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Softer perspectives on enhancing the patient experience using IS/IT

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Abstract

Purpose – This paper aims to argue that the implementation of the Choose and Book system has failed due to the inability of project sponsors to appreciate the complex and far-reaching softer implications of the implementation, especially in a complex organisation such as the NHS, which has multifarious stakeholders.

Design/methodology/approach – The authors use practice-oriented research to try and isolate key parameters. These parameters are compared with existing conventional thinking in a number of focused areas.

Findings – Like many previous NHS initiatives, the focus of this system is in its obvious link to patients. However we find that although this project has cultural, social and organisational implications, programme managers and champions of the Connecting for Health programme emphasised the technical domains to IS/IT adoption.

Research limitations/implications – This paper has been written in advance of a fully implemented Choose and Book system.

Practical implications – The paper requests that more attention be paid to the softer side of IS/IT delivery, implementation, introduction and adoption.

Originality/value – The paper shows that patient experience within the UK healthcare sector is still well below what is desired.

Keywords Customer orientation, Change management, National Health Service Paper type Case study

Introduction

Previous scholars such as Brooke and Maguire (1998), Berg (2001), Ash et al. (2004), Weingart et al. (2006), Reichertz (2006) and Dorr et al. (2007) have been able to identify management related advantages relating to the implementation of healthcare information systems and information technology (IS/IT). Unfortunately, many of these studies have emphasised the need to address technical parameters as against softer organisational factors, which are generally difficult to quantify.

The reality is that if handled in a way that recognises the crucial role of these softer introduction parameters, then the introduction of IS/IT into complex organisations such as the NHS is more likely to be successful.

Research methodology and justification

This paper seeks to explore how the NHS as a service provider is introducing new IS/IT that enables changes in its operations. The expectation is that the new IS/IT will facilitate the provision of memorable patient and healthcare stakeholder experiences.

We have sought to develop this paper by employing approaches generally regarded as participatory observation. Here, as practitioners, we have been able to be part of the environment being studied. This approach was regarded as most appropriate as it was felt that a direct observation of events was required. We then applied contemporary concepts of IS/IT implementation and customer experience to the case observation. Arguably, this approach enabled us to provide explanations for our observations.

Literature review

In this section of the paper, we will examine current literature on patient experiences from five perspectives. These perspectives are:

- (1) Previous studies.
- (2) Personal reflections.
- (3) Developing new perceptions.
- (4) Observations and potential for experience enhancement.
- (5) The value of IS/IT.

Patient experiences – previous studies

It is important to highlight that various attempts to study the patient experience within healthcare have been conducted. These include a study conducted by Andaleeb (1998), who developed a managerial model for customer satisfaction within hospitals. Wilde *et al.* (1993) developed a quality of care model using grounded theory from which they identified the healthcare patient experience as possessing four dimensions (medical-technical competence; physical-technical conditions; attitudes and actions carers; socio-cultural atmosphere of the service provider). Studies by Lynn *et al.* (1997), on the other hand explored the experience of dying patients from the perspective of surrogate decision makers. In their study, they concluded that pain and other symptoms were commonplace and troubling to patients. They however found that the major concern of patients was not necessarily the continuation of life, but the fear of dying in pain, unnoticed, and isolated from loved ones. Their study further demonstrated that due to the difficulty of patients actually describing their experience of dying and since the experience of dying inevitably relies on reports and perspectives of family members, caregivers and carers were crucial in charting patients' experiences during death. Other patient and healthcare related studies in customer and relationship management include that of Jenkinson *et al.* (2002), who on examining patients' experiences of in-patient care found that the detailing of patient experiences was a more valid approach of assessing service than the assessment of customer satisfaction. This was because patients regarded the assessment of customer satisfaction as insensitive to problems within the specific processes that affect the quality of care delivery.

Patient experiences – personal reflections

Reflection on personal experiences is not particularly encouraging. For example, although we are informed by the government that almost all patients do get an appointment within

48 hours to see a doctor, the reality is that this has only been achieved through gaming as a means of achieving desired patient statistics (Gubb, 2007). This approach involves, for example, stopping people booking a doctor's appointment more than three days in advance. Personal experiences confirm this practice. For example, in the lead author's local doctor's surgery, appointments to see a doctor can only be made at two times, 8a.m. and 12 noon on the day one wants to see a doctor. If one for example rings at 8.03 a.m. or 12.03 p.m., the phone-lines are virtually jammed. Even when one gets through, all appointments have been allocated. For this reason, most people will now walk to the doctor's surgery either before 8 a.m. or 12 noon to make an appointment. It is also most worrying that statistics on waiting times for both in-patients and out-patients only measure the period from the actual referral to the time the initial outpatient appointment is made, and the time from when a patient is placed on a waiting list at hospital waiting list to inpatient treatment (Gubb, 2007), thus ignoring what is in fact the patient experience journey should take into account time spent in between for diagnosis. From our perspective, we also note that such waiting times do not take into consideration time spent waiting in a queue to book an appointment, and time for recovery, especially if the patient chooses to do that at home. What will usually happen is that the patient technically has their "care" transferred back to the doctor's surgery domain, and then the cycle re-starts. These discrete health provisions are a long way away from a joined-up patient experience.

Patient experiences – developing new perceptions

People will have contact with health provision services from pre-birth to death. Most of us will remember immunisations and school health surveillance, we might however not remember being scanned as part of our mother's pre-natal care!

In between life and death, we will all be the focus of health promotion and screening. The health industry (used as a term here to incorporate both the public and private sector), is one of the most important market sectors in the UK as a result, not surprisingly, it has been the focus of a large number of government policies to improve the patient experience (Leatherman and Sutherland, 2007). Government has sought to achieve this objective through various schemes aimed at increased patient choice. Over the years these schemes have included the Gedling Surestart minor ailments scheme introduced by Nottinghamshire County Primary Care Trust, the London Patient Choice Project and the Catio One Life service scheme being implemented by South Tees Hospitals Trust. Working on the basis that investment in IS/IT can bring a corresponding set of benefits for the NHS staff, and ultimately for patients (Maguire, 2007), the majority of these schemes have included the exploitation of IS/IT.

Patient experiences – observations and potential for experience enhancement

Recognising the effects on patients of perceived poor quality of care, there has been an increase in government demand for accountability within the NHS. This is especially relevant as we see an increasing number of UK patients seeking alternative and sometimes cheaper treatment abroad (the creation of the so called medical tourism). Based on this, NHS outlets (hospitals, health and doctor's surgery) and management are now under immense pressure to incorporate patient satisfaction in the plans for long term operational viability. An example of this can be seen in a recent case study conducted by one of the co-authors of this paper. The then Hospital A (in the North East of England),

offered acute health care services to people living in a major city in the North East of England and the surrounding areas. The Trust prior to its merger in 2002 aimed to work together with patients, staff, City officials from the Local Health Commission, the Community Health, Community Healthcare, the local NHS Trust and other organisation's such as "Partners in Quality Care" in order to improve the care it offered local people.

What was observed in the first case was that the means of assessment of care by nurses was then not standardised. This led to situations where for example, nurses who were on the frontline of patient care delivery being rated as efficient using hospital benchmarking systems, while being actually perceived as ineffective from the point of view of the patient. The problem with the patient experience in this case was that care managers (e.g. a social worker or senior community nurse or therapist), were required to assess the needs of the individual patient or customer. Care was then based on a definition of a standardised package, which was often provided by the hospital. From our observations, there were three major difficulties with this approach. In the first case, care was not personalised. Secondly, both patients and stakeholders (for example family and loved ones, carers, programme champions and sponsors, health care professionals and managers, patient support groups and charities such as the Patients Association, The British Red Cross, Cancer Research UK and The Princess Royal Trust for Carers, were not necessarily included in the decision making process relating to the choice of care providers. Finally, once care commenced, the quality of care was measured by counting the number of contacts the nurses had with the patients instead of assessing how the patient was progressing as a result of the care.

