

# Costing An Arm And A Leg

A plea for radical thinking  
to halt the slow decline  
and eventual collapse  
of the NHS



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# Costing An Arm And A Leg:

## A plea for radical thinking to halt the slow decline and eventual collapse of the NHS

*'The NHS is like an established church, with rigid doctrines, a well rehearsed liturgy, an army of priests and altar boys and cathedrals in the form of hospitals, paid for under Private Finance Initiatives. It begs for a Martin Luther to nail his 95 theses to the door. It hasn't found one yet.'*

Nigel Hawkes, British Medical Journal, 24 April 2010

### Introduction and Summary

Like much of the institutional architecture formed in the post-war period, the NHS is beginning to show its age. It was a triumph of social democratic modernism in its time, and still envied by many today. But it has found it hard to keep up with a rapidly changing world of increasing complexity and inter-connectedness, shifting values and novel demands.

Designed for a very different world, it has had to adapt rapidly in recent decades. But as spare capacity has been sacrificed in the pursuit of efficiency savings it has become highly vulnerable to disruptions and discontinuities – to the extent that politicians of every hue now feel obliged to guarantee its 'safety' in their hands.

A cursory look at other institutions of a similar age - the BBC, the Arts Council, the British Council and the welfare state itself - will quickly reveal that the NHS is not alone in feeling the ground shifting beneath its feet. We should bear that in mind in what follows. But for the most part we concentrate in this pamphlet on the most immediately obvious sign of unsustainability: funding.

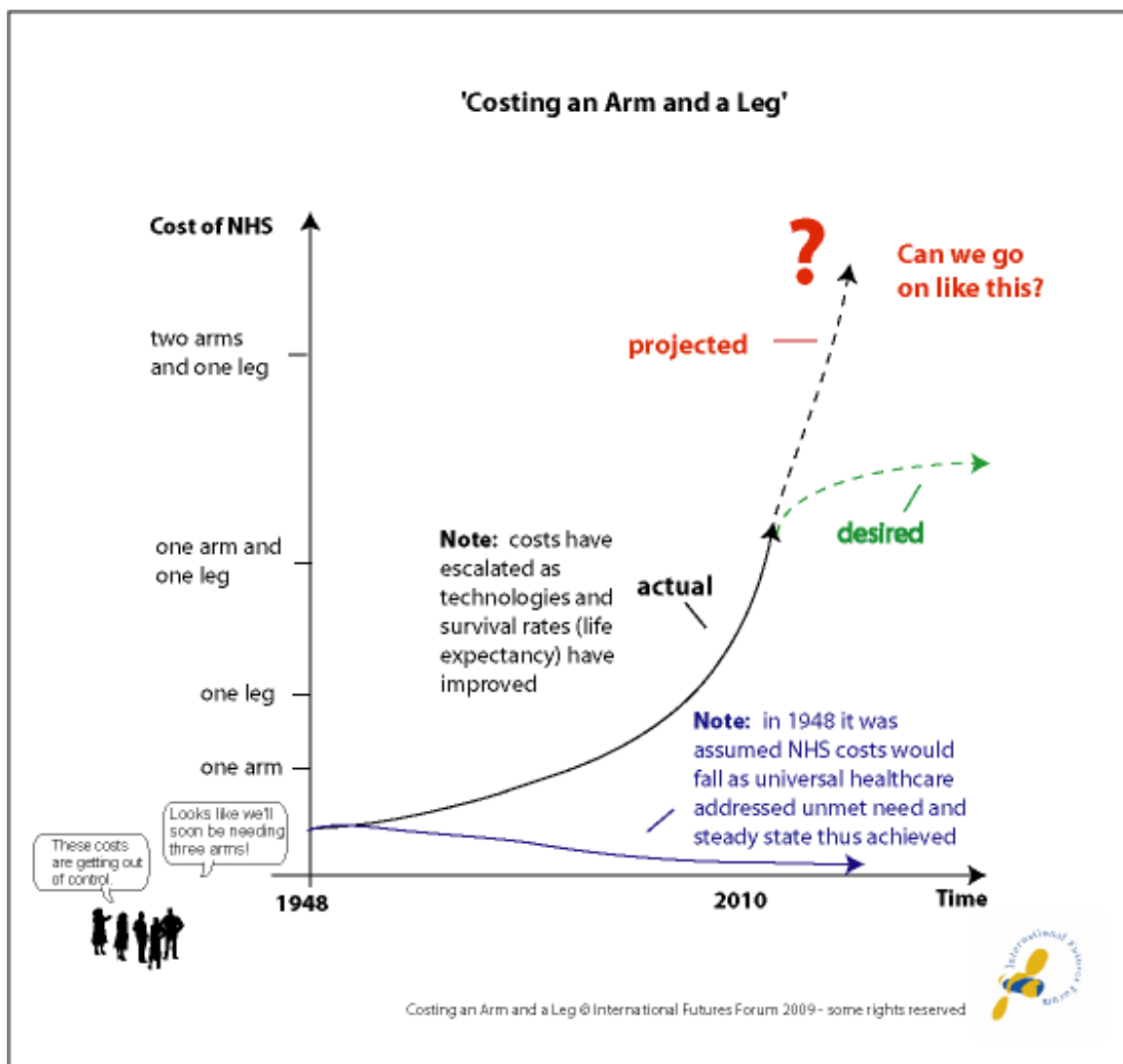
Health expenditure in the UK and in all other developed countries around the world has grown exponentially for decades. Spending on the NHS has grown tenfold from £12 billion (2010 prices) in 1950 to £120 billion today. The economy has grown during this time too, but not at an equivalent rate. At its inception in 1948 the proportion of GDP spent on the NHS was 3%, now it is 9%.

The rising trend shows no signs of weakening. Quite the opposite. The NHS is likely to face significant pressures in the next few years as a consequence of an ageing population, rising staff costs and new technologies.

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Mindful of these pressures, a UK Treasury report by Sir Derek Wanless advised in 2002 that the UK should aim to spend 10% of GDP on the NHS by 2022.<sup>1</sup> This was considered the minimum necessary increase to meet demand, and assumed a “fully engaged” model of public health where everything possible was being done to reduce smoking, cut back on obesity, reduce health inequalities, encourage people to look after themselves etc. In other words, if the NHS shifted focus from “sickness” to “wellness”, spending would still need to rise. If smoking and obesity persisted, Wanless concluded, the demand on healthcare would grow still further, requiring 12% of GDP to meet it.<sup>2</sup>

This inexorable rise in spending would come as a surprise to the founding fathers of the NHS. They never envisaged it would end up costing the taxpayer so much. They thought that once immediate health concerns were addressed, initial increases in funding for the NHS would level off at a steady state: universal access would improve the health of the population, and the level of healthcare available would then be sufficient to meet remaining need.



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Thus Bevan reported to Parliament in 1953 that demand for ophthalmic and dental services were in decline, evidence that patient need was being met. However, he was puzzled that despite introducing charges in 1951 the number of prescriptions for drugs had increased. He concluded (presciently) that this must be due to doctors' behaviour rather than increasing patient demand.

This exponential rise in healthcare spending is not sustainable. Sooner or later it will have to be contained. But governments and providers work on the opposite assumption. Even under the "fully engaged" scenario, Wanless's spending curve goes on rising towards infinity. A survey in 2005 by Healthcast 2020, PricewaterhouseCoopers' health research institute, revealed that over half of healthcare executives from 27 countries around the world expected healthcare costs to increase in the period to 2020 at a higher rate of growth than in the past. This in spite of mounting evidence, in the same report's chapter on 'The Unsustainability of Global Health Systems', that these trends cannot possibly continue.<sup>3</sup> 'Healthcare spending increases above inflation over time' has come to be seen as an iron law, as reliable as gravity.

These studies were conducted before the financial crash, of course. More recent events might have dented the comfortable assumption of endless budget growth. Whether this is perceived as just a brief anomalous period of retrenchment before the iron law reasserts itself is another question. At least for now, getting the health budget under control is a universally shared political priority.

The Department of Health has announced that funding for the NHS in England is likely to remain static from 2011-2015 (ie no increases above inflation). The Scottish Government has not made any announcement, but it is forecast to experience a 3.4% reduction in cash terms and an 11% reduction in real terms from 2009/20 to 2013/14. It will therefore be under huge financial pressure not just to freeze the current level of spend on the NHS in Scotland but to impose real cuts.<sup>4</sup>

The evidence of history suggests this level of financial restraint within the NHS will prove impossible. The NHS has never experienced a protracted period of flat-line budgeting in its 60 years of existence. And the forces that have been driving increasing expenditure throughout that time, and especially in the last decade, have not gone away – whether in the UK, the US or anywhere else in the developed world.

Our reading suggests that the measures being proposed so far to control costs have either been tried and found wanting in the past; or will lead to considerable opposition from staff, the public and politicians; or cannot deliver at sufficient scale to make any systemic impact. The sums will not add up. And the consequence may well be dramatic, enforced, permanent cuts in services as that reality begins to sink in two or three years from now.

