Nine Big Questions about Behaviour Change

Who changes what? Why do people change their behaviour? Why don't people change their behaviour? Why do people do what they do to start with? How does change happen in social networks? How do people differ? Who is best placed to promote change? How can government unlock change? How can government give a push?

Commissioned by the Department for Transport

Simon Christmas, David Young, Andrew Skates, Lynne Millward, Mark Duman, Iarla Kilbane Dawe

November 2009

Contents

Acknowledgements	3
Executive Summary	4
Introduction	7
QI Who changes what?	9
Government can't change people's behaviour	9
Government can 'market' new behaviours	10
Q2 Why do people change their behaviour?	12
More advantageous	12
More 'me'	13
More prevalent	13
More do-able	15
'Seems' not 'is'	15
One intervention, many effects	16
Q3 Why don't people change their behaviour?	
Q4 Why do people do what they do to start with?	21
Q5 How does change happen in social networks?	23
Myths and misunderstandings	24
Modelling networks	25
Q6 How do people differ?	27
Q7 Who is best placed to promote change?	29
Q8 How can government unlock change?	31
Behavioural infrastructure	31
Information	32
Personalised information	32
Connections and groups	33
Q9 How can government give a push?	35
First do no harm	35
Marketing communications	
Legislation and enforcement	
Incentivisation	40
Afterword	43

Acknowledgements

Nick Allen, Shell International Helen Baxter, NHS Institute Helen Bradburn, The Health Foundation Helen Bullock, Department for Transport Andrew Burr, Department for Transport Denise De Abreu Chris Douglas, TTR Ltd Dr Brian Fisher, NHS Alliance Alison Hardy, Change4Life, Department of Health Anya Millington, Department for Transport Tim Norman, Department for Transport John Norris, AEA Group **Richard Owen, Hall & Partners** Adam Read, AEA Technology Dominic Scholfield, AEA Technology Fiona Seymour, Department for Transport Kirsty Smallbone, University of Brighton Scarlett Spence, AMVi Ingrid Wassenaar Annabelle Watson, AMVi

Executive Summary

This thinkpiece is structured around Nine Big Questions, designed to support and structure the process of gathering evidence, listening to viewpoints, and making judgements about behaviour change policies and interventions.

Behaviour change is typically best served by a mix of tailored interventions, delivered over a long period of time, and modified in response to measurement of impact. But, beyond broad claims like this, we lack universal prescriptions for success in the field of behaviour change.

The questions in this document are as important as the answers.

QI Who changes what?

Government can't change people's behaviour: people change *their own* behaviour. What government *can* do is help people to change, encourage them, cajole them, reward them or threaten them. It can 'market' new behaviours to them.

Q2 Why do people change their behaviour?

People change their behaviour in response to other changes – in the world around them, in their understanding of the world, or in themselves – which make a new behaviour seem:

- more advantageous
- more 'me'
- more prevalent
- more do-able
- ... or make their old behaviour seem less of any of the above.

The word 'seems' is critical here. We need to understand behaviour change from the perspective of the people you hope will do the changing.

Q3 Why don't people change their behaviour?

The mere fact that a new behaviour seems more advantageous, 'me', prevalent and/or do-able may not in itself be sufficient for change. The *process* of changing can create additional barriers to change.

Different behaviour changes vary greatly in the levels of effort and motivation required from the person changing, the emotions that may be stirred up, and the types of support that can make a difference. Changing even simple behaviours can take time, especially when habit is involved.

It's important to understand what one is asking of people, and identify ways in which they can be supported through the process of change.

Q4 Why do people do what they do to start with?

To understand why people will or won't change their behaviour in any given instance, the first step is to build a picture of their current behaviour and its context, meanings and influences.

Different research methods, models and theories provide partial perspectives on human behaviour. There is no one right method, model or theory.

Understanding people's behaviour requires an openness to different types of evidence and explanation – plus work to integrate them into a single picture.

Q5 How does change happen in social networks?

Interaction between individuals in social networks can lead to emergent phenomena across a whole group of people, including both resistance to change and 'tipping points' (when change happens very quickly).

The study of social networks is a relatively new field, and care is needed to avoid certain myths. For instance, change in networks is *not* all about the behaviour of a few 'influentials', nor do networks always tip.

By modelling the behaviour of networks, policymakers can start to explore ways of turning network effects to their advantage.

Q6 How do people differ?

People differ in multiple ways. 'Segmentation' refers to a suite of techniques used to identify the differences that really make a difference, and divide a population into clusters of people with shared attributes.

A good segmentation is designed for a specific purpose: there is no single 'right' segmentation which can be applied across many contexts.

Segmentations allow policymakers to establish both who needs to change and what might make them more likely to do so. They are useful across the whole field of behaviour change, not only in the design of communications.

Q7 Who is best placed to promote change?

Before asking how to promote behaviour change, it pays to ask: who is best placed? Government often needs to build an 'extended salesforce' to market new behaviours, enlisting the help of others with direct contact with citizens, or with greater credibility.

Alongside local authorities, government agencies, commercial enterprises and third sector organisations, individual citizens can play a critical role as promoters of change. Citizen-led change can deliver impressive results.

Government needs to retain the role of promoting desired behaviours among the 'extended salesforce'.

Q8 How can government unlock change?

Sometimes the motivation for change already exists in the system, but is held back by the challenges associated with a new behaviour or the process of change. Government can do a number of critical things to make new behaviours more do-able for those who already want to adopt them, including:

- providing infrastructure to support the new behaviour
- providing information, including personalised information and feedback
- creating new connections and groups

Behaviour change is best served by a tailored mix of interventions, delivered over a long period of time and modified in response to measurement of impact.

Q9 How can government give a push?

Only after tackling all of the previous questions should one consider whether and how to provide an additional push for change. Too often this is the *first* question that gets asked.

Government needs to ensure it is not inadvertently pushing in the wrong direction, for instance by setting a 'bad example', or by asking contradictory things of people.

The key ways in which government can give a push – marketing, legislation and enforcement, and incentivisation – all have multiple effects in people's worlds, and may have different effects for different people. The messages sent by interventions like laws or incentives can be as powerful, or more so, than their practical consequences in people's worlds.

Introduction

This thinkpiece is structured around Nine Big Questions. For a policymaker charged with behaviour change, however, the most important question might seem to be missing:

What actually works?

Unfortunately, the answer to this question is that we just don't know – at least, not in the way that we know which drugs can be used to treat different illnesses, which conditions are ideal for growing different crops, or which materials are best suited for different engineering challenges.

Many others have reviewed the literature on behaviour change far more rigorously than this thinkpiece will, and arrived at similar conclusions.

Yes, we can make some very broad observations: for instance, that behaviour change is typically best served by a mix of tailored interventions, delivered over a long period of time and modified in response to measurement of impact.

But beyond very general claims such as this, 'there is little systematic evidence to help determine which interventions or combinations of interventions are most effective in changing particular behaviours in various population groups.'¹ Or, as another review puts it: 'there is no single template for behaviour-related interventions, nor an agreed formula for success.'²

So what is a policy-maker to do? Give up on the idea of behaviour change?

This, unfortunately is not an option. Governments have always sought to influence the behaviour of citizens – indeed, unless government and its agents can influence certain key behaviours (such as paying taxes and abiding by laws) there is no government. In recent years, however, the nature of the problems facing society – change to the climate as a result of human activity, or health problems associated with modern lifestyles – has increasingly put the spotlight on the behaviour of individual citizens. Government cannot achieve key policy objectives unless we all, as individuals, change our behaviour.

Giving up is not an option. So should policymakers wait until we have an 'agreed formula for success'?

Again, this is not an option. Global warming, the obesity epidemic and other such trends could bankrupt the nation and wreck the planet long before we have such a formula.

Moreover, there are reasons to question whether we will ever have 'a single template for behaviour-related interventions'. Individual case studies of effective behaviour change, for example, provide plenty of food for thought about what might work in other programmes, but fail to establish what *will* work. This is not because they were not properly evaluated (although this is often a factor). It's because even the best evaluation cannot usually establish definitively that 'x caused y in this situation'; and, even if it can, that does not mean x will cause y in different circumstances. (For more on why this is the case, see for instance the discussion of hidden variables under Question I and the discussion of social networks under Question 5.)

Waiting is not an option either.

¹ Boyce, T., Robertson, R. and Dixon, A. (2008), *Commissioning and Behaviour Change: Kicking Bad Habits final report*, King's Fund

² Cited in Collins, J., Thomas, G., Willis, R., and Wilsdon, J. (2003), Carrots, sticks and sermons: influencing behaviour for environmental goals, Demos/Green Alliance for Defra

So what can policymakers do? What is going to work?

The answer is: gathering as much evidence as is practically possible, listening to as many perspectives and viewpoints as is reasonable, and using good judgement to make a decision.

To quote another review: 'There is much we still do not know, but that should not prevent anyone from using known change mechanisms and techniques and testing new methods for stimulating behavioral changes.'³

This thinkpiece is structured around Nine Big Questions.

They are *not* questions to which we (or anyone else) have universal answers; and the examples we give are food for thought, not prescriptions for success.

They are questions which we believe can support and structure the process of gathering evidence, listening to viewpoints, and making judgements.

For, while they cannot be answered in a universal way, it is possible to attempt answers for specific behaviours in specific circumstances – at least with a reasonable level of confidence.

³ Markowitz, E.M. and Doppelt, B. (2009), Reducing Greenhouse Gas Emissions through Behavioral Change: an assessment of past research on energy use, transportation and water consumption, Institute for a Sustainable Environment, University of Oregon

QI Who changes what?

The phrase 'behaviour change', like all verbs turned into nouns, fudges a critical question: *who* changes *what*? It's far too easy to slide from talk of 'behaviour change' into discussion of how government can change people's behaviour.

But government *can't* change people's behaviour. People change *their own* behaviour. Government can help them to do so, encourage them, cajole them, reward them or threaten them; but it can't actually change the behaviour for them.

Like all bold statements in the field of behaviour change, this one isn't entirely true. Since it's the starting point for everything that follows, we had better therefore spend a little time exploring it.

Government can't change people's behaviour

According to the Channel Four website, illusionist Derren Brown has 'an audacious confidence and rare intuition that enable him to predict, suggest and control human behaviour'. Let's leave aside the question of whether Brown really does control people's behaviour or instead relies on good old-fashioned trickery.⁴ His claims at least make some sense on paper.

After all, if you can predict (at least probabilistically) how people will respond to certain stimuli, then by changing the stimuli you can change (at least probabilistically) their behaviour.

So can government do a Derren Brown? In some cases it can:

- If you organise the food in a school cafeteria in the right way, the children will tend to eat more healthily.
- If you redesign a junction correctly, you can reduce the likelihood of collisions between vehicles.
- If you ask the right question in a referendum, you can steer people towards the answer you want.

