A Guide to Good Practice

Outpatients
Diagnostics
Therapies
Elective Surgery

A Workbook

Tools and Techniques to enable NHS Trusts to improve the delivery of healthcare
Foreword

by the Minister for Health and Social Services

I am pleased that Innovations in Care has been able to produce this guide and make it available to all organisations within NHS Wales. It sets out a vision for sustainable good practice within NHS Wales. Its ultimate aim is to create a single integrated approach to all contacts between a patient and a trust. It addresses the interests both of healthcare professionals and patients.

"The importance of patients’ voices is recognised as being centrally important in the drive for service improvement...

"Attention will be paid to involving patients more in decisions about their care and in providing adequate evidence to help patients make informed decisions”

(Improving the Health in Wales, 2001)

It is hoped that this document will act as a catalyst for making this happen. It is aimed at all staff who are in a position to be pro-active in introducing improvements and change within their organisation.

The Review of Health and Social Care, advised by Derek Wanless made clear that the current position in NHS Wales is not sustainable, that hospital waiting lists are unacceptably long, that there needs to be integrated thinking across health and social care boundaries, and that best practice should be constantly encouraged.

This document helps respond to those challenges. It has a clear aim to improve the experience of patients and use resources better. It is innovative, offering a fundamental rethinking of the way in which we provide inpatient and outpatient services. This offers an improved service everywhere as an alternative to simply making patients travel to get a better service. Better communication with patients is at the heart of this approach.

As the Wanless report says, demand will always outstrip supply; increasing the capacity of the acute sector will not on its own solve the problem of demand; alternatives are needed. This document gives alternatives; for example looking at how waiting lists are prioritised and questioning whether some referrals and appointments are actually necessary, using better patient communication as the catalyst.

The need to ensure that high quality, accurate and complete information is being shared between a patient and NHS organisations has become more apparent following the highly publicised Climbé, Bristol Royal Infirmary, and Alder Hey scandals.

Patient involvement is vital as patients know best what they want from their service.
The Key Points

1. Overall aim is to ensure patient appointments reflect clinical priority. Patients will be seen in chronological order and given an opportunity to choose a convenient date. This will minimise non-attendances and cancellations.

2. Patient access to hospital services will match standards and expectations, improving patient satisfaction.

3. Communication between hospital, patients and GPs will be better.

4. Patient cancellations and non-attendance rates will be reduced by promoting shared agreements between patients and the trust and applying new ways of communicating with patients.

5. Hospital cancellations will be reduced by applying better management practices and working with staff and patients.

6. Waiting times, and the number of patients waiting, will be reduced by implementing long term capacity planning methods.

This document reaffirms the importance that the Welsh Assembly Government and the Innovations in Care team attach to finding innovative ways to eliminate the suffering and uncertainty that accompanies long waits for treatment.

Significant changes are occurring across the NHS within the United Kingdom, and it is hoped that this document will promote the same success as similar programmes implemented by our colleagues in England, Scotland and Northern Ireland.

The Wanless report has highlighted the need for urgent reform and the need to modernise. Innovations in Care must continue to find innovative ways of dealing with the problem.

NHS organisations should adopt the practices described in this report.

Jane Hutt
Minister for Health and Social Services
Contents

Chapter 1: Introduction  page 1
  1.1 Aims and principles  page 1
  1.2 Good practice points  page 5
  1.3 Why patients wait  page 7

Chapter 2: Managing waiting lists  page 15
  2.1 Understanding the definitions  page 17
  2.2 Validation  page 25
  2.3 Clinical prioritisation  page 31
  2.4 Primary targeting lists  page 33

Chapter 3: Patient focussed booking  page 39
  3.1 Involving patients  page 41
  3.2 Generic referrals and pooling  page 47
  3.3 The booking process  page 53
  3.4 Pre-assessment for theatre  page 71

Chapter 4: Essential measures for managers  page 75
  4.1 Activity, backlog, capacity and demand  page 79
  4.2 Process mapping: Understanding the whole  page 85
  4.3 Managing patient flow  page 87

Chapter 5: Analysis tools  page 89
  5.1 Understanding demand  page 91
  5.2 Carve out: Understanding queues  page 95
  5.3 Key performance indicators: What should be monitored?  page 97
  5.4 Measuring follow-up demand  page 103
  5.5 Statistical process control  page 105

Chapter 6: Managing change  page 111
  6.1 The human dimensions  page 113
  6.2 PDSA cycles: A model for improvement  page 115
  6.3 Reducing follow-up demand  page 117
  6.4 GP feedback systems  page 121

Chapter 7: Useful resources  page 123
Who should use this guide?