Patient experiences – the value of IS/IT

There is widespread and available literature, which has sought to explore softer organisational parameters, which impact on healthcare IS/IT implementation. These studies arguably commenced with work by Mumford and Weir (1979), who in exploring the socio-technological aspects of IS/IT design and development, demonstrated an explicitly recognition of the importance of taking into consideration the softer aspects of IS/IT implementation. The study by Mumford and Weir (1979), was followed by Mumford (1995), who developed a methodology which will enable organisations ensure successful IS/IT implementation by engaging systems users, technical staff and management. Over the years, Brooke and Maguire (1998), Wainwright and Waring (2004) and Harrop *et al.* (2006) point to other studies specific to healthcare which have followed this approach by addressing softer organisational factors which are generally difficult to quantify. These include studies by Irestig and Timpka (2008), who explored the role of politics and power in IS/IT implementation, Berg (2001) and Bennett (2004) who explored the social and organisational context of IS/IT implementation and Despont-Gros *et al.* (2005), who explored the perception of healthcare IS/IT users.

From these studies, it is clear that there is indeed a need to provide a wider view of IS/IT implementation within the health arena (Maguire and Ojiako, 2007; Wainwright, 2008). Especially one that goes beyond technical perceptions. This perception is particularly relevant especially because of the numerous stakeholders in the health sector (Cameron *et al.*, 2006). To enhance this "wider" view, Waring and Wainwright (2000), recommended adopting non-technical analytical approaches to develop a chain of evidence that enables the development of an IS/IT implementation framework.

The case study

The Connecting for Health (CfH) programme is currently estimated to be costing the UK taxpayer around £12.4 billion (Maguire and Ojiako, 2007). The programme, which consists of eight different major initiatives (Figure 1), aims to move the NHS away from the multiple (NPfIT, n.d.), independent and disparate (Currie and Guah, 2007) systems. Figure 1 is a diagrammatic representation of the constituent programmes that make up the Connecting for Health Programme Initiative.

The programme is also being driven by the need to change the NHS's systems implementation strategy which has been traditionally developed from ad-hoc IS/IT systems introduction. As part of this transformation, it is hoped that the programme (easily the biggest such IS/IT programme in Europe), will support efforts of the NHS to modernise the way healthcare services are delivered (Eason, 2006), thus providing an opportunity for the NHS to implement change that it can realise quantifiable business benefit from, which traditionally it has been unable to do for quite a while (McCue, 2004; Maguire, 2007). The importance of this programme to NHS was further emphasised with the publication of the long awaited report on June 30th 2008 by Professor Ara Darzi (Darzi, 2008), which amongst others has sought to identify a decade long vision for the UK's National Health Service (NHS). This vision was in particular set to reflect the realities and challenges of the twenty-first century patient by encouraging the delivery of services streamed to the exact needs and wants of patients, at the place and time of their choice.

NHS Choose and Book

The Choose and Book Information Management System, which was formerly known as the Electronic Booking Service (shows its three major work streams), was first rolled out in the spring of 2005 (Davies, 2007). The system, which is based on Cerner Millennium e-Booking software, was developed by the international IS/IT services company Atos Origin (Davies, 2007). The system is configured in a way which enables

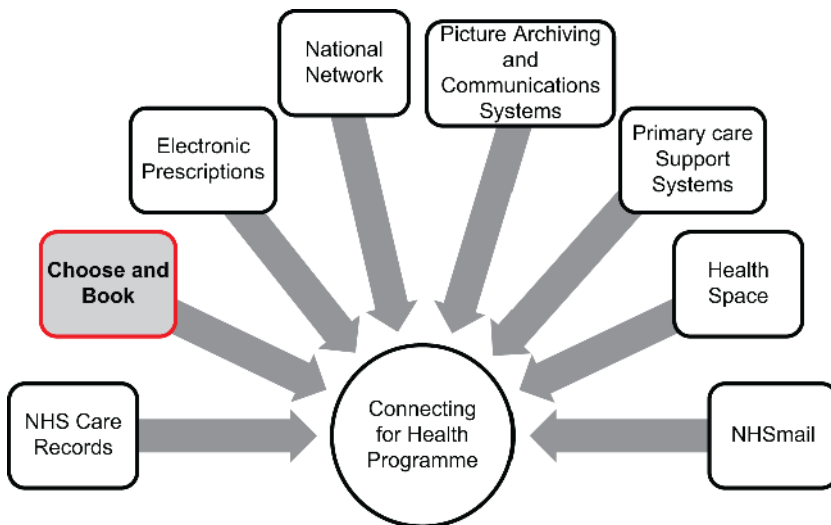


Figure 1.
The connecting for health
programme initiatives

non-anonymous data to be fed into an external reporting system (Stitt, 2007). It is expected that the system will become the standard portal for medical referrals in the UK once deployment is completed.

Introduction of the system has come under three major streams of work. The first stream involves the modernisation of the traditional appointment booking process. The main objective of this stream is to enable a reduction in hospital waiting times. The second stream involves Patient Emancipation. This work package, which has a training and education implication involves making the patients aware of the projected capabilities of the new system and how the new system is to enhance their experience. The final stream involves the provision of patient choice. This work package is to include the provision of functionality that enables patients make a decision as relates to the choice of healthcare provider. The system is currently in Release 4.0 (deployed during the weekend of 3/4 May 2008).

It is anticipated that the system will eventually support over 140,000 users once operational (NPfIT, n.d.). These users will be able to access the system using computers compliant with the National Care Record Service Security Architecture. To gain access to the system, users will first need to be registered on the NHS Care Records Service Spine via a single sign-on facility (NPfIT, n.d.).

Discussions and implications

In the previous sections, we provided an overview of the Choose and Book system. In addition, we also appraised the theoretical concepts, which underpin studies on patient experience.

Four parameters from the case study will be presented in order to examine how existing organisational theories can be used to provide a perspective, which is relevant to the NHS. We chose to concentrate on these parameters because studies of recent academic literature has demonstrated that softer factors remain at the forefront of recent IS/IT implementation research (Brooke and Maguire, 1998; Maguire, 1998; Maguire, 2000; Kremsdorf, 2003). In addition, theories on technology adoption do not necessarily propose an explicit set of dependents variables (Dishaw and Strong, 1999). For this reason, we have identified our dependent perspectives to include:

- A softer programme environment.
- A softer test management approach.
- Technology adoption, acceptance and resistance to change.
- Enhancing the patient experience.

A softer programme environment

The NHS is a complex organisation (Maguire and Ojiako, 2007; Maguire, 2007), and for this reason, the implementation of the Choose and Book system is being managed in a way that recognises the various complexities of the NHS. One such complexity is driven by local variations and significant amount of resultant differences on various NHS clinicians in terms of IS/IT driven working practice (NHS, 2008d; Waring and Wainwright, 2008). Doctors can have their own ways of working. Even within the same GP practice, there may be a variety of different methods that have been adopted over the years for referring patients to secondary care, and the same applies to the way consultants manage and review their clinics.

The overall management of the Choose and Book System is the responsibility of the National Programme Office. This team, which is led by the National Programme Manager is at the forefront of championing the programme on behalf of the Strategic Health Authorities (SHAs) within the NHS, especially among its front-line staff and clinicians. The objective being to ensure that the programme not only reflects the desires of its users but also that the system is regarded as the system of choice for patient referrals. The Programme Management team also has lead role in various aspects of the delivery programme including facilitating the continual development of a national commercial strategy for Choose and Book, managing day-to-day relationships with suppliers, financial management and accountability and facilitation of good practice.

Although the National Programme Office has lead strategic role, implementation of Choose and Book is owned at the local level by individual Primary Care Trusts (NHS, 2005a).

Leadership along geographical spheres of operations of each PCTs is with the Project Sponsor who is appointed by each PCT and charged with providing political guidance and support to the IM&T (Information Management and Technology) programme manager who concentrates on the delivery of the various work streams such as GP system upgrades (see Figure 2). This arrangement is seen as suitable as the National Programme Office regards individual PCTs as best placed to create a sense of urgency within its geographical area of operations. The expectation is that this sense of urgency leads to increased programme commitment at a local level (NHS, 2005b).