People exhibit predictable biases and errors in their thinking. They process information from the senses in predictable ways. Using knowledge of these patterns, government can change people's behaviour.⁵ Moreover, there are some cases where it clearly should do – such as the re-engineering of junctions to save lives.

But there's a catch. Two catches, in fact.

What models aren't

The first is that all these examples turn on automatic, often involuntary psychological processes such as perception. An optical illusion is a product of such a process: you still see the illusion, even though you know it is an illusion. Psychologists have developed reliable predictive models for processes such as these.

⁴ See, for example, Simon Singh, 'I'll bet £1,000 that Derren can't read my mind', *Daily Telegraph*, 5 June 2003

⁵ See for example Thaler, R.H. and Sunstein, C.R. (2009), Nudge: improving decisions about health, wealth and happiness, revised edition, London: Penguin

Unfortunately we lack reliable predictive models for most of the rest of human behaviour. For instance, one of the best models we have is the Theory of Planned Behaviour (TPB).⁶ But a review for NICE found that the TPB can account for only 20%-30% of the observed variance in health behaviours – and that even this may be an over-estimate owing to publication bias.⁷ This is not a criticism of the TPB (see Question 4 for more on the correct uses of models). It is merely to make the point that, as a recent Government Social Research review puts it, 'models fundamentally do not determine how people behave.'⁸

Hidden variables

The second catch is that all the examples involve tasks, stimuli and environments which can be carefully manipulated and engineered. Policymakers rarely have this level of control. Getting children to choose healthy foods in a school cafeteria is one thing: getting them to eat more healthily at home raises challenges of a qualitatively different nature.

The fact is that, even if we did have good predictive models, the real world is full of confounding variables.

In the 1960s, for instance, successful test marketing of a new brand of cigarette in Scotland failed to translate into a successful national launch. Post-analysis revealed the overlooked variable: Scots had been buying the brand because of a disclaimer, appearing on all advertising during the test phase, that the brand was 'only available in Scotland'.⁹

Hidden variables can also be responsible for unexpected successes. The popularity of cider brand Magners is partly due to the distinctive way it is served over ice, but this was itself an accident: 'It was based on the fact that there wasn't great refrigeration in a number of pubs in Ireland, so consumers poured it over ice naturally'.¹⁰

Between them, our lack of reliable predictive models of human behaviour and the ubiquity of hidden variables make government's ability to change behaviour extremely limited – and that's without taking into account the behaviour of social networks, or the fact that government is reciprocally influenced by the behaviour of citizens.

So, while it's not entirely true to say that government can't change people's behaviour, it's not a bad working assumption.

Government can 'market' new behaviours

Government *can't* change people's behaviour. But it can help people to change their own behaviour, encourage them, cajole them, reward them, or threaten them.

To put the point another way: government cannot change people's behaviour, but it can 'market' desired behaviours to people. This metaphor lies at the heart of social marketing,

⁶ Darnton, A. (2008), Reference Report: an overview of behaviour change models and their uses, Government Social Research

⁷ Taylor, D., Bury, M., Campling, N., Carter, S., Garfield, S., Newbould, J. and Rennie, T. (2006), A Review of the use of the Health Belief Model (HBM), the Theory of Reasoned Action (TRA), the Theory of Planned Behaviour (TPB) and the Trans-Theoretical Model (TTM), to study and predict health-related behaviour change, National Institute of Clinical and Health Excellence

⁸ Darnton, A. (2008), *Practical Guide: an overview of behaviour change models and their uses*, Government Social Research

⁹ Unpublished commercial research

¹⁰ Maurice Breen, Marketing Director of Magners, quoted in *The Spectator*, 1st July 2008

defined by the National Social Marketing Centre as 'the systematic application of marketing, alongside other concepts and techniques, to achieve specific behavioural goals for a social good'.¹¹

The marketing metaphor

The use of the term 'marketing' can, unfortunately, lead to misunderstandings: for instance, it's sometimes forgotten that social marketers look at *all* aspects of the marketing mix (product, price, place and promotion), not just advertising. A simple example may, however, help to clarify the basic metaphor.

Imagine you make soap powder. You notice that a lot of people are buying a competitor's soap powder. This may be for any of a number of reasons. For instance:

- people may think it's better at washing clothes
- they may like its packaging better
- they may see that everyone else is buying it
- it may just be easier to find in the shops

Obviously, what you need to do here is first find out the actual reasons why people are choosing your competitor's soap powder, and then consider what you can do to make them more likely to choose yours instead.

Now imagine that you work in government and want people to start driving more smoothly to reduce the environmental costs of acceleration and deceleration. There could be many reasons why people currently don't drive this way, for example:

- they may think it will get them to their destination faster
- they may think environmentalism is something for 'cranks'
- they may be driving the way they see everyone else driving
- it may just be a lot easier to drive that way

Obviously, what you need to do here is first find out the actual reasons why people are choosing the 'competitor behaviour', and then consider what you can do to make them more likely to choose your 'behaviour' instead.

Of course, new behaviours aren't exactly the same as soap powder; getting people to change behaviour can be a lot more complicated than trying to get people to switch washing powder. But many of the same principles and techniques can be applied.

In particular, social marketing places great emphasis on 'understanding people and what moves and motivates them', including 'influences that may lie outside their immediate control'¹². The approach 'starts and ends with a focus on the person and what's important to them'¹³ – because it is the person, in the end, who will or won't change their behaviour.

This is where we too need to start.

¹¹ http://www.nsmcentre.org.uk/what-is-social-marketing.html

¹² National Social Marketing Centre (2007), Big Pocket Guide: Social Marketing

¹³ National Social Marketing Centre (2008), It's Our Health: realising the potential of effective social marketing

Q2 Why do people change their behaviour?

When people change their behaviour, it is often not for a single reason but as the result of a concatenation over time of circumstances, causes, reasons, triggers and coincidences – not to mention factors which sustain a change once made. Despite the complexity of change, however, a pattern is apparent:

People change their behaviour in response to other changes – in the world around them, in their understanding of the world, or in themselves – which make a new behaviour seem:

- more advantageous
- more 'me'
- more prevalent
- more do-able
- ... or make their old behaviour seem less of any of the above.

This is not a 'theory' or 'model', but a pragmatic checklist (based on many theories, models, and other sources). An analogue is Defra's 4Es checklist: the difference being that the 4Es provide a government-centred list of 'levers you can pull', whereas this one is a citizen-centred list of 'changes that might prompt someone to change their behaviour'.

More advantageous

Behaviour has consequences – costs and benefits – and comparison of the consequences of alternative patterns can be a factor in behaviour change. There are three types of change – in the world, in my understanding of the world, or in myself – that can make a new behaviour start to seem more advantageous:

I. The costs/benefits of the behaviour actually change

For instance, the Congestion Charge applied an additional financial cost to the behaviour of driving in central London.

2. The person's understanding of the costs/benefits of the behaviour changes

For instance, current *Think!* advertising on drink driving aims to build awareness of the consequences of being caught drink driving by the police – such as a year's driving ban, a criminal record, losing your job and independence, and so forth.

3. The person's 'worldview' changes, so they assess costs/benefits differently

For instance, many people start placing a greater emphasis on the long-term future when their first child is born.

More 'me'

People are not just concerned with the consequences of their behaviour. They also worry about what that behaviour *means*, what it says about them to other people, and whether it fits with their sense of themselves. To understand risky driving behaviour, for instance, we need to take account of what has been described as 'the expressive activity of driving'.¹⁴

Whether we like it or not, we are not rational calculating machines which always do the most advantageous thing. This truth is reflected, for instance, in the oft-stated necessity of connecting with hearts, not heads. In Texas, for instance, advertisers developing a campaign to reduce littering found that the chief culprits (young males) were unresponsive to messages about the natural environment. 'Instead, they decided to base the message on state pride, hence the "Don't mess with Texas" tagline. Within 12 months, the number of litter incidents plummeted by 29%.'¹⁵

There are two basic types of change that can make a new behaviour pattern start to seem more 'me':

I. The social meaning of the behaviour changes

Many years ago, anti-smoking advertising used to focus on changing smokers' understanding of the costs of smoking, such as cancer risks, worry to family members, and so forth. In the early 1970s, however, there was a change of approach, with the launch of advertising encouraging non-smokers to express their dislike of smoking. Over the many years since, smoking has been gradually repositioned (in this country) as an antisocial activity.¹⁶

2. The person's sense of who they are changes

Having children makes people more likely to wear seatbelts as drivers and as passengers, especially when the children are in the car: one reason is a desire to live up to the role of a responsible parent.¹⁷

More prevalent

Social meanings play a role in determining what people do, but they are also a function of what people do: the meaning of an activity is partly determined by *who* does it, and *when*, and *why*. Nor is this the only mechanism by which changes in other people's behaviour can have an influence on changes in my behaviour. For instance, human beings have 'mirror neurons', which fire in sympathy with the behaviour of another person.

People's accounts of their own behaviour tend to underestimate the influence of others, partly because such influence often operates below the level of consciousness, partly because people like to see themselves as independent individuals.

However there is growing evidence for the importance of interpersonal effects. Analysis of the long-running Framingham Heart Survey, for instance, has shown that 'smoking behaviour

¹⁴ Driver Behaviour Research Group (2001), *Influencing Driver Attitudes and Behaviour*, DETR Road Safety Research Report 17

¹⁵ Collins, J., Thomas, G., Willis, R., and Wilsdon, J. (2003), *Carrots, sticks and sermons: influencing behaviour for environmental goals,* Demos/Green Alliance for Defra

¹⁶ Account Planning Group (1987), *How to plan advertising*, Cassell Educational

¹⁷ Christmas, S., Young, D. and Cuerden, R. (2008), *Strapping yarns: why people do and do not wear seat belts*, Road Safety Research Report 98, Department for Transport

spreads though close and distant social ties' and that 'groups of interconnected people stop smoking in concert'. The study showed that smoking cessation by a spouse, sibling, friends or co-worker decreases the chances of a person smoking by 67%, 25%, 36% and 34% respectively. Giving up smoking can be seen, at some level, as 'infectious'.¹⁸

Recent experiments by Kee Keizer in the Netherlands have explored the 'infectiousness' of visible antisocial behaviour. In one experiment, for example, passers-by were tempted with a €5 note protruding from an envelope which was itself sticking out of a letterbox. 'Twice as many passers-by stole the money if the mailbox was daubed with graffiti or surrounded with litter. "Even little old ladies succumbed," said Keizer. "I was amazed." People were also more likely to litter or take an illegal short-cut to a car park when the team left shopping trolleys around or cycles illegally padlocked to railings.'¹⁹

There are three types of change that can make a behaviour start to seem more prevalent:

I. More people in the person's networks start behaving in this way

The spread of new words or phrases in a language provides a simple example of the way in which a new behaviour can spread through a network. The more people one hears using a phrase, the more one is likely to use it oneself.