This document addresses two unacceptable issues: insufficient recognition of the importance of patient centred care, and a poor use of existing staff and resources. Both could be alleviated within the resources currently available to the NHS in Wales. This guide is based upon evidence of what works — some examples from Wales, some from other countries — and using the guide will result in significant improvement in service delivery. It should be used by all NHS Staff who are involved in the management of patients.

This includes senior Trust management, outpatient managers, theatre managers, and managers of clinical services. It also includes clinicians: medical and nursing staff, professions allied to medicine, and diagnostic staff.

How to use this guide
The document contains examples of good practice, and tools and techniques. Each tool may be used independently, or as a part of an overall service improvement programme.

Some chapters (especially chapters 2 and 3) contain specific guidance for implementing systems recommended by the Innovations in Care Team. The remainder contains tools that may be useful in a wide range of improvement projects.

Acknowledgements
This guide represents tools and techniques developed in Wales, England, the United States and New Zealand. It draws on the work of many people in many organisations.

We would like to particularly acknowledge the work of the Modernisation Agency in England, and the Institute of Healthcare Improvement in the United States.

Particular thanks go to the Modernisation Agency Capacity and Demand group and the work of Dr Kate Silvester.

Relationships to previous documents
This policy document replaces previous documents issued by Innovations in Care. This includes the following documents:

Expected Standards for Waiting List Management in Wales (November 2000).

Achieving the Expected Standards for Waiting List Management in Wales: Self Assessment Toolkit (December 2000).

Meeting the Expected Standards for Waiting List Management in Wales (October 2001).

An electronic copy of this guide can be downloaded from: howis.wales.nhs.uk/inic
Introduction to the Workbook

This workbook is a reprint of the Guide to Good Practice published by Innovations in Care in November 2003. This version, published in March 2004, has been produced to coincide with the Innovations in Care programme, Implementing the Guide to Good Practice.

The programme will run from April 2004 until March 2006, and will involve teams in all hospital trusts in Wales as well as the national Innovations in Care team. Work will be undertaken with Trusts on a speciality by speciality basis, and will focus on three main threads of work.

Treating patients by chronological order within clinical priority
The CPaT toolkit, mentioned in this guide, has been selected as a useful tool to facilitate communication between managers and clinicians around issues of waiting list management. This toolkit will be rolled out across the NHS in Wales in 2004.

Completing the introduction of patient focussed booking
Across Wales the work on the introduction of patient focussed booking for new outpatients has been impressive. The programme will introduce key performance indicators for booking, and extend patient focussed booking to cover all outpatient, assessment, diagnostic and therapy appointments.

Capacity, Demand and Flow
The guide includes a number of analytical and management tools. Three of these, described as “essential tools for managers” will be used in selected specialities in every Trust to analyse capacity, current demand and activity, and to improve services. The aim of the programme is that these tools will become widely used across the NHS in Wales.

The Workbook
The workbook has been reprinted in a loose-leaf format so that updates on specific topics can be produced during the life of the programme. Updates will include templates, more detailed working examples, and information from learning networks. The Workbook also contains a CD-ROM with templates and presentations.

The Learning network
The programme will support a learning network, which will meet eight times each year. Topics and dates for the network are available from the Innovations in Care Website.
 Updating the Workbook

Innovations in Care will update this workbook from time to time with additional examples from across Wales, information from learning events, and templates to aid analysis projects. You can register to receive these updates in two ways:

If you received your copy of the Workbook direct from Innovations in Care, complete the registration form on the CD-ROM or enter your name and address below, and post this page to:

Innovations in Care
Cathays Park
Cardiff
CF10 3NQ

Name __________________________________________
Address _______________________________________
_____________________________________________
_____________________________________________
_____________________________________________

Number of copies of updates required _________

If you received your copy of the Workbook from a Trust Improvement Manager, please return this page to them and they will order your updates for you.
Introduction: Aims and principles

The Welsh Assembly Government is committed to ensuring that people receive speedy treatment in the NHS. *Improving Health in Wales* states that the aim of the NHS in Wales is to have “waiting times for elective treatment that are as good as, if not better than, the best in the UK” (page 14). To achieve better waiting times will mean a fundamental rethinking of the way in which inpatient and outpatient services are provided. This document will help NHS staff achieve those goals.

The aim of this document is that all contacts between patients and a Trust are managed within a single integrated approach, and to provide tools to achieve that end.

In a patient focussed service, there should be a standard way of making appointments. The process for the patient should be the same whether for new or follow-up outpatient appointments, for day t r e a t m e n t, investigations, elective inpatient or day case interventions.

There are six core principles behind this document:

1. **Patient choice**
   The patient should always be offered reasonable choice in their appointment. Choice means that the patient can choose the location, the date and time, and the consultant.