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We believe the present faith in stricter or more innovative financial management on the one hand and reducing demand for NHS services on the other is naïve and potentially damaging. It provides false hope, and closes down any serious debate about radical options for longer term transition to a more sustainable model.

The debate instead continues to assume a 'predict and provide' model of healthcare based on marshalling our limited resources in smarter and smarter ways in order to meet rising demand. That model is unsustainable and will break. The NHS patient has a terminal condition.

We believe it is possible to have a health system that is clinically effective, saves lives, treats illness, promotes health for the whole population and costs far less than the current model. But only if we can get beyond the mantras of efficiency saving and 'predict and provide' in order to release more genuinely innovative practice *within* the NHS system.

Mainly using evidence from the UK, this paper explores how healthcare came to cost so much and, against this background, why current strategies to contain costs will not be able to cope with underlying drivers for healthcare inflation. It concludes that more radical thinking is urgently needed to address the downsides of these current strategies and to develop alternative strategies we can believe in.

It is worth pointing out that spending on healthcare is poorly associated with population health outcomes. Countries like Costa Rica and Cuba spend a fraction on healthcare compared with the UK yet have life expectancies not far short of ours. The US ranks 41st in the WHO's league table of maternal mortality yet spends more than any other country per capita on healthcare. Spending more money on healthcare is not the same as ensuring adequate and affordable care for all those who need it.<sup>5</sup>

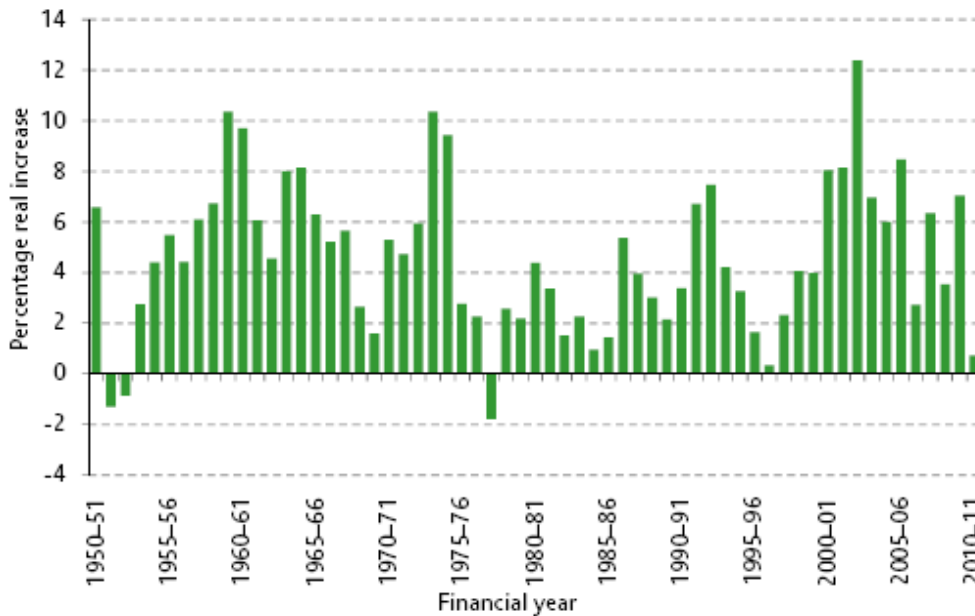
It is therefore not inconceivable that a radically new shape of health service can emerge from these next few years of turbulence which is still clinically effective, promoting health and treating illness across the whole population. But first we must accept that the current agenda of 'reform' and 'innovation' is not up to the task. This paper seeks to make that case, and in so doing to legitimise a space for more radical thinking within the NHS. We know it is there, we have seen it deliver – now is the time to release its full potential.

## The Inexorable Rise in Spending on Healthcare

### Healthcare spend – a decades-long worldwide rising trend

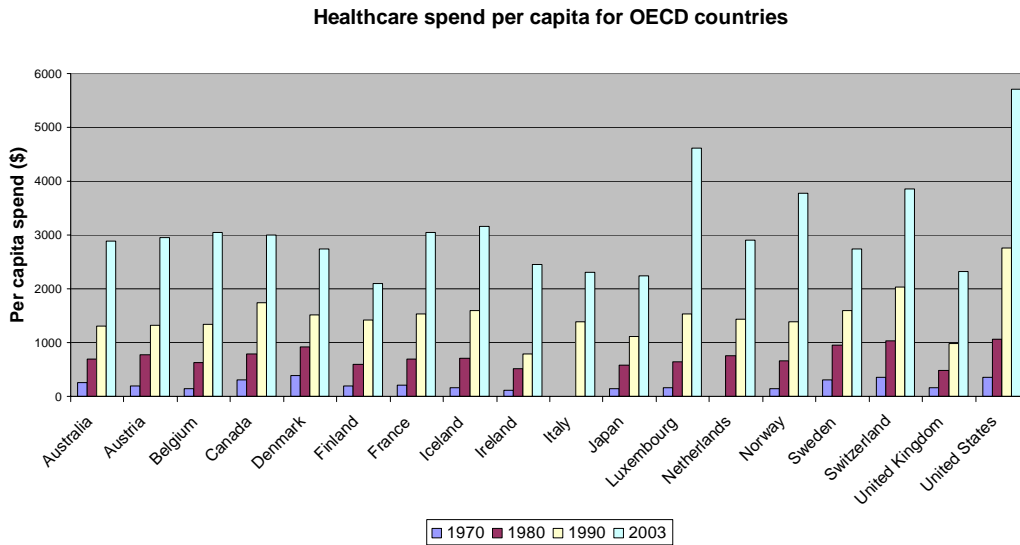
For decades, healthcare spending in the UK and indeed in developed healthcare systems around the world has increased inexorably. For example, during the 60 year life span of the NHS, average annual real spending has increased by around 4% per annum. Even in economic downturns there has never been a sustained period of zero growth.<sup>6</sup> Figure [1] below is taken from the Institute for Fiscal Studies Green Budget: 2010. It shows real increases in the NHS budget in almost every year since its inception.

Figure [1]



The same pattern of real budget increases, year by year and decade by decade, is replicated across the developed world. Figure [2] illustrates the rise in healthcare spend per capita across OECD countries since 1970.<sup>7</sup> Over a thirty year period spending on healthcare has risen from an average of less than \$500 per capita to around \$3,000 – a sixfold increase. The dramatic and inexorable rise in spending is astonishing. And the pace of increase is itself increasing. Within the last twelve years in the UK, for example, spending on healthcare has more than doubled from around £50 billion in 1998 to over £120 billion in 2010.

Figure [2]



What is driving this increase in spending? There are four main areas of cost pressure in healthcare systems:

- the cost of more staff, plus paying those staff more for what they do and providing pensions in a time of lengthening life expectancy;
- an ageing population;
- changing patterns of disease and increased medical activity;
- increased investment in drugs, technology, ICT, buildings and premises.

We illustrate each of these trends below with reference to how they have been experienced in the NHS in recent years, drawing on the most recent available data.

### More staff and paying staff more

Between 1999 and 2004 the NHS increased the number of consultant doctors by 7,300, GPs by 3,000, nurses by 68,000 and allied health professionals (physios, OTs) by 11,000.

Between 2002 and 2006, new staff contracts were negotiated in the NHS which led to a 15% increase in pay for non-medical staff, a 23% increase for GPs and a 25% increase for hospital consultants. General Practitioners now have average incomes of over £100,000 per year and hospital consultants earn on average £110,000 per year.<sup>8</sup>

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On the other hand, having more staff and paying staff more has not resulted in any obvious gains in productivity within the NHS. Indeed, there is evidence it has made the system less efficient. For example, the increase in emergency admissions and A&E attendances observed in recent years is thought to be partly due to the change in the GP contract allowing them to opt out of providing services out of hours. Previously there was a reasonable chance you would see your own doctor if you fell ill at night or at the weekend. Now it is more likely to be someone who does not know your background and previous medical history, so the threshold for calling an ambulance and admitting to hospital changes.

Pensions currently consume 10% of NHS spend.<sup>9</sup> As life expectancy increases, this figure is set to rise further putting an additional squeeze on NHS finance. For example, there are over 200,000 nurses aged over 50 in the NHS and due to retire within the next ten years.

Fewer people are enrolling on graduate nursing courses and of those that do, one in four fails to complete.<sup>10</sup> The NHS has been dealing with staff shortages by recruiting abroad, but this has a destabilising effect on healthcare systems elsewhere in the world and is unlikely to be a long term sustainable solution.

### **Ageing population**

Despite many older people being fitter than their grandchildren, the fact that there are more people over the age of 75 in the population compared with 20 years ago is placing increased demand on many services such as renal replacement therapy, dementia care, dental care, prescription drugs, joint replacements, cataract operations etc. Current estimates suggest this trend requires a 1.1% increase in the NHS budget per year to be met.