2. People in the person's networks start behaving in this way more visibly

In 2003 Magners was a small player in a small part of the drinks market. In 2006 Magners sales grew 264% and cider sales at Asda increased by 1,000% over Christmas. There are many reasons attributed to this success but the distinctive way in which it was served over ice ensured that people drinking Magners were highly visible to other customers. Against a backdrop of a summer heat wave in the UK sales of this visually refreshing 'new' drink soared. 'You'd walk into pubs and Magners bottles were everywhere.'²⁰

The media, of course, play a critical role in creating the impression that certain kinds of behaviour are more or less prevalent, whether or not they actually are.

It is also worth remembering that what a person sees is in part a function of how they interpret what they see – especially in environments, such as fast moving traffic, which make the interaction between people relatively anonymous.

3. The person starts interacting more with people who behave in this way

A key part of the Weight Watchers programme is attendance at meetings, where small groups of dieters share experiences and provide mutual support. Weight Watchers claim that people who attend meetings lose 3 times more weight than those who just follow the diets on their own.²¹ Such small groups have also become a key element of anti-smoking initiatives.

¹⁸ Christakis and Fowler (2008), 'The collective dynamics of smoking in a large social network', New England Journal of Medicine, 358, 2249-58

¹⁹ New Scientist, Issue 2684, 26th November 2008

²⁰ Robyn Lewis, Drinks Editor of the Grocer, quoted in *The Spectator*, 1st July 2008

²¹ http://www.weightwatchers.com/util/art/index_art.aspx?tabnum=1&art_id=22691&sc=804

More do-able

One of the authors of this report would very much like to get better at speaking Spanish. He is convinced that doing so would be advantageous, clear that speaking a language would be very 'him', and lucky enough to be spending more time in the company of native Spanish speakers. Yet his behaviour obstinately refuses to change.

'Do-ability' is about capacity – not just capability and skills, but also pragmatic factors, such as the amount of time a person has, and more subjective factors, such as a person's confidence in their own abilities.

There are three types of change that can make a behaviour start to seem more do-able.

I. The behaviour is actually made easier

For instance, thanks to the DVLA's electronic vehicle licensing system, it now takes customers just four minutes on average to complete a transaction (online or over the phone), at a time of their own choosing.

2. The person's capacity is extended

For instance, training in self-medication plays a critical role in enabling people with longterm conditions such as diabetes to manage their own conditions.

3. The person's understanding of how difficult the behaviour is, or their capacity to undertake it, changes favourably

A current advertising campaign for Microsoft Windows shows young children creating media such as slideshows on their PCs. The messages is clear: using Windows is a lot easier than you think – or perhaps: it's as easy as using a Mac.

It's common to hear people describe a behaviour change they have made – for instance, a change of transport mode for a given journey – as easier than expected. What is harder to establish is whether the change has been in a person's assessment of how hard the task is, or their understanding of their own capabilities.

For many people, it is changes in the latter, through greater confidence and self-efficacy, that are most powerful in opening up new behavioural possibilities.

'Seems' not 'is'

In all of the above, the critical question is not whether a new behaviour *is* more advantageous, more 'me', more do-able or more prevalent, but whether it *seems* so to the person we hope will change.

For instance, NICE guidance on medicines adherence notes that 'between a third and a half of medicines that are prescribed for long-term conditions are not used as recommended', and that some of this non-adherence occurs because 'the patient decides not to follow the treatment recommendations'.²² As far as these patients' doctors are concerned, it is a demonstrable fact that taking the tablets would be more advantageous. Most of us would probably agree with them. But the patients do not: and, from a behaviour change point of view, that is all that matters.

²² National Institute for Health and Clinical Excellence (2009), Medicines adherence: involving patients in decisions about prescribed medicines and supporting adherence

It is all too easy to view behaviour which is clearly disadvantageous as irrational, risky, stupid, irresponsible and so forth. To have any chance of persuading people to change their behaviour, however, we need to set aside these judgements and see the world through their eyes. As the NICE guidance puts it: 'to understand non-adherence we need to consider perceptual factors (beliefs and preferences) that influence motivation to start and continue treatment.'

For instance, there is a persistent problem of low educational aspiration and engagement among young white men. Much promotion of post-16 educational opportunities to young people emphasises the ways in which the skills they acquire will help them get better jobs and go further in life – which, to most people reading this document, probably makes a lot of sense. Research with a group of young white males, however, revealed that they believed (having been told so by fathers and brothers) that they were already in the best time of life, soon to be curtailed by the responsibilities of fatherhood and work. For them, getting better jobs and going further in life sounded like the acceleration of an inevitable loss.²³

We need to understand behaviour change from the perspective of the person we hope will change.

One intervention, many effects

Once we look at behaviour change from the perspective of the person we hope will change, some important but easy-to-overlook facts becomes clear.

First, a single government intervention may have multiple effects in people's worlds. Banning behaviour, for instance, may make it a lot less advantageous (by attaching penalties); but it can also change the social meaning of the activity in unpredictable ways.

Secondly, a single intervention may have different effects for different people. Telling people about risks, for instance, can transform some people's perceptions of what is to their advantage, yet tip others into a state of denial.

The checklist offered in this section provides a useful framework for thinking about the kinds of effect interventions *may* generally have (see Question 9 for further discussion). To anticipate what impact they are likely to have for a specific behaviour, it is necessary first to build a fuller picture of that behaviour's context, meaning and influences, and the ways in which people differ. These points are discussed further in the sections that follow (and Questions 4 to 6 in particular).

First, however, we need to consider some of the barriers to behaviour change that arise from the *process* of changing behaviour.

²³ Learning and Skills Council (2005), Unlocking Learner Motivation, LSC-P-NAT-050436

Q3 Why don't people change their behaviour?

At first sight, the answer to this question might seem just to be the opposite of the last: people don't change when the new behaviour seems less advantageous, 'me', prevalent and/or do-able than their current behaviour.

This, of course, is true, and all of the above can act as barriers to behaviour change. But they are not the only potential barriers. Even if a new behaviour seems more advantageous, 'me', prevalent *and* do-able, that may not in itself be sufficient to bring about change.

This is because the process of changing can create additional barriers to change.

Different magnitudes of change

The various changes we talk about under the general heading 'behaviour change' vary greatly in the nature and magnitude of effort they require from the person changing.

Consider for instance the twelve behaviour changes to reduce personal CO_2 emissions listed in Defra's Framework for Pro-Environmental Behaviours²⁴. There are a number of critical differences between these changes:

- One-off action versus behaviour pattern: for instance, installing insulation is a one-off action, whereas using the car less for short trips involves changing patterns of behaviour.
- Frequency of behaviour pattern: buying a more fuel-efficient vehicle involves changes to a pattern (buying a new car) that happens so infrequently it can probably be treated as a series of one-off actions; buying energy-efficient products (like light bulbs) involves changes to more regular, but still not everyday patterns; recycling involves changes to everyday, habitual patterns of behaviour.
- Start, stop, replace: switching electrical equipment off rather than leaving it on standby involves starting a new pattern of behaviour where previously one did nothing; not putting the lawn sprinklers on in summer (to use water more responsibly) involves stopping a pattern of behaviour and doing nothing instead; using an alternative mode of transport to get to work involves replacing one pattern of behaviour with another.
- Depth/extent of change: switching the television off standby involves minimal (if any) changes to other areas of one's life; by contrast, something as apparently simple as 'wasting less food' can require changes to patterns of purchasing, cooking, eating, storing and throwing away food not to mention, if one cooks for a family, negotiation with others.

These things make a big difference from the perspective of a person trying to change their behaviour – to the level of effort involved, the motivation required, the potential for backsliding, the kinds of powerful emotion that may be stirred up, and the types of support that will make a difference.

How hard is it to change behaviour?

The point here is *not* that changing behaviour is *always* difficult. The point is that it may be harder or easier, depending on the nature of the change involved – and that policymakers would do well to be clear what it is that they are actually asking of people. There are different

²⁴ Defra (2008), A framework for pro-environmental behaviours

scales of challenge involved in developing the habit of wearing a seatbelt, avoiding driving after drinking, or getting out of the car and walking to work instead.

Having said that, we should never underestimate how much determination it can take to change even simple behaviours when *habits* are involved. In one recent study looking at the formation of habits, for instance, it took at least 18 days, often more, for participants to form something as simple as a habit of drinking a glass of water every day (although the good news is that missing the odd day did not seem to affect the habit-forming process).²⁵ One recent review of reductions in energy consumption, meanwhile, suggests that 'as a rule of thumb, a new type of behaviour formed over a three-month period or longer seems likely to persist – but continued feedback is needed to help maintain the change and, in time, encourage other changes'.²⁶

These are all ways in which behaviour change is most definitely *not* like changing the make of soap powder one buys. As the Change4Life Marketing Strategy puts it: 'We have to accept that making short-term changes to the family's behaviour is easier than making long-term, sustained change. All behaviour-change programmes experience a considerable degree of attrition between desire to change, attempting to change and sustained change'.²⁷

Helping people through the process of behaviour change

There is general agreement across the field that most behaviour change needs to be understood as a process, not an event – although attempts to model that process such as the Transtheoretical Model²⁸ or 5-D Approach²⁹ have little evidential support. The reality is there may be many *different* types of change process running in parallel, and that the stories offered by models of change are as partial and incomplete as the stories offered by models of behaviour.³⁰

An extensive literature, cutting across fields such as education, coaching, social work, public health, counselling and therapy, details the kinds of support that individuals need to negotiate the process of change successfully. In the field of health behaviour change, for instance, NICE has recommended:

'Interventions that support and motivate people to

- understand the short, medium and longer-term consequences of their health-related behaviours, for themselves and others
- feel positive about the benefits of health-enhancing behaviours and changing their behaviour
- plan their changes in terms of easy steps over time
- recognise how their social contexts and relationships may affect their behaviour, and identify and plan for situations that might undermine the changes they are trying to make
- plan explicit 'if-then' coping strategies to prevent relapse

²⁵ Lally, P., van Jaarsveld, C.H.M., Potts, H.W.W. and Wardle, J. (forthcoming), 'How are habits formed: Modeling habit formation in the real world', *European Journal of Social Psychology*

²⁶ Darby, S. (2006), The effectiveness of feedback on energy consumption, University of Oxford: Environmental Change Institute

²⁷ Department of Health (2009), Change4Life Marketing Strategy

²⁸ Prochaska, J.O., Norcross, J.C, & Diclemente, C.C. (1994), *Changing for Good,* New York: HarperCollins

²⁹ Doppelt, R. (2008), The Power of Sustainable Thinking: How to Create a Positive Future for the Climate, The Planet, Your Organization and Your Life, Earthscan Publishing, cited in Markowitz & Doppelt (2009)

³⁰ Darnton, A. (2008), Practical Guide: an overview of behaviour change models and their uses, Government Social Research

- make a personal commitment to adopt health-enhancing behaviours by setting (and recording) goals to undertake clearly defined behaviours, in particular contexts, over a specified time
- share their behaviour change goals with others'³¹

A review of behaviour change research in the area of CO_2 reductions by the Institute for a Sustainable Environment at the University of Oregon identified a similar list of techniques which have been shown to play a role in helping people change their behaviour:³²

- securing time/attention
- providing information to educate
- feedback on performance
- goal-setting
- implementation plans
- verbal commitments
- utilising social support and interaction
- rewards and incentives
- inducing cognitive dissonance
- disincentivising unwanted behaviours
- modifying environment/infrastructure

Helping people change transport behaviours

There are good examples of the application of these techniques in the sphere of transport. For instance, travel feedback programmes (TFPs) use personalised communications to change transport behaviour, and may involve intensive face-to-face conversation between participants and 'experts' – for instance, bike couriers may talk to commuters about bike travel. A recent review of ten TFPs, mostly in Japan, suggested that transport-related CO_2 emissions can be reduced by as much as 35% – with the average reduction across all the schemes reviewed at 19%. Success seems to depend in particular on participants creating their own implementation plans.³³

The Department for Transport may not have the remit, reach or means to engage directly in this kind of intensive support for individual behaviour change. Nevertheless, it is worth asking both *who* is going to provide that kind of support if it is necessary (see Question 7) and *how* the principles above might be carried through into the sorts of intervention the Department does make. For instance, how might these principles be embodied in population-wide campaigns, legislation, or incentivisation schemes?

