a cigarette or the playing of a computer game now has an immediate pay-off in terms of sensation or relaxation; while the cancer or heart disease that may follow is probably at least thirty years away. Given that the future is uncertain, it is then perfectly rational for the individual to 'discount' those benefits: that it, to place a lower weight on them than if they were to occur in the present.

There are a variety of sources of this uncertainty, and therefore of discounting. He or she may die of something else in the meantime; there may be medical advances that mean that cancer or heart disease will not be the killers that they are now. Moreover, there is the question of his or her own physiognomy: many smokers or heavy eaters do not contract lung or heart disease and they may be one of the lucky ones

Another reason for discounting the future is the phenomenon that economists and others call myopia: that even in a world where there was more certainty people often seem to prefer pleasure now to that in the future. Even if this is regarded as 'irrational' it is understandable. Many individuals find it difficult to conceive of being thirty years older: twenty year olds may perceive themselves as being different people from their fifty year old selves, and hence thus may not weight these 'other', rather alien, people's interests as much as their own immediate ones.

This problem – that of the long time gap between the benefits from the activity and the possible onset of some of its costs – also applies to policy-makers and others involved trying to curb unhealthy activities and promote healthy ones, but in reverse. For them the costs of whatever intervention they are trying to undertake are immediate, whereas the benefits will not accrue until a long time in the future - if at all.

For instance, consider the commissioners of a Primary Care Trust (PCT) faced with the choice of introducing a resource intensive exercise programme or of bailing out the local hospital trust that has got into financial difficulties. If they go for the health promotion programme, they will incur considerable financial costs. But also, in all probability, as the local hospital has to close its doors, they will incur substantial political costs as well.

Quite apart from the distress of the hospital staff and patients (actual and prospective), the commissioners will have to face the hostility of the local media and community. And they may get a rap on the knuckles from the Strategic Health Authority at best, or lose their job at worst, for not keeping the noise down.

Of course, if the health promotion programme is well chosen, it should deliver significant benefits for the health of the local population – which, in the long run, as well as being socially desirable, could deliver cost savings for the PCT. But, given the fact that health service staff, like those in all other occupations, move on, get older, retire and so on, the PCT commissioners are unlikely still to be in their present roles, or even in the same organisation, when these benefits come in - indeed, given the pace of change within the NHS, the organisation itself might not be there. In that situation there is no need to invoke psychological explanations of discounting to explain why they might choose to fund the deficit and not the exercise programme. It is not surprising that a recent survey of PCTs found that less than 10% used their public health allocation for the purposes for which it was intended, with most axing public health programmes to pay for overspending on trust budgets for hospitals and GPs[23].

What are the implications of all this for government policy? Well, it implies that something has to be done to change the incentive structure faced by individuals – and indeed by commissioners. Policies have to be developed either that bring some of the costs from unhealthy activities (or the benefits from healthy ones) back from the future, or that reduce some of the benefits from unhealthy activities (or reduce the costs of healthy ones) in the present. This is not easy but not impossible; some policy ideas are discussed below. But before that we must address an even more fundamental issue concerning government policy to correct the problems of excess: whether the state has the right to intervene at all.

SHOULD THE STATE INTERVENE?

This issue is rather different in kind but in a sense even more fundamental than the ones we have considered so far. It concerns individual autonomy and the balance of rights between the individual and the state. Does the state have a right to stop people engaging in the activities of excess? If fully informed individuals decide to smoke cigarettes or to eat hamburgers, in full knowledge of the likely consequences, then does the state have a right to stop them doing it?

In some circumstances the answer is fairly clear. If, for instance, the smoke from a lit cigarette is harming or significantly distressing others, then most people would agree that the state has a right to intervene to reduce or eliminate that harm or distress in some way. Similarly, state intervention could be justified if the individual were <u>not</u> fully informed about the risks involved – although then the question would arise as to whether the state has a right to do more than simply provide the person concerned with the information.

