Facing the future: the effects of the impending financial drought on NHS finances and how UK radiology services can contribute to expected efficiency savings

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ABSTRACT. The recent turmoil within the banking sector has led to the development of the most significant recession since the "great depression" of the 1930s. Although the coalition government has promised to "guarantee that health spending increases in real terms in each year of Parliament", this may still not be enough to meet future needs over the coming years due to increasing demand and cost pressures. The expected mismatch between actual National Health Service (NHS) funding post-2011 and that required to satisfy increasing demand has been estimated by the Department of Health to require efficiency savings representing up to one-fifth of the overall NHS budget. This paper explains the reasons behind the anticipated slowdown in the growth of real NHS funding, and how, as a discipline, radiology can increase the efficiency of the services it provides in anticipation of future financial austerity within the NHS.

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The recent turmoil within the banking sector has led to the development of the most significant recession since the "great depression" of the 1930s. The concomitant decrease in HM Revenue and Customs' cash receipts from £52.9 billion for January 2009 to £48.2 billion for January 2010 alone [1], compared with government commitments for spending, has resulted in a public borrowing requirement (PBR) of £178 billion for 2009/10 [2]. This is against a background of a UK public sector net debt of £903.0 billion by the end of May 2010, which is equivalent to 62.2% of UK gross domestic product (GDP) [3]. This increased debt, and reduced revenues with which to pay it off, will inevitably necessitate reduced public expenditure. Realistically, it is unlikely that the National Health Service (NHS) will be shielded from this in the long term. Historically, under the last Labour government, a programme of NHS investment over a period of 7 years resulted in annual real-terms budget increases of around 7%, unequalled by any other healthcare system [4]. The coalition government has promised to "guarantee that health spending increases in real terms in each year of Parliament" [5], with a pre-election Conservative party pledge that the NHS will be exempted from any future funding cuts [6]. Although this approach is somewhat superficially reassuring, the reality is perhaps not so optimistic, as we will see.

An independent survey of primary care trust (PCT) finance directors conducted by KPMG found that 47% felt that frontline staff, while aware of the efficiency challenges, were limited in their understanding of their impact on budgets [7]. This paper explains the reasons behind the

anticipated slowdown in the growth in real NHS funding, and how, as a discipline, radiology can increase the efficiency of the services it provides in anticipation of an environment of future financial austerity within the NHS.

The previous financial position

Following their election in 1997, the Labour government initially adhered to the expenditure levels inherited from the outgoing Conservative party. However, in January 2000, the then prime minister, Tony Blair, committed the government to a substantial increase in funding for the NHS. Alongside extra funding, in March 2000 the government set out a 10-year spending and reform agenda: the NHS Plan [8], which included output and performance indicators, new GP and consultant contracts, and new appraisal arrangements. In addition, the then chancellor, Gordon Brown, commissioned a review of future health care funding needs (up to 2022/23) from Sir Derek Wanless, which was published in 2002 [9]. Wanless proposed three future scenarios, ranging from an optimistic "fully engaged" scenario (which assumed significant improvements in the overall population health and year-on-year NHS productivity gains of between 2.5% and 3%) to a pessimistic "slow uptake" scenario (with increasingly poor population health behaviours and lower gains in NHS productivity). A "solid progress" scenario was intermediate between the two. The NHS experienced an average annual real growth funding increase of 6.6% during the first 10 years of the Labour government, which was broadly in line with the "fully engaged" scenario. This compared with a historical average increase of 3.4% in real terms between 1949/50 and 1999/2000 [10], or a rise from approximately £40 billion in 1993/94 to around £127 billion for 2010/11 [11].

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The future financial position

The October 2010 Comprehensive Spending Review has confirmed that NHS funding is to be “ring fenced” from cuts, and in fact will increase by 1.3% over the lifetime of the current Parliament, with total funding increasing from £98.7 billion (2010/11) to £109.8 billion (2014/15) [5]. However, even with a small increase in funding, demand and cost pressures are such that it is unlikely to meet future needs over the coming years. For example, future demographic pressures due to a growing and ageing population are projected to cost the NHS an extra £1.1–1.4 billion per year, which represents an average real annual funding increase of 1.1% [11]. There will also be additional pressures from the negative health effects of a recession (*e.g.* mental health costs), continuing NHS-specific inflationary cost pressures (*e.g.* due to new drugs and devices), and salary increase pressures of up to £640 million additional spending as a result of the structure of Agenda for Change (the pay contract covering hundreds of thousands of staff, including nurses). Furthermore, there are the costs associated with adhering to the European Working Time Directive and Modernizing Medical Careers [12]. In addition, rising patient expectations about their clinical care will put pressure on services to do more and to be more responsive, which has been further reinforced by the introduction of patient rights into the NHS Constitution [13].