As the Choose and Book System is a complex system, the NHS has made a decision to pursue systems implementation methodology based on the NHS Connecting for Health

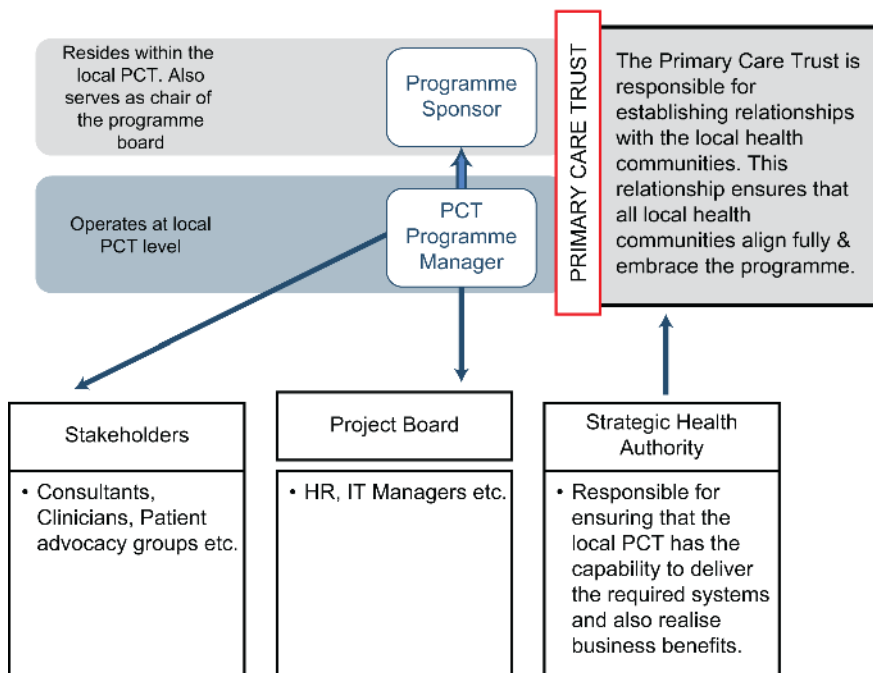


Figure 2
PRINCE based
programme
management
structure

National Programme Implementation Lifecycle framework (NHS, 2004a, 2005b). This framework which is a formal implementation guide, is loosely based around the PRINCE methodology. Under this approach, the IM&T Programme Manager is charged with optimising local implementation (NHS, 2005a). This is achieved by various approaches which include for example establishing governance structures that fits the local situation, setting up a project teams and establishing clear structures within the local project team. In addition, as part of this role, the IM&T Programme Manager is responsible for establishing relationships with the local health communities in order to facilitate the development of policies that relate to local implementation priorities and programme scheduling. The IM&T Programme Manager is also responsible for developing project plans. It is expected that these plans are developed after full engagement with the clinical teams. This is especially important as flexibility in the system is required. To support this, consultants are now expected to notify PCTs of any intention to take annual leave at least six weeks in advance (NHS, 2008a).

Implications

Historically, IS/IT deployment although recognised as inherently complex (Ambler, 1999), was pursued on the premise that IS/IT products could be deployed without the aid of explicit IS/IT deployment methodologies (Whitfield, 1996). This line of thinking was based on a conceptualisation of IS/IT deliveries as short-term or one-off exercises rather than long term, well-planned implementation strategies (Avison and Fitzgerald, 1988).

Treating IS/IT projects as short-term or one-off exercises meant that until recently few standard mechanisms were in place to support implementation activities. In fact, studies by Button (1997) shows that a consistent and universal process for initiating, approving, managing and implementing IS/IT projects simply has not existed in most organisations.

Although it is difficult to state that there is any project management methodology exclusive to the IS/IT industry (Luftman *et al*, 1993), the need for standardised delivery, deployment and implementation methodologies has however become relevant especially with the recognition within organisations and the project management profession of the contribution of successful IS/IT deployment to organisational strategy. In addition, the adoption of such methodologies has led to the enhancement of working and collaborative relationships. It has also led to the reduction of project related conflict in large multi-faceted projects. For complex health-related projects that involve vendors and clinicians from different working traditions and values, such methodologies have become particularly crucial.

The lack of existence of standard deployment processes might be a possible reason why some organisations are failing to realise the benefits of strategic IS/IT systems (Vowler, 1990). According to Abdel-Hamid and Madnick (1990), a contributing factor to the inability of a standard IS/IT deployment methodology is that the information required to establish such standards is generally not accessible, complete or accurate. This is because most failed projects are never studied by the organisation that experienced the failure. Having wasted so much on a fruitless venture, few organisations will invest more time or money to collect and analyse additional data, whereas any data that had been collected may be massaged or hidden to protect careers or reputations. Thus, information about project failures often relies heavily on subjective assessments. Secondly, because the most important lessons that need to be extracted from any project review are not available, lessons cannot be learnt. Generally

speaking scholars (King, 1985; Madhav and Willborn, 1985; Nath, 1992; Fitzgerald, 1998), all agree that the lack of such information makes the evaluation of success levels against expectations extremely difficult.

The implementation of the Choose and Book Programme has so far been conducted using a recognised and proven project management methodology. This is not surprising especially when noted that IS/IT project managers have a wide range of methodologies, techniques and tools at their disposal (Drummond and Hodgson, 2003). The project management methodology in this case is PRINCE, which, although it remains the industry standard for public sector projects, does have a factor which is limiting to projects within a twenty-first century setting. For example, the methodology fails to take into account the behavioural, organisational and environmental changes, which are inherent in IS/IT projects (Brooke and Maguire, 1998). Second, the methodology, which is based on a system of firm, structured and logical control, assumes that the project process is highly stable. However, there is no doubt that this is not the case as project-oriented environments are generally characterised as highly uncertain and risky (Berson and Linton, 2006).

For the Choose and Book system, the use of a standard project management methodology has however been unable to mitigate against a range of deployment related problems such as system instability which has plagued the delivery of the system. This is not surprising, especially as Maylor (1999), points to a number of high-profile IS/IT projects that have failed even though this methodology was adopted as the preferred choice of implementation approach. In the case of the Choose and Book systems, for example, on 22 December, the service was completely unavailable to most users in the country due to an outage on the NHS Spine. This led to a service outage, massive appointment cancellations and complications with existing appointments as staff were not able to log onto the system to confirm appointments of patients turning up for hospital appointments. There have also been a lot of reported complaints by users of the system who highlight that the system is not user friendly (especially as relates to slow response times). As implementation of the system is managed locally, the delivery has also suffered from set-up problems (NHS, 2008b), limits on available private IP address range (for the 10.x.x.x; 172.16.x.x; 172.31.x.x and 192.168.x.x ranges) and variations with local technological interfaces. In other cases, existing web browsing technology has not supported the ability of GPs to either connect to the system using an integrated GP system, or if this is possible to seamlessly toggle from in-house practice systems to the Choose and Book system (South Sefton Primary Care Trust, 2006). There has also been systems integration problems (Guy's and St Thomas NHS Foundation Trust, 2006; Warrington Primary Care Trust, 2006). For example, in some cases it has been practically impossible to integrate earlier e-booking software with the choose and book system, and even when this is managed, PCTs have been faced with problems such as the duplication of patients second names after records are queried (E-Health Insider, 2006), patients being allocated wrong registration references which means that the booking transaction is rejected (Guy's and St Thomas NHS Foundation Trust, 2006). In other cases poor systems integration has led to existing clinical profiles on existing systems not being readable by the new system. This has meant that the new system is unable to see existing hospital appointments. To address these problems has meant that PCT staff have had to depend on manual workarounds which are not generally effective.

A softer test management approach

The introduction of new Choose and Book system, which has the capability to influence change within the NHS, may be more manageable if the whole process is seen as part of a wider and integrated organisational strategy. To support this integration, there are potential gains in the National Programme initiating a single test strategy that links all elements of its business operations in order to ensure full business interoperability.

Implications

A major factor which appears to have emerged from a review of the Choose and Book programme is that although there exist a standardised testing approach (NHS, 2004b), there is no single User Acceptance Test (UAT) system available to PCT Staff (Warrington Primary Care Trust, 2006). With this lack of a single UAT environment and testing currently limited to a small test group (NHS, 2008c); it should not be surprising that the National Programme Office appears to have lost an opportunity to generate a central knowledge base for the various PCTs to refer to. This is perhaps why a review of programme update reports from various PCT (Guy's and St Thomas NHS Foundation Trust, 2006; South Sefton Primary Care Trust, 2006; Warrington Primary Care Trust, 2006), appears to indicate that most PCTs appear to be facing similar implementation related problems. The reality is that the current approach which appears to be based on "live-testing" is not in any way ideal. Neither does it generate confidence by clinicians nor GP's who are expected to use the system. Any expectation on the other hand that the patient experience can in any way be enhanced by this approach is also misconceived.