³¹ National Institute for Clinical and Health Excellence (2007), Behaviour change at population, community and individual levels, Public Health Guidance 6

³² Markowitz, E.M. and Doppelt, B. (2009), Reducing Greenhouse Gas Emissions through Behavioral Change: an assessment of past research on energy use, transportation and water consumption, Institute for a Sustainable Environment, University of Oregon

³³ Fujii, S. and Taniguchi, A. (2006), 'Determinants of the effectiveness of travel feedback programs - a review of communicative mobility management measures for changing travel behaviour in Japan', *Transport Policy*, 13, 339-348, cited in Markowitz & Doppelt (2009)

One principle in particular is worth emphasising: the need to support and motivate a *personal commitment to change*. Not all behaviour change requires such hard work from the person changing; but when it does, their ownership of the need to change is essential. As one expert in the field has written: 'From the wilful child resisting a bath to the politician apparently stuck in a destructive conflict, lie a few critical processes: someone, often someone *else*, believes that change is a good idea.'³⁴

³⁴ Rollnick, S., Mason, P., Butler, C.C., (1999), Behaviour change: a guide for health care professionals, Churchill Livingstone

Q4 Why do people do what they do to start with?

To understand why people will or won't change their behaviour in any given instance, the first step is to build a picture of their current behaviour and its context, meanings and influences. How does one do this?

Clearly the best place to start is by talking to the people themselves. Of course, people are not always very good judges of why they do what they do; and even when they are, they may not always tell the truth. But they still have a perspective. If nothing else, talking *to* people (as well as *about* them) is a matter of politeness.

Many research methods, qualitative and quantitative, can be thought of as more structured ways of talking to people in order to elicit alternative perspectives on the same behaviour. Even a questionnaire is essentially a highly formalised conversation. Other research methods are based on not conversation but observation – typically of behaviour, although modern techniques mean we can now observe things such as the workings of the brain. These methods can yield still more perspectives on the same behaviour.

No one 'right' method, model or theory

None of these perspectives is complete – any more than the perspective of the individual is complete – but by piecing them together, we can start to develop a picture of why people behave as they do.

For instance, consider the very different methods that are needed to investigate different factors in the high casualty rates among young novice drivers, such as:

- Immature frontal lobes
- Poor hazard anticipation and reaction as a result of limited experience
- Attitudes to risk
- Social identities and the meanings attached to driving
- Peer pressure
- Shortcomings in the learning or testing process
- The behaviour of other drivers

Models and theories – psychological, sociological, economic or any other flavour – are abstract perspectives on behaviour in general. They can be incredibly helpful tools in making sense of conversations and observations, or indeed in deciding what to ask or look for in the first place. But they too are incomplete perspectives on reality.

Hence the advice for policymakers in a recent Government Social Research review, which notes that 'models essentially offer a menu of factors for policymakers to chose from', but goes on to warn that 'policymakers should use models as aids to thinking, and not seek to impose them on the public uncritically through interventions'.³⁵

³⁵ Darnton, A. (2008), *Practical Guide: an overview of behaviour change models and their uses*, Government Social Research

Integrating different perspectives

The existence of so many different methods, models, theories and disciplines is not (for the most part) a result of academic factionalism, but a reflection of the complexity of human behaviour. The view offered by each perspective is partial, giving a take on those aspects of human behaviour it has been designed to explore – but remaining silent on other aspects.

In this respect, the study of human behaviour remains very different from the physical sciences.

An excellent example of an effort to synthesise many different perspectives on a single behavioural issue is provided by the Foresight programme's work on Obesity, which reviewed factors such as biology, the impact of early life and growth patterns, individual and social psychology, the living environment (including technological influences) and economic drivers of consumption. A systems thinking approach was used to understand the complex interconnections and feedback loops between these factors – resulting in the 'Obesity System Map' (see below).³⁶



The complexity of this map, which focuses on just one area of behaviour, serves as a graphic illustration of the reasons why no one method, model or theoretical paradigm can provide a complete picture of why people behave the way they do – and why an openness to different types of evidence and explanation is an essential quality in any policymaker responsible for behaviour change.

³⁶ Butland, B., Jebb, S., Kopelman, P., McPherson, K., Thomas, S., Mardell, J. and Parry, V. (2007), *Tackling Obesities: Future Choices – Project Report*, 2nd Edn., Foresight Programme

Q5 How does change happen in social networks?

So far, the discussion has focused on the question of how and why *individuals* change their behaviour. In recent years, however, much has been written on the topic of change in *networks* of interacting individuals.

Over the last few decades, we have begun to understand much more about the emergent behaviour of such networks. For instance, models of traffic in which 'vehicles' follow a few simple rules can exhibit complex and real-world phenomena such as phantom traffic jams and phase changes in traffic flow.³⁷

Note that there is no actual 'behaviour change' in this example. The 'vehicles' themselves carry on following the same simple rules when the system changes its state.

However, as we saw in the last section, one of the ways in which real people interact is by spreading behaviour changes to each other. Behaviour change can be 'infectious' – and this is where things start to get really complicated, creating such exciting emergent behaviour as Stock Market meltdowns, Beatlemania, suicide epidemics, and the seemingly overnight conversion of London restaurant-goers to ordering tap water rather than bottled water.

Frustrations and opportunities

The spread of behaviour change through networks exhibits some frustrating properties from the perspective of a policymaker, as the authors of *Carrots, Sticks and Sermons* explain: 'Some ideas and practices spread exponentially with virtually no promotional activity on the part of government or institutions, whilst other practices persist stubbornly, despite mass attempts to reduce or eliminate them. [...] for example, the huge post-war decline of consumption of full fat milk, butter and lard in favour of healthier alternatives, which happened in the absence of any kind of major promotion on the part of a Health Education Council or similar organisations. On the other side of the coin, organisations campaigning against smacking, such as Barnardos and the NSPCC, despite energetic campaigning, continue to fail to significantly alter public attitudes to smacking.'³⁸

On the plus side, understanding the spread of behaviour change through networks opens up new forms of intervention for policymakers – interventions that focus on changing not the behaviour of individuals but the *structure of the network*.

By way of analogy, many of the policy interventions used to fight the spread of an infectious disease are designed to change the frequency and nature of the interactions between people – e.g. shutting down schools, cancelling sporting events. The main difference is that the policymaker responsible for behaviour change may want to assist, not fight, the spread of a change.

So how should policymakers make use of our growing (if still incomplete) understanding of the spread of behaviour change in networks?

³⁷ Ball, P. (2004), Critical Mass: how one thing leads to another, London: Random House

³⁸ Collins, J., Thomas, G., Willis, R., and Wilsdon, J. (2003), *Carrots, sticks and sermons: influencing behaviour for environmental goals,* Demos/Green Alliance for Defra

Myths and misunderstandings

A sensible first step is to set aside some common myths and misunderstandings that have arisen about change in networks:

Networks are not a product of the internet age

By enabling new forms of social connection between people, the internet has certainly changed the kinds of network that exist in the world, with some dramatic consequences. For instance, the success of *The Blair Witch Project* in 1999 was built on word-of-mouth recommendation: before the internet, it could not have reached such a wide audience without the support of a major distributor.

But social interaction existed before the internet, and continues in many forms that are not mediated by information technology. Online social networks such as Facebook can provide a distorted view of an individual's real social networks; and while they are a powerful new media, their influence on behaviour tends to be limited to specific contexts.

'Influentials' aren't so influential

Malcolm Gladwell's book *The Tipping Point* popularised the idea that 'the success of any kind of social epidemic is heavily dependent on the involvement of people with a particular and rare set of social gifts'.³⁹ His ideas were seized upon by a marketing industry struggling to deal with the internet, and the concept of the 'influential' was born. In an eponymous book by Keller Edward and Berry Jonathan, it was argued that *One American in ten tells the other nine how to vote, where to eat, and what to buy.*

This is an attractive idea, as it suggests that, if you can just reach and persuade these influentials, the rest of the population will follow like sheep.

However, analysis of social networks using computational models has shown that: 'influentials have far less impact on social epidemics than is generally supposed. In fact, they don't seem to be required at all'.⁴⁰

This is not to say that some people are not more influential than others. Segmentation studies do show that people play different roles within social networks. For instance, some tend to adopt attitudes and behaviour earlier than others and so tend to be more likely to initiate trends; while others tend to lag behind and so are more likely to be influenced by others.

However, these patterns of influence vary significantly by the behaviour in question: there is no single group of 'influentials' which sets trends across all contexts. Moreover, the *mechanisms* of social transmission carrying behaviour from one group to the next are just as important in determining the speed and direction of change as the influence of groups within the network – and these mechanisms also vary between behavioural contexts (see Modelling Networks below).

Behaviour change is not about finding the right 'spark'

The ways in which networks sometimes 'tip' in response to apparently minimal intervention can create the illusion that success is all about finding the one right 'spark' that will start a cascade of behaviour change.

