The Five Bad Habits of Healthcare
How New Thinking about Behaviour Could Reduce Health Spending

Prepared in collaboration with Imperial College London
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Illustrative vignette

Matthew Solomon is a fit and healthy 40-year-old accountant. Over the course of the last week he has been feeling unwell with flu-like symptoms. After much coaxing, his wife convinces him to see the family doctor. Upon examining Mr Solomon, the doctor is confident that all he has is a viral infection but sends him for a chest x-ray and blood tests just to be sure. Mr Solomon’s insurance plan will pay for these tests and the doctor’s practice will be compensated for the additional work. Although x-ray and blood tests return normal results, the doctor decides to prescribe a short course of antibiotics for Mr Solomon. This is despite recent recommendations on inappropriate antibiotic prescribing sent to her by the local health authority.

Mr Solomon’s flu symptoms soon clear up: However, five days after starting to take the antibiotics, he develops severe diarrhoea and is admitted to hospital. He is found to have a gastrointestinal infection that is related to the use of antibiotics and is given intravenous fluids for dehydration. Unfortunately, four days later he picks up a nasty infection at the site of the intravenous drip. There are national guidelines that intravenous drips are resited every two days, but the local norm at this hospital is that they often stay in for longer than this. Mr Solomon spends a total of eight days in hospital before he is well enough to return home.

Later that month, both the family doctor and hospital submit invoices to Mr Solomon’s insurer. Both receive payments even though their actions were in part responsible for his complications. The total cost to the system is US$ 19,500 and Mr Solomon’s insurance premiums rise significantly the next year.
Executive Summary

Health spending is on an unsustainable course in many advanced economies. Not only will it force painful trade-offs with other priorities such as education, infrastructure or welfare, for some countries the explosion in health expenditure will also threaten their future fiscal health. Unsurprisingly, containing health spending has become a top priority for governments around the world.

Yet, traditional methods of expenditure control (for example rationing, price capping and the introduction of competition) appear to have had limited success. This may be in part because these traditional policies are based on how people should behave when they are rational and not on how they actually behave. In contrast, evidence from behavioural economics and psychology demonstrates that people’s decisions are influenced by mental short cuts, biases and the context in which they are made – not just by the objective assessment of the benefits of each available option. These influences can lead to irrational behaviours.

These irrational behaviours contribute to the problem of increasing health expenditure. Drawing on the work of the 2010-2011 World Economic Forum Healthcare Industry Global Agenda Council, we identify five important and pervasive “bad habits”, which contribute to this spending problem:

1. Favouring current practice over the best available evidence
2. Following what others are doing even when it is wrong
3. Behaving as if more healthcare is identical to better healthcare
4. Focusing on illness at the expense of prevention
5. Failing to present information or choices effectively

This discussion paper illustrates how these bad habits drive increased health expenditure. It also explores the well-known biases and other influences which help explain them.

More importantly, we argue that, by understanding the actual behaviour of policy-makers, payers, providers, patients and the public, we can develop a fuller and more effective set of tools for containing both demand for healthcare and its costs. By recognizing the influences that underpin the five bad habits, we can design policies to counter – or even harness – them. These new approaches powerfully complement – although they do not replace – more traditional methods of controlling health expenditure. Indeed, emerging evidence suggests that they can succeed where existing methods have failed: for instance in reducing unnecessary and wasteful provision of care or in changing the behaviours that cause non-communicable diseases such as heart disease, diabetes or cancer. Finally, we present a framework called MINDSPACE to help governments and healthcare managers integrate behavioural insights into their policy-making.
An unsustainable future

Healthcare spending in most advanced economies is on an unsustainable course. Levels of expenditure are now widely predicted to reach levels that will threaten the future fiscal health of many nations and entail painful trade-offs with other areas of public expenditure. This section outlines the scale of the challenge policy-makers face and describes the traditional ways in which they have sought to contain both demand- and supply-side pressures. We also expose a key assumption made by these traditional approaches – actors in healthcare systems will always behave rationally. This assumption hampers these approaches and we suggest that new methods, which take into account how people actually behave, may have much to offer.

The growing fiscal burden posed by healthcare is one of the most pressing public policy problems facing advanced economies. Across the OECD countries, health expenditure has on average exceeded the rate of economic growth by 2% annually for the past 60 years. This growth has made public spending on healthcare the most important category of total public spending increases.1 Even without the effects of the recent and ongoing global financial crisis, containing healthcare expenditure has become critical for the future fiscal health of nations. Health spending growth shows no sign of abating. Consider the OECD economies. Figure 1 shows how expenditure on health as a percentage of their GDP is expected to grow over the next 40 years.

Some of these countries have coped relatively well. For example many of the Scandinavian health systems are able to deliver good quality healthcare but face a less alarming, though still significant, acceleration in spending growth from 10% today to 13% of GDP by 2050. Similarly, Japan, with its widely admired health system, faces a much less steep spending trajectory than some of its European counterparts. Yet, despite their position of relative strength, none of these countries has bucked the overall trend.

For other countries, the threats posed by spiralling health expenditure are imminent. The so-called Bismarck countries (e.g. Austria, Belgium, France, Germany, the Netherlands and Switzerland) characterized by their social insurance funding systems will see the proportion of GDP spent on health rise to 15% by 2050. And the United States (US) is in a league of its own: currently expending 17% of GDP on healthcare, this ratio is on track to grow to an astonishing 27% by 2050.

Devoting an ever-increasing share of GDP to health has troubling consequences. Spending more on health entails spending less on other things such as schools, infrastructure and welfare. Some economists argue that economies with large shares consumed by public health spending are also less competitive. Of course, if other areas of the economy grow faster than healthcare, health expenditure could stabilize or even decrease as a share of GDP. But this has simply not occurred in any developed country over any prolonged period during the last 50 years.

Even more troubling is the problem of funding this increasing expenditure. Public borrowing in most developed countries will be exceedingly difficult at a time of deep fiscal retrenchment. Increased taxation – though perhaps part of the medium-term solution – may be politically infeasible and economically unwise at a time when many economies are trying to restore growth. Without new sources of public funding, a greater share of the burden may come to be met by individual contributions for instance through private insurance coverage, user charging or greater out-of-pocket payments. If so, inequalities of access, treatment and outcomes – already an issue in countries such as the US where private expenditure is significant – are likely to become an increasing problem.
When have we spent enough?

Of course, spending on healthcare is a good thing: it has brought medical advances which have delivered greater longevity and untold improvements to people’s lives. For many countries in the emerging and developing world, the problem is not (yet) spending too much – it is how to spend more effectively.

Determining the “right” level of health expenditure is a fraught question. We do not attempt to answer it here. However, what is clear is that there is no straightforward causal relationship between increased health expenditure and health outcomes. Certainly there is a minimum level of investment required to deliver acceptable healthcare and there is a correlation between expenditure and outcomes such as life expectancy, as shown in Figure 2.

![Life expectancy versus total expenditure per capita, US$ PPP](source: OECD.Stat)

**Figure 2: Life Expectancy versus Total Expenditure per Capita**

But eventually diminishing returns set in. To take one example, Figure 3 illustrates that as life expectancy increases additional expenditure increasingly has less effect per dollar spent.