   **Good Practice Point**
   **Standard Integrated Process**
   There should be a standard way of making all appointments within NHS Trusts. The process should cover new and follow-up outpatient appointments, physiotherapy, endoscopy, and radiology. The same principles and processes should also apply for elective inpatient and day case events.

   **Reasonable patient choice means that where an option is available, the patient has the right to choose that option.**

   The reasonable nature of the choice means that choice may be limited to those locations where clinics and/or theatre sessions are held, dates and times that clinics and lists are scheduled, and consultants or other staff that are qualified to perform the procedure or see the patient.
2 An agreed appointment
The patient will have the opportunity to agree the date and time of an appointment with the Trust, either in person or by telephone.

In no case should an appointment time be notified to a patient who has not been involved in the choosing of the date and time.

3 Separate patient choice from Trust performance
There will be times where patient choice conflicts with the Trust’s efforts to meet targets or operate efficiently. Patients may choose a date that exceeds Trust waiting time targets.

The key principle in such a case is that patient choice is respected but that Trust performance is not adversely affected.

Where patient choice is the only reason that a target is breached, then that patient should not be included in performance measures.

4 Patients will be treated in turn within agreed clinical priority
Patients are usually assigned a clinical priority when a referral is received or they are placed on a waiting list. Wherever practicable, patients should be seen in priority order.

Within each clinical priority, patients should be seen in the order that they were placed on the list unless the condition or circumstances suggest otherwise, or good management suggests an earlier appointment.

5 An integrated set of policies
Trusts should have an integrated waiting list policy.

The policy should reflect procedures across all working practices in the Trust, and should link into other Trust policies such as patient record policies, admission and discharge policy, staff leave policy, cancelled operations policy and cancer minimum standards policy.

The integrated waiting list policy must include a statement which describes the purpose behind it. Trust clinicians and managers and the Local Health Board (LHB) must all be involved in the development, ongoing review, and administration of the policy. The policy must be signed off by the Trust Board Executive accountable for waiting list management, and be formally adopted by the Trust Board.

6 Trusts should be aiming to continually improve services
What is best practice in Wales today will be standard practice tomorrow. Trusts should never see good practice as a final goal.

Trusts must continually improve services, always seeking to make today’s best practice normal, and to develop new standards for tomorrow.
### Targets
This guide will help Trusts achieve the targets set by the Welsh Assembly Government, the NHS Regional Offices, and through the SaFF process. These targets will move on from year to year as services improve, and are not included in this document. However, annual SaFF targets should not be seen as the best level of service that the NHS will ever be able to provide.

The Innovations in Care Team recommends that services set long term goals that relate to what the patient wants. These internal goals may be different to Assembly and SaFF targets. They should be ambitious and guide action.

Internal targets or goals should be seen as the ultimate point to aim for — the point at which to say "This is a service that meets all the needs of our patients, and which has achieved waiting times that cannot be improved".

Innovations In Care recommend that services set an internal goal of a six day maximum wait for outpatients, and a six week maximum wait for a procedure. The NHS may not achieve this goal in the short or even the medium term, but until the NHS delivers a service that meets these goals, it should continue striving to improve.

### Improvement goals
Innovations in Care recommends that improvement efforts focus on six key goals. These are taken from a report on the state of American healthcare. Innovations in Care believes that these six areas of improvement apply equally to the NHS.

### Safety
Healthcare is not safe, either in absolute terms or in comparison to other industries or activities. The NHS must continually strive to make healthcare and hospitals safer for patients, and Trusts should work closely with the National Patient Safety Agency to achieve this improvement.

### Effectiveness
The NHS must continually work to improve the effectiveness of clinical services:

- Administrative processes and procedures must ensure that the right patient receives care from the right professional in the right fashion and location.
- Where there is evidence that a procedure or treatment is effective, that treatment must be offered to those that need it.
- Where there is no evidence that a procedure or treatment is effective, the procedure or treatment should not be offered.

### Patient Centredness
All care should be centred around the patient, with the patient being an active participant in the process. This means that decisions about care should directly involve the patient, that full information is provided at all stages, and that the patient is able to be an equal in all decisions made.

Patient Centredness involves more than the treatment process. Improvement efforts must include patients as active members of the team. Groups that set policy should involve patients. Patient views and concerns should be incorporated into all stages of any redesign of services.
**Timeliness**
Care should be provided in a timely fashion. This means that waiting time targets within the Trust should be based on what the patient considers reasonable. This is why Innovations in Care recommend six days as the long term goal for outpatient and diagnostic procedures, and six weeks for day case and inpatient procedures.

Timeliness also applies to the administrative process. Standards should be set for time taken to respond to letters, and for process times within the Trust. Administrative procedures should not waste staff time, and workflow through the clinical system should happen as quickly and smoothly as possible.