³⁹ Gladwell, M. (2000), The Tipping Point: how little things can make a big difference, New York: Little Brown

⁴⁰ Watts, D. (2007), 'The Accidental Influentials' in *The HBR List: Breakthrough Ideas for 2007*, Harvard Business Review

This, however, grossly simplifies the situation, as Dodds has explained using the analogy of forest fires: 'Some forest fires are many times larger than average; yet no one would claim that the size of a forest fire can be in any way attributed to the exceptional properties of the spark that ignited it or the size of the tree that was first to burn. Major forest fires require a conspiracy of wind, temperature, low humidity and combustible fuel that extends over large tracts of land. Just as for large cascades in social influence networks, when the right global combination of conditions exists, any spark will do; when it does not, none will suffice'.⁴¹

Marketing departments in hits-based industries (such as film or music) have recognised this fact and stopped trying to mimic the content of last year's unexpected 'sleeper' hit. Instead, they monitor the dynamics of sale, try to spot the early signs of sleeper hits, and back these with marketing resources. By tracking societal trends, and using methods like scenario planning to project them into possible futures, government may be able to use the same principles to target resources in areas where they will achieve most.

Networks don't always 'tip'

Networks do sometimes 'tip', but this is by no means the only emergent behaviour that can be observed. For instance, in some networks, change involves shifts in segments of the population followed by periods of stability. In others, the network appears to resist change altogether. In others, behaviours can get 'locked up' in a small community from which they fail to break out – a phenomenon familiar from the spread of innovations, many of which never 'cross the chasm' from early adopters to the rest of the population.

The emergent behaviour of any given network depends on the structure of that network. For instance, there is evidence that highly interconnected networks are more likely to tip, though it is not guaranteed they will do so. Networks with less connectivity may never tip.⁴²

Modelling networks

An individual does not operate in just one network, and different networks can have very different structures. For example, recent work (see below) has looked at networks for sexual behaviour, including talking about sex: these tend to be small, intimate and quite self-contained (sexual partners and closest friends). By contrast, a person's social network for driving behaviour is random, anonymous and much more extensive (anyone encountered on the roads). The structures of networks differ greatly between behavioural contexts.

This fact is of central importance to the policymaker responsible for behaviour change: because as we have seen, the emergent behaviour of a network depends on its structure. Depending on the behavioural context they are seeking to influence, a policymaker will need to contend with and co-opt very different kinds of network behaviour.

To anticipate what they might be up against, the first step is to understand the structure of the network in question:

- The roles people are playing in it
- How their behaviour is influenced by others

⁴¹ Dodds, P.S. (2009), 'Influentials, Networks and Public Opinion Formation', *Journal of Consumer Research* 34, 441-458

⁴² Watts, D., 'A simple model of global cascades on random networks', *Proceedings of the National Academy of Science*, 99, 5766-5771

• How they are linked together

Using this information, it is then possible to build a model of the network and start to explore the kinds of behaviour it might exhibit.

A case study of network modelling

These techniques are still very new – largely because it is only with recent increases in processing power that it has become possible for those without access to supercomputers to model even simple networks. One of the authors of this paper has, however, recently completed a ground-breaking exploration of sexual behaviour and sexual health using this approach.⁴³

Sexual behaviour is highly socially conditioned. Whether a condom is used in a sexual encounter depends on the attitudes of both parties and their abilities to ensure their wishes are respected. Similarly, whether someone gets screened for Chlamydia depends on not just their own concerns but whether their friends have been screened in the past.

Based on these interactions, norms of sexual health practice are established which can be very hard to shift. This has major consequences for things like teenage pregnancy, which has remained stubbornly high despite a substantial investment in communications.

To address this issue a 'social influence model' was built to simulate the sexual behaviour of a population of 4,000 teenagers and young adults. This is a computational model in which attitudes, decision-making and interactions are simulated over periods of time to understand how social mechanisms can inhibit and accelerate change. The model was run thousands of times to understand better the dynamics of the system.

One thing the approach revealed was that, if people were more open and confident in talking about sex and sexual health, the impact of communications could be enhanced, as good practice diffused through the social and sexual network. As a consequence of this insight, new campaigns are being designed not just to raise awareness of better forms of contraception, or encourage individuals to get screened for STIs, but also to increase the connectivity within the social network related to sexual matters – to get people talking about sexual issues, so as to accelerate lasting behavioural change.

⁴³ Ongoing work for the Department of Health and Department of Children, School and Families; report forthcoming

Q6 How do people differ?

People differ in many different ways: age, gender, social class and ethnicity, behaviour, beliefs, attitudes, values, roles, social connectedness, influence, and so forth.

From the perspective of a policymaker responsible for behaviour change, however, what matter most are the differences in:

- what people are currently doing (and how it relates to desired behaviour)
- why they are doing it
- what might make them more likely to change their behaviour as desired
- what might make it hard for them to change
- what impact their behaviour might have on others around them

Segmentation employs a suite of techniques to identify those differences (from the first set of differences) that really make a difference (to the bulletted list).

The technique has long been used in the communications world to tailor messages and choose channels; but, as a Cabinet Office guide explains: 'It's not just for communicators. Segmentation certainly helps them, but it's also key to successful policy and delivery.'⁴⁴ Segmentation has a central role to play in behaviour change efforts, allowing the policymaker to establish which groups need to change, how, and what mix of interventions might make each group more likely to do so.

Targeting

Segmentation also allows particular groups to be targeted. Anti-smoking efforts, for example, are now being focused on routine and manual workers, for the simple reason that people in this segment 'are more likely to have started smoking before they reached the age of 16' and 'more likely to be heavily addicted to smoking'.⁴⁵

Sometimes it is appropriate to focus effort and resources on the group that most needs to change, but this is not always so. Commercial organisations, for instance, put most of their efforts into the potential customers they judge easiest, not hardest, to convert. There are times when a similar strategy may be appropriate for government – e.g. in encouraging take-up of more fuel-efficient vehicles. Tackling 'softer targets' first can also make sense if network effects are in one's favour and behaviour change in these people has a positive impact on others around them. Care is needed, however, as network effects can also lead to the creation of entrenched minorities – as seems to have happened in the case of smoking.

Segment with purpose

The best segmentations are designed for a specific purpose: in the Cabinet Office's 'segmentation decision-tool', the first question posed is: 'Do you have a clearly defined objective that's driving your plan to do segmentation?' Clarity of purpose is important because a segmentation *flattens* much of the diversity between people to highlight just those differences

⁴⁴ Cabinet Office (2009), Guide to Segmentation, http://www.cabinetoffice.gov.uk/public_service_reform/ delivery_council/workplan/segmentation.aspx

⁴⁵ NHS (2009), Tackling Health Inequalities: targeting routine and manual smokers in support of the public service agreement smoking prevalence and health inequality targets

that make a difference. A segmentation that works well for one purpose may flatten differences that are critical to another purpose. For instance:

- A DVLA segmentation used in the design of the online services for renewing vehicle licences was built around behaviours and attitudes (e.g. towards use of online services) and details such as credit rating and channel preference.
- The DH Healthy Foundation segmentation, designed for addressing issues of smoking, obesity, alcohol, substance abuse, sexual health, mental health and physical activity, consists of ten lifestage groups, each of which is further segmented by environment and health motivation into 'fighters', 'thrivers', 'survivors', and 'disengaged'.
- An HMRC segmentation has five segments based on four key differences: awareness (of obligations), motivation (to comply), ability (to comply) and opportunity (to not comply).
- A segmentation of motorcyclists for the DfT Road User Safety Division links motivations to ride to models of risk and key behaviours, such as selection and use of safety gear.

Pragmatism

While segmentations should be based on evidence and research, they should not be interpreted *too* literally. The fact that a segmentation describes four segments does not mean that there really *are* four types of people, just that it is legitimate to develop policy *as if* there were.

The reasoning here is simple. In reality, everyone is a unique individual who belongs to their own 'segment-of-one'. This however, is an impractical starting point for policymaking. Treating everyone as if they were the same, on the other hand, is a recipe for wasted effort and money. Segmentation is a pragmatic, evidence-based compromise between these two extremes.

Q7 Who is best placed to promote change?

A central message of the discussion so far has been the importance of understanding the world of the person we hope will change their behaviour: how they see and experience things, who they interact with, why they do what they do, and what might change for them.

Equipped with such an understanding, we can ask not just *how* to promote behaviour change, but also: *who* is best placed to do the promoting?

The extended 'salesforce'

In many instances, it may be necessary for national government to work indirectly through others – local authorities, government agencies, commercial enterprises or third sector organisations.

Anti-smoking efforts, for instance, depend on not just population-wide measures (such as communications, taxation and legislation) but also, critically, ongoing one-to-one support from local NHS staff for those who want to quit smoking.

Many educational initiatives – such as SAFED or driver rehabilitation schemes – depend in a similar way on local delivery partners who are able to engage directly with individuals. In cases such as these, the successful 'marketing' of a new behaviour depends on the development of an extended 'salesforce'.

The role of citizens

It is also important to remember the role that individual citizens themselves can play in that 'salesforce'. Indeed, in some cases their involvement can be transformative. A key feature of the design of the Improvement Foundation's Healthy Communities Collaboratives, for example, is that they are led by local people who are 'supported and enabled to improve their communities through partnerships with statutory and voluntary organisations'.⁴⁶ In three sites focusing on reducing falls in older people, a 32% reduction in falls was achieved – saving around \pounds 4m over just two years in areas with a total population of just 150,000.

This citizen-led approach also laid the foundations for further behaviour change, with a 48% increase in the numbers of those participating who thought they could change and improve things in their communities. The scheme is a powerful reminder that 'behaviour change' is something undertaken by citizens, not done to them by organisations.

Credibility

The above examples turn to a large extent on the ability of other organisations or individuals to engage directly on a one-to-one basis with the people who need to change their behaviour, something that national government is not well placed to do.

Another reason why others may be better placed than national government is if they have more *credibility* on a particular issue or with particular segments. The lack of public trust in government has become a mainstay of popular journalism: in a recent MORI survey, for

⁴⁶ http://www.improvementfoundation.org/page/hcc; see also Slater, B., Knowles, J., and Lyon, D. (2008), 'Improvement science meets community development: approaching health inequalities through community engagement', *Journal of Integrated Care*, 16, 26-36

instance, only 16% of the population trusted government ministers to tell the truth (though any journalists reporting the story are trusted by only 22%).⁴⁷

Of course, it is important to keep figures like these in context, as government speaks with many voices, of which ministers own only a few. A brand such as *Think!*, for instance, is widely perceived as helpful, thought-provoking and trustworthy.⁴⁸ Nevertheless, the fact remains that, in many areas, others (such as voluntary organisations) may be better placed to deliver certain messages.