Ageing can vary hugely in its pace depending on a wide range of factors. Some of the best evidence on how to slow down the process suggests you need not to smoke, eat a diet rich in vegetables and whole grains and low in red meat, exercise 3-5 hours a week and keep your waistline. Having all four elements in your life will increase your healthy life expectancy by 12 years compared with having none of them.<sup>11</sup>

Given that fewer than 10% of the population do this currently, there is a question mark over the estimated increase in demand that an ageing population may cause. If the majority of the population adopted these lifestyle changes, there would be a systemic change in demand for healthcare. The problem is that current efforts to reduce the adverse consequences of ageing have yet to make such a systemic impact.

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## Changing patterns of disease

With the increase in obesity in the population, there is a consequential rise in diabetes and heart disease, a higher risk of complications of pregnancy and surgery and also a requirement for larger trolleys, beds and hoists to help obese patients move around hospitals.

Whilst deaths from heart disease and cancer have declined, there are increasing numbers of deaths and complications from drug and alcohol problems. Many chronic conditions are complicated by the presence of mental health or substance misuse problems, which reduce the effectiveness of treatment and increase the rate of complications and mortality. Most healthcare systems are poorly adapted to meet the demands of patients with multiple co-morbidities.<sup>12</sup>

## Impact of medical technology

Medical advances and new technologies are a major pressure for health inflation. They have improved survival rates for low birth-weight babies, people who have been injured in accidents and people needing dialysis for kidney failure. Joint replacements were originally designed to last 20 years. Now people are living much longer and are requiring replacements for their replacements.

Joseph Califano, a policy aide who helped President Lyndon B Johnson push through a major increase in access to healthcare in the US in 1965 through Medicare and Medicaid, offers this warning:

“We worked with medical care as it was then practiced. No one had discovered MRIs, PETs, CAT scans, organ transplants and exotic and expensive cancer chemotherapy. None of us anticipated the extraordinary leap in life expectancy that would lead Medicare to spend a third of its budget during the last year of a beneficiary's life, and Medicaid to pump an even larger proportion of its dollars into nursing homes. Now we are in the early days of a revolution in neurology, genetics, molecular biology, stem cell research, mechanical hearts and lungs and domino transplants that promise all sorts of cures that don't exist today.”<sup>13</sup>

## Drugs

Whilst the costs of some commonly prescribed drugs have been decreasing in recent years, the overall increase in the volume of drugs prescribed is a pressure on healthcare costs. Between 1997 and 2007 the number of prescriptions dispensed in the UK increased by over 60%. For people aged sixty and over, the average annual number of items dispensed increased from 22 to 42 items per head.<sup>14</sup>

One area where costs have increased has been to deal with anti-microbial resistance. Doctors have to prescribe more expensive antibiotics than previously because bugs are

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resistant to cheaper ones. As this continues, there is the prospect of increased numbers of virtually untreatable infections. The emergence of anti-microbial resistance is also requiring more patients to be treated in isolation, increasing the costs of care and reducing the speed of recovery.

### **Activity**

In terms of activity within the NHS, the number of surgical procedures undertaken in hospitals has risen between 1998 and 2005 by 11%. Emergency admissions have increased by 35%. Attendance at accident and emergency departments increased between 2002 and 2005 by over 30%. There have also been increases in activity within community services, but it is more difficult to gain a real measure of this. In particular, it is unclear how much more activity (if any) has been taking place in general practice.

An estimated 10% of emergency hospital admissions are due to complications of medical treatment – usually drug interactions. The high volume and speed of care in hospitals carries further risks in terms of mistakes in diagnosis and treatment and breakdowns in continuity of care. Even with robust risk management, increasing the volume of work through hospitals will increase the likelihood of accidents simply because of the complexity of the system.

### **Buildings and equipment**

The NHS Plan of 1999 put a priority on building 100 new hospitals and modernising 3000 GP premises. The government appears on track to meet this target but not the backlog maintenance on existing buildings, which has increased by a fifth between 2000 and 2005. The new building programme has largely been supported through private finance initiatives, whilst the existing estate has been allowed to deteriorate.

There has been a significant investment in MRI and CT scanners, linear accelerators and information and communications technology. Some of the capital for scanners has been raised through public appeals, but the running costs, which can be considerable, have had to be found from NHS resources.

Whilst there has been a huge drive to improve energy efficiency in the NHS, rising energy costs are still a concern – not just directly, but because energy costs have a knock-on effect on wage pressure, particularly from lower paid staff who demand pay rises in line with the increased cost of living.

## Putting the Brakes on Spending

The inexorable rise in spending has not gone unnoticed. Nor has it gone unchecked. Particularly in recent years the NHS has strived might and main to put the brakes on spending – at least to contain the rate of increase.

The strategies deployed have fallen into three main categories:

1. financial management
2. demand management
3. innovation

It is precisely this mix of measures that is now being advocated in response to the current financial crisis.<sup>15</sup> The following section examines the main ideas in each category in more detail. It shows that they have been relatively ineffective to date and warns what might lie in store should they be applied more forcefully in the future.

### 1) Financial Management

#### **Efficiency and other cash savings**

The first thought is to “strip out real costs for real cash”. This is a process of cash-releasing efficiency saving that has been around for many years. As a result much of the “low hanging fruit” has already been taken. In a good year such measures have released between 1% and 2% in savings. However, the law of diminishing returns is surely setting in now.

Savings are also found from the personnel budget. Reducing training budgets is often seen as an easy way to cut back, but it means staff do not get the development and investment they need to do their work effectively. Vacancy freezes, not replacing people when they retire and putting a stop to hiring temps if people are off on long-term sick or maternity leave saves cash but puts everyone under greater strain. This is a further drain on the human resource needed to run the service.

Over time, this becomes a vicious cycle: people faced with larger workloads become ill under the strain or look for early retirement. If cost saving and financial efficiency become the dominant preoccupation of an NHS organisation, the culture can begin to corrode and attitudes to patient care and safety begin to deteriorate. The recent case of the appalling levels of care in the Mid Staffordshire NHS Trust is a case in point.<sup>16</sup>

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## **Increase competition**

Increasing competition assumes that healthcare costs can be forced down through the operation of market forces. The downside is that different parts of the system are working against each other, increasing fragmentation, discontinuities and duplication.

It is very difficult to increase the market share of NHS work without either taking over neighbouring hospitals or putting them out of business. Mergers do not necessarily lead to economies of scale because the increased complexity of the combined organisation can lead to significant increases in costs. For market mechanisms to achieve savings on the scale that are currently being discussed hospitals would have to close.<sup>17</sup>

Conversely, there are other ways in which the market can drive *up* costs. Let us say that a hospital buys a new scanner. It is understandably proud of this and its presence encourages recruitment and retention of staff, who in turn encourage GPs to refer to them, increasing activity for the hospital. Any other hospital in the vicinity then has to find a way to buy the same scanner so as not to lose good staff and patients and to remain viable. There is a marginal improvement in health as a result of the scanner, but a huge cost to the overall system.

As Jason Hwang, author of *The Innovator's Prescription*, explained in a recent interview for Strategy and Business, commenting on the US healthcare debate,

“we just have to keep in mind that these sorts of innovations, which incrementally improve the existing way of doing things, tend to increase the cost of care, for less and less marginal return. In health care, competition does not necessarily lead to lower prices”.<sup>18</sup>

A further problem has been the close relationship between the drug industry and the healthcare system. Much of the industry's marketing budget (estimated to be worth tens of billions of dollars in the US) is spent on doctors who are funded to work with their drugs and to promote their benefits around the world.<sup>19</sup> The problem with this is that it weights medical research heavily towards drug rather than non-drug therapies or public health interventions. There is thus plentiful evidence to support the use of drug treatments compared with non-drug therapies and the increasing dominance of drug-based medicine has become a self-reinforcing cycle.

## **Pay freeze or pay cuts**

The biggest cost to the NHS is the staff it employs. So, on the face of it, a pay freeze may provide much needed cost containment. It cannot release cash from the existing system but would modify the cost of employing staff in future years.

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However, under current NHS contracts, staff are entitled to annual incremental pay rises. In 2010/11 this will amount to an additional 2.5% increase in spend for the NHS. This increase is built into contracts and is not something that can be cancelled without lengthy renegotiation. A pay freeze can only apply to pay rises normally recommended by Pay Review Boards for staff in the NHS. These awards, which are on top of increments, have historically been in line with inflation. So the effect of a pay freeze would be to reduce inflationary pressure on spending in the NHS, but would make no overall savings.

Some countries such as Greece and Ireland are in the process of introducing real pay cuts in the public sector, but have encountered a great deal of industrial unrest including, in the case of Greece, strikes and hospital closures.

## 2) Demand Management

### **Restrict activity**

Reducing activity would seem a sensible way to control costs. But the result is simply that waiting lists go up. In addition, a great deal of the cost of services is fixed: locked into wards, theatres, staff and diagnostic machinery. Significant savings would only begin to be made if these services were decommissioned. In other words, to extract significant savings from reducing activity, hospitals will have to close and staffing levels be permanently reduced.