The NHS chief executive has stated in his 2008/09 annual report that although PCT budgets in England are expected to grow in cash terms by 5.5% in 2010/11, across the whole NHS the actual real-terms growth after inflation will be closer to 1.6%. The expected mismatch between actual NHS funding post-2011 and that required to satisfy increasing demand has been estimated by the Department of Health to require “unprecedented levels of efficiency savings” of £15–20 billion between 2011 and 2014 (representing up to one-fifth of the overall budget) [14]. The 2010/11 NHS Operating Framework has committed to contributing £2.3 billion of the government’s announced £5 billion efficiency savings (across the whole public sector) required for 2010/11 [15].

Bridging the funding gap could, in part, be achieved through improvements in overall NHS productivity. The King’s Fund and researchers from the Institute for Fiscal Studies calculated that the NHS productivity gains required between 2011/12 and 2014/15 to close the funding gap with Wanless’s “solid progress” scenario, together with zero real change in future funding, would be in the region of £21 billion (or equivalent to gains needed of 6.2% per year) [11]. Average productivity increases in the private sector are only approximately 2% per year, with the latest data from the Office of National Statistics indicating that NHS productivity actually fell by 4.3% between 1997 and 2007 (representing an average decline of 0.4% per year) [16].

Systematic changes across the NHS

In view of the anticipated future slowdown in real funding growth, there is an urgent need for a comprehensive approach to improving efficiency. We have all become accustomed to running our service during the

recent “times of plenty”, and a cultural shift in how we address our service provision is required. Funding constraints are already becoming introduced, and although there still remains time in which to plan service redesigns with the use of “scenario planning”, prompt action is required. Unfortunately, Windmill 2009 (“the storm scenario”) [17] demonstrated that, despite recent significant funding increases enjoyed by the NHS, various key stakeholders are still not in a strong position to adapt to future financial constraints.

Although a significant proportion of the top-down reconfiguration of GP services into “polyclinics”, as proposed by Lord Darzi [18], has been put on hold [19, 20], it is clear that a proposed change in what policy is based on, from speed of care to quality of care, will be maintained. This will result in new financial implications to consider, with a new payment-for-performance scheme that will contribute up to 10% of a hospital’s income, and which will be determined by measuring patient outcome and satisfaction via the use of patient reported outcome measures (PROMs) [21]. Expectations have also been raised that hospital doctors will become more involved in budget management and commissioning, with government advice on how to improve productivity and eliminate waste published by the Department of Health as the NHS Quality, Innovation, Productivity and Prevention Challenge document [22]. Furthermore, the new coalition government plans to completely redesign the provision of healthcare in England, devolving commissioning power to GP consortia, with the eventual abolition of PCTs [23]. How this will impact on the provision of radiology services is yet to be fully realised, but it certainly places at potential risk any efforts to achieve the efficiency savings required from the NHS as a whole.

There are, of course, generic steps that PCTs and Foundation Trusts can take to address the funding shortfall. There is a need to establish exact staff costs within radiology, which can then allow departments to establish effective levels of employment. This may include a percentage of staff who work on a sessional (or hourly) basis and who can be hired depending upon the amount of new business that can be attracted, or alternatively respond to lost business. As 60–70% of a hospital budget is spent on staff costs (representing 50% of the total NHS spend), possible considerations include vacancy freezes, reduced use of agency and locum staff, and alterations to staff pay and pensions. The McKinsey report, commissioned by the previous Labour government, indicated possible future staff cuts affecting up to 10% of the NHS workforce [24]. In addition, the independent sector, or outsourced reporting, may be able to provide a proportion of services at reduced cost. However, this has to be balanced against the loss of interaction between the referring clinician and reporting service, which may ultimately reduce the quality of care provided.