The Department of Health's Change4Life programme is a good example of a behaviour change effort which is seeking to build 'a cross-societal collaboration of workforces, government departments, NGOs, local activists and commercial brands, so that as our target audiences attempt to change their families' behaviours they feel that everyone around them – the people, institutions and brands they trust – are on their side'. The strategy specifically notes that NGO advocacy 'will build public trust in the government campaign', while welcoming commercial partners on the grounds that they 'have influence with and can reach our target audiences in ways that we cannot'.⁴⁹

Working through others does, however, create new challenges and risks, as illustrated by the Department of Health's Five-A-Day programme to promote fruit and vegetable intake. Enlisting food manufacturers helped to ensure that people heard the campaign's central message repeatedly and in many contexts: 'government can then take on the role of clarifying the message, rather than having to legitimise it'. On the other hand, there was always a risk that those same manufacturers would distort the message to their own ends: 'For example, Heinz promotes about 70 products under the banner of "five-a-day the Heinz way", including unusual "vegetables" such as tinned spaghetti'.⁵⁰

Engaging others as an extended 'salesforce' makes sense when they are better placed to promote desired changes in behaviour; but it also leaves government the task of promoting desired behaviours among the 'salesforce' itself.

⁴⁷ Ipsos Mori (2009), Trust in Doctors 2009: annual survey of public trust in professions

⁴⁸ Angle, H., Kirwan, S., Buckley, K. and Goddard, E. (2008), THINK! Road Safety Campaign Evaluation: Annual Survey 2008 Report, BMRB

⁴⁹ Department of Health (2009), Change4Life Marketing Strategy

⁵⁰ Collins, J., Thomas, G., Willis, R., and Wilsdon, J. (2003), *Carrots, sticks and sermons: influencing behaviour for environmental goals,* Demos/Green Alliance for Defra

Q8 How can government unlock change?

Sometimes people need a push before they will change their behaviour. But not always. Sometimes the potential for change already exists in the system, waiting to be unlocked.

The mobile internet, for instance, has been with us for some years now. It was only with the launch of the iPhone, however, that mobile net usage really took off. By offering a step change in usability, the iPhone unlocked a potential for behaviour change that had previously been blocked by hard-to-use interfaces.⁵¹

This section reviews some of the key interventions that can make a new behaviour more doable – or ease the process of change – and some examples of their successful application.

It is important to remember throughout the point made in the introduction: that behaviour change is generally best served by a *mix* of interventions, delivered over a long period of time and modified in response to measurement of impact.

Behavioural infrastructure

The key to unlocking behaviour change often lies in the provision of what might be called a 'behavioural infrastructure'.

By building the electronic vehicle licensing system, the DVLA has made a desired behaviour significantly easier – with clear results: the system issued more tax discs than the Post Office for the first time in August 2009, with a 50.25% uptake, and has helped to improve compliance.⁵²

Technology rightly receives a lot of attention in this area – as does innovation, which can make behaviours not only easier, but *possible*.

But behavioural infrastructure does not have to be high-tech, novel, or shiny. The decidedly low-tech provision of local recycling facilities, for instance, can increase substantially the likelihood of recycling.

For instance, one study in Brixworth (which has one of the highest recycling rates in the UK) found that ease of recycling and understanding of how to do it were key determinants of recycling behaviour. In another study in west London, the availability of kerb-side recycling facilities was the only factor that differentiated between high and low recyclers.⁵³

Behavioural infrastructure can be further enhanced by building in choice. In Kensington and Chelsea, people were offered four different ways to segregate and recycle their waste. Each mode made recycling easier, though each had a measurably different impact; and the overall impact was an increase in the proportion of household waste recycled from 7% in 2000 to 16% in 2004.⁵⁴

⁵¹ See for example http://www.nytimes.com/2008/01/14/technology/14apple.html

⁵² DVLA, private communication

⁵³ Thomas, C., Yoxon, M., Slater, R. and Leaman, J. (2004), 'Changing recycling behaviour: an evaluation of attitudes and behaviors towards recycling in the Riverside Western area of London', *Waste 2004: Integrated Waste Management and Pollution Control Conference*

⁵⁴ Robinson, G., & Read, A. (2005), 'Recycling behaviour in a London Borough: results from large-scale household surveys', *Resources, Conservation and Recycling* 45, 70-83

Information

Other types of infrastructure make easier the behaviour of choosing itself. The Which? series of titles or modern comparison websites, for instance, make it easier for consumers to act in their own best interests through the provision of structured information.

In these cases, it is not just the infrastructure that unlocks change, but the information it makes accessible. Whether not information makes a behaviour easier also depends, of course, on the way it is presented. In a recent study for the Better Regulation Executive and National Consumer Study, for instance, consumers 'rejected much of the information because there was too much of it and because it was presented in a complex and unappealing format'.⁵⁵ The report goes on to give an example of a toaster with 52 safety warnings. Labeling schemes and rating systems – such as the SHARP rating scheme – can provide an excellent way of condensing large amounts of information into a form that is relatively easy to take in.

It has long been said that 'knowledge is power'; and in many cases, information can indeed give people the power they need to change their own behaviour. For instance, the AirTEXT pollution messaging alert service, operated by London's Boroughs, sends individuals with respiratory and cardiovascular disorders alerts by automated telephone message or SMS when pollution is forecast to be elevated. Of 400 users of the service and a similar service in Sussex, 67% reported changing their behaviour on receipt of an alert, while 89% reported better management of their symptoms.⁵⁶

There is, however, a risk associated with the provision of information in the absence of other interventions: namely that it can worsen inequalities between those who want and know how to change their behaviour, and those who don't. In the health arena, for instance, research has shown that 'interventions aimed at enhancing knowledge and choice are more likely to benefit advantaged groups than those whose health behaviours are determined more immediately by environment pressures'.⁵⁷

It is significant in this respect that AirTEXT also gives service-users basic training in options for responding to elevated pollution, such as increasing their medication or avoiding polluted environments like busy roads. The training ensures that people know what to do with the information they receive.

Personalised information

The AirTEXT service involves a clear targeting strategy, delivering content to the people who actually need it. However, modern communications technology has opened up a further possible level of sophistication here: tailoring of the content itself to the individual.

For instance, software is now available that gives patients access (using a PIN and password) to their GP record via a web browser – along with the ability to share selected information with others. Evidence shows a range of positive effects of making this personalised information

⁵⁵ Better Regulation Executive/National Consumer Council (2007), Warning: too much information can harm

⁵⁶ Smallbone, K., University of Brighton, personal communication

⁵⁷ Taylor, D., Bury, M., Campling, N., Carter, S., Garfield, S., Newbould, J. and Rennie, T. (2006), The influence of social and cultural context on the effectiveness of health behaviour change interventions in relation to diet, exercise and smoking cessation, National Institute for Clinical and Health Excellence

available, including a tendency to use health services less while appearing to self-care and comply with medication more effectively.⁵⁸

Personalised information can play an especially important role in facilitating the *process* of changing behaviour. For instance, a review for NICE found that 'providing people with tailored information about their energy use – through, for example, home energy audits – tended to show more positive effects than other more general information strategies like mass media campaigns, especially in achieving behavioural change', and that 'providing people with feedback about their energy use was also generally effective in getting them to adopt more energy saving behaviours'.⁵⁹ A review of possible feedback mechanisms for DEFRA, meanwhile, found that 'direct displays in combination with improved billing show promise for early energy and carbon savings, at relatively low cost'.⁶⁰

There is evidence suggesting that the 'when' and 'where' of this sort of feedback may also be important. One study, for instance, found that labels on appliances (e.g. a label on a shower reminding someone how much water per minute was used) helped in bringing about 23% reduction on water use. However, feedback or information that was not given at the point of behaviour did not.⁶¹ There is also some evidence that behaviour change may be better sustained when people are taught to get their own feedback (e.g. by reading a meter) rather than simply being given the information by an expert or organisation.⁶²

It is also worth reminding ourselves that feedback may only have these kinds of enabling effect when people have already decided that they want to change their behaviour. For instance, a review of travel feedback programmes found that feedback alone (e.g. information about past transport behaviours and ways to reduce car use) did not reduce self-reported trips by cars; by contrast, participants who received feedback but also created personal implementation plans cut their time spent travelling by car by over 25 percent.⁶³

Connections and groups

As the discussion of networks under Question 5 makes clear, another way to unlock change is to focus not just on individuals, but on the structure of the social networks those individuals operate within. Helping people to make connections with other people seeking to make the same changes in behaviour can be a powerful catalyst, individually and collectively, as members of Alcoholics Anonymous attest.

⁵⁸ Fisher, B., Dixon, A., and Honeyman, A. (2005), 'Informed patients, reformed clinicians', *Journal of the Royal Society of Medicine*, 98, 530–531; Pagliari, C., Detmer, D. and Singleton, P. (2007), 'Potential of Electronic Personal Health Records', *British Medical Journal* 335, 330-333

⁵⁹ Stead, M., McDermott, L., Broughton, P., Angus, K. and Hastings, G. (2006), Review of the effectiveness of road safety and pro-environmental interventions, Institute for Social Marketing

⁶⁰ Darby, S. (2006), The effectiveness of feedback on energy consumption, University of Oxford: Environmental Change Institute

⁶¹ Kurz, T., Donaghue, N., and Walker, I. (2005), 'Utilizing a social-ecological framework to promote water and energy conservation: A field experiment', *Journal of Applied Social Psychology*, 35, 1281-1300, cited in Markowitz & Doppelt (2009)

⁶² Markowitz, E.M. and Doppelt, B. (2009), Reducing Greenhouse Gas Emissions through Behavioral Change: an assessment of past research on energy use, transportation and water consumption, Institute for a Sustainable Environment, University of Oregon

⁶³ Fujii, S. & Taniguchi, A. (2005), 'Reducing family car-use by providing travel advice or requesting behavioral plans: An experimental analysis of travel feedback programs', *Transportation Research Part D*, 10, 385-393, cited in Markowitz & Doppelt (2009)

The value of groups as a context for behaviour change has also been explored outside the health arena. In one study, for instance, individuals were organised into 'EcoTeams' of 6-10 people, which met every month over a period of three years to discuss experiences, ideas and achievements – and review progress against energy conservation goals. Energy reductions of 7.5% were achieved across the groups.⁶⁴

There are many ways in which 'being in a group' can help behaviour change. One study, for instance, looked at the effects of group behaviour on a very individual activity: taking a shower. Getting people to make a verbal commitment to taking shorter showers to save water did not, by itself, shorten shower times: but when participants were then reminded of their poor behaviour and made a *public* commitment to take shorter showers, their behaviour did change. A desire not to be seen as hypocritical appears to have helped people bridge the gap from intention to action.⁶⁵

Comparison effects, such as competition, can also be a powerful force in prompting behaviour change – making the visibility (or perceived visibility) of behaviours to others an important variable to consider. In one current study, for instance, researchers looked at the effect of different messages above washbasins on handwashing behaviour, and found that 'people were most sensitive to the idea that others were watching their behaviour'.⁶⁶

Groups can also play an important role in replacing social networks associated with an old behaviour. In the evaluation of one smoking cessation programme aimed at new mothers, for instance, 'the women involved said that previous attempts to give up smoking had failed because it meant opting out of a social group. By taking part in the "Give It Up for Baby" programme, they felt it gave them the opportunity to say they were doing something different'.⁶⁷

It is important not to get too starry-eyed about the potential of groups to facilitate change, however. Groups are complex and often unpredictable systems, which can sometimes hinder behaviour change as much as they assist it.