[23] *The Guardian* 19 October 2007, p.8

However, what if neither of those conditions apply? What if the individuals concerned are fully informed and no-one else is affected adversely by their actions? Is the state still justified in intervening? Does the state have the right to protect the individual from him or herself? Should the state take actions to improve individuals' health even though they themselves apparently do not want to?

Many would argue not. From John Stuart Mill onwards, many philosophers have emphasised the desirability of individual autonomy. This has been partly because, as in Mill's case, the individual is considered the best judge of his or her own interests, with the implication being that, if the state were to intervene, it would probably get it wrong.

The strongest of all arguments against the interference of the public with purely personal conduct, is that when it does interfere, the odds are that it interferes wrongly, and in the wrong place (Mill 1974, p.151).

But it is also part of a more general utilitarian or 'welfarist' argument. This is that the welfare of individuals should be maximised, that the best people to do this are the individuals themselves, and the state should not do it for them – unless the welfare of others is damaged in some way.

Now this welfarist argument against state intervention– that individuals are always the best judge of their own interests - can be challenged. The new science of behavioural economics has shown that individuals do not always behave rationally in their decision-making, especially where the future is concerned. People often suffer from what my colleague Bill New and I are calling, in a book we are writing on paternalism 'reasoning failure'. Sources of reasoning failure include limited technical ability, limited imagination/experience, limited willpower, and limited objectivity.

Limited technical ability refers to people' inability to perceive or process information adequately to achieve their preferences. This may be because the quantity of information is too great, and overwhelms them, or because the connections between judgment, choice and outcome are difficult to make, or because the context or 'frame' in which information is presented 'fools' the decision-maker. It is not a failure associated with the information itself: for this could be perfectly accurate and complete. Rather it is a failure to 'compute' information properly. People's difficulties in accurately assessing the risks associated with unhealthy behaviour are a good example of this. The second failure of reasoning relates to people's limited ability to imagine or predict one's degree of satisfaction or welfare in different states of the world. This problem is particularly acute when considering the future and may go some way to explaining the myopia phenomenon discussed above. The third concerns limited willpower or weakness of the will: a common phenomenon in this area. So, for instance, many smokers say they would like to give up but find it impossible to summon up the strength of will on their own to do so.

The final source of reasoning failure concerns a failure to act sufficiently objectively and without a bias towards one's own perspective. A classic case of this is 'over-optimism'. A common feature of human behaviour is a belief that bad events are far less likely to

happen to them than to others (Weinstein 1980, 1996). So, for instance, a large, national telephone survey in the US revealed that smokers both underestimate their increased risk of getting lung cancer when compared to the perceived risk of non-smokers, and considered their own risk of developing lung cancer as significantly less than that of the average smoker (Weinstein, Marcus and Moser 2005)

All of these provide some justification for the state to intervene to promote individuals' welfare. However, there are those for whom welfare-promotion is not a sufficient justification, except perhaps in very extreme cases. For every type of state intervention involves some restriction on an individual's autonomy or civic freedom; and autonomy is too important a value to be compromised in this way. People should be allowed to make mistakes, and indeed allowed not to maximise their own welfare if they so choose. Forcibly to prevent them from doing so is to move down a slippery slope towards the nanny state: state tyranny and individual infantilisation:

One does not have to go all the way to the wilder shores of extremism to acknowledge that there is something to this. I do not smoke; but I do drink alcohol, eat hamburgers and go ski-ing: all activities that in one way or another are, or could be, extremely unhealthy. And I would strongly resent being told that I could not do any of them – even if I were simultaneously re-assured that I would actually be made much better off by doing so.