In reality, an ideal test strategy, which has proved successful in IS/IT introduction of a similar scale will have involved three major types of test. As in the case of BT's twenty-first Century Network systems Introduction (Ojiako and Maguire, 2008), best practice will demand that the three major test strategies will involve a core test which the National Programme Office will lead, possibly working the various SHA's. The second test strategy will then involve the various PCT's working with the various vendors will then conduct PCT level test over an appropriate range of interfaces while the third test strategy will involve provisions for platform inter-operability testing. Crucially, taking into consideration the possibility of problems emerging as a result of the different SHA's, PCTs and suppliers viewing standards and targets from different perspectives, it will be important that the SHA and PCT level test are aligned in order to ensure that overall programme objectives are achieved right across the country. To facilitate this understanding will probably require more than the publication of a standardised test approach. Instead what will most likely be required will the establishment of a collaborative forum that will work towards developing common understanding of the CfH's testing philosophy.

Technology adoption, acceptance and resistance to change

The study of technology adoption, acceptance and resistance to change in the health sector is not particularly new. Over the years, various studies (Klaus, 2006; Maguire, 2007; Wainwright, 2008; Wu *et al*, 2008), have been carried out which have examined its influencing factors in the health sector. A critical review of these indicates that failure to involve users and stakeholders in projects involving the mandatory adoption

of IS/IT can often lead to project failure. This is particularly highlighted within the health sector where user knowledge and experience can be utilised at several key areas such as the personalisation of care (Moiduddin and Gaylin, 2007).

Implications

The introduction of the Choose and Book system has also been characterised by a lack of support from key stakeholders such as patient groups (Boyd, 2006; Burge *et al.*, 2006; Leatherman and Sutherland, 2007; Forster and Gabe, 2008), and GPs (de Kare-Silver, 2005; Lewis, 2006; British Medical Association, 2007). For GPs, concerns have primarily related to the perceived lack of adequate inclusion in the consultation process.

In the main, the challenge of the Choose and Book system from the point of view of GPs has been on whether they as a key stakeholder should commit to a system that has faced difficulties in live testing (61 per cent of GPs are known to have some form of negative attitude towards the system). GPs also perceive the system as unreliable because of the need for substantial manual intervention, especially in the case of cancer patients. This particular concern relates specifically to the need of GPs to manually intervene in the system by manually confirming that all subsequent supporting arrangements are in place to meet the governments "two weeks wait" policy (NHS, 2006a). It is also important to highlight that in some other cases, GPs perceive the system as not being able to demonstrate any capability to improve the delivery of existing services (de Kare-Silver, 2005), or in fact unable to solve any real problems (Midgley, 2005). This particularly relates to the need to disrupt normal operations during the introduction of the system (Lewis, 2006); with the possibility that patient safety and health care experience could be compromised (Hendy *et al.*, 2007). It also appears that some GPs are resistant to the system because of suspicion that its introduction will channel some form of expected standardisation of practice. This is a particularly sensitive issue for GPs who are known for their use of different methods in areas such as secondary care patient referrals (NHS, 2008d). There are also concerns with the additional workload and the associated requirements for cultural change within GP practices (Kerr, 2005), which could emerge as a result of the introduction of this new system into GP practice operations. Other concerns about the system by GPs relates to the debate on clinical decision-making and how to manage the emerging challenge of patient preference within psychiatric settings (Jacob *et al.*, 2007; Valsraj and Gardner, 2007), which is yet to be addressed.

Patients appear not to have been better served. Although for example an NHS commissioned trial involving more than 40,000 patients waiting for cataract or cardiac surgery for more than six months appeared to indicate (at least to the NHS), that patients do want choice (NHS, 2005c), a report by the Picker Institute (Boyd, 2006), on patient's perception of different aspects of care needs suggests that the key aspects of the Choose and Book agenda including location and time choice of care and treatment was to most patients one of the least important aspects of care in terms of need. Similarly, a report by the consumer group Which? showed that 89 per cent of patients rated having a good local hospital as more important than being presented with a choice of healthcare providers. The results are also complicated by disparities in choice decisions made between patients without formal educational qualifications and those with formal educational qualifications (Burge *et al.*, 2006). We also see that on the delivery side. All these statistics form what Leatherman and Sutherland (2007) see as

key evidence of a mismatch between the voiced priorities of patients and what the government has chosen as being its most important national health policy initiatives.

In noting the current challenges facing the successful implementation of the Choose and Book system, we note that there is an understandable but perhaps dangerous temptation to keep patients and other stakeholders out of the decision making process. This was the key factor in the failure of five earlier NHS IS/IT change programmes, which was earlier conducted by Maguire and Ojiako (2007). The onus is on management to keep stakeholders informed of potential changes to working practices that might result from an introduction of the new system. In many cases this could entail improving communications at both the national, SHA and PCTs level. In other cases it might be necessary to implement an education and training plan whereby patients and other stakeholders who are critical to the local success of Choose and Book can be prepared for change in an incremental way, rather than be faced with an unrealistic short period to embrace the change. So far, this approach has been implemented with the involvement of patients groups such as the King's Mill and Newark Patient Reference Group and Barking Havering and Redbridge NHS Trust Patient Public Involvement Forum being given the opportunity to provide feedback on some elements of systems interface design.

Enhancing the patient experience (CE)

Improving care in a holistic manner will require the many different stakeholders (NHS, 2008e), working in a concerted manner for the overall well-being of the patient. From what we know about patient experience in healthcare, we can safely assume that it is reasonable to expect that it does not occur in isolation. Overall, patient experience depends on a range of complex parameters and factors (Clarke, 2001; Hartwell et al., 2006). These perspective includes for example an understanding of the role of racial and ethnic differences in patients' experiences (Hicks et al., 2005), an understanding of the role of proper foodservice and nutritional care (Kondrup, 2004), and the level of patient care interaction (Hartwell et al., 2006).

Other CE parameters, which also need to be taken into consideration include the technical aspects of rehabilitation (Small et al., 2007), the determination of clinical standards for patient experience, and the role of communication in patient-carer relationships (McCabe, 2004; McCormack and McCance, 2006; McGilton et al., 2006).

Implications

The successful delivery of the Choose and Book system is expected to bring about a major transformation in NHS operations. In the first instance, the new system is expected to drive the NHS to cease its current paper based hospital appointment scheduling approach, which has been the traditional means of operation. The expectation is that the new e-based system will provide crucial electronic functionality that will ultimately drive the reduction of overall booking time for patient appointments from two-three weeks (via paper) to approximately 40 seconds (Elliott, 2006; NPfIT, 2007). The implication is that the new system will help ensure that by December 2008, the longest any patient will wait for non-emergency treatment will be 18 weeks from referral to treatment (NHS, 2007a, 2007b). This reduction in the overall patient experience journey (see Figure 3), is no doubt a huge enhancement to the overall patient experience, especially as it goes a long way to addressing challenges that have