⁶⁴ Staats, H., Harland, P., and Wilke, H.A.M. (2004), 'Effecting durable change: A team approach to improve environmental behavior in the household', *Environment and Behavior*, 26, 341-367, cited in Markowitz & Doppelt (2009)

⁶⁵ Dickerson, C.A., Thibodeau, R., Aronson, E., and Miller, D. (1992), 'Using cognitive dissonance to encourage water conservation', *Journal of Applied Social Psychology*, 22, 841-854, cited in Markowitz & Doppelt (2009)

⁶⁶ Reported in http://news.bbc.co.uk/1/hi/health/8305670.stm

⁶⁷ Boyce, T., Robertson, R. and Dixon, A. (2008), Commissioning and Behaviour Change: Kicking Bad Habits final report, King's Fund

Q9 How can government give a push?

Sometimes unlocking change – by removing barriers, making desired behaviours more do-able and facilitating the process of behaviour change – may be enough to achieve behaviour change objectives. More often than not, however, it is also necessary to give a push.

The checklist presented under Question 2 provides one way of thinking about the different types of push government can give. So called 'levers of change' have an impact, not on behaviour itself, but on aspects of people's worlds (how things are or how they seem to be). It is these changes in people's worlds that may in turn make changes of behaviour more likely.

One intervention, many effects

It is important to remember that a single government intervention may have multiple effects in people's worlds (see the discussion under Question 2). Banning behaviour, for instance, doesn't just make it a lot less advantageous (by attaching penalties); it can also change the social meaning of the activity in unpredictable ways. A single intervention may also have different effects for different people. Informing people about risks, for instance, can transform some people's perceptions of what is to their advantage, yet tip others into a state of denial.

Government, we should remember, is not Derren Brown: it cannot 'predict, suggest and control human behaviour'.

But, armed with a deeper understanding of the people they hope will change, and greater clarity of the likely changes in their worlds our actions will bring about, policymakers can anticipate and explore the possible consequences of different options, and judge more effectively the best ways to achieve behaviour change policy objectives.

This section considers the three main routes by which government can 'give a push' to behaviour change: marketing communications, legislation and enforcement, and incentivisation.

Once again, it is important to remember throughout that behaviour change is generally best served by a *mix* of interventions, delivered over a long period of time and modified in response to measurement of impact.

First do no harm

Before looking at ways to give behaviour change a push, it is worth mentioning the importance of avoiding pushing in the wrong direction.

For instance, government is judged by its actions as well as its words, and needs to make sure it is setting a good example on behaviours it would like to see in others. To cite just one example, recent research from Defra highlights the negative impact that the travel behaviours of politicians and civil servants can have on the willingness of the wider public to engage with behaviour change.⁶⁸ If nothing else, a poor example from government gives people an excuse for not engaging with uncomfortable topics.

⁶⁸ Forthcoming

Don't ask people to do contradictory things

One of the most common reasons why government sometimes pushes in the wrong direction, however, is the simple fact that different policies, if treated in isolation, may require contradictory changes in behaviour.

One oft-cited example is the potential for conflict between road safety, traffic management, and reductions in CO_2 emissions. For instance, while 20mph zones can be very effective at reducing road deaths locally, they can also have a negative effect on the global environment by increasing CO_2 emissions, and on the health of local residents by increased air pollution. For instance, studies by TRL indicate that urban road humps used to enforce 20mph speed limits increase emissions of hazardous PM10s and NO₂ by about 60%⁶⁹; while studies by AEA Technology on the impact of older catalytic converters indicated that road humps increased carbon monoxide emission by up to 500%⁷⁰. Similar effects arise from the stop-start driving brought about by dense installations of traffic lights.⁷¹

The lesson of examples like this is that apparently discrete policy objectives *cannot* be treated in isolation. Human behaviour has an annoying habit of cutting across the boundaries of Departments and divisions. Pursuing policy objectives in isolation can risk a situation in which people are being asked to do contradictory things by different parts of government, even different parts of the same Department.

The example above is a good one precisely because it shows what can be done when policy objectives requiring behaviour change are 'joined up'. The SAFED training scheme achieves both improved road safety and reduced CO_2 and hazardous air pollutants emissions, by encouraging smoother driving. Similar creative, cross-cutting approaches to behaviour changes will be needed in the future, giving optimal outcomes across different policy variables.

Marketing communications

According to a review conducted on behalf of NICE, 'mass media interventions show a small to moderate effect in changing knowledge, attitudes and behaviour across a range of activities such as tobacco use, physical exercise, drink driving and riding with drink drivers, and healthy eating'.⁷²

'Small to moderate' may not sound like a ringing endorsement, but in the context of the level of evidence available for most behaviour change interventions, this is about as good as it gets.

The primary impact of communications is to change not the world itself, but people's understanding of that world. Communications can primarily be used to:

1. Make a behaviour seem more advantageous, by changing a person's understanding of the costs/benefits of the behaviour

⁶⁹ Boulter, P.G., Hickman, A.J., Latham, S., Layfield, R., Davison and P., Whiteman, P.I. (2001), *The impacts of traffic calming measures on vehicle exhaust emissions*, TRL Report 482

⁷⁰ Norris, J., AEA Group, personal communication

⁷¹ Jayaratne, E.R., Wang, L., Heuff, D., Morawska, D. and Ferreira, L. (2009), 'Increase in particle number emissions from motor vehicles due to interruption of steady traffic flow', *Transportation Research Part D: Transport and Environment*, 14, 521-526

⁷² Jepson, R., Harris, F., MacGillivray, S., Kearney, N. and Rowa-Dewar, N. (2006), A review of the effectiveness of interventions, approaches and models at individual, community and population level that are aimed at changing health outcomes through changing knowledge, attitudes and behaviour, Cancer Care Research Centre/Alliance for Self Care

For instance, one of the stated objectives for communications in the Change4Life campaign is 'increasing the number of people who recognise that their lifestyle choices around diet and exercise are threatening their own and their children's health'.⁷³

2. Make a behaviour seem more 'me', by influencing the social meaning of the behaviour

For instance, many commercial advertisements seek to position products as statements of a particular kind of identity. This is, however, an altogether more difficult area for government to operate in.

3. Make a behaviour seem more do-able, by changing a person's understanding of how hard the behaviour is, or of their own capacity

For instance, the 'Tax doesn't have to be taxing' campaign resulted in a significant increase in timely returns and use of the online filing system as well as improving the image of the Inland Revenue.⁷⁴ A current campaign encouraging people to check their smoke alarm combines do-ability with advantageousness in the line: 'It only takes 30 seconds to save your life'.

In some cases, mass communication can also play a rudimentary educational role, changing a person's actual capacity (as opposed to their understanding of it) by telling them how to do certain things. The Stroke Associations F.A.S.T. campaign is a good example of the use of communications in this way.

Laying the ground for change

Since the war, psychologists and marketers have steadily realised that changing a person's knowledge, attitudes or even their intentions through communications is not the same as changing their behaviour. For instance, the Clunk Click campaign is still remembered by people today; but by 1982 it had achieved only 37% observed compliance among drivers. Only with legislation in 1983 did observed compliance increase rapidly to 93%.⁷⁵

Care is needed here, however. The really interesting question here is whether the legislation would have achieved such significant and swift results without changes in knowledge, attitude or intention brought about by the previous communications campaign.

A review of evidence for NICE argues that 'over recent decades, it has become clear that knowledge and attitude change may be necessary *precursors* of behaviour change'.⁷⁶ Similarly, the King's Fund argues that, while 'providing information, on its own, has little effect on people's health behaviour... providing information has much greater impact when it is part of a wide range of activities that promote healthier choices.⁷⁷

Marketing communications is likely to be an essential in most behaviour change efforts. But though necessary, it is not sufficient. Seeking to change behaviour *solely* through marketing communications is unlikely to be a sensible strategy.

⁷³ Department of Health (2009), Change4Life Marketing Strategy

⁷⁴ http://www.ipaeffectivenessawards.co.uk/Winners2006

⁷⁵ Broughton, J. (1990), Restraint use by car occupants, Research Report RR289, TRL Ltd

⁷⁶ National Institute for Clinical and Health Excellence (2006), Behaviour Change: synopsis of evidence dated 22-12-06

⁷⁷ Boyce, T., Robertson, R. and Dixon, A. (2008), *Commissioning and Behaviour Change: Kicking Bad Habits final report, King's Fund*

Brands

Before leaving the topic, it is important to mention the central role that marketing communications can play in the creation and maintenance of a brand.

One simple way to understand this role is to look back at the discussion, under Question 7, of national government's limitations when it comes to engaging with citizens. Unlike many other organisations, national government can lack credibility, influence, and the possibility of building a one-to-one relationship lasting over time.

A successful brand can go some way to making good these shortfalls. For instance, the *Think!* brand has been used since 2000 in media from TV to road signs, and at 81% awareness is one of the best known brands in the UK. It is perceived, moreover, as helpful, thought-provoking and trustworthy.⁷⁸ *Think!* has become something that people, recognise from one communication to the next, expect things from, and form a rudimentary relationship with. And this relationship is the foundation of that most elusive of commodities in communication: trust.

A brand like *Think!* is far more than a logo. It is a set of expectations in the heads of citizens, built up through consistent patterns of brand behaviour over time – such as a dedication to presenting a case based on scientific facts. The importance of consistent behaviour explains why brands need to be managed, and their use by others so carefully policed.

Just as we remember the times people let us down, so too we remember the times when brands disappoint our expectations of them.

Legislation and enforcement

Whereas marketing communications changes people's understanding of the world, legislation changes the world itself: by attaching new consequences (typically a penalty) to a behaviour, and so changing how advantageous it seems.

To work in this way, however, legislation has to be backed up by credible enforcement: people have to believe that the consequence really will follow. A good example of the failure of credible enforcement comes from the history of drink driving legislation. The 1967 Road Traffic Act saw the introduction of both the first legal drink driving limit and the breathalyzer. Unfortunately, readings from the latter could not be used in court, making the limit hard to enforce. In the years following, fatalities from drink driving actually rose above pre-1967 levels, leading the Departmental Committee to remark in 1976 that: 'We are convinced that the other major factor ... in the decay of the law's effectiveness is the drinking driver's growing appreciation that the real risk of being detected and convicted, though higher than before, remains low. ... A growing inclination to take a chance has been reinforced by well-known technical defects in the Act, which suggest that even a positive test need not cost the driver his licence'.⁷⁹

By contrast, if legislation is backed up by credible enforcement then, over time, compliance can become embedded in the population – so that behaviour to avoid penalties becomes, over time, habitual behaviour. A good example is provided by motorcycle helmets – though that example also serves as a reminder of the need to ensure that each new generation develops the same habits.