**Efficiency**
Money wasted in the health system could have been used to treat patients. Trusts have an obligation to provide patient care in a way that is as efficient as possible, reducing nonproductive practices and waste to a minimum.

**Equity**
We should be providing care fairly, ensuring that factors such as social background, race or location do not reduce access to care.

---

**What is the cost of poor quality?**
Most of the time, improvement processes in the NHS do not measure efficiency or money saved. It is sometimes assumed that improvement work is about increased quality, and that increased quality means increased cost. This is not the case. In a high proportion of situations quality can be improved by removing wasteful processes, thereby reducing, not increasing, costs.

The NHS must start to measure cost savings as part of the improvement process. It must show that the work of improving patient care is about improved quality by reducing waste, and must start putting figures on the cost of that waste. This will show the real cash value of innovation work, and make it easier to fund future work.
Good practice points

There are a number of points of good practice throughout this guide. They appear in boxes within the text. Here we present the points as a summary of good practice.

**Standard Integrated Process**
There should be a standard way of making all appointments within NHS Trusts. The process should cover new and follow-up outpatient appointments, physiotherapy, endoscopy, and radiology. The same principles and processes should also apply for elective inpatient and day case events.

*page 1*

**Targets and Goals**
Goals set within a service should be aspirational and meaningful to patients. As a long term goal waiting times for outpatients to six days or less, and waits for elective surgery of six weeks or less, should be aimed for.

*page 2*

**Improvement Goals**
NHS Trusts should aim to continually improve services to patients. Improvement should focus on:

- Patient **Safety**;
- Provision of clinically **effective** services;
- **Services centred on patients**;
- Services provided in a **timely** way;
- **Efficient** provision of services;
- **Equity** of access.

*page 4*

**Waiting Lists**
A patient should only be placed on a waiting list when all preconditions for treatment have been met. As a test, no patient should be active on a surgical waiting list unless the procedure could be performed tomorrow if the appropriate resources were available.

*page 17*

**Validation**
On all waiting lists, validation should be undertaken at the point the patient is placed on the list, then at six months, and again at 12 months. Where waiting lists are longer than 18 months, validation should be repeated at 18 months and then at six monthly intervals.

*page 26*

**Prioritisation**
Clinical prioritisation increases waiting times for lower clinical priority patients. Where clinical prioritisation is necessary, the fewest number of categories should be used. Points-based systems, or systems with many degrees of urgency, are not recommended.

*page 31*
Primary Targeting Lists
Wherever patients are being selected from a waiting list, the waiting list must be prioritised and sorted. Waiting lists should be sorted first by clinical priority, and then by the date the patient was added to the list. Patients should be removed from the top of the list: longest waiting “urgent” patients first, shortest waiting “routine” patients last.

Patient Focussed Booking
All appointments where the patient attends the Trust should be booked. The key requirements of patient focussed booking are that the patient is directly involved in negotiating the appointment date and time, and that no appointment is made more than six weeks into the future.

Patient Involvement
Patients should be involved at all levels of the improvement process. Patients should be represented on all project teams, and patient views sought on proposed solutions.

Copying Letters to Patients
All communications between health professionals should be copied to the patient. Patients must be given the right to opt out of receiving letters. Good practice is to write all letters to the patient, and copy the letter to the other health professional.

Generic Referrals and Pooling
Referrals into Trusts should be pooled within specialities. Referrals to a specific consultant by a GP should only be accepted when there are specific clinical requirements, or stated patient preference.

Examples of Improvement

Preoperative Assessment
Preoperative assessment should be undertaken six weeks prior to surgery, and should be booked using partial booking. Preoperative assessment allows both staff and patient to check suitability for anaesthetic and surgery, agree the booking date for surgery, and organise discharge arrangements.

Managing Capacity and Demand
Staff managing services in Trusts must have a clear understanding of the capacity of their service, the activity levels provided by the service, the demand on the service, and the backlog of work in the system. For non-outpatient work some element of casemix must be incorporated into the measures used.
1.3 Why patients wait

There are many reasons patients wait. Traditionally, it has been assumed that waiting times are caused by a mismatch of capacity and demand — too many patients and too few resources. We will examine issues around capacity and demand in Chapter 5. But there are other reasons for waits. In this section we examine two of the biggest villains in the outpatient system: Patients being seen out of order, and the effects of “did not attends” (DNAs) on the smooth running of outpatient clinics.

Waiting for an appointment
Imagine that you are sitting in a waiting room on a Monday morning. You are in your local NHS Trust hospital, and you are feeling very pleased with yourself. You knew from your friends, the papers and the TV that there were real problems with the NHS, including long waits for outpatient appointments. Yet you had been to see your GP the previous week, and received an appointment from the hospital a few days later - for later that week! Here you are, only ten days after seeing your GP for what you know is not an urgent problem, and the NHS has been incredibly fast and responsive. You turn to the person sitting next to you.