A continuing focus on quality as set out by the Darzi review [18] will be achieved in part by a continuing focus on “world class commissioning” [25, 26] in order to deliver improved population health outcomes together with the use of a new Commissioning for Quality and Innovation (CQUIN) system linking quality with payment [27]. Improved efficiency in the procurement of goods and services from external vendors, rationalising “back office” functions and streamlining management,

Table 1. Radiology spending 2008/09, based on Payment by Results tariff and activity

Radiology activity	Spend (£)
Diagnostic imaging	
Outpatients	679 200 960
Other	105 535 239
Radiology	
Inpatients	13 224 763
Day case/regular day/night	37 553 682
Outpatients	125 515 119
Other	18 235 490
Planned day case/regular day/night	21 310 196
Planned outpatients	40 970 081
Planned other	10 721 173
Total	1 052 266 703

Source: Authors' calculations based on 2008/09 National Reference Costs. Available from: http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_111591.

and improved utilisation of any NHS estate that is surplus to requirements should also be implemented [28].

An increased focus on "integrated" services allowing more care to be provided closer to home could potentially remove some of the dependence on more costly hospital services. The USA's Kaiser Permanente system uses only one-third as many hospital beds as the NHS for patients that are older than 65. This is attributable in part to the Kaiser Permanente ethos of minimising the time patients spend in high-cost hospitals through carefully planning their stay and by shifting as much care as possible to the outpatient domain, with aggressive rehabilitation programmes [29]. A move to take more work out of UK hospitals has already been incorporated into the new Government white paper NHS 2010–2015: From Good to Great [25], although the rigid division between hospital practice and general practice within the UK may make this problematic.

Radiology's contribution to the NHS productivity challenge

Background and general concepts

The 2008 Clinical Radiology Annual Census identified 2062 consultant clinical radiologists, with a mean of 38 consultant clinical radiologists per million of the population in England, Wales and Northern Ireland (compared with 100 radiologists per million of the population in the USA) [30]. Around £1.1 billion was spent on radiology services during the course of 2008/09 (Table 1), which equates to approximately 1.4% of the total NHS budget [31]. A 5% improvement on productivity generated within radiology will therefore equate to savings of £55 million per year, or approximately £165 million by 2013/14.

The NHS Plan [8] and the NHS Cancer Plan [32], published in 2000, both aspired to ideals and performance requirements that had a direct and indirect impact on radiological services. However, both these and the Wanless report [9] realised that money alone was

not enough – a major overhaul of healthcare delivery systems was also required. The Audit Commission report Radiology Acute Services Portfolio [33] identified a number of contributory factors leading to the often-recognised imaging delay experienced during a patient's journey, including an increasing demand for radiological services and pressure for the provision of a 24-hour service. In 2003, and in response to this need, the NHS Modernisation Agency launched a national framework for service improvement in radiology (NFSIR), in consultation with the Royal College of Radiologists and the Department of Health, among others [34]. This framework for service improvement is now well established and provides us with an immediate resource when considering how we can improve our service as part of the overall efficiencies required from the NHS over the coming period of financial uncertainty.

Two important methodologies are incorporated within the NFSIR: "lean" thinking and process mapping. Lean thinking is centred on preserving value while using less work, which in the context of healthcare can be summarised as considering wasteful the use of any resource that does not add value to the patient journey, and which should therefore be removed from current practice (it is known that up to 40% of steps within a "patient pathway" do not add value to the ultimate treatment outcome) [35]. It can also be thought of as increasing efficiency by optimising flow, as this will avoid periods of resource underutilisation and periods of "batching", where inevitable delays will be incurred. Lean thinking considers the entire patient pathway, rather than only the individual steps within a specific department. A "value stream" map identifies those elements of the total process that add true value to the patient experience within the context of the whole pathway [36]. The key elements of lean thinking are shown in Table 2.

Lean thinking has already been successfully implemented within a US-based healthcare system, with a resultant increase in the number of patients treated together with an increase in staff and patient satisfaction [35]. All of this has been achieved using a reduced number of employees through natural attrition, not redundancies. There is arguably some difficulty in making a direct comparison with the NHS, as payment is for each individual case within the USA's healthcare system, whereas the NHS purchases "block contracts". UK radiology departments that are successfully implementing lean thinking are already constantly redesigning their patient pathways in order to increase quality and efficiency by optimising flow. For example, substantial resources and time have been devoted to efficient telephone booking procedures, as well as providing well-lit and comfortable waiting rooms with spotless toilet facilities. There has been a significant development in the information provided to patients, with up-to-date patient information sheets and consent forms, as well as TV information provided within waiting rooms (which is particularly helpful to the ageing and often infirm population).