Is there any way to square this circle? Are there measures that government could introduce that do promote individual welfare but that do not significantly compromise individual autonomy? There is a strand of thinking - based on the behavioural economics literature that mentioned above – that suggests a way forward. It's called *libertarian paternalism.*

The idea, developed by Sunstein and Thaler (2003), builds on the fact established by some of the behavioural economics experiments that 'defaults' and 'starting points' matter. So, for instance, if workers are automatically enrolled in a pension scheme, but with the freedom to opt out if they wish, most stay in. But if they are not automatically enrolled, but have to make a conscious decision to opt in, then most stay out (Madrian et al 2001). If one is required to carry an organ donation card to permit one's organs to be used for transplants in the event of one's death, there will be fewer organs available for transplant than if the 'default' is one where permission is assumed to be automatically given, unless one is carrying a card <u>denying</u> permission (Gimbel *et al* 2003, Johnson and Goldstein 2004).

So, at least in these cases, policy-makers can achieve the ends they want, while still preserving individual autonomy, by adjusting the default position. In Sunstein and Thaler's terms they will be 'nudged' in a particular direction: one that should promote their long-term interests or welfare. But the individuals concerned still have the freedom to reject the policy concerned; to choose whether or not to continue with the activity. Below I consider whether these ideas can be applied in the public health field.

POLICIES

We can sum up the argument so far by saying that there are at least two questions to ask when assessing policies aimed tackling the giant of excess. One is the policies' effectiveness with respect to affecting the costs and benefits of behaviour change: more specifically, do the policies concerned 'bring forward' the benefits of such change, and/or do they raise the current costs of not changing behaviour? The other is the extent to which they affect autonomy: do they impact on individual freedom and right to choose in a way that significantly limits autonomy?

One policy that has attracted recent attention is the offer of direct *rewards*[24]. These are measures that encourage people to undertake healthy activities, or that discourage them from undertaking unhealthy ones, by offering immediate rewards of some kind to change their behaviour. This could take various forms: direct cash payments, vouchers, price subsidies or indeed some other non-financial incentive. An example of the last is the scheme offering 'rewards' of extra methadone or antidepressants to drug addicts by the National Treatment Agency for clean urine samples that was reported in 2007[25].

Rewarding people in this way clearly brings forward the benefits of undertaking desirable activities (from a health perspective), or of not undertaking undesirable ones. But it also does not directly threaten autonomy in that people are free to accept the reward or not, and so are still free to undertake, or not to undertake, the activities concerned. Indeed, some of these incentive schemes, such as those involving direct cash payments, could in one sense be thought of as increasing autonomy, in that they increase individuals' disposable incomes over what they would have been, and hence the opportunities open to them.

There is something of a moral issue here: ought we to 'bribe' people to do some things that after all are in their own interests to do? But, setting the moral issue aside, there is quite a lot of evidence that subsidising or directly paying people to undertake health care of various kinds can be effective – and, moreover, more effective than alternatives. Giuffrida and Torgerson (1997) reviewed eleven randomised trials concerning the effects of financial incentives on patients' compliance to undertake preventive care and heed medical advice. They show that some form of financial incentive promoted compliance better than any other alternative in ten of the studies identified. Another systematic review of the evidence concluded, positively though more guardedly, 'economic incentives [for individuals] are effective in the short run for simple preventive care and well defined, distinct behavioral interventions. There is insufficient evidence to say that economic incentives are effective for long-term lifestyle changes required for health promotion' (Kane *et al* 2004, p.5),

Could these financial incentive ideas be applied to unhealthy excess behaviours? That is, could people be offered payments or rewards to stop smoking, to reduce over-eating or to cut back their drinking? Anecdotally, this appears to be something that parents do with

[24] For a more detailed discussion see Le Grand and Srivastava (2008) and Jochelson (2007)
[25] http://news.bbc.co.uk/1/hi/uk/7049934.stm. Accessed 5 January 2008

their adolescent offspring: most of us have probably come across instances of teenagers being offered rewards of various kinds (usually money) if they do not take up smoking before a certain age. And the NTA claimed that its drug scheme was based on US evidence of the effectiveness of similar schemes.

But there are problems in applying this more widely. In particular, there would be difficulties of monitoring. Parents often find it difficult to monitor their teenage children's behaviour even though they are living with them. But their problems in this respect would pale into insignificance when compared with those of some kind of outside authority trying to check whether adults are in fact complying with their promise not to smoke, or over-eat (though over-consumption of alcohol might be a little easier to monitor since those who over-consume to the point of drunkenness often come to the attention of the authorities anyway).