“Things have certainly improved since I was here last” you say. “I only had to wait ten days to get my appointment this time — maybe all the stuff in the papers about improvements to the NHS is working!”

The person next to you explodes: “TEN DAYS! I have been waiting nearly nine months to get to see this consultant! Why did you get preferential treatment? They better just wait till I get home and get onto my newspaper. Then they’ll hear about the efficiency of the NHS!”

You sink back into your seat, subdued. What is going on here?

Two patients, neither an emergency, waiting significantly different times for their appointments. We know that as the GP referrals are sent in to the hospital they are prioritised by the consultant. We know that the appointment clerks make the appointments into the next available slot. Why then is there such a disparity between the two appointment waits?

The answer is simple and repeated thousands of times across the country every day. In this case your companion in the waiting room has probably been “cancelled” a couple of times. The average wait in this clinic is ten weeks — within the current guidelines for length of wait. When your companion’s referral was received, an appointment was made for 10 week’s time. But just before the clinic occurred, the Consultant put in a leave form — and all the patients in the clinic were rescheduled. Unfortunately, all the clinics for the next ten weeks were full (after all, there is a ten week wait, and everyone has their appointment). So a new appointment was made — for another ten week wait.
1.3 Why patients wait

What about you? Your appointment wasn’t cancelled — but surely you would have had to wait at least ten weeks? You were lucky in the cancellation lottery. The day that your letter arrived on the clerk’s desk, so did another — from a patient cancelling their appointment for this week. Suddenly there was a free slot — and as your referral was the next to cross the clerk’s desk, in you went.

Figure 1 is a graph showing all routine referrals made to one consultant in a typical speciality during one month. Urgent appointments have been excluded. The range of waiting times is from less than one week up to 40 weeks. There is also a cyclical nature to the booking process — as referrals are received, they are processed in batches, affecting the “next available clinic” time, which may change between batches as adjustments are made to clinics.

The extreme waits are due to clinic cancellations — these are people who have missed an appointment because either they or the hospital has cancelled, and they have been re-booked. As can be seen from the solid line marking the 13 week point, more people are seen within 13 weeks than outside (32 over 13 weeks, 119 within). The average wait is 10.8 weeks (the dotted line). The median wait is 9 weeks yet there are 32 patients waiting over 13 weeks.

Waiting in a clinic

Patients being seen out of turn is not the only problem associated with the traditional way of making outpatient appointments. The most common complaint relating to outpatient appointments (after those to do with the time between GP referral and the hospital appointment) is the time people spend in the clinic waiting to see a consultant. Typically a large number of people are waiting at the start of the outpatient clinic; there are always a lot of people in the waiting room, and the clinics run late. Why is this?

Consider a typical outpatient department such as ENT or Ophthalmology, both of which see large numbers of patients in a session. Assume each patient spends 10 minutes with the consultant, or 15 minutes with a registrar. Over the course of a busy 3 hour clinic, at best 30 patients could be seen by these two doctors. (The actual figures are not important at this stage.)

On average 15% of patients do not attend their outpatient appointment. Because there are long waiting times for new
referrals, and medical staff are a scarce resource the clinic is overbooked by 15% to account for the DNAs — sensibly, because otherwise, medical staff will be under-utilised. This means that there are now 35 patients booked into 30 slots for the afternoon.

What effect does this overbooking have on the smooth running of the clinic? Firstly, although on average there are 15% DNAs, crucially there is no way to know which patients these are. A worst case for the clinic would be for several patients to fail to show for their appointments at the start of the clinic, and all the "overbooked" patients to be booked at the end. This would mean that the consultant time would still be wasted, but the staff still have to stay late — definitely a lose-lose situation.

What is done, of course, is to overbook the start of the clinic to ensure that there is always a steady supply of patients waiting in the hospital to feed into the consultant. This makes sense from the point of view of protecting a scarce resource, but it leads to overcrowding in waiting rooms, and long waits — because it is a very rare event that the DNAs are all the first patients booked.

Of course, it is a rare event that the DNA rate for a clinic is 15% — the 15% figure is an average, and averages can be dangerous tools.

What is the effect of overbooking by average amounts? Some clinics, to be sure, will have 15% overbooking and 15% DNAs, and in theory the right number of patients will attend — but NOT at the right times. However, in the worst case from the staff’s perspective, some days there will be no DNA's — and they will be faced with an afternoon of full waiting rooms, long waits and finishing late. They will get complaints from patients, and clerks will be blamed for overbooking the clinics.

