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Title: Quality Improvement through Diagnostic Waiting List Management:

Right Patient, Right Examination, Right Time

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Quality Improvement through Diagnostic Waiting List Management: *Right Patient, Right Examination, Right Time*

Abstract

This paper focuses on a hospital Division of Diagnostics & Clinical Support (150 medical, 1975 non-medical staff) and how systems were changed to facilitate quality and performance improvement. Active and focused involvement from all staff was required: clerical, medical, managerial. Changes were made to the management of patient referrals and the IT systems used. Crucially a Performance & Improvement Manager transferred key skills in list 'management'. The results were recognised as beneficial to all parties, especially the patients! Staff recognised the need for change; the process transformation was actually welcomed. Patient waiting times reduced from 26 to 13 weeks. Fast-track / 'query cancer' service for outpatients now within ten days; majority of inpatients receive imaging within 72 hours. Ultimately, patients are diagnosed faster and treatment commences earlier. Departmental managers are able to effectively manage capacity to meet demand because, for the first time, they understand the waiting 'profile'.

Introduction

Due to the perishable nature of healthcare services, it is vital that capacity is managed appropriately through the use of effective waiting list management. In order to do this it is essential that a service works towards matching demand and capacity. In healthcare the need to effectively manage services is magnified by the high value placed on delivery by the recipient, the patient (Bamford & Chatziaslan, 2005). In the United

Kingdom, the Department of Health sets performance targets centrally for organisations to achieve within specified timeframes e.g. *“No patient is to wait longer than thirteen weeks for diagnostic imaging”*.

This paper outlines the approach to waiting list management in a National Health Service (NHS) hospital Trust in the North-West of England. Following an action research approach, the paper focuses on what was done to produce electronic waiting lists and to facilitate a logical attitude to their management across the organisation and what can be done in the future. The Trust undertakes up to one million radiological examinations each year and faces challenging waiting times targets for achievement by 2008. Effective waiting list management will enable the departments to reduce the capacity lost through patient non-attendance - Did Not Attends (DNAs) 5-12%, late cancellations 1-2% and duplications, allowing the right patient to receive the right examination at the right time.

The Organisation

Pennine Acute Hospitals NHS Trust (PAHT) is a public sector organisation, established following the merger of five acute hospitals in April 2002 in the North-West of England. PAHT manages hospitals in Bury, North Manchester, Oldham and Rochdale serving a population of nearly one million (Figure 1). The Trust is one of the largest non-teaching hospitals in the United Kingdom.



(Figure 1 - PAHT location map)

The Division of Diagnostics & Clinical Support (DDCS) at PAHT provides a wide range of services across five acute sites including: Radiology, Pathology, Physiotherapy, Critical Care, Anaesthetics and Dietetics within an inpatient, outpatient and some community settings. Most services are provided on at least four of the five sites and therefore management of multiple sites across a relatively large geographical area can prove problematic. The DDCS consists of over 2000 staff including over 150 Medical Consultants.

The Problem

Hospitals within the UK must achieve targets prescribed centrally by the Department of Health. A target set at national level must be operationalised and achieved locally, often without additional resources. The NHS Improvement Plan (Department of Health, 2004) set out the requirement that by 2008 the maximum wait from a General Practitioner referring a patient, to that patient commencing upon their first definitive treatment should be eighteen weeks. At this stage, waiting times for some diagnostic services were over one year, access to these services therefore required expediting in order for

the target to be achieved. Early estimates within the DDCS indicated that in order to meet the eighteen week referral to treatment target, access to services must be within a zero to four week window. In September 2005 the Department of Health released Choice of Scan Guidance (Department of Health, 2005) which stated that by November 2005 no patient should be waiting longer than twenty-six weeks for Computed Tomography (CT) or Magnetic Resonance Imaging (MRI). The DDCS agreed to focus on improving access to these services, and Radiology in particular.