**Expected increase in life expectancy (years) per additional 1000 US$ PPP spent per person**

![Expected increase in life expectancy](source: OECD.Stat)

**Figure 2: Life Expectancy versus Total Expenditure per Capita**

Diminishing returns from additional health expenditure mean that eventually – and possibly already in some countries – money would be better spent on something else, such as education, housing or unemployment assistance, all of which have strong effects on people’s health. This helps to explain why, despite spending much more on healthcare, countries such as the US produce the same or worse outcomes as other countries, such as Japan, which spend far less. (There are also other important explanatory factors at work, however, such as inefficient spending, greater inequalities and better social determinants of health to mention a few).

The upshot is that all advanced countries – and, eventually, all emerging countries – should be concerned about spiralling healthcare expenditure. It is not just a problem for the US or some of the high-spending European countries. It is a problem that should concern us all.

Why is healthcare expenditure rising?

Spiralling expenditure is the result of two underlying trends: on the one hand, increasing demand for healthcare and, on the other, the rising costs of care.

Demand for healthcare has grown rapidly in recent decades, a trend which is likely only to accelerate. This is partly a consequence of getting richer: as people’s income rises, they tend to spend more on healthcare. The impact of this income effect is apparent in the emerging countries of Brazil, Russia, India, China and South Africa, where incomes are increasing rapidly. The rise of more affluent middle classes in the emerging countries creates a huge potential market for healthcare. And, importantly, these people do not simply demand more healthcare as they grow richer; they also want better healthcare, which compounds the demand burden.

Demand growth in most developed countries, and some emerging ones, is also a consequence of demographic shifts. For instance by 2030 the United Kingdom will have twice as many people aged over 80 as there are currently; these older people consume more healthcare than do their younger counterparts – often because they suffer from non-communicable diseases such as diabetes, heart disease and cancer. These are expensive long-lasting conditions, consuming over two-thirds of healthcare resources in advanced economies. The increasingly expensive needs of ageing populations will have to be met by taxes generated by a relatively smaller number of working-age people. As Figure 4 shows, in the OECD countries, the number of over 65s for each person under 65 is set to increase substantially in every country by 2050. In emerging countries such as China, where populations are simultaneously getting richer and older, the potential scale of future demand growth is daunting.
Healthcare costs are also rising. In other words, it is not just that socio-demographic shifts are creating more people wanting more healthcare, we are also spending more on each patient or episode of care. For instance in the United Kingdom 35 approved oncology drugs were available in the 1970s. Now there are close to 100 and the cost of a course of systemic therapy in the United Kingdom has increased from 34% of per capita GDP in 1995 to 67% in 2009.\(^1\)\(^2\)

Many analysts agree that the most important factor underlying cost growth is the diffusion of medical innovation – defined widely to include new drugs, therapies and the like. This may seem counter-intuitive since innovation often reduces costs in other industries. However, in modern healthcare, widespread technological change (defined widely) often leads to greater costs per patient or care episode. Sometimes this is because new therapies are discovered which work better than existing ones. These new technologies can be costly in their own right – such as new imaging devices or new cancer drug regimens – but crucially they also incur significant labour costs as they require skilled people such as radiographers and oncologists to be deployed effectively. In other cases, new therapies are developed for conditions that were previously left untreated: think of the revolution in how mental illness has come to be treated in advanced health systems since the 1960s. Of course, medical advances are to be celebrated, not lamented. But there is little doubt that however much they improve our lives, these factors also apply strong upward pressure on health expenditure.

There are other important factors which underlie cost growth (see the box below). One is the poor productivity of healthcare relative to other sectors of the economy. This is sometimes called the Baumol effect, after the American economist who observed that poor productivity growth is characteristic of service industries. Baumol argued that heavily labour-intensive sectors tend to enjoy much lower productivity gains than those that have replaced labour with better technology. Although medicine has seen wonderful technological improvements, these have not by and large replaced labour. Indeed, as noted above, technological changes in healthcare often engender an even greater need for highly skilled specialists.

**The Future of Health Systems: A Scenario Analysis**

Scenario work between the World Economic Forum and McKinsey & Company aims to engage a wide set of stakeholders from sectors within and beyond healthcare in a collaborative search for new models and interventions, which can help developed and emerging countries manage the growth of healthcare spending sustainably.

Public health systems around the world face a future of chronic insolvency. In developed countries, the growing demand for healthcare – driven in large part by an ageing population and greater prevalence of chronic diseases – is coupled with the rising costs of care. The correlation between health spending and outcomes is poor, suggesting that the way in which money is spent across the system is inefficient.

Emerging countries must avoid replicating this dynamic as they design and build their health systems. As citizens grow wealthier, demand for high-quality healthcare will be unlocked. By adopting the same models, technologies and the “bad habits” of the developed world, these countries risk being confronted with ever-increasing costs.

The objectives of this scenario project will be to first build a common understanding of the root causes of current spending levels and raise awareness of the likely consequences of inaction for economies and societies at large. It will also analyse the complex interplay of drivers that underpin expenditure growth. The project will then explore alternative scenarios and make concrete recommendations for sustainable health systems, thus building a solid groundwork for collaborative problem-solving.
Executive Summary

What are countries doing to contain healthcare expenditure?

Unsurprisingly, countries have developed a variety of policies designed to slow expenditure growth. These policies can be divided into those that seek to contain demand and those that are intended to reduce costs arising from the supply of healthcare.

Three basic methods have been deployed by mature health systems to suppress demand:

- **Rationing access.** Countries which fund their health systems using insurance plans (social or employer-based) may employ eligibility criteria to restrict access to services or treatments. Single-payer systems (e.g. the NHS in the United Kingdom) may also delist or deny funding for treatments or therapies that are not deemed cost-effective. In several countries, such as Australia, Finland, the Netherlands, Sweden and the United Kingdom, the process of delisting is formalized by a dedicated government body charged with determining cost-effectiveness and making rationing decisions.

- **Gate keeping.** Several countries attempt directly to suppress demand for healthcare by instituting gate keeping mechanisms between patients and healthcare providers. Usually this is a primary care clinician, or team of clinicians, charged with managing access to services and controlling costs by screening out unnecessary referrals to hospital.

- **User charging and incentives.** Most advanced health systems employ different types of user charging with the purpose of suppressing demand. User charging comes in several forms, but most require patients to pay a deductible or to share the cost of accessing services with the intention of discouraging unnecessary visits or treatments. Health Savings Accounts (e.g. Singapore) and Consumer Directed Health Plans (e.g. US) are interesting variants of user charging. These allow citizens to recoup the “savings” if they use less healthcare than they have budgeted, creating direct incentives to avoid unnecessary use.

Mature health systems also use a variety of policy tools designed to reduce the costs of healthcare by targeting healthcare suppliers and providers. These tools include:

- **Reimbursement structures** that create efficiency incentives. Most advanced economies reimburse hospitals with payments that relate to the number of patients they see for groupings of particular conditions or procedures (known as Diagnosis Resource Groups in Germany or Healthcare Resource Groups in the United Kingdom). These payment structures are designed to encourage providers to treat patients in cost-effective ways: by paying providers a fixed sum, the intention is to induce them to find ways of treating patients for less than this sum and retain the savings.

- **Competition** and encouraging new private sector entrants has been a key policy tool designed to create incentives among payers and providers to achieve efficiencies and reduce costs in a way that simulates market mechanisms at play in other sectors.