Inherent within the process of lean thinking is "process mapping", whereby a specific process (e.g. the completion of an outpatient CT investigation) is analysed, step by step, from initiation to completion. This can involve the use of sticky paper notes, which plot the journey for a patient at the level of "one person, one

Table 2. Key elements of lean thinking

Improved flow across and between processes	The "value stream" map Do not focus on rare studies Eliminate unnecessary actions
Removal of waste	Simplify and combine steps where appropriate Avoid duplication Improved patient transport with less waiting Improved capital utilisation
Staff empowerment	Avoid unused creativity/intellect Visual illustrations of current outputs and progress against objectives Encourage staff participation
Work organisation	Active positive feedback Flexible capacity to meet demand Generate standard working practices that eliminate variations from best practice

place, one time, doing one thing" [37]. It has been shown that a CT radiographer has to process 34 unique tasks to process a patient through their CT examination [38]. Once the individual steps are identified it is then possible to identify those that add little value to the overall patient journey, potentially removing any bottlenecks and unnecessary steps. This may involve the complete redesign of the whole process. It is often mistakenly thought that long patient waits are due to excessive demand or insufficient capacity, but quite often it is found that they are due to the adverse effects of variation on capacity or by the underutilisation of existing capacity (*i.e.* by batching requests or preserving "urgent" slots) [35].

Once potential issues have been identified, a useful model for initiating improvement is the plan-do-study-act cycle [39], which has many similarities to the familiar audit cycle. The "plan" stage will identify the objectives of your review: who needs to be involved, the relevant methodology required (including outcome measures) and the length of time over which you will run the process. The "do" stage is where the change is implemented and any impact is measured. The data collected during the do phase are then analysed as part of the "study" phase of the process, in order to determine whether the desired outcome has been achieved. Finally, the study phase will direct the course of the "act" phase of the cycle, whereby either the change undergoes wholesale implementation or a further plan-do-study-act cycle is required in order to make additional amendments.

Implementing and improving existing processes

Using the concepts previously described, existing processes within a department can be re-evaluated under the auspices of increased efficiency and productivity. The aim is to adopt best practice in pathway and operational management, leading to improved patient flow through a department. Improved service design will avoid duplication of work and unnecessary waste, as well as increasing the quality of the services that we provide. The Royal College of Radiologists and Society of Radiographers launched an Imaging Services Accreditation Scheme (ISAS) in June 2009 to "support radiology services in the UK in delivering higher-quality patient-focused services" [40].

There should never be a delay in the patient journey because of radiology; this should be the "gold standard" to which we aspire.

Existing areas that could be considered and re-evaluated in order to increase the quality of the services we provide include [12, 36]:

- **Reducing complexity:** unnecessary complexity within an individual investigation or as part of the overall patient pathway has a significant influence on cost and error rates. Analysis by the NHS Modernisation Agency has shown that up to 90% of errors and delays occur when a patient is handed from one professional or department to another, with up to 50% of the steps in a typical patient pathway involving such a "hand-off" [41].
- **Waiting list management:** an aggressive "did not attend" (DNA) policy will reduce the number of unfilled imaging slots. Booked appointments are known to be an effective way of reducing the DNA rate by engaging the patient in their care and offering a choice of appointments suitable to them. Proactive appointment reminders can further reduce DNAs, either by text message or phone call. Validating a waiting list, by contacting the patients just prior to their appointment, will confirm that the test is still required. Booking patients in chronological order will potentially avoid vacant protected slots for pre-categorised patients (*e.g.* "urgent" referrals), as well as avoiding delays by banning referrals to "named" consultants. Patients are not generally prepared to wait for more than 30 min for an examination. If departments followed a "show, have the procedure and go" policy, then such an extreme adoption of lean thinking could eliminate much of the above.
- **Pathway redesign:** historically, the NHS has been structured such that individual hospital directorates may only contribute to part of the complete patient pathway, without necessarily enabling integration on a more complete level. This has resulted in multiple outpatient visits, interspersed with imaging investigations, with an accompanying delay incurred at every stage. Greater integration across the whole care pathway can reduce the overall number of patient visits and overall time to treatment. Improvements can be attained with "one-stop" clinics providing simultaneous clinical assessment and imaging, direct access

to diagnostic investigations for appropriately identified referrers, and facilitation of further imaging instigated by the radiologist on the basis of a previous imaging result. A "same-day" ultrasound service has been proven to be feasible in an inner city NHS trust, but required flexible radiology working and increased sonographic staffing [42]. All of these working methodologies form part of the "show, have the procedure and go" philosophy, but must also be accompanied by safe, comfortable areas for "stacking" the patients so that the expensive equipment and staff can work to maximum efficiency.