Plans for NHS London are very much along these lines with proposals to close up to a third of hospital beds, cut the length of GP consultations by a third and cut spending on “non-acute” (primary and community care) services by up to two thirds.<sup>20</sup>

### **More emphasis on prevention**

There is considerable potential in the prevention agenda for reducing the burden of illness in the population and thus the demand on the NHS. The scale of the challenge is large though and even when all measures are fully implemented they would take time to have an impact on demand for healthcare from people currently in need of it.

It will take bold leadership to invest in this strategy when everyone is so focused on making immediate savings. But of all the current strategies for dealing with the financial challenge, this has the greatest likelihood of reducing demand for healthcare, improving recovery rates when people become ill, providing sustainability in the longer term and being supported by the public.

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There is one snag. We may not know how to improve population health. Current health improvement programmes have had mixed success in terms of their effectiveness. For example, the Scottish Diet Action Plan showed no convincing evidence of improvements in the Scottish diet after ten years of effort.<sup>21</sup> Likewise, the government's review of the National Programme for Improving Mental Health and Wellbeing in Scotland concluded that it was unclear whether improvements in suicide rates and other mental health outcomes could be attributed to the programme or were the results of other external factors and would have occurred in any event.<sup>22</sup> We cannot assume that traditional approaches to health improvement and illness prevention will have an impact: fresh thinking is required in this area too.

### **Off-load demand for services elsewhere**

A key strategy for sustaining healthcare services in their current form has been to manage demand by off-loading demand for care and support on to others. This can work wonders for the NHS, but has troubling consequences elsewhere in the system. The buck has to stop somewhere.

For example, a shift from in-patient to day surgery is seen as a sign of success. It reduces the drain on the NHS budget. But in practice it transfers costs elsewhere. It means patients have to have someone to take them home and look after them often for several days and that person will often have to take time off work.

The problem of continuing care of frail older people has been off-loaded on to local authorities where the cost of care is means-tested and families have to pay where they can. Closing specialist schools where NHS staff could be concentrated to provide specialist support has left education authorities coping with children with a huge range of abilities in their classes without resources transferred from the NHS to help them. Not only is the NHS costing an arm and a leg, it is transferring an increasing amount of that cost to other services and to the public as well.

Clearly there are limits to this approach. The squeeze on local government spending is already constraining their ability to fund care for people in their own homes or residential care. In addition, with two parents working, families living further apart and more people living alone, informal care networks are becoming more difficult to sustain. Many unplanned admissions to hospital are the result of breakdowns in informal care. This is becoming more and more problematic. Ensuring adequate care after discharge can take weeks and sometimes months to sort out.

As the capacity of communities to sustain informal networks of care declines, there will be more pressure on beds, more breaches in NHS waiting time targets and government and public disquiet. Without fresh thinking, the government is likely to respond with threats and possibly actual financial sanctions on the worst offenders. A further risk might be a

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worsening of patient safety as NHS providers are pushed to discharge patients with inadequate aftercare.

## 3) Innovation

### **A history of missed opportunity**

It has been argued that the NHS needed the huge injection of cash it received in the last ten years in order to modernise practice, bring about systemic change and invest in innovation to generate efficiencies and improvements in productivity. In England, the Department of Health set up the Modernisation Agency to lead this work. Later it was rebadged and branded as the NHS Institute for Innovation and Improvement.

However, more money in the NHS has not led to the improvements in productivity and effectiveness that were hoped for. Between 1997 and 2007, measured productivity in the NHS *fell* by 4.5%. The average rate of fall was 0.4% per year. With the NHS receiving zero growth from 2011/12 onwards, productivity will need to *increase* by 6% per year just to mark time (that is before factoring in the drivers for health inflation mentioned in part one).

To put this in context, private industry has managed an improvement in productivity of 2% per year over the last decade. Achieving this scale of improvement in productivity will require a radically different culture and mindset in the NHS.

The existing mindset has stifled innovation. The current system is not designed to do the things that people increasingly want from a healthcare system: one that is clinically effective, promotes health and provides reassurance about minor and self limiting conditions whilst also being able to save lives and treat illness in a timely fashion. Moreover, the management culture in the NHS is focused on accountability for achieving objectives and targets. Innovation is necessarily uncertain and unpredictable so cannot be planned and accounted for in the same way.<sup>23</sup>

The lack of improvement in productivity and the shortage of real innovation in the NHS are part of the same underlying problem of institutionalised thinking within the organisation. Increasing the diversity of providers may free up space for more innovation, but the big rewards are still offered to those who can replace like for like services with equivalents at lower cost. There are few rewards for thinking differently or for incubating radically different service models.

As a result, real systemic change in providing healthcare has been non-existent. There is great attention on increasing competition in the provision of healthcare in England, but the resulting differences across the system are marginal because activity is funded in much the same way as before. For example, investment in on-line resources and

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telephone access were intended to inform the public so that they would not need to access services so often. In fact, these measures have not made a significant impact on service volumes and have become an additional route *into* the existing system, rather than promoting any fundamental change in the way the system works.

A similar challenge has beset the NHS National Programme for IT, which amongst other tasks has endeavoured to convert existing paper records into electronic ones. But if paper systems are themselves bureaucratic, an electronic version serves only to reinforce this. The programme has been beset with criticism, not least about its huge cost and the lack of perceived benefits to patients. In March 2007 a Public Accounts Committee of the House of Commons report concluded that, despite a probable expenditure of 20 billion pounds, "at the present rate of progress it is unlikely that significant clinical benefits will be delivered by the end of the contract period."<sup>24</sup>

Reaping the benefits of investment in IT for healthcare is not only problematic in the UK. Across Europe, concerns around patient confidentiality, lack of collaboration between partners and poor interoperability between systems hamper progress.<sup>25</sup> Thus despite the promise of greater efficiency, exploiting the full potential of IT in healthcare settings has in practice proved to be fraught with difficulties.

More recently, there have been calls for a change in culture in the public sector more generally and the NHS in particular to enhance effectiveness and encourage more radical innovation.<sup>26 27</sup> Based on the idea of co-production, this approach requires a shift in relationship between professionals and patients, so that more appropriate and practical solutions can be generated mutually between both parties.

This approach offers real promise in terms of more radical innovation, but there are pitfalls. The first is the temptation within a 'co-production' model to off-load more responsibilities on to patients – an extension of current demand management strategies.

A second pitfall is the likely backlash co-production will generate if the approach really begins to threaten professional hegemony. There is a flavour of this already in the campaign against complementary therapies being available within the NHS. Whilst many patients with chronic disease and cancer use these therapies alongside conventional treatment, often at considerable personal financial cost, they are heavily resisted by the medical profession as lacking the evidence base to justify availability on the NHS. Co-production will only work if there is empathic listening between partners and a willingness to take on different worldviews.

## The Brakes Have Failed: Prepare for the Crash

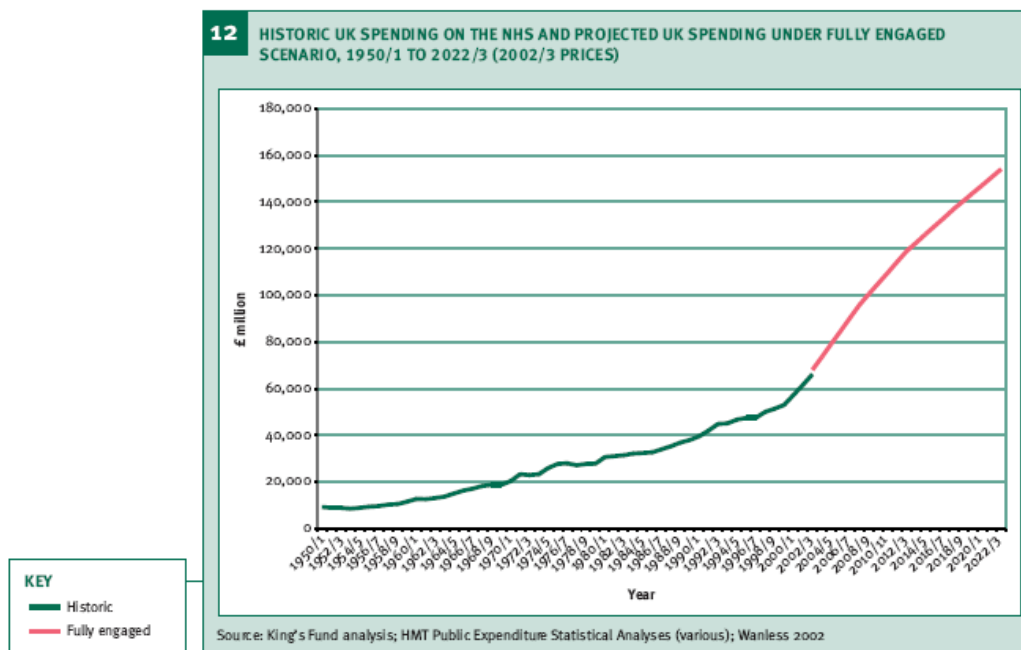
The analysis presented in this essay so far is largely historical. We seek to place the current funding crisis in perspective. An appreciation of the history of NHS funding makes us skeptical at best about our capacity to put the brakes on spending; and likewise reveals that the dominant mindset in the past has not regarded this as remotely problematic.