- **Expenditure capping and price controls.** Many countries have attempted to impose budget caps or price controls to contain supply-side costs. These controls may apply to the prices at which payers reimburse providers or suppliers, such as drug companies. They may also be applied to wages, particularly in systems where collective agreements are in place. Similar effects can be achieved by capping treatment volumes, leaving providers to foot the bill when these caps are exceeded.

- **Administrative and structural reforms,** which change organizational structures or processes within a health system, can also be implemented to reduce costs. Common examples include decentralization of responsibility to payers or providers, the increased involvement of clinicians in decision-making and the introduction of formal commissioning or contracting structures and processes. Many countries are also contemplating how to alter the pattern of primary, community and acute services – as well as the referral protocols between them – in an attempt to provide more care in less expensive, non-acute settings.

There is a vibrant and ongoing debate on which combination of these policy tools delivers the right balance of quality, access and cost-effectiveness. No doubt several of them will play an important part in the design of more sustainable health systems. However, we suggest that their common assumptions limit their effectiveness and that a new, behavioural approach has much to offer.
The limitations of traditional policy tools

Human behaviour lies at the heart of many of the challenges faced in reducing healthcare expenditure. For example, people who eat too much and exercise too little are very likely to consume more healthcare resources than their trim counterparts (as well as creating private and social costs). Irrational choices by physicians also lead to increased expenditure, often without discernible improvements in outcomes. We are only likely to be successful in reversing the upward trend in expenditure if we are successful in persuading the key actors in health systems – including the public and patients, providers, payers and policy-makers – to change their behaviour.

The traditional methods of expenditure control discussed above often rest on traditional “rational choice” behavioural models. These models assume that individuals will always act in a goal-oriented way to maximize their own benefit (or “utility”). Therefore, if people are simply provided with the right incentives and information, they will weigh up the costs and benefits of their actions and respond appropriately. Policy is simply a matter of getting these incentives right.

However, as important as they are and will remain, these traditional methods have had limited success: as we have seen, health expenditure is still rising at an unsustainable rate in many countries despite the implementation of (some of) these policies. Why? Undoubtedly more could be done with different combinations of traditional policies or with more rigorous implementation. But we suggest that an additional reason why these approaches have had limited impact is that they are not based on realistic or accurate assumptions about how actors in a health system actually behave.

In reality, people do not always respond in rational ways to information, prices and other incentives. Instead, their behaviour is driven by psychological, social and environmental influences that often produce irrational outcomes – at least by the standards of rational choice behavioural models. The basic finding that people are “predictably irrational” forms the focus of past and applied work in behavioural economics, the discipline that combines insights from psychology with the laws of economics. Behavioural economics provides us with a more complete understanding of human decision-making and offers new and enhanced tools for us to use when thinking about changing behaviour.

The next section explores five irrational “bad habits” in healthcare systems and analyses their causes. We also begin to outline a new approach for tackling unsustainable health expenditure that could powerfully complement more traditional methods.
Five Bad Habits of Healthcare

The past few decades have brought new and powerful insights into how and why we behave the way we do. However, traditional methods for changing behaviour and controlling expenditure are often based on how people should behave when they are rational – not on how they actually behave. This section identifies five bad habits in healthcare and explains these behaviours in terms of their underlying psychological and social influences. If we recognize these influences, we can design policies to counter them, thereby complementing more traditional methods of controlling health expenditure.

People are not always rational. Through carefully controlled experiments, observation of real life choices and functional brain imaging, researchers have demonstrated that individuals regularly and predictably deviate from traditional models of decision-making. Rather than weighing up the costs and benefits of each choice, people often rely on mental short cuts (also known as “heuristics” and “cognitive biases”). These mental short cuts can be very useful and adaptive: they allow everyday decisions to be made more effectively. But they can also lead us into making irrational choices. Many of these short cuts are triggered by cues in our surrounding environment without us realizing: our behaviour is much more influenced by context.

These findings have major implications for the way health policy is formulated. An enhanced understanding of decision-making allows us to harness the way people actually respond and behave. By understanding the biases which drive these behaviours, policies can be shaped which counter or actively make use of these tendencies. Although traditional tools such as reimbursement structures or price capping will continue to be important, behavioural science offers new policy alternatives which focus on influencing people’s decisions by changing the context in which they are formulated – the “choice architecture” in the words of the influential book Nudge. If we ignore what we now know about actual behaviours, we should not be surprised when policy interventions do not have the desired effect.

To illustrate the potential of these new policy alternatives, in this section we discuss five bad habits of healthcare systems. These five bad habits illustrate how irrational behaviours arise from the use of mental short cuts and the influence of our environment and, moreover, how these behaviours drive increased health expenditure. We also demonstrate how behavioural insights can help policy-makers analyse and correct these bad habits, thus contributing new solutions to an ever-increasing expenditure problem.

1. Favouring current practice over the best available evidence
2. Following what others are doing even when it is wrong
3. Behaving as if more healthcare is identical to better healthcare
4. Focusing on illness at the expense of prevention
5. Failing to present information or choices effectively

These five bad habits were identified by members of the World Economic Forum Healthcare Industry Agenda Council in 2010-2011 and subsequently explored with other leading policy-makers, academics and clinicians. Although there may be other bad habits or behaviours, we focus on these five for the following reasons:

- These behaviours drive increasing and unnecessary health expenditure – and therefore they are targets for policy interventions intended to control expenditure.
- These habits are not confined to one particular health system or stakeholder group. They are reliably seen to have an effect on decision-making across the different actors in health systems including policy-makers, payers, providers and the public.

We now discuss each of the five bad habits of health systems, in turn, pointing to reasons why people make seemingly irrational decisions and also showing how behavioural insights can be enlisted to encourage better and more sustainable choices.
1. Favouring current practice over the best available evidence

“*It's the way we have always done it*.”

Medical advances over the last century have transformed healthcare. We are now able to treat conditions that were previously undiagnosed or thought untreatable. New diagnostic and treatment options become available as researchers and other innovators demonstrate their increased effectiveness over old ones. Consequently, healthcare systems across the world have become more complex, specialized and data-rich.\(^1\)

Health professionals must work hard to stay up-to-date with best practice and new techniques. They do so by reading journals, attending courses and workshops, or reviewing clinical guidelines. Despite this, an estimated 30-40% of patient encounters do not follow established recommendations.\(^2\)\(^3\) This means that over one-third of what doctors do is not grounded in the best available evidence. Why?\(^4\)

The answer, in short, is that entrenched habits are not easily dislodged by new evidence. Courses, workshops and the like have a limited effect in encouraging compliance with best practice. Issuing guidelines fares little better.\(^5\) For example the United Kingdom National Institute for Health Clinical Excellence (NICE) provides appraisals of health technologies and clinical practice, based primarily on clinical efficacy and cost-effectiveness. But NICE guidance has a limited impact on what clinicians actually do.\(^6\)

People fail to act according to the best evidence for many reasons – organizational, professional and social.\(^7\) However, psychological factors are particularly important. One is that people have a strong – and often unconscious – emotional pull towards current and familiar behaviours. In particular, individuals are “loss averse”: they feel worse about losing a certain amount of money than they would feel pleased if they gained that same amount. In other words, potential losses have more influence over us than potential gains.\(^8\)

Loss aversion is made more powerful by two other factors: the “endowment effect” and “status quo bias”. The endowment effect describes the finding that people value things they hold more than equivalent things they do not have.\(^9\) The status quo bias shows how, quite apart from ownership issues, the perceived disadvantage of making a change can outweigh perceived benefits – even if they are likely to be greater.\(^10\)

It is not only doctors who like to stick with what they have; this behavioural bias is also readily apparent among the public. It may for example help to explain why people will vigorously protest the closure of their local hospital but are much less likely to take to the streets in support of plans for new facilities. Similarly, hospitals are likely to have invested time, effort and their reputation in developing specialist services that they do not wish to give up – even when they are demonstrated to be ineffective or too expensive.