Surely this will be balanced by the good days — if the average DNA rate is six patients, and sometimes it is none, then surely there are days when twelve patients don’t attend the clinic? But the chance that all twelve DNAs will be at the end of the clinic is as rare as the chance that all will be at the beginning. And because these are unannounced non-attendances, even if they were all at the end, you would not know until after the clinic should have concluded. So everyone stays till the end after all. The overrun days cannot be balanced out by days when you finish early — there are no good days to balance the bad.

An example…
This is illustrated by Figure 2 on the next page. The data here come from an ENT consultant, and represent 50 consecutive outpatient clinics. The clinics are all for new patients, and all degrees of urgency are included. The average DNA rate for the 50 clinics used in this example is 14.5%. 19 of the 50 clinics have DNA rates of less than 10%, so with an overbooking rate of 15%, these 19 clinics were overbooked by at least 5% and up to 15%. Another 16 clinics had DNA rates of 10% to 20%, giving slight overbooking or underbooking. And 15 clinics had DNA rates above 20% — which meant that in these cases the clinic was substantially under-utilised, because the "average" overbooking of 15% was not sufficient to compensate for the DNAs in that clinic. In the worst case, half the patients for one particular clinic did not attend!

What are some other consequences? Patient surveys have shown that waits in clinic are a major concern. Fortunately Trusts no longer ask all patients to come at 2pm for the clinic — but sometimes it still seems that way. Faced with long
1.3 Why patients wait

waits, “experienced” patients may try to arrive early, to beat the queue, adding to the front-loading problem.

Another problem for patients is often parking. If a patient waits two hours in clinic, their car spends two hours in the car park. If each patient spends only an hour, the number of cars parking will be considerably reduced. The worst parking problems are at the start of clinics - when everyone overbooked and front-loaded arrives at once — along with those patients trying to beat the queue!

But overall, the negative effect of a poorly designed clinic system is most seen in people’s attitudes. Patients get disgruntled. Staff get demoralised - consultants are running a clinic where every time they put their heads out into the waiting room they see a sea of faces, all eagerly awaiting their turn — and the pressure of all those people waiting makes them rush patients through. Complaints increase. Parking is a problem so patients are late, adding to the problem.

Clinic flow rates
It is important to understand how an overbooked clinic runs under various situations, and compare these to how a clinic would run if there were no DNAs. To illustrate this, five clinic scenarios are presented as a series of work flow charts, Figures 3a to 3e. Before explaining the figures, it is important to understand the assumptions that they are based on.

The clinic described in these figures is three hours long (2pm until 5pm) with each patient taking approximately 10 minutes with the sole clinician. For each patient, an “actual time” of between 5 minutes and 15 minutes has been randomly allocated. These average out to 9 minutes, well within the ten minutes the appointment slots allow.

No patient is late or early for their appointment. There are no breaks in the clinic, and under each scenario it is assumed that the clinician does not go faster or slower to cope with the changed workload (which is what normally happens). This scenario presents a simplified view of clinic structure to make the interpretation of the effect (overbooking) easier to observe.
It is also assumed that on average the clinic has a DNA rate of 20%. In a clinic of 18 patients, five extra have been added to compensate for these DNAs. As already discussed, there is no advantage to these additional patients arriving later than a patient who DNAs, so in figures 3a to 3c the extra five patients are booked early in the clinic — two at 2pm, and one each at 2:10pm, 2:20pm, and 2:30pm.

On the work-flow graphs, each patient is represented by a horizontal bar. The start of the bar (a black line) represents the patient appointment time. A light bar represents a patient wait, and the dark portion represents the time that the patient spends with the clinician. If a bar shows only the black portion, the patient at that time was a DNA.

Figure 3a represents a normal clinic. The clinic is 20% overbooked, but five patients DNA, so the number in the clinic is the correct number for the total time available. There are several lengthy waits early in the clinic, but these reduce over time and the clinic finishes a fraction over time, at 5:03pm. The average wait for all patients is only 7 minutes, and the longest wait for a patient is 21 minutes — within patient charter standards.

Figure 3b represents one of those "good" days. Although five extra patients are booked, ten do not turn up. As seen in the real case of figure 2, this happens more often than may be thought. Once again the DNAs are randomly allocated through the clinic.

What impact do these five extra DNAs have? The average wait is reduced slightly, from 7 minutes to 5 minutes. The longest wait for a patient is reduced from 21 minutes to 15 minutes. The major effect is that the clinician has 42 minutes unoccupied. The clinic finishes at the same time!

What happens, if instead of five fewer patients, five extra turn up — the example of no DNAs. Figure 3c shows the impact. Average patient waiting goes from 7 minutes to 38, and 17 patients break the charter guidelines of being seen within 30 minutes.
minutes (two others just scrape in at 29!) The longest wait goes from 21 minutes to 52, but most dramatically, the total time spent by patients in the waiting room goes from 2 hours 16 minutes up to 14 hours 38 minutes!