But times have changed. It is time to wake up to the true gravity of the situation – before it is too late.

### Costing an arm and a leg – and then some

For all of the reasons given, and more, the current range of strategies to contain costs has not been effective. That should come as no surprise. When Sir Derek Wanless was asked to review spending on the NHS for the UK Treasury in 2002 and to set out options for the future he reached the stark conclusion that *even with the full range of cost containment and health promotion strategies ‘fully engaged’* spending would still have to increase dramatically.<sup>28</sup> He estimated the need for a doubling of spend over 20 years under this scenario to 10% of GDP. If containment measures were ineffective this sum could rise still higher, to 12.5% of GDP.<sup>29</sup>

**Figure [3]: Projected NHS spending under the Wanless ‘fully engaged’ scenario**



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Figure [3] shows the trajectory of Wanless's 'fully engaged' scenario. Remember as you look at the red line that this is very much an *ideal* and *optimistic* scenario, even though it looks like a scarily steep increase and with no sign of leveling off. Predictably enough when Wanless came to review progress against this ideal five years later he had to conclude that in spite of 'steady progress', costs were rising more steeply than the fully engaged scenario predicted.<sup>30</sup>

### Where will it stop?

We tend to use two measures of spend to compare healthcare systems. One is cost as a proportion of national GDP, the other is absolute spend.

Paradoxically, in an economic downturn the spend on healthcare can increase as a proportion of GDP but still not be enough to meet demand. Thus in the UK the spend on the NHS in 2010/11 is estimated to be 9.7% of GDP - close to the level that Wanless was aiming for in 2022. But the actual amount of money being spent is less than the £150 billion figure he was projecting.

A similar picture is emerging in the US, where healthcare spending has risen to 17% of GDP as its economy contracts. Spending in the sector is expected to outpace the rest of the economy for the next decade reaching 19.3% of GDP by 2019.<sup>31</sup>

In a time of flat or negative growth in the economy, can we afford to continue increasing the proportion of spending on healthcare? If current trends continue, for example, healthcare spending may consume 30% of US GDP by 2040.<sup>32</sup> Is this either realistic or desirable?

Politicians have argued that we should protect healthcare spending in a time of recession. In the short term this may be understandable – to ensure there are public sector workers in jobs to spend our way into a recovery of sorts. But in the longer term, healthcare spending looks set to consume inexorably more of our economic resource. Is this justifiable? How much should a healthcare system cost a nation? Should we keep increasing the spend on healthcare in the way we have over the last 50 years?

With the economic downturn and a huge public deficit this question has even greater urgency. The Department of Health has announced there will be the same level of funding for the NHS from 2011/12 to 2014/15 as it receives in 2010/11. It goes on to say that because of underlying cost pressures of 3% per year (principally wage inflation and an ageing population) over this same 3-year period between £15 and £20 billion of efficiency savings need to be found in order to balance the books.

The Scottish Government Health Department has yet to announce its plans for 2011-14, but with cash allocations reduced by 3.4% in cash terms (11.8% in real terms) by 2013/14

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compared to 2009/10, it is likely that the NHS in Scotland will be faced with having to make proportionately more efficiency savings and perhaps real cuts during the next few years.<sup>33</sup> The alternative would be even more drastic cuts in other areas of public expenditure such as education, social care, transport and infrastructure projects.

### Trouble ahead

There is a view that we can weather this storm and emerge from a punitive squeeze in healthcare funding to resume our onward rise once the deficit is paid off and the economy recovers. That is unrealistic for four reasons:

1. the NHS has never had to face a financial challenge of this magnitude in the past and history offers little hope that current strategies for curtailing or even containing cost rises will be effective;
2. even if these measures are 'fully engaged' they will be insufficient to cope with the inevitable underlying drivers of healthcare inflation that exist in every system in the developed world;
3. a recovery to the spending trajectory pre-recession is unrealistic because we are likely to face prolonged low level rises in spending beyond 2014 as the country tries to reduce the proportion of public sector debt from the current level of 70% of GDP to 50% by 2030.
4. and even if we did weather the storm, the spending trajectory pre-recession is fundamentally unsustainable and undesirable for any nation: it should no longer be a policy goal in any event.

Put it another way. The inflationary pressures from an ageing population (1% per annum) and wages (2% per annum) means spending on the NHS has to increase by 3% per year just to stand still. Roughly speaking, efficiency savings such as those described in previous pages may manage to curtail annual increase in spending by 1%. With political and clinical commitment a further 1% reduction may be achievable with more radical re-shaping of services. This carries the risk of major discontent however, particularly if it is done too quickly without engaging staff and public in the difficult decisions required.<sup>34</sup>

Even if these strategies are successful, nobody is certain how we can achieve the final 1% - not to mention the additional pressures due to changing patterns of disease, antimicrobial resistance, increasing energy costs etc.

The public and politicians are largely in the dark about these deep-seated problems and if anything have higher expectations than ever about what medicine and the healthcare system can achieve. Ministerial statements about rights and entitlements such as those

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enshrined in the NHS Constitution reinforce this message.<sup>35</sup> Yet signs of system failure in the NHS are already evident.

Everything points to the conclusion that a 'predict and provide' model of healthcare provision has had its day. Responding to increased demand by employing more staff, buying more kit and investing in new buildings has not dealt with the underlying drivers in the system. The laws of diminishing returns on investment have been in evidence for a long while.

Without radical innovation, this is a system in a state of terminal collapse. As signs of failure begin to emerge, how will the NHS, government and public respond? The likelihood is increased distrust, complaints about the lack of transparency and problematic barriers to overcome before system improvements can be achieved.<sup>36</sup> Strikes and public unrest are real possibilities.

And for what? We desperately need to develop and invest in a vision of a viable future.

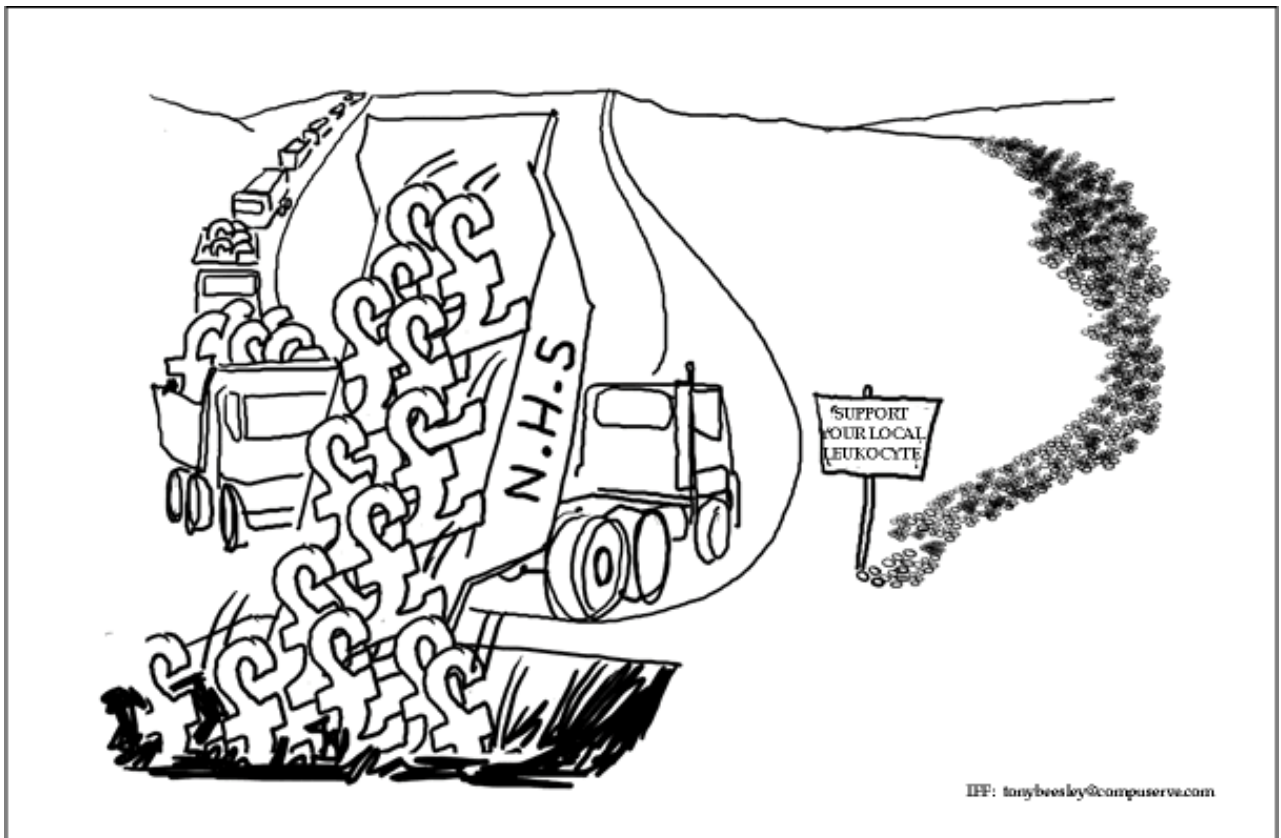
## Answering the Right Question

This essay so far has been rather gloomy. Our purpose has been to reveal the true depth of the challenges we face in maintaining the NHS's promise of clinically effective healthcare for the whole population through immediate financial challenges and into the future.