Consequences for expenditure

It is easy to appreciate that sticking with current practice when better or more cost-effective diagnostic or treatment options are available represents an inefficient use of limited healthcare resources. To take one example: spending on pharmaceuticals forms an important share of health expenditures.\(^11\) One important way of reducing this is to prescribe cheaper, generic substitutes rather than branded products. Yet, despite the huge potential cost savings, the vast majority of prescriptions in Europe are for brand names.\(^12\)

Several studies have shown that the care patients receive diverges widely from the best available evidence. In the treatment of osteoarthritides and other joint or bone diseases for example it is estimated that one-half of the treatment that patients receive is inappropriate.\(^13\) Some of this treatment may be totally unnecessary and have no discernible impact on outcomes. It may also be the case that better treatment options are available than those chosen by doctors. In economic terms, this is a clear misallocation of healthcare resources.

Ignoring the best evidence or practice can also result in suboptimal care. Other than the significant impact deficient care may have on patients and their families, it can also lead to unnecessary costs. For example in some countries and providers a total knee replacement can be done with patients staying less than two days on average. In other countries or providers, patients stay twice or even three times as long for the same procedure. Not only does staying in hospital for longer cost more, it also poses risks to the patient including that of acquiring an infection (the treatment of which would of course add to the total costs).

Designing new solutions

The challenge then is to make loss aversion work in the service of best practice. For example incentives designed to promote the use of best practice should take account of – not ignore – loss aversion and the status quo bias.

One traditional policy tool, employed by policy-makers and payers alike, is to reward providers for observing best practice. These “quality premiums” are used in several countries. However, an alternative approach which takes account of providers’ behavioural biases is to pay conditional rewards that are forfeited if best practice is not followed. For example one study in a Chinese high-tech factory found that bonuses were more effective when presented as conditional payments that would be lost if targets were not met. Framing these bonuses as potential losses (rather than gains) led to an improvement in team productivity.\(^14\) A similar conditional approach is currently being trialled by the state of Texas in its contracts with managed care organizations responsible for cohorts of Medicaid beneficiaries.\(^15\)

An even more effective tactic may be to change the “default setting” – the option that is preselected if an individual does not make an active choice.\(^16\) Using defaults as a policy tool in healthcare has been widely debated in relation to organ donation.\(^17\) But there are also many default changes that could improve the quality of care supplied by providers and promote the consistent use of best and most cost-effective practice. For example many healthcare professionals do not take up the offer of an annual influenza vaccination, contributing to increased virus transmission and absences from work. To address this, providers could make vaccination a condition of employment unless employees opt out in writing.
Setting the default option requires careful consideration. Where the options are controversial or difficult to weigh consistently, then defaults may not be the best tool to use. An alternative may be to use prompted choice, which removes the common default of making no choice at all. For example from mid-2011 online applicants for United Kingdom driving licences will need to answer a question on organ donation and will not be able to complete the form without doing so. It is estimated that this will substantially increase the number of people joining the organ register through this route.

In summary, we need to think more about how to change the defaults experienced by policy-makers, providers, payers and the public, so that our mental short cuts are working in the service of best practice – not against it.

Summary: Favouring Current Practice over the Best Available Evidence

Doctors and other health providers do not always follow the best available evidence – an inefficient use of expensive resources. Psychological factors are important in explaining why this is so; for instance people value things they hold more than equivalent things they do not and, as a consequence, stick with the status quo – even when the disadvantages of doing so outweigh potential benefits.

New tools that could help policy-makers overcome these biases include changing the default or “easy” option to reflect best practice or the desired outcome. Reframing the benefits so that losses result from sticking to the status quo may also be effective.

Illustration

Problem: Despite evidence that generic drugs are more cost-effective, doctors do not widely prescribe them.

Solution: Rather than issuing guidelines, design prescription charts and protocols to ensure that generics are the default choice. This change is much easier to implement using electronic prescribing systems.

2. Behaving as if more healthcare is identical to better healthcare

“We may as well do everything we can”

The US spends substantially more per person on healthcare than any other country, yet clinical outcomes compare unfavourably with other healthcare systems.26 On closer inspection, Americans actually visit the doctor less often than people in comparable countries but when they do, they can receive a wider range of expensive investigations and treatments.27 For example the number of emergency visits to hospitals that include a computerized tomography (CT or CAT) examination increased from 2.7 million to 16.2 million in the US between 1995 and 2007.28 It has been shown that many CT scans – at least for head injuries – were unnecessary and potentially harmful.29 Why do doctors order these tests when they are not only expensive but also pose risks to patients?

The first answer, as many have observed, is that clinicians and providers are reacting rationally to the incentive structures that have been set up. Fee-for-service reimbursement systems reward healthcare providers for the quantity of care they provide rather than its quality or value.29 This is also true of reimbursement schemes which pay providers for the number of patients they see for groupings of particular conditions or procedures; for example diagnosis Resource Groups in Germany and Healthcare Resource Groups in England, Italy and elsewhere. It is no surprise that paying providers for each unit of activity – regardless of whether that activity is necessary – tends to produce more activity. Clearly any attempt to tackle unsustainable health spending needs to address these and other systemic incentives, which encourage over-provision.

However, behavioural science suggests other important barriers and drivers are also at work. In particular, research has identified a mental shortcut called the “representativeness heuristic”. This bias explains why new and expensive therapies are often automatically deemed successful, with little regard to the evidence. Because new technologies are novel and exciting – highly salient in our minds – they also become representative of what we deem to be high-quality care, while more humble methods are ignored or discounted. For instance the use of robot-assisted surgery has developed rapidly, at great expense, despite there being only very limited evidence of its superiority to traditional surgical techniques.24 Yet, both clinicians and patients tend to regard it as superior. This tendency also drives over-provision.

Moreover, clinicians, like other people, are risk averse. This risk aversion has been closely linked to greater use of diagnostic testing and referrals; providers are understandably anxious to consider all possibilities and take every available step to avoid misdiagnosis.25 26 Risk aversion is heightened by the increasing threat of litigation in many advanced health systems, contributing to a defensive form of medicine where decisions are motivated by the fear of making a mistake, rather than a rational assessment of risk and return. Providers are encouraged to over-investigate and over-treat, even though this increased activity is costly and results in little or no discernible improvement in outcomes.24

More generally, behavioural science research has unearthed the strong impact that emotion has in shaping our actions. This is particularly important in healthcare, where decisions about how many tests to order or what procedures to undertake may be a consequence of the emotional needs of patients (and even their physician) rather than rational or cognitive processes. Research shows that people are uncomfortable with uncertainty and seek to alleviate this discomfort by
continuously seeking more information; this may be particularly true of clinicians seeking a diagnosis, when the stakes can be so high. With a huge array of laboratory and imaging tests at their fingertips, clinicians can be tempted to seek added assurance – even if it is costly and unnecessary.