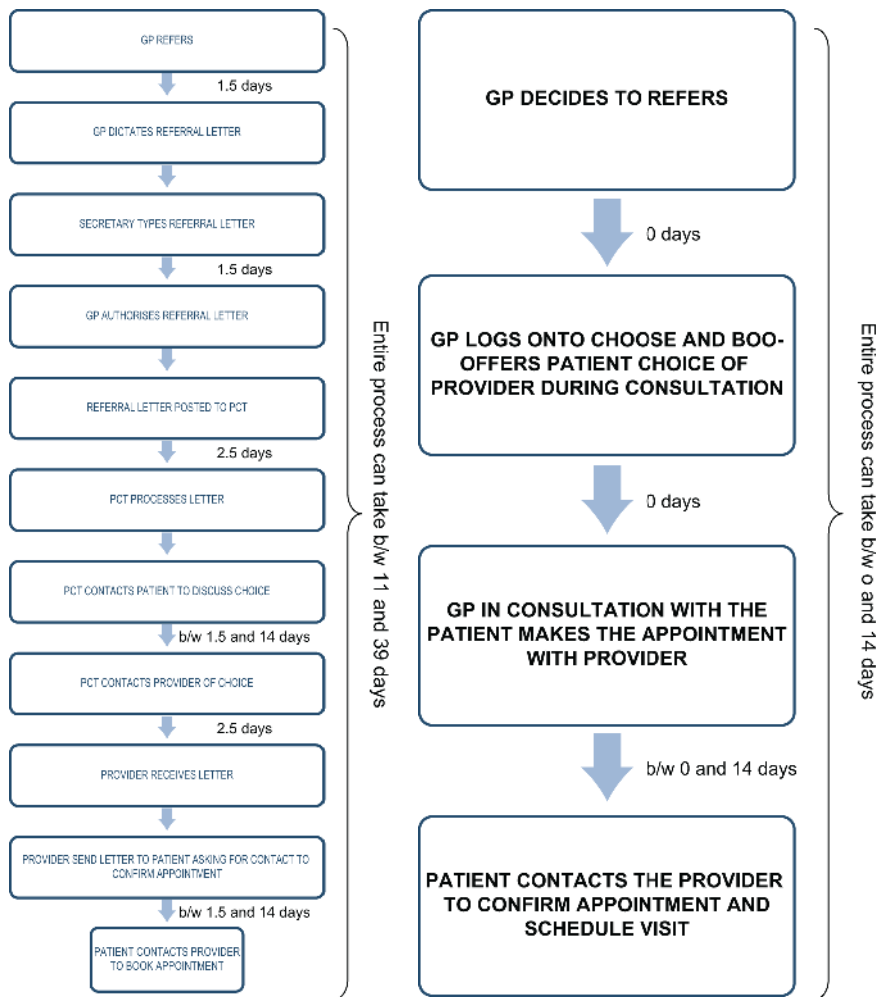


Figure 3. Changes in patient experience journeys

previously led to poor patient experience practices such as gaming which we earlier discussed. To support this 18 week initiative, the NHS has published a rule suite which amongst other's includes a simple and logical clinically based guiding framework which details how the initiative should be defined (NHS, 2007c), measured (NHS, 2007d) and applied (NHS, 2007b). The guidance is also expected to provide a framework that ensures fair and consistent patient care provision and experience. In addition, there is a chance that the number of missed or cancelled appointments (currently over 650,000 every year), will be reduced thus saving lost clinical time. Another enhancement to the patient experience has also been identified in other studies. For example, Davies (2007) suggests that the system will help ensure that clinicians have greater visibility and insight into patient's care pathways. This is particularly important as studies by Wainwright (2008), suggest that with up to two

patients currently seen by a doctor per day now arriving armed with information from the internet concerning their health problems, there is a greater challenge as clinicians now regularly engage in debates with patients concerning any diagnosis or proposed action. Figure 3 shows what changes in terms of the Patient Experience Journey is expected as a result of the implementation of the new system. This diagram is taken from NHS (2006b).

Our exploration shows that patient experience within the UK healthcare sector is still well below what is desired. We find the possibility that the concept of one integrated product, service and care is not widely implemented. The notion of carers and family as part of this integrated “customer” grouping appears not to be well embedded within healthcare delivery philosophy, especially as we see patients having to deal with a system based on different provisions (the so-called post-code lottery is an example), different and unconnected service packages and a less than integrated patient journey. Overall, the question still remains whether the £12bn (US\$24bn) NHS Connecting for Health programme (formerly known as the National Programme for IT-NPfiT) will as is hoped, enable the transformation of the patient experience within UK healthcare.

Conclusions and future work

To an extent, it is difficult to claim (based on a lack of evidence), that programme champions and sponsors have been able to comprehensively appreciate the enormity of how crucial these challenges are. It is also questionable whether there is clarity on appropriate actions to address the challenges in question. These challenges are further compounded when we note that not only does existing research (e.g. Orlikowski and Barley, 2001) fail to provide opportunities for the integration of knowledge which is of interest to both areas (organisational studies and IS/IT introduction), but also that there might actually be a lack of any distinctive body of knowledge that allows us to apply guaranteed success influencing theories.

The introduction of the Choose and Book Information Management System has so far been unsuccessful (Eason, 2006 and, 2007). The debate over the reasons for the unsuccessful nature of the Choose and Book Information Management System has been attributed to both hard and softer factors. We see for example the NPfiT (n.d.), views of the project which are heavily biased towards harder perceptions, in effect claiming that one of the major reasons for this failure being due to the challenges involved in integrating over 11 GP and 50 legacy and standalone hospital systems which operate within the NHS. We see on the other hand a different perception being expressed by researchers such as Eason (2006), who attributes the lack of success on the intricacies of a “management of change” approach driven partially by an underestimation of various parameters such as resistance to change. In effect, a general perception that this failure has been largely driven by softer organisational factors. His findings are in line with those of O’Brien (2005), who points out that the programme is facing difficulties due to its primary focus on technological functionality implementation as against a proper process for ensuring proper clinical engagement.

Despite these obstacles, there are a few lessons, which have emerged from this study that is worth the attention of programme champions and sponsors. In the first place, it is important that programme champions and sponsors are prepared to as Wainwright (2008) describes, to walk on the soft side. This can be achieved by taking into consideration complex organisational challenges in areas such as the social,

historical, political and cultural factors, which may impact the outcome of any IS/IT adoption. It is however important that when doing this, the NHS does not duplicate the same mistakes that were made by manufacturing organisations in the 1980s. In these cases, the change agenda for manufacturing organisations appeared to concentrate more on the technical rather than softer context of the change (Divanna, 2003; Maguire and Redman, 2007), perhaps influenced by a vigorous resistance by technical experts who refused to be drawn into the processes of social change (inevitably entailed in introducing IS/IT in an organisation). The result was that numerous manufacturing organisations investing heavily in Computer Integrated Manufacturing (CIM), often with disappointing results. Primarily, these failures were as a result of the IS/IT systems failing to take into consideration behavioural, change management, and organisational peculiarities of these organisations. What emerges from an analysis of the parameters we have identified is a new perspective (Figure 4), which presents a view on how the Choose and Book system is now impacting on the patient experience. It is also imperative that programme champions and sponsors are aware that most forms of change involve a human and emotional element. In our case study, we see that the development, implementation, introduction and adoption of the system has been largely delayed by an under-estimation by the project sponsors (the government, NHS Management and NPfIT Programme Office), of how key stakeholders such as patients and users (GPs, etc), will resist the system.