We have little faith that the existing menu of approaches will secure this goal. Nor are we convinced that politicians and policy makers are ready to face up to, or even acknowledge, the longer term unsustainability of the system.

We foresee either slow decline or precipitous collapse – both of which imply a dangerous degree of human pain and suffering (not least amongst over a million dedicated NHS staff).

So what is the answer? Where is the hope?



### **Beyond denial**

It is not an evasion to suggest that the first requirement is to start asking the right question.

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The implied agenda for NHS reform and innovation today is to seek to meet rising demand for NHS services in the most efficient and effective ways possible. As demand increases, so will spending – and the innovation agenda is to come up with ways of meeting or reducing that demand at lower cost so as to keep the increases ‘under control’. It is a predict and provide model – and the question for would-be reformers and innovators is simply:

- **how can we meet healthcare demand at lower cost, or lower demand to save cost?**

At the same time, other reformers and innovators in the healthcare industries are working to a different agenda: how to make additional, better, more expensive, more specialist services available? Which in turn increases demand and pushes up spending.

The result is a fixed and unexamined mindset that implicitly works with a mental model of healthcare spend rising steadily towards the top right hand corner. And it is within this context in the NHS that the question above is addressed. Replacing like for like at lower cost is a measure of success in this paradigm – but it does not question the ever-rising curve.

We believe it is time to start asking a different question, one that acknowledges:

- the inexorable rising trend in healthcare spending to meet demand is fundamentally unsustainable;
- existing strategies to contain spending have been ineffective and have led to undesirable knock-on consequences;
- further innovation based on making the existing model work better (ie more efficiently and at lower cost) merely postpone the inevitable decline and collapse of the system.

Our question then is this:

- **how can we provide universal healthcare according to need, free at the point of delivery, meeting contemporary patterns of illness and other public expectation, as part of an integrated approach that sustains healthy, fulfilled lives at a fraction of the present cost?**

International Futures Forum has been working to address this question for a number of years. And we are by no means alone. An encouraging volume of new theory and new practice exists around the world to suggest we can achieve this goal.

But that body of emerging theory and practice has very little to say to those who are still looking for answers to the first question – lowering costs in the delivery of the existing

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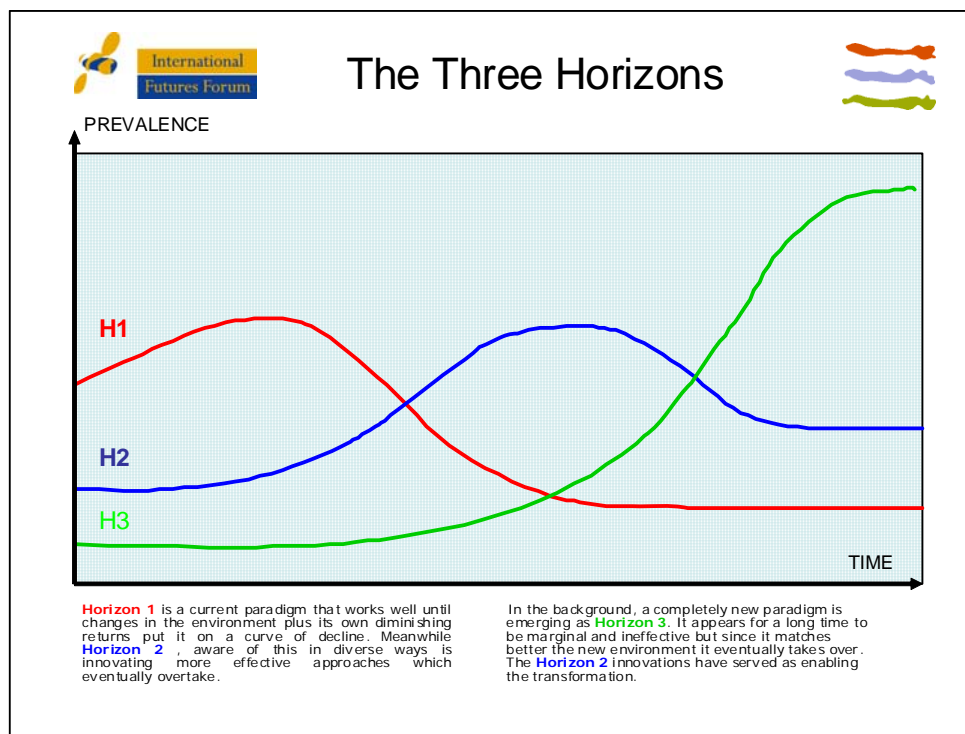
system – especially those still unwittingly wedded to the iron law of increasing healthcare spend over time. And so it is crowded out of the debate.

The first requirement, therefore, is to open up more space within the system for those *already active*, including within the NHS, in addressing this second question.

## Three horizons

We have found that the IFF Three Horizons framework is a highly effective and intuitive way of opening up space for this kind of approach. By providing a mental framework for envisaging a process of system change over time it allows us to start to think in terms of a strategy that is not about improving the existing system *or* replacing it with something better.

Instead it allows us to start thinking in terms of a transition strategy that both manages a rundown in unsustainable practice at the same time as growing the system capable of providing viability in the future. In other words, a strategy both for ‘keeping the lights on’ today *and* for keeping them on a generation from now in very different operating conditions.<sup>37</sup>



The first horizon – H1 – is the dominant system at present. It represents ‘business as usual’. As the world changes, so aspects of business as usual begin to feel out of place or no longer fit for purpose. In the end ‘business as usual’ is superseded by new ways of doing things.

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Innovation has started already in light of the apparent short-comings of the first horizon system. This forms a second horizon – H2. At some point the innovations become more effective than the original system. This is a point of disruption. Clayton Christensen called it the ‘innovator’s dilemma’: should you protect your mature business that is on the wane or invest in the innovation that looks as if it might replace it?

Meanwhile, there are other innovations happening already that today look way off beam. This is fringe activity. It feels like it is a long way from H1, based on fundamentally different premises. These are the first stirrings of a third horizon – H3. This horizon is the long term successor to business as usual, the product of radical innovation that introduces a completely new way of doing things.

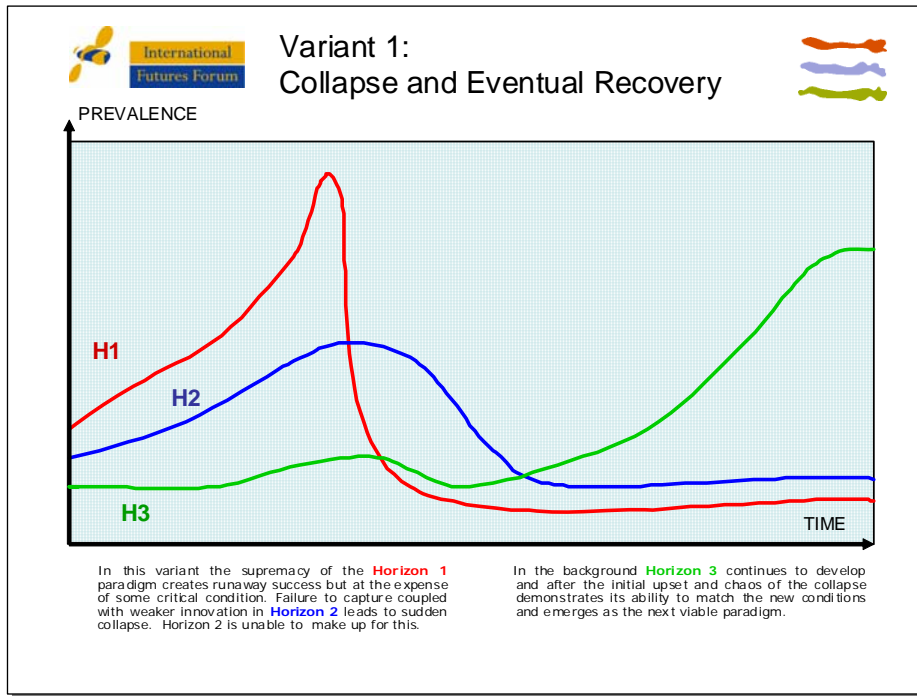
As an example we might see H1 as the mainframe computer. H2 as the desktop. H3 is the internet. Or, in terms of the school system, H1 might be universal mass education. H2 might be personalised education and specialist schools. H3 might be open access education without schools at all.