Consequences for expenditure

If the first bad habit – favouring current practice over the best available evidence – leads to misallocation of healthcare resources, the unnecessary or over-provision of care wastes these resources. This has a significant impact on the overall cost of providing healthcare.

The eye-watering scale of this waste is suggested by the wide variation in which care is provided and how much is spent. One cohort study of patients with chronic diseases in the US showed that regions in the highest spending quintile provide as much as 60% more care than do regions in the lowest spending quintile – with no discernible impact on outcomes or patient satisfaction. This is not due to differences in patient characteristics. Rather spending differences were explained almost entirely by greater frequency of physician visits, more frequent use of specialist consultations, more frequent tests and minor procedures and greater use of the hospital and intensive care units. The authors conclude that if the US as a whole could achieve spending levels comparable to those of the lowest spending regions, 30% of the total expenditure on Medicare could be saved.36

Over-provision may be most pronounced in the US as a result of fee-for-service reimbursement systems. However, wide variations in care are also a feature of other health systems; for instance in the United Kingdom, the Department of Health has recently compiled the NHS Atlas of Variation in Healthcare. Like its US counterpart, this shows wide variations between different regions and payers/commissioners that are unlikely to be explained solely by different patient characteristics. Rather spending differences were explained almost entirely by greater frequency of physician visits, more frequent use of specialist consultations, more frequent tests and minor procedures and greater use of the hospital and intensive care units. As in the US, it is very likely that over-provision systematically occurs with a substantial and unnecessary impact on expenditure.

Finally, it is worth emphasizing that as well as adding unnecessary cost, over-provision can sometimes produce worse outcomes for patients. For instance some end-of-life treatments are not only unnecessary but over-provision can sometimes produce worse outcomes for patients. For example clinicians could be asked to delay ordering expensive diagnostic tests until they have fully considered their need without the patient present and in discussion with their peers.

Designing new solutions

In addition to changing the financial incentives created by fee-for-service or other activity-based reimbursement mechanisms, policy-makers need to account for the behavioural effects explained above. By explicitly countering these effects, policies will more effectively be able to reduce over-provision and unnecessary care.

A good start would be to provide more salient information – at the point of judgment, when it is most needed – about the comparative effectiveness of different investigations and treatments. Rather than issuing guidelines or posting websites, salient information is about supplying the highly relevant information in the right format at the right time. For instance research suggests that the highest spending regions of the US are much more likely than the lower spending regions to recommend discretionary services that exceed what is recommended by the best available evidence, for example hospital admission for an 85-year-old with an exacerbation of end-stage congestive heart failure. These regions are also much more likely to admit the latter patient directly to an intensive care unit and 30% less likely to discuss palliative care with the patient and family.37

Information is not just useful in terms of informing clinical decisions – it can also trigger changes by getting professionals to re-examine their own behaviour. For example if it is true that some regions are providing 60% more care with very little impact, perhaps this comparison should be made explicit to them. Such a comparison would reframe their behaviour from “doing all we can” to “wasting resources”. More specifically, comparisons could be framed to appeal to the self-image or ego of clinicians by showing how others achieve similar outcomes for less money; the implication would be that they are doing a better job. The drive for excellence felt by many professionals could then be redirected from commissioning more tests to performing as effectively and efficiently as others do.

We could also do better to recognize that affective rather than rational responses can drive decisions. We can use this knowledge constructively in two ways. First, we can provoke emotion to help change health behaviours. For instance social marketing campaigns eliciting disgust have been seen to be successful at improving hand hygiene compliance in Ghana and reducing smoking in the United Kingdom.38,39 Second, we can build in mechanisms that take account of whether decision-makers are in “hot” emotional states. Introducing time-outs could facilitate a cooling off period before important decisions are made. For example clinicians could be asked to delay ordering expensive diagnostic tests until they have fully considered their need before ordering them. We could also do better to recognize that affective rather than rational responses can drive decisions. We can use this knowledge constructively in two ways. First, we can provoke emotion to help change health behaviours. For instance social marketing campaigns eliciting disgust have been seen to be successful at improving hand hygiene compliance in Ghana and reducing smoking in the United Kingdom.38,39 Second, we can build in mechanisms that take account of whether decision-makers are in “hot” emotional states. Introducing time-outs could facilitate a cooling off period before important decisions are made. For example clinicians could be asked to delay ordering expensive diagnostic tests until they have fully considered their need before ordering them.

Summary: Behaving as If More Healthcare Is Identical to Better Healthcare

Providing more healthcare and, in particular, new treatments or technologies might seem like doing the best for patients. But very often clinical outcomes do not improve in proportion with the extra costs incurred. Providing salient information at the point at which a judgment is being made about the effectiveness and cost of different options could help to counter this bias. Comparisons between doctors and their colleagues could be made to show how peers are achieving similar outcomes at less cost.

Illustration

Problem: Doctors seek reassurance by ordering additional, unnecessary diagnostic tests.

Solution: Provide doctors with clear information, at the point when they are deciding what tests to request, about the effectiveness of different investigations and their cost.
3. Focusing on illness at the expense of prevention

“We have to deal with the here and now”

The major proportion of health spending around the world is on the investigation and treatment of illness. Across health systems, only a small percentage of national health spending is dedicated to preventative and public health strategies.\(^\text{40}\) This is despite evidence that changing people’s behaviour can have a significant impact on many of the most significant and costly causes of worldwide morbidity and mortality – especially non-communicable diseases such as heart disease, diabetes, respiratory diseases and cancer.\(^\text{41}\) We desperately need a better understanding of how to tackle ingrained behaviours such as smoking, alcohol misuse and poor diet that greatly increase the risks of developing these diseases. Without better policies and interventions, these non-communicable conditions threaten to overwhelm health services worldwide.

Why don’t policy-makers focus resources more on preventing health problems? Behavioural science offers two main answers: how we think about incentives across time and how salience determines the way we direct our attention.

People are biased towards the present, preferring options with more immediate payouts and discounting the value of future rewards. This bias increases with the length of delay.\(^\text{42}\) As a result, they usually prefer smaller payoffs today to larger payoffs next week or next month. The same thought processes cause people to underestimate the future risks of behaviours such as smoking and unprotected sex.

Our bias towards the present also helps explain the myopia of policy-makers and payers and their preference for short-term rather than long-term investment.\(^\text{43}\) After all, the benefits of investment in preventative health programmes may only materialize a long time after the next financial year or the next election, or after their sponsors have moved on to other jobs.

Biases against certain types of information is a second psychological factor that helps to explain why policy-makers, payers, providers and the public find it difficult to make serious efforts to prevent illness. For the public, failure to think about the consequences of certain behaviours is linked to the discomfort we experience when contemplating bad outcomes – particularly death. This discomfort leads us to ignore or underestimate the probability of bad outcomes.\(^\text{44, 45}\) Research has shown how this effect explains people’s reluctance to take out health insurance; it may also account for poor compliance with health screening and vaccination programmes.\(^\text{46}\)

Information biases also help explain why the attention of providers is firmly focused on treatment not prevention. Rather than treating all information and knowledge equally, people have a limited attention span and are drawn to particularly vivid or salient ideas and occurrences. For healthcare providers, be they hospitals or clinicians, the patients with particular symptoms or diseases are highly salient; for medical professionals the treatment of disease is the dominant focus of clinical practice. By contrast, prevention is often concerned with the slow build-up of risk factors over time: multiple, and often obscure, combinations of events. These factors are abstract and complex, and attempts to address them lead to few tangible outputs. For these reasons, health professionals are often little better than the public at making serious and sustained efforts at preventing illness.