⁷⁸ Angle, H., Kirwan, S., Buckley, K. and Goddard, E. (2008), THINK! Road Safety Campaign Evaluation: Annual Survey 2008 Report, BMRB

⁷⁹ Department for the Environment (1976), Drinking and Driving – Report of the Departmental Committee

Legislation and social norms

Legislation does not just operate by changing the consequences of behaviour, however. When government legislates, and also when it fixes a penalty, it is trying to dictate a particular social meaning for the behaviour in question.

It is questionable whether government ever had, in some more compliant past, the authority to dictate social meanings. Resistance to laws perceived as unjust is a recurring feature of history. Indeed, one might wonder about the point of a passing a law which no-one was going to resist.

The 1967 Road Traffic Act, for instance, was met by protests from those who saw it as an infringement of their civil liberties, along with claims from publicans that it would bankrupt their businesses. The fact that these protests can seem rather quaint from a modern perspective is testament to the long-term success of the Act and associated campaigns in shifting social norms around drink driving. By 2008, 68% of motorists agreed that driving after drinking two pints was unacceptable behaviour.⁸⁰

It is easy, however, to cite other examples of legislation that has failed to change social norms (the 70mph speed limit on motorways, for instance) or even been undone by large scale resistance (the poll tax).

This is probably why some of the best examples of legislation around behaviour have built on previous shifts in attitudes, rather than seeking to create them. The example of seatbelts, for instance, discussed in the last section, provides an excellent example of legislation continuing a process started by determined efforts to change people's attitudes. The history of anti-smoking legislation provides another example: the ban on smoking in public places builds on the strategy of shifting attention away from the risks to smokers and onto their impact on people around them.

The example of smoking reminds us, however, that even successful legislation may harden the views of a resisting minority; while the example of drink driving reminds us that shifts in social norms do not guarantee behaviour in line with those norms. 17% of road fatalities are still due to drink driving⁸¹; 21% of UK adults still smoke⁸²; and 13% of drivers admit to not wearing a seatbelt on every trip.⁸³

Legislation and enforcement can play a role in behaviour change, but they have never guaranteed results.

[Note: in line with the scope of this thinkpiece, this section has focused on legislation that directly mandates behaviour from individual citizens. Much legislation, of course, influences behaviour indirectly by affecting the behaviour of third parties, such as commercial organisations.]

⁸⁰ Angle, H., Kirwan, S., Buckley, K. and Goddard, E. (2008), THINK! Road Safety Campaign Evaluation: Annual Survey 2008 Report, BMRB

⁸¹ Department for Transport/Office for National Statistics (2009), Statistical release: Reported Road Casualties in Great Britain: 2008 provisional estimates for accidents involving illegal alcohol levels; Department for Transport/Office for National Statistics (2009), Transport statistics bulletin: Road Casualties in Great Britain Main Results: 2008

⁸² Robinson, S. and Lader, D. (2007), *General Household Survey: Smoking and drinking among adults, 2007*, Office for National Statistics

⁸³ Christmas, S., Young, D. and Cuerden, R. (2008), *Strapping yarns: why people do and do not wear seat belts*, Road Safety Research Report 98, Department for Transport

Incentivisation

The use of incentives to promote behaviour change has become increasingly common across a wide range of policy issues, from reducing school absenteeism to encouraging treatment adherence. Nor is it just government that uses incentives to try to change behaviour: some health insurers reduce premiums for customers who attend a gym, while other companies have trialled schemes to reduce premiums for young drivers who avoid driving at night.

There are good examples where incentives or disincentives, backed up by appropriate publicity, appear to have made a difference. In Ireland, for instance, the introduction of the 'Plas Tax' (a ≤ 0.15 levy on all plastic bags) along with a comprehensive information campaign (with pamphlets sent to every household outlining why the levy was being introduced and explaining how consumers could avoid it by using reusable bags) is credited with contributing to a 90% reduction in the consumption of plastic bags.⁸⁴

Evidence from reviews in the health arena suggest that financial incentives are most successful when used to target simple behaviour patterns, such as attending appointments. By contrast, 'for complex and sustained behaviour change such as smoking cessation there is insufficient evidence to declare that patient incentives are effective'.⁸⁵

Gold stars

But incentives don't have to be financial, of course. In the Food Dudes programme, for instance, children receive rewards such as stickers, pencils, key rings or certificates.⁸⁶ Nor is it just children that succumb to the lure of a gold star. Under the Eco-Stars scheme operating in South Yorkshire, vehicles including buses, coaches, vans and trucks, are given a 'star rating' which can be displayed on participating vehicles and on the websites and promotional material of the operators. Operators are also given a roadmap describing actions that will allow their star rating to improve (see the discussion of personalised information under Question 8). Within eight months of existence, the scheme has recruited over 3,500 vehicles and at least one major operator has used it to upgrade their fleet.⁸⁷

The use of non-financial incentives raises the question: how do incentives operate? The most simplistic way of thinking about an incentive is as a change to the benefits and costs of a behaviour, making it seem more advantageous (or, for disincentives, disadvantageous).

Financial incentives, however, can also serve to make an activity more do-able: 'removing perceived economic barriers can contribute to securing behaviour change in those patients who are already motivated but discouraged by cost concerns'.⁸⁸ The distinction here is subtle but important. An incentive that makes a behaviour more attractive should make some people want to change *who did not want to* beforehand; a payment that merely removes a barrier will impact only on those who wanted to change beforehand.

⁸⁴ Cited in Collins, J., Thomas, G., Willis, R., and Wilsdon, J. (2003), *Carrots, sticks and sermons: influencing behaviour for environmental goals,* Demos/Green Alliance for Defra

⁸⁵ Sutherland, K., Leatherman, S. and Christianson, J. (2008), *Paying the patient: does it work? A review of patient-targeted incentives*, The Health Foundation

⁸⁶ Collins, J., Thomas, G., Willis, R., and Wilsdon, J. (2003), *Carrots, sticks and sermons: influencing behaviour for environmental goals,* Demos/Green Alliance for Defra

⁸⁷ Douglas, C., TTR Ltd, personal communication

⁸⁸ Sutherland, K., Leatherman, S. and Christianson, J. (2008), *Paying the patient: does it work?* A review of patienttargeted incentives, The Health Foundation

Incentives as messages

Like legislation, incentives can also serve to send a *message* about a behaviour – whether or not such a message was actually intended. Commercial organisations, for instance, use rewards to create a sense of loyalty and connection. Tesco's 'Every little helps' campaign, for instance, is an example of promotional price cuts being used not just to encourage purchases, but to create the sense of an organisation that understands the needs of shoppers and gives something back. Primatologists studying the bonding behaviour of chimpanzees may have more to tell us about incentives of this kind than economists.

Another interesting example of incentives sending a message comes from a study of their use to increase follow-up after abnormal cervical smears. In this instance, transportation incentives improved rates of follow-up even though the women did not always actually use them. 'Instead, they were reported to consider them to be a message from the healthcare system that follow-up was important'.⁸⁹

Incentives and 'intrinsic motivation'

Unfortunately, the messages sent by incentives are not always positive.

In one now classic study, children who expected a reward for doing so spent half the amount of time drawing with felt tip pens than those who expected no rewards.⁹⁰ Deci obtained similar effects for adults, showing that the expectation of extrinsic rewards, like pay and status, tended to suppress the intrinsic motivation associated with interesting tasks.⁹¹ Moreover, he found that people paid to do something they would otherwise have done out of interest are less likely to do it in future *without* being paid.

Similar results have been replicated many times, and a number of psychologists argued that 'monetary incentives can crowd out or dampen intrinsic motivations such as altruism, civic duty and self-worth. In other words, intrinsic motivation for individual behaviour change can be undermined by monetary or extrinsic rewards'.⁹² Put another way, an incentive risks sending the message that you are no longer doing something for yourself.

Another study compared the impacts of personal feedback (judged to reinforce *intrinsic* motivation) and financial incentives for participants using smoking cessation self-help materials. The incentive increased the use of the self-help materials but not quit rates – and was linked to higher relapse rates. By contrast, 'those who received the intrinsically-based personalised feedback had twice the rate of biochemically confirmed abstinence at 12-month follow-up'.⁹³

These results raise some concerns about the widespread use of incentives to encourage behaviour change – especially in light of the finding that, even when incentives do prompt a change in behaviour, this change may not be sustained when the incentive is removed again.

⁸⁹ Marcus, A.C., Crane, L.A., Kaplan, C.P., Reading, A.E., Savage, E., Gunning, J., Bernstein, G. and Berek, J.S. (1992), 'Improving adherence to screening follow-up among women with abnormal Pap smears: results from a large clinic-based trial of three intervention strategies', *Medical Care*, 30, 216–30, cited in Sutherland, Leatherman and Christianson (2008)

⁹⁰ Lepper, M.R., Greene, D. and Nisbett, R.E. (1973), 'Undermining children's intrinsic interest with extrinsic rewards: A test of the "overjustification" hypothesis', *Journal of Personality and Social Psychology*, 28, 129-137

⁹¹ Deci, E. L. (1975), Intrinsic motivation, New York: Plenum Press

⁹² Sutherland, K., Leatherman, S. and Christianson, J. (2008), *Paying the patient: does it work?* A review of patienttargeted incentives, The Health Foundation

⁹³ Curry, S.J., Wagner, E.H. and Grothaus, L.C. (1991), 'Evaluation of intrinsic and extrinsic motivation interventions with a self-help smoking cessation program', *Journal of Consulting and Clinical Psychology*, 59, 318–24, cited in Sutherland, Leatherman and Christianson (2008)

For instance, 'where feedback is used in conjunction with incentives to save energy, behaviour may change but the changes are likely to fade away when the incentive is taken away'.⁹⁴

⁹⁴ Darby, S. (2006), The effectiveness of feedback on energy consumption, University of Oxford: Environmental Change Institute



Incentivisation, just like marketing communications and legislation and enforcement, comes with risks attached – including the risk that, in some cases, it may undermine rather than promote behaviour change. As we noted at the beginning of this section, a single government intervention may have multiple effects in people's worlds. None of the 'levers' available to government operates in quite the lever-like way we might like it too.

Evidence, research, theories and (most important of all) talking to the people we hope will change – these can all take our understanding a long way. But a gap will always remain to be filled by the good judgement of policymakers.

The responsibility borne by policymakers in these circumstances is not dissimilar to that borne by prescribing doctors before the advent of the double-blind trail, the Cochrane Collaboration and Evidence-Based Medicine.

We may hanker after a similar level of certainty in the field of behaviour change – but there is no sign of our getting it in the near future, and good reason to question whether it is possible even in principle.

In the absence of such certainty, some mistakes are inevitable.

But the greatest mistake of all would be to imagine that government can actually change people's behaviour. Understanding one's limitations really is the first step towards realising one's strengths.