Positive financial incentives to stop the behaviours of excess would also encounter the problem of moral hazard. That is, people might be actively encouraged to take up - or threaten to take up - unhealthy behaviour in the expectation of getting some kind of reward if they then give up or reduce the behaviour concerned. Again monitoring or checking this kind of reaction would be extremely difficult.

All in all, while there does appear to be mileage in using positive financial incentives to encourage some kinds of healthy behaviour, it does not seem as though they would be of much use discouraging the types of excessive behaviour that is the principal focus of this lecture. More promising in that respect may be the use of various charging strategies, or policies that offer <u>negative</u> financial incentives.

Now we know that negative financial incentives can work. There is a large volume of evidence that raising prices or taxes on unhealthy activities, or on the commodities associated with those activities, is an effective means of changing behaviour. Evidence on the price sensitivity of demand for cigarettes suggests that price elasticity is somewhat inelastic (average of around -0.45) (Chaloupka and Warner 2000). The responsiveness varies with respect to age and income. For instance, youth are more responsive to prices than the population at large (DeCicca *et al*. 2002). Furthermore, lowest income groups are more responsive to price, which suggests that an increase in taxes on cigarettes may be less regressive (or indeed even progressive) because low income individuals reduce their consumption when faced with higher cigarette prices (Gruber and Koszegi 2002; Gruber *et al.* 2003). Overall, policies to levy tobacco duty appear to have substantial benefits in discouraging smoking activities. Analysis of the impact to start and quit smoking using British data shows that a 5% increase in tobacco duty would lead, on average, to a reduction in years of smoking between 2% and 3.5% (Forster and Jones 2001).

Similarly, evidence on the effect of alcohol prices on consumption suggests that the demand for alcohol is responsive to shifts in prices although there is variation in estimates of price elasticity (mean of -0.5) (Leung and Phelps 1993; Gallet 2007). Differences are observed among certain demographic groups. Price responsiveness

decreases among heavy drinkers but this depends on health information: heavy drinking among the most informed consumers is much more price elastic than moderate drinkers (Kenkel 1996). Adolescents are price responsive and some studies have found that both alcohol participation and bingeing are responsive to alcohol prices (Chaloupka and Wechsler 1996; Saffer and Dave 2006). Furthermore, older adults aged 55 and over are also price responsive and are found to have even higher tax elasticities than younger adults (Dave and Saffer 2007).

Some of the evidence is indirect, showing the effect of a fall in price leading to increased consumption. For instance, using data from the U.S. 1984-1999 Behavioural Risk Factor Surveillance System, Chou *et al*. (2004) show that reductions in convenience and fast-food restaurant prices, and increases in the number of fast food restaurants raised calorie consumption and increased both BMI and obesity. They found that this "food price" component accounts for 12% of the trend in weight outcomes.

So are there new ideas here for charging schemes that meet our criteria – ones that perhaps are consistent with the libertarian paternalism philosophy? One such might be for *a smoking permit*. Suppose every individual who wanted to buy tobacco had to purchase a permit to do so. And suppose further that they had to do this every year. Sellers of tobacco from supermarkets to tobacconists would have to see the permit before any sale. To get a permit would involve filling out a form and supplying a photograph, as well as paying the required fee. Permits would only be issued to those over eighteen, and evidence of age would have to be provided. The money raised for the permits would go to the NHS.

In this situation every year each individual would have to make a decision to 'opt in' to being a smoker. Smokers would have to decide each year whether next year they were going to continue the next year. Breaking the New Year's resolution not to smoke would be costly in terms of both money and time. This changes the default position from the present situation where the position for smokers is that they have to make a conscious decision to opt out from smoking – one where the default position is simply to carry on.