Consequences for expenditure

Treating disease is an expensive business. In the United Kingdom, acute services – which are heavily focused on treatment – quickly use up over one-half of the NHS budget of about £ 110 billion. The proportion is similar in other advanced systems. These figures do not even include the treatment services provided by general practitioners (family doctors) and other community services.

Spending on treatment is set to explode with the rapid rise of non-communicable diseases (NCDs). NCDs are on the rise globally. Over the next 20 years, the global cost of NCDs (including diabettes, cardiovascular diseases, chronic respiratory diseases and cancer) in lost output and treatment costs is expected to be a staggering US$ 30.4 trillion (in 2010 US dollars).\(^\text{47}\)

And, yet, a large percentage of NCDs are preventable through a reduction of their four main behavioural risk factors: tobacco use, physical inactivity, harmful use of alcohol and unhealthy diet. Smoking is estimated to cause 71% of lung cancer, 42% of chronic respiratory disease and nearly 10% of cardiovascular disease. Approximately 3.2 million people die each year because of physical inactivity. Regular physical activity reduces the risk of cardiovascular disease including high blood pressure, diabetes and breast and colon cancer. Approximately 2.3 million people die each year from harmful use of alcohol and at least 2.8 million die as a result of being overweight or obese.\(^\text{47}\)

These diseases and their costs threaten to overwhelm health systems in advanced and emerging countries. To tackle them, policy-makers must become much better at influencing their underlying behaviours – behaviours which are very clearly not “rational”. This means countering the biases that impede serious and sustained efforts at prevention, be they by policy-makers and clinicians, or the public themselves.

Designing new solutions

Fortunately, recent advances in the behavioural sciences suggest new approaches that may do just that. Commitment devices are one new approach for facilitating long-term behavioural goals. They work by making future choices more expensive in the present by imposing social or financial costs. In one example of these devices called the “save more for tomorrow plan”, extracting a pre-commitment from participants to increasing savings contributions in line with pay rises led to the increased average savings rates from 3.5% to 11.6%.\(^\text{48}\) Commitment devices are also used to help people stop smoking or exercise more, and there is good evidence of their effectiveness. One randomized, controlled trial showed that African-American women signing a behavioural contract were significantly more likely to reach their exercise goals than a control group where no commitment was made.\(^\text{49}\) Although it has been shown that commitments usually become more effective as the costs for failure increase, they do not always depend on tangible penalties or rewards. Even the act of writing a commitment can increase the likelihood of it being fulfilled.\(^\text{50}\)

Understanding the bias we have towards the present can also inform different designs of financial and other incentives. For instance some innovative healthcare insurers, such as Discovery Health in South Africa (and more recently PruHealth in the United Kingdom, Humana in the US and Ping An in China), reward enrollees with discounts and other incentives when they buy healthy foods, exercise or achieve personal...
targets. The key is that beneficiaries receive immediate rewards for healthy behaviours; they do not have to wait for future rewards.

Capitated reimbursement models, employed by managed care organizations in the US and some providers in Spain, are an example of differently designed provider incentives which counter our tendency to discount future benefits. These models pay healthcare providers a fixed amount for each enrolled person, whether or not this person seeks or requires care. By rewarding them for keeping people healthy, these models create immediate incentives for providers to engage in preventative work. No doubt incentives for individual or teams of clinicians could also be designed to reward preventative efforts in the present.

In addition, we need to think more about the environment in which health choices are made. For instance research indicates that obesity is encouraged by an “obesogenic environment”. Behaviour is influenced by our priming environment – certain cues including sights, words and sensations. For example when children are primed by food advertisements, studies have shown they significantly increase their total food intake. Similarly, the amount of food people consume is influenced by the size of food containers used: participants in an experimental study consumed 56% more calories than those taking food from a smaller bowl. Through better understanding of these effects, policy-makers are able to design interventions that prevent behaviours leading to death and morbidity.

Summary: Focusing on Illness at the Expense of Health and Well-being

People, policy-makers and populations tend to focus too little on the behaviours that can either improve or worsen long-term health. Instead, investment is directed towards the investigation and treatment of illness. Behavioural economics suggests this is because we favour immediate rewards, even if they are smaller, than those over the longer term. By creating immediate rewards for healthy or preventative behaviours, providers and policy-makers can counter this bias.

Illustration

Problem: People underestimate the importance of a healthy lifestyle because many of the benefits are so far in the future.

Solution: Incentivize healthy behaviour with rewards that are attainable in the near future, such as lower insurance premiums for people who exercise and eat healthily.

4. Following what others are doing even when it is wrong

“Everyone else is doing it”

The behaviour of others is a powerful driver of how individuals act. We intuitively follow the behaviour of the majority to conform and avoid conflict. The influence of others’ behaviour is sometimes described as the social norms effect (which can include social network effects). These effects operate powerfully on behaviours that affect people’s health. For example levels of obesity have increased substantially in many countries. The factors underlying this trend are diverse, but there is evidence that obesity and the related behavioural norms may spread through social networks: if one spouse is obese, the likelihood that the other will become obese is increased by 37%. Similarly, smoking behaviour spreads through groups of interconnected people: smoking cessation by a spouse decreases a person’s chance of smoking by 67%.

These examples illustrate an important aspect of social norm or network effects: people are most influenced by others who are like them. This has been shown for example with respect to how innovation diffuses between US cancer doctors: when innovation is communicated by clinicians within the same peer group, they diffuse faster. An important conclusion of this kind of research is that the weight given to information depends not only on the content of the message but also on how its source is perceived and the structure of the interpersonal networks. We all have an impulsive tendency to trust or distrust advice depending on who gives it and this messenger effect is more powerful than we often realize.

Consequences for expenditure

Social norms are not inherently good or bad. They can reinforce healthy behaviours: as we have seen, quitting smoking is easier when one’s family and peers do not smoke. However, they can also reinforce unhealthy behaviours: if our friends and family are obese, we are likely to be too. No different to the general public, health professionals’ behaviours tend to follow peer or professional norms. But this can compound wasteful habits such as the tendency to stick with the status quo even if better or more cost-effective alternatives are available or the assumption that more healthcare means better healthcare.

This compounding effect may partly explain the persistent variation across geographical areas in the use of diagnostics and medical procedures. In the 2007 fiscal year, New York state spent US$ 8,450 per Medicaid beneficiary compared to US$3,168 in California. But enrollees in higher spending areas are not sicker, or seem to enjoy better health outcomes. Even between leading health centres where clinical outcomes are comparable, spending can vary dramatically. The cost per beneficiary for Medicare clients in the last six months of life at the Mayo clinic was found to be nearly one-half that at the UCLA medical centre (US$ 26,330 vs US$ 50,522). This led Uwe Renhardt from Princeton University to ask how the "best medical care in the world can cost twice as much as the best care in the world?"