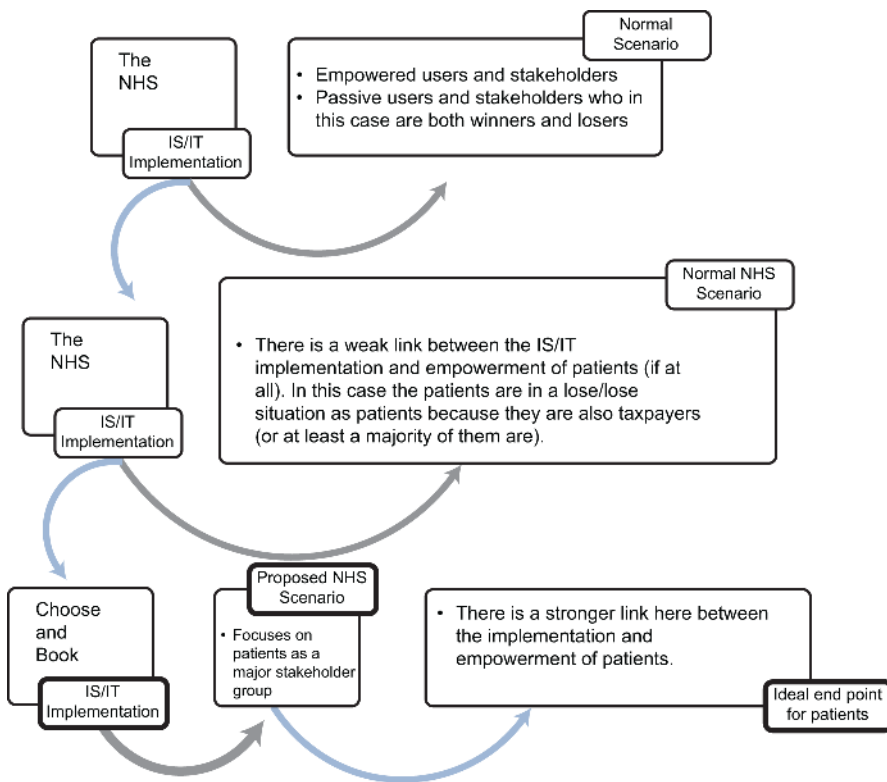


Figure 4. Patient experience delivery roadmap

References

- Abdel-Hamid, T. and Madnick, S. (1990), "The elusive silver lining: how we fail to learn from software development failures", *Sloan Management Review*, Vol. 32 No. 1, pp. 39-48.
- Ambler, S. (1999), "Thinking objectively: effective software deployment", *Software Development Magazine*, available at: www.sdmagazine.com/articles/1999/9911/9911o/9911o.htm (accessed 24 November 2004).
- Andaleeb, S. (1998), "Determinants of customer satisfaction with hospitals: a managerial model", *International Journal of Health Care Quality Assurance*, Vol. 11 No. 6, pp. 181-7.
- Ash, J., Berg, M. and Coiera, E. (2004), "Some unintended consequences of information technology in health care: the nature of patient care information system-related errors", *Journal of the American Medical Informatics Association*, Vol. 11 No. 2, pp. 104-12.
- Avison, D. and Fitzgerald, G. (1988), *Information Systems Development: Methodologies: Techniques and Tools*, Alfred Waller, Henley-on-Thames.
- Bennett, J. (2004), "A guide to implementing electronic booking – 'the people perspective'", NHS-National Programme for IT, available at: www.chooseandbook.nhs.uk/documents/implementation/people_perspective.pdf (accessed 11 May 2008).
- Berg, M. (2001), "Implementing information systems in health care organizations: myths and challenges", *International Journal of Medical Informatics*, Vol. 64 Nos 2-3, pp. 143-56.
- Berson, Y. and Linton, J. (2006), "Leadership style and quality climate perceptions: contrasting project vs process environments", *International Journal of Technology Management*, Vol. 33 No. 1, pp. 92-110.
- Boyd, J. (2006), *The 2006 Inpatients Importance Study*, Picker Institute, Oxford.
- British Medical Association (2007), "Choose and Book guidance", available at: www.bma.org.uk/ap.nsf/Content/chooseandbookguide (accessed 1 March 2008).
- Brooke, C. and Maguire, S. (1998), "Systems development: a restrictive practice?", *International Journal of Information Management*, Vol. 18 No. 3, pp. 165-80.
- Burge, P., Devlin, N., Appleby, J., Gallo, F., Nason, E. and Ling, T. (2006), "Understanding Patients' Choices at the Point of Referral", RAND Europe- Report WR-397-DOH, Department of Health, available at: www.kingsfund.org.uk/document.rm?id1/46438 (accessed 11 April 2008).
- Button, K. (1997), "Project management", *Client/Server Magazine*, pp. 35-8.
- Cameron, E., Mathers, J. and Parry, J. (2006), "Health and well-being': questioning the use of health concepts in public health policy and practice", *Critical Public Health*, Vol. 16 No. 4, pp. 347-54.
- Clarke, S. (2001), *Information Systems Strategic Management. An Integrated Approach*, Routledge, London.
- Currie, W. and Guah, M. (2007), "Conflicting institutional logics: a national programme for IT in the organisational field of healthcare", *Journal of Information Technology*, Vol. 22 No. 3, pp. 235-47.
- Davies, M. (2007), "Choose and Book – national update", available at: http://etdevents.connectingforhealth.nhs.uk/eventmanager/uploads/choose_and_book_national_update.ppt (accessed 11 March 2008).

- de Kare-Silver, N. (2005), "Reviews: Choose and Book – whose choice is it anyway?", *British Medical Journal*, Vol. 330 No. 1093, available at: www.bmj.com/cgi/content/full/330/7499/1093?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&fulltext=choose+and+book&searchid=1&FIRSTINDEX=0&resourcetype=HWCIT (accessed 11 May 2008).
- Despont-Gros, C., Mueller, H. and Lovis, C. (2005), "Evaluating user interactions with clinical information systems: a model based on human-computer interaction models", *Journal of Biomedical Informatics*, Vol. 38 No. 3, pp. 244-55.
- Dishaw, M. and Strong, D. (1999), "Extending the technology acceptance model with task-technology fit constructs", *Information and Management*, Vol. 36 No. 1, pp. 9-21.
- Divanna, J.A. (2003), *Thinking beyond Technology, Creating New Value in Business*, Palgrave Macmillan, New York, NY.
- Dorr, D., Bonner, L., Cohen, A., Shoai, R., Perrin, R., Chaney, E. and Young, A. (2007), "Informatics systems to promote improved care for chronic illness: a literature review", *Journal of the American Medical Informatics Association*, Vol. 14 No. 2, pp. 156-63.
- Drummond, H. and Hodgson, J. (2003), "The chimpanzees' tea party: a new metaphor for project managers", *Journal of Information Technology*, Vol. 18 No. 3, pp. 151-8.
- E-Health Insider (2006), "Technical problems with Choose and Book dog GPs", available at: www.ehiprimarycare.com/News/1891/technical_problems_with_choose_and_book_dog_gps (accessed 11 July 2008).
- Eason, K. (2006), *A Local Sociotechnical Design Approach to Exploiting the Potential of the National Health Service IT Programme NPfIT*, The Bayswater Institute, London.
- Eason, K. (2007), "Local sociotechnical system development in the NHS National Programme for Information Technology", *Journal of Information Technology*, Vol. 22 No. 3, pp. 257-64.
- Elliott, S. (2006), "Choose and Book-Before and Now: The North Mersey CaB Journey", Liverpool Primary Health Care NHS Trust presentation, available at: http://etdevents.connectingforhealth.nhs.uk/eventmanager/uploads/cab_before_and_now_dec_06_n.n.ppt (accessed 11 May 2008).
- Fitzgerald, G. (1998), "Evaluating information systems projects: a multi-dimensional approach", *Journal of Information Technology*, Vol. 13 No. 1, pp. 15-27.
- Forster, R. and Gabe, J. (2008), "Voice or choice? Patient and public involvement in the National Health Service in England under New Labour", *International Journal of Health Services*, Vol. 38 No. 2, pp. 333-56.
- Gubb, J. (2007), "CIVITAS: online briefing: waiting times in the NHS", CIVITAS Institute for the Study of Civil Society 2007, available at: www.civitas.org.uk/nhs/waitingtimes.php (accessed 12 December 2007).
- Guy's and St Thomas NHS Foundation Trust (2006), "Choose and Book update – board of directors meeting", 6 December, available at: www.guysandstthomas.nhs.uk/resources/PDF/boardpapers/2006/dec/performanceReviewCose%20.pdf (accessed 21 July 2008).
- Harrop, N., Wood-Harper, T. and Gillies, A. (2006), "Neglected user perspectives in the design of an online hospital bed-state system: implications for the National Programme for IT in the NHS", *Health Informatics Journal*, Vol. 12 No. 4, pp. 295-305.
- Hartwell, H., Edwards, J. and Symonds, C. (2006), "Foodservice in hospital: development of a theoretical model for patient experience and satisfaction using one hospital in the UK National Health Service as a case study", *Journal of Foodservice*, Vol. 17 Nos 5-6, pp.226-38.
- Hendy, J., Fulop, N., Reeves, B., Hutchings, A. and Colin, S. (2007), "Implementing the NHS information technology programme: qualitative study of progress in acute trusts", *British Medical Journal*, Vol. 334 No. 1360, available at: www.bmj.com/cgi/content/full/334/7608/1360?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&fulltext=choose+and+book&searchid=1&FIRSTINDEX=0&resourcetype=HWCIT (accessed 2 May 2008).