Crowding also increases. In figure 3a, the maximum number of patients in the waiting room shortly after 2pm was four, but this dropped rapidly. In figure 3c, this remains at six for most of the afternoon. The clinic finishes 43 minutes late.

What happens if the clinic is booked with slightly shorter appointment times, staggering the additional patients rather than front loading them? This would

1.3 Why patients wait

---

**Figure 3b. Clinic Flows, 20% overbooking and 40% DNAs**

**Figure 3c. Clinic Flows, 20% overbooking and no DNAs**
spread the increasing waits through the clinic, catching up each time there is a DNA. But as figure 3d shows, when there are no DNAs the waits get steadily longer throughout the afternoon. This scenario also doesn’t cope well if there are several DNAs early in the clinic.

The final clinic presented here is figure 3e. This clinic has 18 patients (the optimum amount). It allows 10 minutes per patient as do figures 3a to 3c. However, the average wait is only 3 minutes. The longest wait is 8 minutes, and the total patient waiting time is 54 minutes. No DNAs have been planned for. It has been assumed that every patient will attend, and patients have been booked accordingly. There is no front loading of the clinic to compensate, no shortening of appointment slots to allow for the extra patients.

The table summarises the statistics for these five examples. Probably the most significant fact of these examples is reinforced by graphs 4a and 4b. These combine the projections for the examples presented plus simulations for all numbers of DNAs between none and ten. The graphs show the relationship between DNAs and time wasted with increased or decreased numbers of attenders in an overbooked clinic.

Figure 4a shows that as the number of DNAs goes down, the total amount of wasted patient time increases exponentially. Figure 4b shows that the effect is similar but less pronounced for average and maximum patient waits.

<table>
<thead>
<tr>
<th>Number of patients seen</th>
<th>Total patient / clinician contact time</th>
<th>Total clinician wait time</th>
<th>Average patient wait</th>
<th>Maximum patient wait</th>
<th>Total patient wait time (all patients)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20% overbooked, 20% DNA</td>
<td>18</td>
<td>2hr 57min</td>
<td>6min</td>
<td>7min</td>
<td>21min</td>
</tr>
<tr>
<td>20% overbooked, 40% DNA</td>
<td>13</td>
<td>2hr 21min</td>
<td>42 min</td>
<td>5min</td>
<td>15min</td>
</tr>
<tr>
<td>20% overbooked, No DNA</td>
<td>23</td>
<td>3hr 43min</td>
<td>nil</td>
<td>38min</td>
<td>52min</td>
</tr>
<tr>
<td>20% overbooked staggered, No DNA</td>
<td>23</td>
<td>3hr 43min</td>
<td>nil</td>
<td>19min</td>
<td>37min</td>
</tr>
<tr>
<td>No overbooking, No DNAs</td>
<td>18</td>
<td>2hr 59min</td>
<td>3min</td>
<td>3min</td>
<td>8min</td>
</tr>
</tbody>
</table>

Figure 3d. Clinic Flows, 20% overbooking with staggered appointments and no DNAs
1.3 Why patients wait

It is clear from these examples that the NHS has historically taken a mistaken approach to the problem of DNAs. It has accepted DNAs as a normal fact of hospital existence, and has worked out strategies to accommodate them. The approach has dealt with the symptom of the problem, rather than dealing with the root cause. What must be addressed is the reason for DNAs. DNAs must be eliminated from clinics, and booked accordingly. Only then will the NHS get out of the morass that DNAs and strategies to “fix” them have created.

Figure 3e. Clinic Flows, No overbooking and no DNAs

Figure 4a Impact of DNAs on waiting times

Figure 4b. Impact of DNAs on waiting times
Sometimes it seems that the NHS is primarily about waiting lists. Public perception focusses on waiting lists. Waiting lists provide media headlines. For those working within the NHS, it seems that too often the real work of staff is lost in a concern for waiting times and targets.

There is some truth to this position. Waiting times are an easy target for the media. Waiting times are measurable, where so much else in the NHS is not. Many waiting times are long. It is easy to set targets for waiting times reductions.

There is one fundamental truth behind this rhetoric. Many waiting times are too long.

What can be done to reduce waiting times? Chapters 4, 5 and 6 include a number of generic improvement tools, which will be useful in managing waiting lists. But first, this section deals with basic waiting list management: definitions, validation, prioritisation and the use of primary targeting lists.

**Understanding the definitions**
The Welsh Assembly Government uses a formalised structure to monitor waiting times across Wales. The definitions used in this process are included here.

**Validation**
Validation of waiting lists must be routine. This chapter covers the principles of validation and provides sample scripts and letters.