Within the Radiology services across PAHT waiting lists were held manually and all management information was manually produced. It was therefore apparent that the management of waiting lists within the DDCS would be paramount to achieve the pending targets and meet the Department of Health requirements to electronically report waiting times. A working group was set-up consisting of a senior member of the DDCS (Performance & Service Improvement Manager) and Information Technology specialists (Modernisation Information Analyst and Modernisation Information Lead) from within PAHT. It was decided that a scoping exercise should be undertaken to determine what management information was available for the Radiology services across PAHT and whether current systems could be manipulated to provide useful waiting list information.

The Technology

The vision of the working group was to provide an intranet-based waiting list module for Radiology services which could potentially be rolled out across other services within the DDCS. PAHT Radiology services were operating three different Radiology Information Systems (RIS) - software packages - to record radiology reports and in some cases images. None of the RIS were able to generate meaningful waiting list or

waiting time information. The working group established that an extract of raw data at a patient level could be collected and collated, however, clerical and clinical staff would need to start using each of the RIS in a different way. The DDCS compiled an Access to Diagnostics Policy based on the requirements of the Department of Health policies (Department of Health 2004 & 2006), outlining what the departmental staff within Radiology would need to do in order that a waiting list could be generated from their RIS. Once extracted, this data would eventually feed an intranet-based waiting list module from which waiting lists could be managed centrally.

The Change

The NHS is dynamic and complex (Iles & Sutherland, 2001) as are the organisations it is made up of. This complexity derives from many factors, the majority of which pre-date or are external to the NHS itself – professional socialisation, differing needs of customers, local priorities, resource constraints, pressure groups etc. PAHT is a culturally diverse organisation which serves a number of socio-economic groupings. Each PAHT site is different from the others and these differences have to be recognised and managed. In undertaking any changes within an organisation, the culture must be taken into consideration. Johnson & Scholes (1999) represented the culture of the NHS through the use of the Cultural Web (Figure 2) which represents the ‘taken for granted’ attributes of an organisation, the under currents as to why certain things happen or people do things in a particular way.