- **Sweating assets by substantial extension of working hours:** most CT and MRI scanners are currently only utilised on a "9 to 5" basis, and therefore these high-cost assets are not delivering value for a significant proportion of any given day. "Sweating" these assets by the use of substantial extension of working hours is essential (this may also provide appointments at times that are more convenient for the patient). Routine maintenance could be performed out of hours, with any quality assurance procedures performed prior to a clinical session.
- **Increased use of "skills mix":** if it is right and proper for a radiographer or nursing staff to undertake procedures, this should become the norm (e.g. intravenous injections for contrast examinations given by a radiographer) [43].
- **Relevant radiologist timetable design:** radiologists should consider a timetable designed on an hourly basis that reflects departmental needs. Reporting 1 h of plain films is an excellent example of this. The radiologist is generally unable to deliver 4 h of constant plain film reporting without breaks or stoppages. Ultrasound, on the other hand, may require a 3- or 4-h period of work. Furthermore, a department should not work to fixed morning and afternoon sessions – after all, when should a morning or afternoon begin or end?
- **Standard referral protocols:** as part of the "payment-by-results" ethos, radiologists should not vet standard requests. This is a monumental waste of time and creates great animosity between clinicians and radiologists. However, a vetting role should be retained for particularly complex individual cases.
- **Common imaging protocols between hospitals and regions:** these can reduce the need for repeat investigations, and if imaging is performed consistently between centres then work can be shared between them, depending upon their individual capacities at any given time.
- **Standard reporting formats for common examinations:** these will improve the efficiency of reporting and permit easier access to relevant clinical findings by the referring clinician. Standard report templates may also be considered for normal examinations, and this is easily adapted to voice recognition (VR) templates. It is essential that report templates should be simple and to the point, with hospital clinicians expressing a preference for reports in a tabular format [44] and general practitioners expressing a preference for more detailed reports with an opinion on future patient management, if appropriate [45].

- **Radiology report availability:** radiology reports can be found within the Picture archiving and communication system (PACS), radiological information system (RIS) and hospital information system (HIS). However, there are few departments that have fully integrated electronic requesting as well as the ability to send reports directly to the requesting medical professional's computer.
- **Complete PACS:** modern radiology departments should have at their epicentre a perfect IT system – without this, failure is the norm. Integrated complete PACS and RIS systems must be the standard found in all departments. Breast imaging in many parts of the country still relies on analogue (film) images, and therefore introduces all sorts of extra problems (e.g. integration with other imaging, availability of imaging, storage of imaging, transfer of imaging to other units), requiring extra staff for many of these functions.
- **Totally integrated digital direct reporting that is perfectly integrated into PACS:** VR is a viable reporting method for experienced users [46], and has made as much of an impact on radiology reporting as has PACS. As the final report is made at the time of dictation, it is likely to be more accurate and succinct, and can use predetermined templates to increase reporting efficiency [47]. Modern VR systems have overcome problems with earlier versions, such that there is now a minimal impact on dictation time after an appropriate period of training [48]. The VR system must be perfectly integrated into the RIS and PACS systems, and must be simple to use, otherwise it will not realise the massive advantages it can provide. It significantly reduces the turnaround for availability of reports [47], as well as freeing secretarial staff to perform other, more efficient departmental duties.
- **Multidisciplinary meetings:** these require excellent (as opposed to adequate) facilities, including air conditioning, high-quality projectors, total connection to PACS, RIS and HIS systems, external computing to look at the medical literature, teleradiology to link departments to the same meeting, and the ability to record a final conclusion at the end of the multidisciplinary team meeting.
- **A central reporting area:** this is essential and allows expensive PACS electronic equipment to be used more effectively, as well as providing an area for second and multiple opinions where clinicians wishing to discuss a case with a radiologist are guaranteed to find appropriate help easily. Interruptions during reporting are an essential part of the radiologists' function within a hospital, allowing for expert help and opinion on imaging to interplay with the clinicians' real-time management of the patients. A more communal approach to reporting also generates a better teaching environment for training radiologists.
- **Dedicated radiology porters:** a common under-utilisation of radiology resources is the inability to get patients to a department in a timely and predictable manner. Porters that are solely accountable to a radiology department will feel more "ownership" over their essential role and provide a more reliable and predictable service, improving patient flow through a department. This must be in combination with safe, comfortable areas for "stacking" patients so

that expensive equipment and staff can work to maximum efficiency.