-
- Hicks, L., Ayanian, J., Orav, E., Soukup, J., McWilliams, J., Choi, S. and Johnson, P. (2005), "Is hospital service associated with racial and ethnic disparities in experiences with hospital care?", *The American Journal of Medicine*, Vol. 118 No. 5, pp. 529-35.
- Irestig, M. and Timpka, T. (2008), "Politics and technology in health information systems development: a discourse analysis of conflicts addressed in a systems design group", *Journal of Biomedical Informatics*, Vol. 41 No. 1, pp. 82-94.
- Jacob, C., Dorkins, E. and Smith, H. (2007), "Patient choice in forensic settings: managing requests for change of consultant", *Psychiatric Bulletin*, Vol. 31 No. 12, pp. 443-6, available at: <http://pb.rcpsych.org/cgi/content/full/31/12/443> (accessed 8 May 2008).
- Jenkinson, C., Coulter, A. and Bruster, S. (2002), "The Picker Patient Experience Questionnaire: development and validation using data from in-patient surveys in five countries", *International Journal for Quality in Health Care*, Vol. 14 No. 5, pp. 353-8.
- Kerr, E. (2005), "Choice and booking programme", Hillingdon Primary Care Trust Board Meeting (Part One-Public Meeting), available at: www.hillingdon.nhs.uk/uploads/boardreports/July%202005/17%20-%20Choose%20and%20Book.DOC (accessed 12 May 2008).
- King, C. (1985), "Service quality assurance is different", *Quality Progress*, Vol. 18, pp. 14-18.
- Klaus, T. (2006), "An examination of user resistance in mandatory adoption of enterprise systems", unpublished PhD thesis, University of South Florida, Florida, CA.
- Kondrup, J. (2004), "Proper hospital nutrition as a human right", *Clinical Nutrition*, Vol. 23 No. 2, pp. 135-7.
- Kremsdorf, R. (2003), "Using innovation technology to enhance patient care delivery", *Nursing Outlook*, Vol. 51 No. 3, pp. 16-20.
- Leatherman, S. and Sutherland, K. (2007), A Quality Chartbook Drummond and Hodgson, 2003ok-Patient and Public Experience in the NHS, QQUIP Report, The Health Foundation, available at: www.health.org.uk/document.rm?id=243 (accessed 11 May 2008).
- Lewis, D. (2006), "Letter: patients get four choices for NHS treatments – Choose and Book has not left the station", *British Medical Journal*, Vol. 332 No. 180, available at: www.bmj.com/cgi/content/full/332/7534/180?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&fulltext=choose+and+book&searchid=1&FIRSTINDEX=0&resourcetype=HWCIT (accessed 8 May 2008).
- Luftman, J., Lewis, P. and Oldach, S. (1993), "Transforming the enterprise: the alignment of business and information technology strategies", *IBM Systems Journal*, Vol. 32 No. 1, pp. 198-221.
- Lynn, J., Teno, J., Phillips, R., Wu, A., Desbiens, N., Harrold, J., Claessens, M., Wenger, N., Kreling, B. and Connors, A. (1997), "Perceptions by family members of the dying experience of older and seriously ill patients", *The Lancet*, Vol. 126 No. 2, pp. 97-106.
- McCabe, C. (2004), "Nurse-patient communication: an exploration of patients' experiences", *Journal of Clinical Nursing*, Vol. 13 No. 1, pp. 41-9.
- McCormack, B. and McCance, T. (2006), "Development of a framework for person-centred nursing", *Journal of Advanced Nursing*, Vol. 56 No. 5, pp. 472-9.
- McCue, A. (2004), "£5bn NHS IT failure warning", *Silicon.dom News*, available at: <http://management.silicon.com/government/0,39024677,39122638,00.htm> (accessed 2 July 2008).
- McGilton, K., Irwin-Robinson, H., Boscart, V. and Spanjevic, L. (2006), "Communication enhancement: nurse and patient satisfaction outcomes in a complex continuing care facility", *Journal of Advanced Nursing*, Vol. 54 No. 1, pp. 35-44.

- Madhav, N. and Willborn, W. (1985), *The Management of Quality Assurance*, Wiley, New York, NY.
- Maguire, S. (1998), "The development of a methodology for the introduction of information systems within the National Health Service", unpublished PhD thesis, University of Lancaster, Lancaster.
- Maguire, S. (2000), "Towards a business-lead approach to information systems development", *Information Management & Computer Security*, Vol. 8 No. 5, pp. 230-8.
- Maguire, S. (2007), "Reviewing 25 years of national information systems in the NHS", *Public Money and Management*, Vol. 27 No. 2, pp. 135-40.
- Maguire, S. and Ojiako, G.U. (2007), "Interventions for information systems introduction in the NHS", *Health Informatics Journal*, Vol. 13 No. 4, pp. 283-302.
- Maguire, S. and Redman, T. (2007), "The role of human resource management in information systems development", *Management Decision*, Vol. 45 No. 2, pp. 252-64.
- Maylor, H. (1999), *Project Management*, Pearson, Cambridge.
- Midgley, A. (2005), "Letters: Choose and Book does not solve any problems", *British Medical Journal*, Vol. 331 No. 294, available at: www.bmj.com/cgi/content/full/331/7511/294-b?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&fulltext=choose+and+book&searchid=1&FIRSTINDEX=0&resourcetype=HWCIT (accessed 8 May 2008).
- Moiduddin, A. and Gaylin, D. (2007), "Health information technology adoption among health centers: a digital divide in the making?", background paper, National Policy Health Forum, The George Washington University, available at: www.nhpf.org/pdfs_bp/BP_HealthCenterIT_07-23-07.pdf (accessed 8 May 2008).
- Mumford, E. (1995), *Effective Systems Design and Requirements Analysis*, Macmillan, Basingstoke.
- Mumford, E. and Weir, M. (1979), *Computer Systems in Work Design – The ETHICS Method*, Associated Business Press, London.
- Nath, R. (1992), "A framework to identify applications of information technology to improve service quality", *Journal of Behaviour and Information Technology*, Vol.11 No. 1, pp. 24-31.
- NHS (2004a), "A guide to implementing electronic booking – 'the people perspective'", available at: www.chooseandbook.nhs.uk/staff/documents/implementation/people_perspective.pdf?searchterm=readiness (accessed 14 July 2008).
- NHS (2004b), "Choose and Book testing approach", available at: www.chooseandbook.nhs.uk/staff/reference/techtesting/testapproach/at_download/file (accessed 16 July 2008).
- NHS (2005a), "Choose and Book – a brief guide to implementation for senior managers", available at: www.chooseandbook.nhs.uk/staff/reference/implguide/senmgerguide/at_download/ file (accessed 2 July 2008).
- NHS (2005b), "Choose and Book implementation toolkit", available at: www.chooseandbook.nhs.uk/staff/implment/toolkit/documents/implementation/toolkit/implementation_toolkit_aw.pdf (accessed 11 July 2008).
- NHS (2005c), "Choose and Book – a brief guide to implementation for senior managers", available at: www.chooseandbook.nhs.uk/staff/reference/implguide/senmgerguide/at_download/ file (accessed 2 July 2008).
- NHS (2006a), "Choose and Book implementation guidance for urgent referrals for suspected cancer – two week waits", available at: www.chooseandbook.nhs.uk/staff/implment/reference/implguide/2ww/at_download/file (accessed 16 July 2008).
- NHS (2006b), *Choose & Book Staff Communiqué 10*, available at: www.nottingham.chooseandbook.nhs.uk/EasySite/lib/serveDocument.asp?doc=9520&pgid=7834 (accessed 16 July 2008).