As we have discussed above, both financial incentives and psychological biases, such as risk aversion, may drive the provision of unnecessary care. However, different norms among healthcare professionals also seem to be at work. This may be why over-provision seems to be endemic to some regions or providers: if your peers order a full battery of tests, then the chances are that you will too.
Designing new solutions

Policy-makers can harness the power of social norms (including network effects). These interventions can be low cost, yet create significant changes in behaviour. For example a series of studies has shown that simply informing homeowners how much energy their neighbours are using can mean they reduce their own consumption by an average of 2%. There is considerable scope for cheap interventions that change behaviour simply by reporting the desirable ways that others use healthcare. Preliminary studies have shown that publicizing the high proportion of patients who attend their doctor’s appointments – as opposed to the proportion who do not – can reduce missed appointments significantly. Similar approaches can be used to encourage behaviour from health professionals, providers, patients and the public, which do not waste valuable healthcare resources.

Norms and social network effects also suggest a new way of undertaking health promotion campaigns. Traditionally, such campaigns have focused on developing a single core message, which is then disseminated widely and consistently. Network effects suggest that how a message is spread – and who it is spread by – is just as or more important than the message itself. This implies three main lessons for health promotion: to identify trusted messengers such as professional associations, colleagues or peers; to focus more on the structure of the relevant social networks and less on the message itself; and to try a greater variety of norms-related messages and presentations to maximise the chances that one will “take off”.

Exploring more effective health promotion techniques is critical if we are to get to grips with the unceasing burden of non-communicable diseases and their underlying causes such as smoking, eating too much and exercising too little. Controlling the burden these diseases place on modern health systems – and the unsustainable expenditure this burden entails – means changing people’s behaviour before they become ill. People do not change because politicians or officials tell them to, which is all too often the most common approach. Instead, policy-makers must harness the effects of norms and networks, and also develop much more credible messengers for their health promotion work.

Summary: Following What Others Are Doing Even When It Is Wrong

Our behaviour is often driven by what those around us are doing. This is as true for a physician deciding what expensive investigations to order as it is for a teenager who is offered alcohol by a friend at a party. Social network effects are not necessarily good or bad. While smoking uptake spreads rapidly within a social network, people are also more likely to kick the habit when those around them do so too. Using these network effects offers low-cost ways of changing behaviour, often by recalibrating people’s false perception of the norm.

Illustration

Problem: High levels of smoking and obesity among teenagers lead to long-term health problems.

Solution: Using social networks to spread the message that the majority of people do not smoke and are not overweight.

5. Failing to present information and choices effectively

“More choice is always a good thing”

Over the last decade, health policy-makers have sought to increase public and patient choice, often by emulating market mechanisms at work in other sectors of the economy. For example Tony Blair claimed that “choice puts the levers in the hands of patients so that they as citizens and consumers can be the driving force for improvement.” These mechanisms are based on rational models of behaviour – that people will make choices to maximize their own interests, provided they are adequately informed. As a result, the main strategy to increase patient involvement has been to provide high-quality health information.

Thousands of online and offline resources exist to provide the public with the information to judge the trade-offs between the benefits and harms of medical interventions. Of course, it is important that this information is both accessible and reliable. However, while choice may be desirable in general, it is important to realize that cognitive biases make even good information difficult for individuals to process.

Although people generally perceive choice to be a good thing, providing too much of it can actually impede “rational” outcomes. When faced with too much choice, people resort to mental short cuts; they do not objectively weigh the potential benefit of each new choice or piece of information. For example voting selections can be significantly influenced by the order of names on a ballot sheet – more so than policies or campaigns. Candidates higher up the ballot sheet are more “salient” and consistently get more votes. “Choice overload” seems to be particularly relevant in healthcare, where a series of studies have shown that people confronted with a large number of options are more likely to make poor decisions or to be unable to take any decision at all.

Mental short cuts do not come into play simply when we are faced with a barrage of information. They also influence how we search for information, select sources and process facts. For example people are more receptive to information which confirms what they already believe and they tend to avoid what contradicts previously formulated opinions. Called the “confirmation bias”, this short cut explains why most people feel comfortable reading newspapers that support and reinforce their political views, rather than oppose them.

Consequences for expenditure

Too much choice can have important effects on people’s ability to make economical choices. In the Swiss health insurance market, the greater the choice of plans on offer, the more likely people were to stick with their current plan – even when switching plans would have saved them money. Similarly, elderly Americans enrolled in Medicare Part D prescription coverage can choose between dozens of stand-alone plans. More often than not, they choose an option which provides poorer risk protection at a higher cost. The difficulty people have in selecting the most cost-effective option has important implications for thinking about the role of competition in healthcare. Unless carefully designed, more choice among insurers or providers may not create the efficiency or improvement incentives that policy-makers intend.

This problem does not just affect patients and the public: clinicians may also find it difficult to judge the different options available to them. Even for experts within narrow specialist disciplines it is simply not possible to keep up with the many different research papers and clinical guidelines published annually. In fact, guidelines often contribute to, rather than
alleviate, information overload. Similarly, health professionals must now choose between dozens of tests and therapies when a patient has headaches or chest pain. Rather than weighing up the costs and benefits of each to make a rationally grounded choice, many doctors may use mental short cuts which result in over-provision or inappropriate options.

**Designing new solutions**

Instead of focusing solely on providing abundant choice and information, policy-makers should consider how they can help people to reach a decision which is in their interest. For example one study of a public health campaign designed to increase vaccination uptake showed that while these campaigns improve citizens’ knowledge of the scheme, they did not similarly improve the number who are actually vaccinated. However, including a map with directions to the health centre and its opening hours greatly increased the number of people who got vaccinated. This study demonstrates that it is important to make any new behaviour easy and remove any barriers (whether real or perceived) that may block it. It also shows that apparently small details can have a significant impact, particularly on those programmes aimed at disadvantaged or excluded groups.

This example also hints that how we process information is heavily dependent on its presentation. Numerous studies have shown that presenting the same information in different formats can influence people’s decisions. For example messages that focus on the risks of not obtaining mammography (“loss-framed”) can have a stronger impact on opting for mammography than messages emphasizing the benefits of obtaining mammography (“gain-framed”) even though both messages are factually equivalent.

Similarly, by acknowledging people’s bias towards information that fits with established belief or opinions, policy-makers can design more effective ways of communicating to patients and clinicians. When trying to introduce new practices into an established area, it may be most effective to frame them as enhancing or building on previous actions – rather than opposing them entirely. Creating this “bridge” between old and new practices may make people more likely to accept them.

A final solution is to provide clear signposts that can guide people through the mass of available information. For example one management programme for coronary artery bypass surgery in the US embedded forty verifiable best practice behaviours into how care is delivered. These guidelines were hard-wired into an electronic health record system, providing prompts at certain points and reminding clinicians when deadlines have expired. The programme led to a decrease of 16% in length of stay and a 5.2% drop in hospital charges. Providing salient reminders at key points in the decision-making process could be an important driver of behavioural change.

**Summary: Following What Others Are Doing Even When It Is Wrong**

Health systems across the world have sought to increase the choices people have about where and how they are treated. However, providing too many choices can lead people to make poor decisions. Rather than simply increasing choice, policy-makers should focus on helping people to reach the best decision.