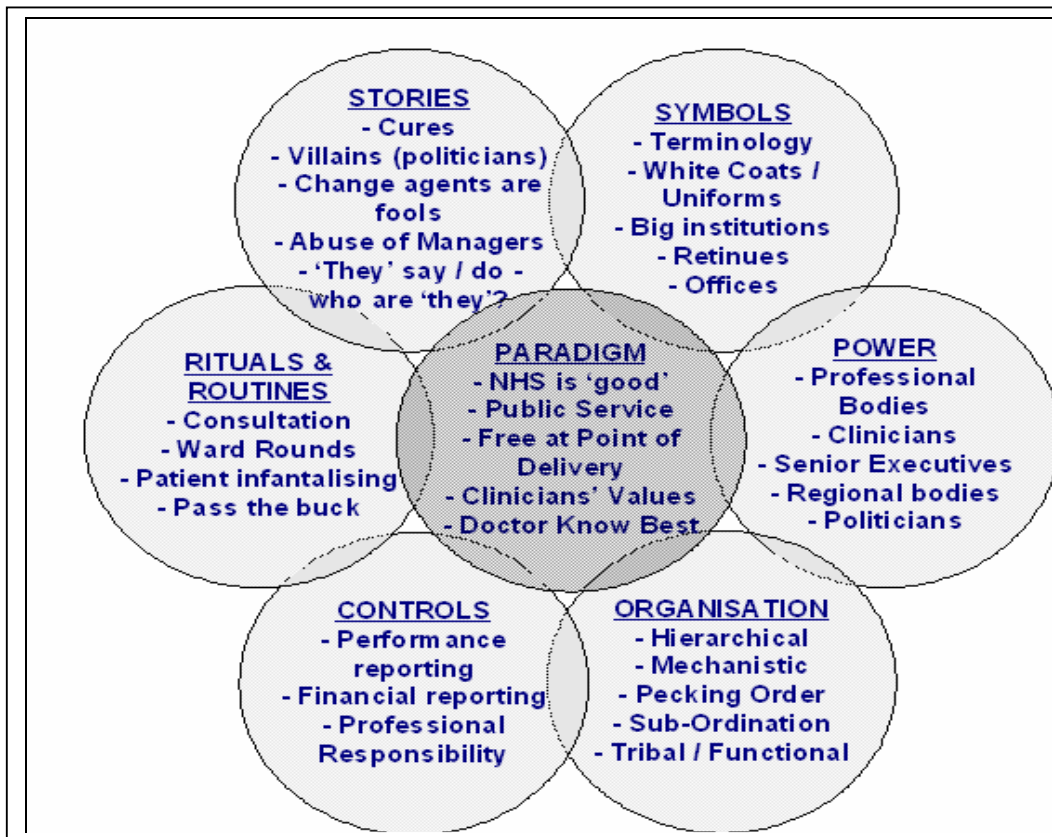


Figure 2 – NHS Cultural Web (Adapted from Johnson & Scholes, 1999:75)

From this it can be ascertained that change is often viewed cynically and that managers and change facilitators are usually regarded as ‘villains’. At PAHT the experience is that change is achieved through perseverance - change programmes work when they have been locally agreed but have executive level support (Bamford & Lodge, 2006⁽¹⁾; Bamford & Lodge, 2006⁽²⁾, Lodge, 2006).

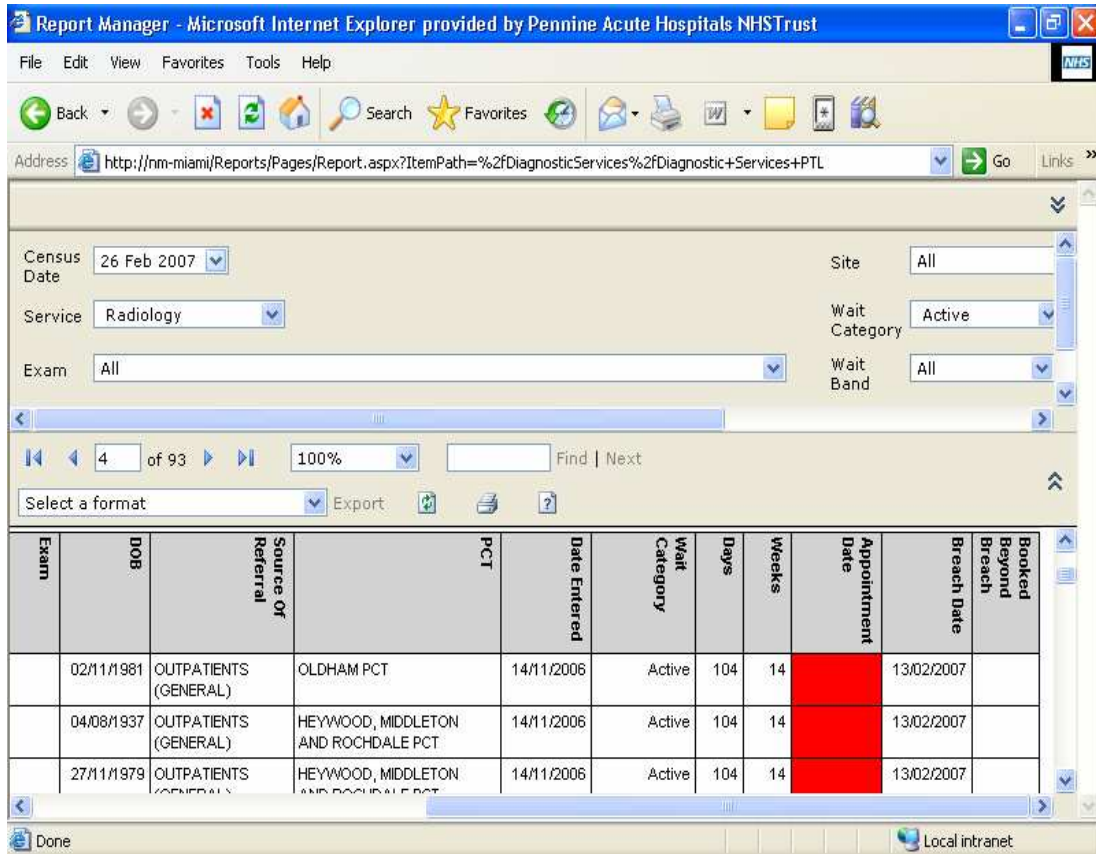
Change in the NHS has been evident since its introduction in 1948 (Pollock, 2004; Bamford & Daniel, 2005). All organisations experience change, but in the NHS the scale of the change is greater due to its size, at over 1.3 million employees it is one of the largest in the world (Department of Health, 2006). Bamford & Daniel (2005:2) reflect on change in the NHS as often leaving people feeling ‘bruised, dis-enchanted and de-motivated’.