All three horizons are always present. Aspects of H1 will persist in any new ‘business as usual’. Aspects of H3 are always evident, if not obvious, in current discourse and argument and in all kinds of health-related activity on the fringes of the dominant system. And H2, like a moving border between past and future, is all around us in examples of innovative alternative practice.

But the first horizon’s commitment is to survival. The dominant system can maintain its dominance even in a changing world either by crushing second and third horizon innovation, or by co-opting it to support the old system. These behaviours lead to variants on the smooth transition depicted above.

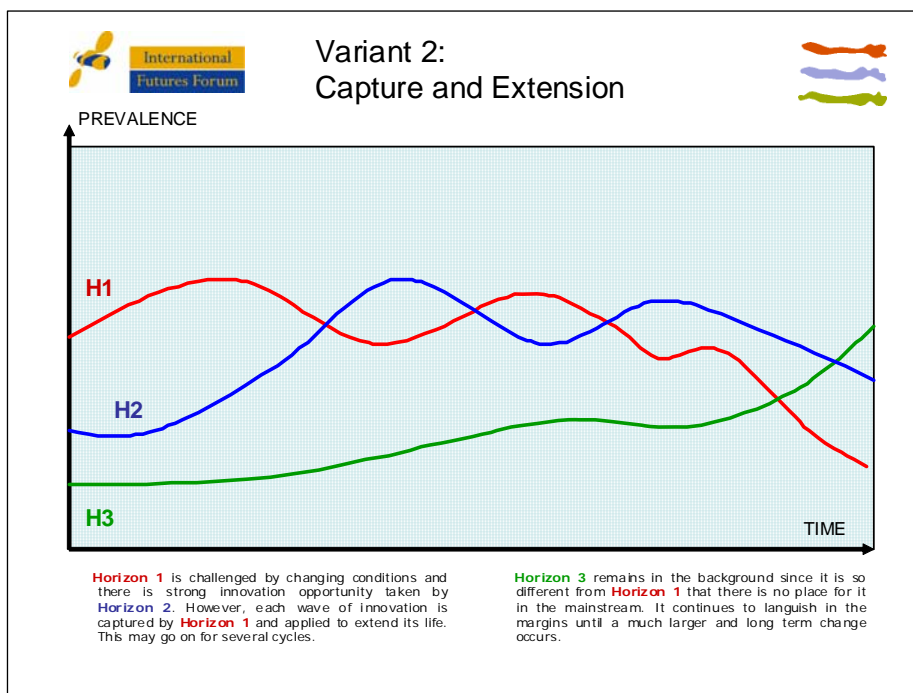
The first of these is collapse and recovery, where the first horizon continues on its unsustainable trajectory consuming increasing resource until it collapses. It is some time later that a more sustainable system can emerge which is better suited to the new operating environment. This is the story of the collapse of the Soviet Union. It is how societies fail.

The Wanless trajectory is worryingly close to this scenario. Ever-increasing growth in healthcare expenditure works against the grain of other trends, then comes to an abrupt halt at some point leaving a vacuum in its wake. This is what people are asking for when they want ‘crisis’ or a ‘burning platform’ as a catalyst for change. It is the most dangerous model of change available.



A more common variant is the ‘capture and extension’ scenario in which innovations in H2 are ‘mainstreamed’ in order to prolong the life of the existing system against the grain of a changing world. Without a third horizon perspective, most innovation ends up here.

The efficiency savings for the NHS that are being discussed for 2011-14 fit this pattern. But by using all our innovation energies to prop up the existing system, there is not enough resource left over to support a safe transition to the third horizon. It may delay, but in the end does not prevent, the collapse of the existing system.



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This framework offers a simple way into a conversation about:

- the dominant system and the challenges to its sustainability into the future, ie the case for change (horizon 1);
- the desirable future state, the ideal system we desire and of which we can identify elements in the present that give us encouragement and inspiration (horizon 3);
- the nature of the tensions and dilemmas between H3 vision and H1 reality, and the distinction between innovations that are essentially technical and serve to prolong the status quo and those that are transformative and help to bring the third horizon vision closer to reality (horizon 2);
- developing a mature perspective that accepts the need *both* to address the challenges to the first horizon *and* nurture the seeds of the third. This is not an either/or, good/bad discussion. We need both to 'keep the lights on' today, and to find a way of keeping them on a generation from now in very different circumstances.

## Three faces of innovation

A further interesting dimension of the three horizons framework is the fresh insight it offers on the question of innovation. In practice in workshop settings people tend quickly to identify themselves with one or other of the horizons. The horizons are not only trends but also mindsets.

The dominant mindset in H1 is managerial. It is about maintaining the system, improving its performance, maximising its potential. The dominant mindset in H2 is entrepreneurial. It is about seeing and grasping opportunities that the changing landscape offers. The dominant mindset in H3 is visionary and aspirational. It is about standing for something, a values-based position. H3 practice in the present is down to people who choose to operate and advocate in a certain way because they believe it to be right, whatever the rest of the world thinks.

None of these mindsets is wrong. In the process of change the three horizons will always be present. Indeed, much of our frustration with ineffective change efforts to date may be down to the fact that we tend to polarise into defendants of H1 and advocates for an 'unrealistic' H3 - without paying sufficient attention to the subtle processes in H2 that might enable the transition.

These different mindsets also reveal three faces of innovation.<sup>38</sup> Innovation in H1 is for efficiency. It is about improvement, maximising potential. In a changing world it has

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variously been described as ‘maintaining’, ‘sustaining’, ‘adjusting’ or ‘improving’ innovation.

Innovation in H2 is about seeing and seizing opportunity. Different ideas are conceived, tried and tested. Some work, others fail. But what is the selection mechanism? In practice, in the absence of any other frame of reference, innovations stand or fall in H2 depending on their capacity to support and appeal to H1. Business as usual, after all, holds most of the power and resource and takes the critical decisions about research funding, about purchasing, and about policy.

So in practice innovations in H2 have a tendency to look backwards. Most of them are conceived in those terms – designed to fix the existing system in H1. Others just happen to ‘catch on’ – but again largely because they succeed in fixing or improving the old system, prolonging its life. In business circles this is called ‘scaling for the mass market’ and is the goal of most innovation. In policy circles it is called ‘mainstreaming’ – and is likewise the unexamined goal of most would-be reformers.

But what if the goals of H1 are unsustainable – as we have suggested for healthcare? Innovation in H3 is about opening up a strategic conversation about the way the world is changing that allows us to re-examine the unstated assumptions of H1, including what constitutes ‘success’ or ‘excellence’ or ‘value’. This is essentially a public duty and therefore a central role for government. Without this perspective all innovation in H2 is likely to be drawn towards improving the status quo.

With an active vision and imagination about the nature of the third horizon we open up another possibility. We can design innovations that work to shift the existing system towards something radically different. They help create the conditions for the eventual realisation of H3 aspirations. It is this form of innovation that is desperately needed in our healthcare systems.

## **Seeds of hope**

Innovation within the conscious framing of a journey towards a desired third horizon is transformative.

Our own experience in IFF over the last seven years has been greatly encouraging. It includes, for example, early work on anticipating where the next great wave of health improvement might come from<sup>39</sup>, more recent collaborations on improving psychological health and resilience<sup>40</sup>, the impact of culture on health<sup>41</sup>, and the new agenda for health policy and practice in a change of age.<sup>42</sup> And plenty more besides.

This essay is not the place to review all of this work, and the promising work of others. It is a plea to give this work a hearing.

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It is possible to point to a number of common threads that appear to inform ‘third horizon in the present’ or ‘transformative innovation’ in health according to our experience so far.

The first is a recognition that rather than assuming that disease needs to be fought at all costs – that disease equates to a demand for healthcare - health and illness should be seen as part of a bigger life-death-life process.<sup>43</sup> For people with long established chronic disease, frailty and cognitive decline, this is particularly important. Achieving optimal function and wellbeing may well be more important than having a definitive diagnosis. Discussion of these questions struggles to find a place in a discourse dominated by ‘delivery’ and ‘meeting demand’ – but may help avoid unnecessary investigations and treatments with only marginal benefits, and contribute to quality of life.

Second, the journey to recovery and better health is not just about accessing good treatment, but about making sense of our lives in the presence of disease or discomfort. However sophisticated the medical technologies available, we still face the task, in Victor Frankl’s words, of finding meaning in suffering.<sup>44</sup> Our understanding of this has led us to distinguish pain from suffering. It is possible to transcend and find growth through suffering, whilst still experiencing pain. This insight is itself a resource. Interventions need to support people to discover and develop their own innate capacities for growth and healing. In making sense of their experience, patients may find low or no-cost strategies that help them get better.