**Illustration**

**Problem:** Clinicians are not following best practice in part because they are given too much choice.

**Solution:** Implement decision aides and “hard-wire” in best practice using IT solutions.
Conclusion: Behavioural Checklist for Policy-makers

This paper has illustrated how common behaviours – the five bad habits of health systems – contribute to increasing expenditure. These behaviours are driven in part by psychological and social influences that have been identified and analysed by behavioural economics and associated disciplines. However, by-and-large, these insights have not been integrated into how health policy is approached.

Indeed, the surprising fact is that our healthcare systems have failed to fully recognize that people are risk averse, tend to follow the behaviour of others, heavily favour rewards today over tomorrow and more often than not stick with the status quo. After all, we often see these tendencies in our own behaviour. This failure to recognize the reality of how people actually behave has limited the effectiveness of traditional policy tools aimed at reducing health expenditure. We have argued that a better understanding of behaviour and the influences which underpin it allows policy-makers to design new and enhanced ways of containing both healthcare demand and cost. These can complement traditional approaches.

The MINDSPACE mnemonic can help policy-makers, managers and other practitioners to remember the most important and reliable factors derived from the latest behavioural insights. MINDSPACE can be used as a simple checklist for designing new solutions to reduce both healthcare demand and costs (see Figure 10 for a summary).1

Messenger
We are heavily influenced by our unconscious feelings and attitudes towards the person communicating information – often more so than the content of the message. Therefore, any message that aims to reduce spending through new behaviours may be undermined by its messenger. The converse is that more efficient and effective practice is likely to diffuse faster within peer groups, and trusted messengers are more likely to deliver effective health promotion campaigns.

Incentives
Incentives – whether involving money or other benefits – are clearly powerful. However, it is crucial to recognize that how we react to incentives is shaped by certain mental short cuts; that way, we can design more effective incentives that make better use of scarce resources. We have already seen that people react more to the possibility of loss than gain, making them “loss averse” – and thus bonuses may be more effective if they are conditional payments that could be lost. We have also seen that people are “present biased” in the way they process incentives, which means that the most effective incentives are likely to have some form of immediate payout.

Norms
We are powerfully influenced by what we see others do and by what we are told most people do when in our situation. This tendency can lead us to adopt or maintain wasteful practices in the absence of better alternatives. Any attempt to change clinical practices needs to acknowledge the real power of norms. However norms can also be used in the service of more efficient practices, simply by reporting the desirable ways that others use healthcare.

Defaults
We have a strong tendency to adopt any default option that is available rather than making an active choice – even if we lose out in the process. Most policy or healthcare options have some kind of default, yet their power is rarely recognized. As we have seen, there are a series of default changes, from organ donation to immunization programmes, which could reduce unnecessary healthcare spending.

Salience
We do not process all information equally, and we are drawn to information that is particularly salient and easy to understand. We are particularly receptive to information which confirms our existing opinions; we assume high-profile, new technologies are automatically effective. On the other hand, preventative actions are not salient when they are complex, abstract and produce few tangible outcomes. These insights show how information aimed at reducing spending can be structured to have a much greater impact on behaviour.

Priming
Our behaviour can be influenced if we are first exposed to certain sights, words or sensations; people behave differently if they have been “primed” by certain cues beforehand. Priming seems to act outside of conscious awareness, which means it is different from simply remembering things. We have already seen that priming triggers behaviours which put a strain on healthcare systems. Most notably, excess eating is influenced by priming effects from advertising and the size of food containers.

Affect
Emotional responses to words, images and events can be rapid and automatic so that people can experience a behavioural reaction before they realize they are doing so. Decisions about healthcare spending may be taken to fulfill emotional impulses rather than to achieve outcomes as efficiently and effectively as possible. For example to alleviate the discomfort of uncertainty doctors may order unnecessary diagnostic tests and other activities that greatly increase expenditure. Any attempt to influence behaviour needs to structure and direct these affective impulses towards lower spending.

Commitment
We have a strong motivation to fulfill commitments that we have made, especially if they are public. The power of commitments can be harnessed to encourage healthier behaviours, such as exercise, that we might otherwise fail to perform – but which would reduce the burden on health systems.

Ego
We are strongly motivated to preserve a positive self-image. This is a powerful but under-exploited mechanism, particularly for healthcare professionals. As discussed above, the tendency of some clinicians to spend more money for the same health outcomes could be presented as inferior performance. In other words, current behaviours that use resources ineffectively could be presented as harming the self-image of competence and effectiveness that professionals are keen to maintain.

1The MINDSPACE framework is widely used across the United Kingdom government, largely as a result of its use by the United Kingdom’s Behavioural Insight Team in the Prime Minister’s office. It is being used to think about ways of supplementing the more traditional tools of government, with policy that helps to encourage behaviour change (the team’s sole purpose is to help the United Kingdom government develop and apply lessons from behavioural economics and behavioural science to public policy-making.)
The MINDSPACE framework is not intended to be a comprehensive guide to all the factors that influence our behaviour. We have already noted that fee-for-service and other reimbursement systems create incentive structures that encourage the over-provision of healthcare. Instead, the MINDSPACE framework is intended to complement, rather than replace, existing or traditional methods of expenditure control methods. It may also help render existing policy tools more effective.

Finally, we do not pretend that the application of behavioural insights is uncontroversial: new modes of influence raise questions about the appropriate role of the state. But, whether we realize it or not, the way health systems are designed influences the way that providers, payers, policy-makers and the public behave. And the evidence of the past decades is that these behaviours drive expenditure. Therefore, it is essential for anyone who wishes to tackle the problem of ever-increasing health expenditure to be familiar with the latest knowledge about how and why we behave the way we do. These insights suggest new and valuable tools for tackling one of the most pressing challenges that confront health systems today – and one which will only grow more urgent in the future.

### MINDSPACE Cue

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<td>Messenger</td>
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Figure 10: The MINDSPACE framework
## Appendix: MINDSPACE Checklist

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<th>Have you...</th>
<th>Did you take into account the following?</th>
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| got the right **Messenger**? | - We are more likely to act on information if the messenger has authority, which may be formal (qualifications) or informal (life experience).  
- Demographic and behavioural similarities between expert and recipient can improve the effectiveness of the intervention. |
| got the **Incentives** right? | - We dislike losses more than we like gains of an equivalent amount.  
- We live for today at the expense of tomorrow; so we prefer smaller, more immediate pay-offs to larger, more distant ones.  
- We overweight small probabilities, such as lotteries. |
| tapped into the appropriate **Norms**? | - If we present undesirable behaviour as being widespread, we may actually encourage it.  
- Norms may need reinforcing to make their effects self-sustaining. |
| thought about the **Default** option? | - We can change defaults to increase the likelihood of beneficial outcomes.  
- Changes to defaults may be free or incur insignificant costs. |
| enhanced the **Salience** of the information? | - We are more likely to understand information that relates to our experience rather than to abstract concepts.  
- The initial information we encounter has a powerful influence on our subsequent behaviour. |
| accounted for **Priming** effects? | - Prior exposure to sights, smells and sounds has been found to influence subsequent behaviour and operates outside conscious awareness. |
| tapped into the right **Effect** (feelings)? | - Emotional responses to words, images and events can be rapid and automatic so people react before they realize to what they are reacting. |
| got the right **Commitment** devices? | - Commitments become more effective as the costs of failure increase; these costs can be financial or reputational. |
| thought about **Ego** effects? | - We behave in ways that support the impression of a positive and consistent self-image to enhance our social status. |
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