Changes implemented within one area of the hospital can potentially have a knock-on effect in other areas as it is rare for a patient pathway to take place solely within one department (De Bruijn, 2002; Iles & Sutherland, 2001) and therefore it was vital to bear this in mind when making any changes.

The changes made were in relation to how patient referrals were managed. Patient referrals for radiological examinations at PAHT are made using a paper-based system and therefore it was necessary to turn this information into electronic data. Each of the four departmental clerical teams was introduced to the vision for the service - *to provide an intranet-based waiting list module for Radiology services* – and the benefits of this for them was outlined emphasizing the increased control, better understanding of capacity requirements, easy access to patient information to answer queries, etc. The changes in data input required differed at each site from a few key strokes to minute detailed inputting regarding suspensions to lists and planned procedures. Whilst implementation of the data changes was resisted, once the waiting list could be produced for the department, from a centrally generated database in the first instance then on the intranet-based system (see Figure 3) then the advantages were openly recognised. Staff reported that they could not remember how they had been able to do their jobs without the waiting list tool, praise indeed!

The intranet-based Diagnostic Services Patient Target List (DPTL) was made available from the PAHT intranet and developed in conjunction with an external software company. The DPTL allowed for partial booking to be introduced within some services which contributed to a reduction in waiting times as patients are given a choice of appointment; they are more likely to attend as the appointment is ‘negotiated’ with them. The DPTL can be viewed by referrers to the services and they are able to generate information specific to their own patients, reducing a need to contact

departments directly. Although this paper focuses on Radiology, the DPTL was also made operational in Cardio-Respiratory and Neurophysiology across PAHT.



(Figure 3 - Diagnostics Patient Target List, Screen Shot)