What are the problems? Obviously there are enforcement issues. Black markets, illegal sales and smuggling of cigarettes are already widely prevalent; this might simply encourage their further expansion. Also there is the problem that, once someone has purchased the permit, they will feel free to smoke. Indeed, they may even feel obliged to smoke more to justify their outlay on the permit. And then there is the issue of regressivity: might this not hit the poor more than the rich?

However, black markets and smuggling are a problem for almost any system of controlling smoking and will have to be dealt with almost whatever policy measures are considered. Although buying the permit may provide a small incentive for hardened smokers to smoke more it is hard to believe that this have a significant impacyt. And the regressivity issue may be a red herring. We saw above that the less well off have a higher price elasticity of demand for tobacco than the rich. In other words any given price rise for tobacco reduces consumption by the poor by more than the rich. If this result

translated over to the permit idea, then poor smokers would buy fewer permits than rich ones and hence the effect might actually be progressive.

A more powerful argument against the idea is that even proposals such as this – ones that involve changing the 'default' position for individual behaviour - are still paternalistic in intent at least. This is correct, although it is important to note that there always is a default position: hence even leaving the default unchanged could be regarded as paternalistic. Indeed it might be argued that in this area paternalism of one kind or another is almost unavoidable - even if it is one of omission rather than of commission. The aim then has to be to find policy interventions that maximise individuals' health and wellbeing while minimising the impact on autonomy; and it could be argued that libertarian paternalistic ideas such as a smokers' permits offer the most promising places where such interventions could be found.

Finally, I should note various other ideas that meet our criteria and that may be worth exploring. *A tax on the fat, salt and sugar content of food* could raise the price of unhealthy foods and discourage their consumption. *A ban on food manufacturers adding salt or other unhealthy substances to food* would also meet our criteria[26]. Although it obviously limits the autonomy of food manufacturers, it preserves the autonomy of consumers who are free to add, say, salt to the food concerned if they want to. Another possibility would be to require employers over a certain size to offer their employees exercise facilities and an *exercise hour* as part of their daily hours in which to use them. Again, although employer autonomy is infringed, employees' autonomy is not (in that they can opt out of doing the exercise).

CONCLUSION

Many of the current health problems that developed countries face are those of the giants of excess. People drink, smoke and eat too much. They take illegal drugs, they eat the wrong kind of food; and they undertake too many sedentary activities.

Dealing with the giants of excess is not easy – not least because of the fundamental problem that the benefits from curbing excess behaviour accrue a long time in the future whereas the costs are immediate. Can governments find ways of bringing forward the future health benefits of behaviour change, or of reducing its costs, and do so without interfering with individuals' autonomy – without damaging individuals' rights and without creating a nanny state? Here I have put forward some policy ideas, including those derived from the new world of libertarian paternalism, but they need development. Perhaps a new Beveridge Report is called for: one on health and well-being that deals as successfully with the giants of excess, as the old one did with the giants of too little.

[26] I am grateful to Irfan Dhalla for suggesting this to me

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TABLE 1

Behavioural Risk Factors and Causes of Death, United States

Causes of death US 1997 (%)	**Behavioural and physiological risk factors**	**Behavioural determinants of physiological risk factors**
Heart disease (31.4)	Smoking, obesity, diabetes, cholestorol, hypertension	High fat diet, high salt diet, high calorie diet
Malignant neoplasms (23.3)	Smoking, high fat diet, low fibre diet, inactivity	
Cerebro-vascular diseases (23.3)	Smoking, atherosclerosis, hypertension	High salt diet, high fat diet
COPD (4.7)	Smoking	
Accidents (4.1)	Alcohol, smoking (fires)	
Pneumonia/influenza (3.7)	Drugs	
Diabetes mellitus (2.7)	Inactivity, obesity	High calorie diet
Suicide (1.3)	Alcohol, drugs	
Nephritis/ kidney disease (1.1)	Alcohol, high fat diet	
Liver disease/cirrhosis (1.1)	Alcohol	

Source: Adapted from Detels *et al* (2002), p.115.