- NHS (2007a), "18 weeks rules suite – executive summary", available at: [www.18weeks.nhs.uk/Asset.ashx?path=/Rules suite/18 weeks Rules Suite-Executive Summary_281107.pdf](http://www.18weeks.nhs.uk/Asset.ashx?path=/Rules%20suite/18%20weeks%20Rules%20Suite-Executive%20Summary_281107.pdf) (accessed 11 July 2008).
- NHS (2007b), "18 weeks rules suite – rules", available at: [www.18weeks.nhs.uk/Asset.ashx?path=/Rules suite/18 weeks Rules Suite-Rules_281107.pdf](http://www.18weeks.nhs.uk/Asset.ashx?path=/Rules%20suite/18%20weeks%20Rules%20Suite-Rules_281107.pdf) (accessed 11 July 2008).
- NHS (2007c), "18 weeks rules suite – definitions", available at: [www.18weeks.nhs.uk/Asset.ashx?path=/Rules suite/18weeksRulesSuite-Definitions_281107.pdf](http://www.18weeks.nhs.uk/Asset.ashx?path=/Rules%20suite/18weeksRulesSuite-Definitions_281107.pdf) (accessed 17 July 2008).
- NHS (2007d), "18 weeks rules suite – measuring success", available at: [www.18weeks.nhs.uk/Asset.ashx?path=/Rules suite/18weeksRulesSuite-MeasuringSuccess_281107.pdf](http://www.18weeks.nhs.uk/Asset.ashx?path=/Rules%20suite/18weeksRulesSuite-MeasuringSuccess_281107.pdf) (accessed 18 July 2008).
- NHS (2008a), "Choose and Book – organise to deliver", available at: www.chooseandbook.nhs.uk/staff/implement/toolkit/organise (accessed 12 July 2008).
- NHS (2008b), "Choose and Book – technical readiness", available at: www.chooseandbook.nhs.uk/staff/implement/deployment/readiness (accessed 16 July 2008).
- NHS (2008c), "National programme for IT implementation of Choose and Book", available at: www.connectingforhealth.nhs.uk/newsroom/news-stories/310105 (accessed 16 July 2008).
- NHS (2008d), "Choose and Book – engage clinicians", available at: www.chooseandbook.nhs.uk/staff/implement/toolkit/engage (accessed 17 July 2008).
- NHS (2008e), "Choose and Book – stakeholder engagement", available at: www.chooseandbook.nhs.uk/staff/implement/toolkit/organise/stakeholder/index.html#one (accessed 17 July 2008).
- NPfIT (2007), "NHS National Programme for IT: status summary – February 2007", available at: www.connectingforhealth.nhs.uk/about/case/npfitstatus.pdf?searchterm=choose+and+book+architecture (accessed 11 March 2008).
- NPfIT (n.d.), "NHS connecting for health – the Choose and Book technology-delivery highlights", available at: www.connectingforhealth.nhs.uk/newsroom/news-stories/public_accounts_committee.pdf (accessed 11 February 2008).
- O'Brien, M. (2005), "Board paper – NHS connecting for health programme update", Bedfordshire and Hertfordshire Strategic Health Authority, available at: www.bhha.nhs.uk/publications/boardpapers/june2005/7%20Connecting%20for%20Health.pdf (accessed 7 May 2008).
- Ojiako, G.U. and Maguire, S. (2008), "Success criteria for systems led transformation-managerial implications for global operations management", *Industrial Management & Data Systems*, Vol. 108 No. 7, pp. 887-908.
- Orlikowski, W. and Barley, S. (2001), "Technology and institutions: what can research on information technology and research on organizations learn from each other?", *MIS Quarterly*, Vol. 25 No. 2, pp. 145-66.
- Reichert, P. (2006), "Hospital information systems – past, present, future", *International Journal of Medical Informatics*, Vol. 75 Nos 3-4, pp. 282-99.
- Small, N., Green, J., Spink, J., Forster, A., Lawson, K. and Young, J. (2007), "The patient experience of community hospital – the process of care as a determinant of satisfaction", *Journal of Evaluation in Clinical Practice*, Vol. 13 No. 1, pp. 95-101.
- South Sefton Primary Care Trust (2006), "Choose and book update", February 2006, available at: www.southseftonpct.nhs.uk/boardpapers/mar06/81.pdf (accessed 14 July 2008).
- Stitt, P. (2007), "Choose and book external interface guidance", available at: www.chooseandbook.nhs.uk/staff/reference/technical/cab-external/at_download/file (accessed 7 February 2008).
- Valsraj, K. and Gardner, N. (2007), "Choice in mental health: myths and possibilities", *Advances in Psychiatric Treatment*, Vol. 13 No. 1, pp. 60-7.

- Vowler, J. (1990), "The theory and the reality", Computer Weekly, Surrey.
- Wainwright, D. (2008), "A walk on the soft side: organizational analysis as a means to more effective ICT adoption and use", Working Paper Series: Interdisciplinary Studies in the Built and Virtual Environment, Vol. 1 No. 1, pp. 75-86.
- Wainwright, D. and Waring, T. (2004), "Three domains for implementing integrated information systems: redressing the balance between technology, strategic and organisational analysis", International Journal of Information Management, Vol. 24 No. 4, pp. 329-46.
- Waring, T. and Wainwright, D. (2000), "Interpreting integration with respect to information systems in organisations – image, theory and reality", Journal of Information Technology, Vol. 15 No. 2, pp. 131-48.
- Waring, T. and Wainwright, D. (2008), "Innovative developments in the use of template analysis: two comparative case studies from the field", paper presented at the 7th European Conference on Research Methods in Business and Management Studies, Regent's College, London.
- Warrington Primary Care Trust (2006), "Progress on implementation of Choice and Book as at January 2006", available at: www.warrington-pct.nhs.uk/board/2007/February07/2007%20Choose%20and%20Book%20January%20Board%20Report.pdf (accessed 11 July 2008). 011
- Weingart, S., Rind, D., Tofias, Z. and Sands, D. (2006), "Who uses the patient internet portal? The patientSite experience", Journal of the American Medical Informatics Association, Vol. 13 No. 1, pp. 91-4.
- Wilde, B., Starrin, B., Larsson, G. and Larsson, M. (1993), "Quality of care from a patient perspective: a grounded theory study", Scandinavian Journal of Caring Sciences, Vol. 7 No. 2, pp. 113-20.
- Whitfield, M. (1996), "Can current development methodologies support the new era of strategic information systems", unpublished BA dissertation, Newcastle Business School, Newcastle.
- Wu, J., Shen, W., Lin, L., Greenes, R. and Bates, D. (2008), "Testing the technology acceptance model for evaluating healthcare professionals' intention to use an adverse event reporting system", International Journal for Quality in Health Care, Vol. 20 No. 2, pp. 123-9.

Further reading

- Balka, E. (2003), "Getting the big picture: the macro-politics of information system development (and failure) in a Canadian hospital", Methods Inf Med., Vol. 42 No. 4, pp. 324-30.
- Clarke, A. and Garside, J. (1997), "The development of a best practice model for change management", European Management Journal, Vol. 15 No. 5, pp. 537-45.
- Hiatt, J. and Adkar, A. (2006), Model for Change in Business, Government and Our Community, Prosci Research, Loveland, CO.
- Lee, P. (2006), Expenditure on Health in the UK 1997-2005, UK Office of National Statistics, available at: www.statistics.gov.uk/articles/nojournal/ExpenditureonhealthintheUK1997-2005.pdf (accessed 2 January 2008).
- Maguire, S. and Ojiako, G.U. (2008), "Market led systems development: when customers become users", Industrial Management & Data Systems, Vol. 108 No. 2, pp. 173-90.
- Markus, L. (2004), "Technochange management: using IT to drive organizational change", Journal of Information Technology, Vol. 19 No. 1, pp. 4-20.
- Markus, L. (1997), "The magic bullet theory in IT-enabled transformation", Sloan Management Review, Winter, pp. 55-68.

- NHS (2007), "18 weeks rules suite – how to measure", available at: [www.18weeks.nhs.uk/Asset.ashx?path1/4/Rules suite/18weeksRulesSuite_HowToMeasure_280208.doc](http://www.18weeks.nhs.uk/Asset.ashx?path1/4/Rules%20suite/18weeksRulesSuite_HowToMeasure_280208.doc) (accessed 18 July 2008).
- NPfIT (2005), Choose and Book Functional Overview Spring 2005, available at: www.chooseandbook.nhs.uk/staff/reference/appfunctionality/funcoverview/at_download/file?searchterm1/4architecture (accessed 11 April 2008).
- OECD (2006), "OECD in figures – 2006-2007 edition", available at: www.oecdobserver.org/news/fullstory.php/aid/1988/OECD_in_Figures_2006-2007.html (accessed 1 January 2008).
- OGC (2003), Managing Successful Programmes, Central Computer & Telecommunications Agency, HMSO, London.
- Ojiako, G.U. and Greenwood, D. (2007), "Information systems and technology service introduction success criteria", paper presented at Portland International Centre for Management of Engineering and Technology. Management of Converging Technologies, PICMET 2007 Conference, Portland State University, August 5-9.
- Orlikowski, W. (1993), "CASE tools as organizational change: investigating incremental and radical changes in systems development", *MIS Quarterly*, Vol. 17 No. 3, pp. 309-40.
- Orlikowski, W. and Hofman, J. (1997), "An improvisational model for change management: the case of groupware", *Sloan Management Science*, Vol. 38 No. 2, pp. 11-21.
- Pettigrew, A. (1985), "Contextualist research: a natural way to link theory and practice", in Lawler, E. (Ed.), *Doing Research that Is Useful in Theory and Practice*, Jossey Bass, San Francisco, CA.
- Song, Y., Han, J., Cheng, D. and Zhang, Y. (2007), "An empirical research on the impact of CSFs on adoption of ERP", paper presented at the International Conference on Wireless Communications, Networking and Mobile Computing.
- Waring, T. and Wainwright, D. (2002), "Communicating the complexity of computer-integrated operations: an innovative use of process modelling in a North East Hospital Trust", *International Journal of Operations & Production Management*, Vol. 22 No.4, pp. 394-411.
- Waring, T. and Wainwright, D. (2002), "Enhancing clinical and management discourse in ICT implementation", *Journal of Management in Medicine*, Vol. 6 Nos 2/3, pp. 133-49.
- Wohlin, C. and Ahlgren, M. (1995), "Soft factors and their impact on time to market", *Software Quality Journal*, Vol. 4 No. 3, pp. 189-205.