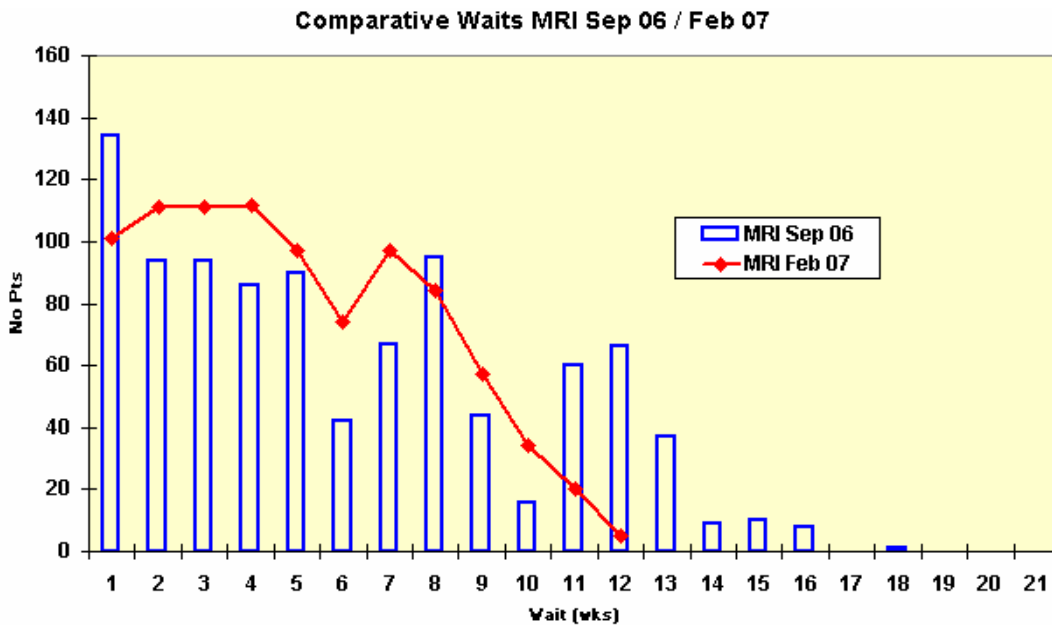
The Results

All radiology departments actively began using the intranet-based waiting list module in September 2006 and since this time it has contributed to the overall reduction in waiting times across the different imaging modalities (Charts 1-3). In one department the list is used as the focus for a weekly meeting where capacity is discussed, another site use it daily to monitor, manage and book their patients. The DPTL has given the departments meaningful information which they can use to manage their patients.

Although in two of the three key modalities the list size has increased, the longest waiting time has decreased by over 30% in all areas and this is due to more efficient waiting list management (Table 1).

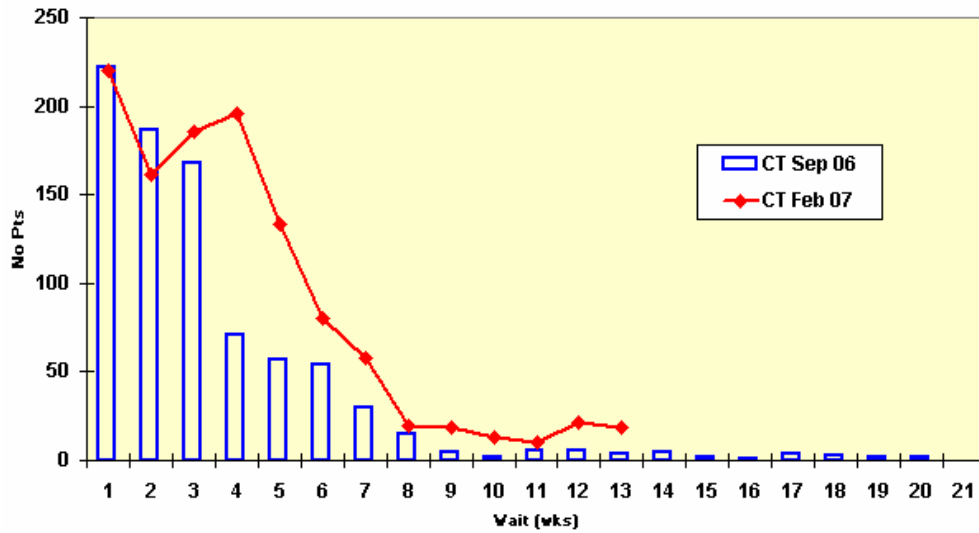
	List Volume	List Volume	Longest Wait	Longest Wait
	Sep'06	Feb'07	Sep'06	Feb'07
MRI	953	903	18	12
CT	846	1136	20	13
NOUS	2254	3205	20	13

(Table 1 - Comparative Waiting Times & Volumes Sep'06 – Feb'07)