- **Resilience:** no procedure should be undertaken within a department unless resilience is built in. For example, an individual radiologist should not develop a new service without two or three other radiologists being involved. A service must never depend on only one individual providing the expertise, as this would place the service at risk during their absence.
- **Teaching and research:** one area that may possibly be at risk of a short-term “slash and burn” approach to cost saving is that of the running of conferences, research, and all aspects of undergraduate and postgraduate education. This is absolutely crucial for many departments; it is part of the fabric of radiology and should be funded appropriately. The benefits are not necessarily immediately tangible, but are crucial to the long-term efficient and productive running and development of the NHS, and as such should be given a degree of protection.

Overall, these ideas can be defined and evaluated using key performance indicators (KPI), as “you can’t manage what you can’t measure” [49]. These are a set of standard financial and non-financial metrics that can define and measure the success of a radiology department, and which will ultimately lead to the adoption of best practices. It is important that they are meaningful, scientifically sound and interpretable [50]. Examples include indicators looking at clinical performance (such as radiology report turnaround time), departmental research, the patient experience, resource utilisation and productivity, and employee development. It is imperative that there is absolute uniformity of the counting techniques used across different radiology departments, otherwise the whole system is untenable. Departments will have to be monitored to prevent “creative and imaginative accounting”, and there must be exact agreement as to what is being counted to avoid a misleading expansion of a department’s statistics (e.g. an ultrasound examination of the abdomen could be counted as a single examination, or as an ultrasound of the gallbladder, liver, pancreas, spleen and aorta).

Possible new paradigm of working

Payment by results (PBR) requires the pricing of each and every radiology procedure, which is best decided by a broad national panel. Individual departments should be allowed to be able to move the pricing up or down by a 10% margin. This panel should ideally meet monthly to review pricing structures, particularly as new procedures are frequently created and equipment changes at a rapid pace (examples are the investigation of coronary artery disease using CT and heart disease using MRI). Commissioning or purchasing via the regional health authorities, GP fund holders and the PCTs (among others) is not an optimal method. Funding needs to sit with each patient. If an examination or treatment is carried out, this should be charged to a central funding pool. Treatment options will also always compete, and as well as cost considerations and patient preference, faith must also be placed in doctor and clinical integrity.

Competition between departments can be a barrier to service redesign, as the individually more financially lucrative activities may be promoted, as opposed to those that are more cost-efficient for the NHS as a whole. For example, the treatment of a femoral arterial occlusion with interventional radiological techniques, while not as individually profitable as a surgical approach, is a safer and more efficient use of resources [12].

Attempts by radiology departments to keep within budget by acting as gatekeepers for investigations do not work. Each clinician believes it is their right to request any investigation they believe is needed for their patient. It is PBR that allows a department to attract work (and therefore finance), and thus gives control of expenditure that is needed to provide cost-effective radiology. So here is a radical approach to consider: radiology should not have budgets. The money should be devolved to the clinical services that buy imaging for each patient. A clinician who requests less imaging (arguably using imaging services more efficiently) will retain a larger “pot of money” within their clinical department. Imaging will “earn” less, and will need to cut its cloth accordingly. Of course, when the pricing strategy group decides on prices, many aspects of an imaging department should be taken into account as this will, of course, require financing.

Conclusion

Within the prevailing culture of “doom and gloom” regarding future NHS funding, it can be difficult to appreciate any upside. However, the anticipated external financial pressures may in fact create the impetus to make real changes in the way in which our service is delivered. This is consistent with the Obama administration’s mantra of “don’t waste a good crisis” [51]. It should be seen as a positive catalyst for change, which may have been previously desired but never driven by the impending financial constraints. If we aggressively embrace change now, we could be in a better position to make a long-term difference to people’s health once funding levels return.

Although overall radiology accounts for only 1.4% of the total NHS budget, radiology services still have a key role to play in driving efficiency changes. Radiology demands a high capital cost base, and has historically been the source of “bottlenecks” and delay in the patient pathway. Increasing our productivity and efficiency may well have positive effects in achieving efficiency gains throughout other clinical directorates, and therefore may also be expected to further contribute indirectly to the expected overall NHS efficiency savings of up to £20 billion between 2011 and 2014.

Forewarned is forearmed!

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