Finally, the love, care and commitment we offer as healthcare workers brings powerful therapeutic benefits.<sup>45</sup> This means as practitioners we have to work with “both hands”. On the one hand, we respond to a presenting health problem with technical skills, backed up by evidence-based practice. On the other hand, we need to evoke self healing. Again the debate is not ‘either/or’: we need to draw on all of the resources available to us rather than privileging any narrow spectrum.

These approaches can only be authentic if healthcare practitioners grow their own strengths and capacities for health and wellbeing. Health improvement messages are ineffective when given by clinical staff who are clearly in need of adopting healthier lives themselves. A large part of IFF’s involvement with the NHS (and indeed other caring professions) has been in bolstering the capacity and resilience of the staff themselves to thrive in a very challenging environment.<sup>46</sup> We must remember that the NHS is at heart a human system – and money alone (as we have argued throughout this essay) does not secure healthy, fulfilled human beings.

### **Releasing capacity**

We conclude that whilst the evidence is overwhelming that the existing system is fundamentally unsustainable and heading for collapse, there is equally strong evidence that we know how to develop a system reoriented around today’s priorities and the

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contemporary operating environment that will deliver healthy and fulfilled lives at a fraction of the current cost.

The challenge is to take a longer and more clear-sighted view of the landscape: to acknowledge the depth of the challenge and to invest in a strategy for smooth transition.

That means having at least two answers to any question about the sustainability of the NHS. A first answer about maintaining the first horizon system in conditions of adversity (we cannot simply let it fail). And a second answer that provides hope for those working in the system that there is a viable future – that somewhere the seeds of a viable third horizon are being nurtured.

Without this the sense of disillusionment, of fighting vainly against a rising tide, will become debilitating. With it, we have seen professionals at all levels within and outside the NHS revived and liberated to release a resourcefulness, inventiveness and energy otherwise crushed by the Sisyphean demands of H1.

This essay is written as a heartfelt challenge to the keepers of the H1 agenda to make some space for H3 in the present and to release the capacity for transformative innovation currently suppressed within the NHS.

We really have nothing to lose.

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## About the author

Margaret Hannah is a Consultant in Public Health Medicine and has worked in the NHS for over twenty years. She is currently Deputy Director of Public Health in NHS Fife. She is also a member of the International Futures Forum. This paper represents a personal and IFF view, not that of her employer. She has worked with IFF for many years and through these links has developed IFF Kitbag - a set of resources to promote psychological capacity in times of radical change. She also provides training and workshops on IFF approaches to health challenges.

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## Publishers

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We work in areas where there are no easy answers, where existing models fail to make sense of our confusing reality, where we are in over our heads, where we face an unacknowledged '**conceptual emergency**'.

We have developed a body of theory, practice and wide experience in taking on seemingly intractable challenges and developing the capacities in individuals, teams, organisations and communities to flourish in today's powerful times.

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## Endnotes

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- 1 £150 billion in 2002 prices
  - 2 £180 billion in 2002 prices
  - 3 Healthcast 2020: Creating a Sustainable Future. PricewaterhouseCoopers' Health Research Institute. 2005
  - 4 Centre for Public Policy in the Regions. University of Glasgow. Briefing Note. 17 December 2009.
  - 5 Amnesty report condemns US death rates of women in childbirth. The Guardian. Friday 12 March 2010
  - 6 How Cold Will It Be? Prospects for NHS funding 2011-17. Appleby J, Crawford R Emerson C. King's Fund and Institute for Fiscal Studies. 2009. See also Public Services: deep cuts coming by Rowena Crawford, Carl Emmerson and Gemma Tetlow in Institute for Fiscal Studies Green Budget: 2010 – from which the table of NHS spending history is taken.
  - 7 Figure derived from OECD Health Data 2009 – selected data: health expenditure
  - 8 Our Future Health Secured? The King's Fund 2007.
  - 9 Controlling Public Spending: the NHS in a period of tight funding. Policy Exchange. 2010
  - 10 GMB call on government to re-open NHS three year pay deal to enable staff to meet higher cost of living. 28th October 2008  
<http://www.gmb.org.uk/Templates/PressItems.asp?NodeID=97755> GMB website accessed on 8th February 2010.
  - 11 Presentation by Harry Burns, Chief Medical Officer for Scotland at Scottish Faculty of Public Health conference 2009. See also You Staying Young: make your real age younger and live up to 35% longer. Roizen M, Oz M. HarperThorsons 2008.
  - 12 Zuckerman M, Cost control not coverage is the key to health reform. Financial Times. Aug 19 2009
  - 13 Califrano, J. Bending the Curve Requires Health Care Reform, Not Just Sick Care Reform: a history lesson. Kaiser Health News, 10 August 2009
  - 14 Prescriptions Dispensed in the Community. Statistics for England 1997-2007. NHS Information Centre 2008.
  - 15 See for example the comprehensive agenda detailed in Dealing with the Downturn. NHS confederation. Paper 4 June 2009.
  - 16 Francis R. Independent Enquiry into care provided by Mid Staffordshire NHS Foundation Trust January 2005 – March 2009. Department of Health. 2010.
  - 17 The Scottish Government has chosen not to open up the NHS in Scotland to competition. It has even passed legislation to prevent private sector providers competing with the NHS for primary medical services (see Tobacco and Primary Medical Services (Scotland) Act 2010)
  - 18 Hwang J. When Disruptive Integration Comes to Healthcare. Strategy and Business, 1 March 2010
  - 19 Angell M Drug Companies and doctors: a story of corruption. New York Review of Books. 2009; 59 (1).
  - 20 NHS cuts mean £400 less per person in England over next four years. BMJ 2010; 340: c816
  - 21 Review of the Scottish Diet Action Plan Progress and Impacts 1996-2005. NHS Health Scotland. 2006
  - 22 A Review of Scotland's National Programme for Improving Mental Health and Wellbeing 2003-2006. NHS Health Scotland. 2008
  - 23 NHS Next Stage Review: a response from the Young Foundation to the consultation on policies for innovation. Mulgan G, Macfadyen A. Young Foundation 2008.
  - 24 Public Accounts Committee Twentieth Report. House of Commons March 2007
  - 25 E-health struggles even in Europe. Business Week. Accessed 20 April 2010
  - 26 The Challenge of Co-production: how equal partnerships between professionals and the public are crucial to improving public services. Boyle O and Harris M. New Economics Foundation and NESTA Discussion Paper 2009.
  - 27 The Human Factor: how transforming healthcare to involve the public can save money and save lives. Bunt L, Harris M. NESTA. 2009
  - 28 Securing Our Future Health: taking the long term view. HM Treasury 2002.
  - 29 Between £150 billion and £180 billion at 2002 prices.
  - 30 Our Future Health Secured? The King's Fund 2007.
  - 31 US health spending rises to 17% of GDP as economy contracts. BMJ 2010; 340: c772
  - 32 Healthcare spending forecasts. Andrew J. Rettenmaier. National Center for Policy Analysis. 2009. Washington DC. <http://www.ncpa.org/pub/ba654> accessed 18th March 2010.
  - 33 Public Services: deep cuts coming by Rowena Crawford, Carl Emmerson and Gemma Tetlow in Institute for Fiscal Studies Green Budget: 2010. Also see Centre for Public Policy in the Regions, University of Glasgow. Briefing Note. 17 December 2009
  - 34 See for example the simulation exercise recorded in Windmill 2009. The King's Fund 2009
  - 35 The NHS Constitution. Department of Health. 2010
  - 36 Windmill 2009. The King's Fund 2009
  - 37 Note that much of the description of the IFF three horizons framework that follows is drawn from Bloomer K, Leicester G, Stewart D. Transformative Innovation in Education: a playbook for pragmatic visionaries. Triarchy Press/ International Futures Forum, 2009 – which provides an in depth description of applying the framework in practice.

- 38 The three mindsets of innovation are explored in more detail in IFF's pamphlet on open innovation in public policy (forthcoming).
- 39 The Fifth Wave of Public Health: searching for health in Scotland. Lyon A. Scottish Council Foundation and NHS Health Scotland. 2003.
- 40 Our psychological capacity in a global age programme. See <http://www.internationalfuturesforum.com/projects.php?id=1>
- 41 IFF is a partner in Glasgow University's culture and health programme. See <http://www.internationalfuturesforum.com/projects.php?id=28>
- 42 See for example the AfterNow website: [www.afternow.co.uk](http://www.afternow.co.uk)
- 43 Living your Dying. Keleman S. 1974 Center Press. Berkley. CA
- 44 Man's Search for Meaning. Frankl V. 1946
- 45 A General Theory of Love. Lewis T, Amini F, Lannon R. 2000. Vintage.
- 46 See [www.iffkitbag.com](http://www.iffkitbag.com) and also the use of Kitbag in the NHS at [www.institute.nhs.uk/images/documents/BuildingCapability/Livingourvalues/Behavewitheachother.pdf](http://www.institute.nhs.uk/images/documents/BuildingCapability/Livingourvalues/Behavewitheachother.pdf)



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