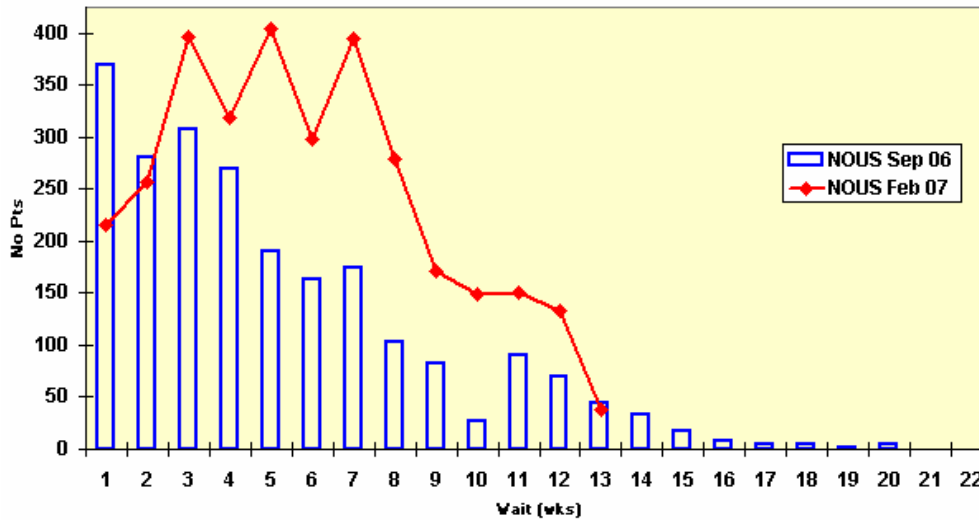
(Chart 1 - Comparative Waits Magnetic Resonance Imaging)

Comparative Waits CT Sep 06 / Feb 07



(Chart 2 – Comparative Waits Computed Tomography)

Comparative Waits NOUS Sep 06 / Feb 07



(Chart 3 – Comparative Waits Non-Obstetric Ultrasound)

Discussion

“... We confuse the measurement with the reality ... a number is as far from a story as a wedding ring is from a marriage ...” (Berwick, 2004:227). The overriding message

from the research is that performance measurement and management in the way that it is prescribed nationally, provides only a small part of the operational picture. In order to determine the need for service improvement, it is necessary to first understand the processes concerned and measurement provides a method of defining and diagnosing the problem. The techniques used to undertake this work can include – process mapping, demand analysis, capacity analysis and flow. It is vital that all key stakeholders are involved in the determination and diagnosis of the problem, as well as in the formulation of the proposed solution using techniques such as focus groups. It is essential that underlying, and even qualitative, measures are taken in order to provide an all encompassing picture of performance and not a headline view. Where measures are used in benchmarking, it is vital that the information presented is taken from appropriate sources and is comparable.

“...public sector organisations have been encouraged – even ‘forced’ – into adopting private sector techniques...” (Bolton, 2003:21). The project demonstrated that where departments were able to influence the measurements chosen, ownership was much greater than where the measures had been enforced from elsewhere.

“...there is always a kind of contempt in the act of measuring...we confuse the measurement with the reality...” (Berwick, 2004:227). Where measures were enforced the required level of performance has, on the whole, been achieved despite the reservations of capability by operational staff. This could be indicative of staff not understanding the improvements that could be achieved through changes in ways of working. The timescales for improvements have been relatively short in consideration of the volume of change required. It is frustrating that senior level interest has, on the whole, only been felt when a national target has been introduced.

“...I couldn’t think that we need anybody else to come in and borrow our watch

and tell us what the time is...” (Radnor & Lovell, 2003:107). Staff delivering a service are the experts in its delivery. With coaching, they can also become the experts in the way that service could be delivered more efficiently and effectively. The role of one the authors as a consultant in the organisation is vital to the development of the understanding of current capabilities and how they can be improved through process change. There is still however a distinct resentment of measurement and that the measures reported are going to be used to reprimand those delivering the service. It is vital in developing a performance management system that employees are consulted and collaborated with in order for any measurements to be accepted.

“...The difference between what we do and what we are capable of doing, would suffice to solve most of the world's problems...” (Gandhi Institute web-site, 2006). The overriding departmental responses to national targets is that they cannot be achieved within existing resources. There is evidence that the lack of operational management capabilities in front-line departmental managers contributes to the difficulties faced when trying to achieve targets.

“... Here is Edward Bear, coming downstairs now, bump, bump, bump, on the back of his head, behind Christopher Robin. It is as far as he knows, the only way of coming downstairs, but sometimes he feels that there is another way, if only he could stop bumping for a moment and think of it...” (Milne, 1926:38). There is a reluctance within the public sector for ‘thinking time’ to be acknowledged as a pre-requisite for successful management – if a person is caught thinking then they are immediately assumed to be idle.

“...Change means movement. Movement means friction. Only in the frictionless vacuum of a nonexistent abstract world can movement or change occur without that abrasive friction of conflict...” (Hewitt, 1992:76). Any change programme should

expect resistance within a socially organised process and the NHS is not an exception to this rule. Some staff within the NHS have become change fatigued and are suspicious and resistant to change agents without considering the possibility that change could be beneficial. A change agent within the NHS must have credibility and must gain the trust of those with whom they are working.

“...when programme champions play an active role in the development, spread and implementation of innovation, these processes are generally more effective...” (Greenhalgh, 2004:165). Convincing staff that change is for the benefit of the patients is vital to achieving a successful change programme.

If We Had To Do It All Again....

What Went Well?

Belief in the Vision - The working group were told by senior members of the Information Technology Division that they were trying to achieve the impossible, and that they did not believe that the work could be done. The working group believed from their scoping exercise that it could be done and that it would be of benefit to all stakeholders as well as providing management information for local and national use. Through persistence the work was completed and the vision achieved.

Consistency in the Message - It was vital that staff at all levels were given the same message and that this was used to develop further understanding of the need to effectively manage waiting lists. It was explained that this would benefit staff as well as patients – as waits reduce then fewer patients and referrers are disgruntled with the service and therefore fewer patients call in which in turn reduces the amount of time spent answering queries.

Provide Hands On Training – The training was delivered to by the working group to key members of each department who then in turn trained a group of their peers. This training was backed up by a manual which was produced by the DDCS Performance & Service Improvement Manager.

What Could We Have Done Better?

Involve Shop Floor Staff Earlier – Although targets are talked about at all levels of the organisation, experience suggests that until there is a requirement for members of a team to change their own practices then the implications of that target will not hit home (Bamford.D & Lodge.A (2006⁽¹⁾), Bamford.D & Lodge.A (2006⁽²⁾) and Lodge (2006)). It is difficult to know therefore whether there is an optimal length for a consultation period - the targets have been in the public domain for nearly three years, and on DDCS agendas for the same period.

Publicise Achievements Locally – The DPTL has been in use since September 2006 and has not built momentum until the 1st April 2007 target of all patients to be seen within thirteen weeks has loomed large in January. More publicity at a local level in the form of posters and presentations might have improved this, but again would staff have taken this on board before it affected them?

Time for Reflection During & After Each Phase – It has been recognised by the working group that reflection throughout the diagnostic, development and action phases might have resolved some of the problems encountered before they happened – e.g. usability of the intranet front-end. After the completion of the next phase of the roll-out a reflection exercise has been planned which will feed into further development and planning.

The Future

It is the intention of the DDCCS to utilise the DPTL across all services to ensure that waiting lists are being efficiently, effectively and fairly managed. Work is currently underway within the therapy services, where there are paper records only. A Referrals Management System has been developed into which all patient information is entered from referral to first appointment to last follow-up. This can be reported via the DPTL and not only provides waiting times information, but activity and detailed pathway analysis – e.g. how many physiotherapy follow-ups are required following a hip replacement. The possibilities of this have not as yet been fully explored, but the potential has been recognised and this work has been prioritised by the PAHT Executive Board who agree that the vision for DDCCS should be for the right patient to receive the right examination at the right time.

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