**Clinical prioritisation**
Clinical prioritisation is often suggested as a key factor in managing waiting lists, and asks what levels of prioritisation are appropriate.

**Primary targeting lists**
Primary targeting lists involve the ordered treatment of patients by referral date, and this chapter covers how primary targeting reduces waiting times for inpatients and outpatients.

**Managing waiting lists**
There are waiting lists in the NHS because lists are not managed well. This situation must change. The techniques outlined in this chapter are fundamental, and must be adopted in the management of all waiting lists, be they inpatient, outpatient, or for diagnostic tests.
Pooled outpatient lists
Conwy & Denbighshire NHS Trust

The development of a pooled outpatient waiting list in the Ophthalmic Directorate ensures that patients of the same clinical priority are seen in chronological order. This practice enables patients on the waiting list to be placed within a single queue rather than multiple waiting queues and ensures equity of access.

Objectives:
- Equalise waiting times for patient’s first appointment
- Assist in the modernisation of patient access to hospital services
- Improve the service to patients thus improve patient satisfaction

Booking procedure:
1. Senior Medical Officer to indicate urgency - routine or specify when patient to be seen.
2. Indicate - diagnosis, procedure.
3. Patient entered on outpatient waiting list entry screen and acknowledgement letter sent. No consultant selected at this stage.
4. Patient selected in order of wait.
5. Consultant selected and entered on PAS.
6. Second letter sent to patient requesting they contact the appointment clerk to arrange their appointment.
7. Patient contact made regarding appointment. Consultant and location can be altered at patient’s request at this stage.

This process came into practice September 2003 and is managed referencing specific clinical requirements within the specialty of ophthalmology, with subspecialties such as vitreo-retinal surgery dealt with by the identified consultant specialist. As the majority of ophthalmic referrals are suitable for the pool this will make a significant difference to the equity and efficiency of ophthalmic patient services at the point of referral.
Understanding the definitions

This section contains definitions of specific terms used through this manual. It also contains the Welsh Assembly guidance on how patients should be managed for waiting list measurement reasons. These definitions are updated from previous data definitions, and will be confirmed in a Welsh Health Circular which will also deal with issues of implementation.

Clinical Referral Date (CRD)
The Clinical Referral Date (CRD) is the clinically significant date marking the start of a period of waiting either for an initial outpatient consultation or for an episode of treatment such as elective surgery. The CRD is used to order pick lists used for booking patients, and it does not change under any circumstance. It is not used to calculate performance waiting time statistics.

Outpatients
The Clinical Referral Date (CRD) is the date that the referral of an outpatient appointment is received in the Trust. All referrals should be date stamped on opening, and entered onto the PAS with the date stamped date as the CRD. The CRD is used to order the lists for partial booking pick lists.

Inpatient and Day case events
The Clinical Referral Date (CRD) or the decision to admit (DTA) date is the date that a decision was made by a clinician within the Trust (or a GP outside the Trust in cases of direct access referrals) to list the patient for treatment. The CRD or DTA date is used to order the waiting list for selection of patients for surgery.

Waiting List Date (WLD)
The waiting list entry date (WLD) is initially set as the same date as the Clinical Referral Date (CRD). The WLD is used to calculate waiting times for the purposes of measuring Trust performance against Welsh Assembly Government performance targets. It is not used to order outpatient waiting lists for partial booking or to order inpatient or day case lists for selection of patients for surgery.

There are a number of situations where the WLD may be changed. These include rescheduling an appointment at the patient’s request, reinstatement to a waiting list following removal, or where a patient has chosen to remain with a consultant when offered an earlier appointment with a different consultant. The circumstances where the WLD may be changed are covered in the various definitions in this section.
The CRD or DTA date are never changed.

**Did Not Phone (DNP)**

Any patient who does not phone in response to a partial booking letter or a validation letter may, once certain preconditions have been met, be removed from the waiting list with the reason for removal being “DNP”

**Treatment of DNPs**

Under partial booking a DNP should be recorded only where the required number of reminder letters have been sent, and the required time for a response has lapsed. In most cases this will mean an initial letter and a reminder letter have been sent (two weeks apart) and a further two weeks after the second letter has elapsed.

A DNP should be removed from the waiting list and suitable notification made.

**Minimum Standard**

The patient’s referring GP or GDP should be notified that the patient has failed to phone and has therefore been removed from the waiting list. Instructions should be included on how the patient can be returned to the waiting list (see sample letter on page 69). Instructions should also be included on what to do if the patient has a serious condition that requires urgent attention.

**Good Practice**

The patient should be notified that they have been removed from the waiting list because they have failed to respond to two requests to contact the Trust. Information should be included that tells the patient how to get re-referred if they subsequently have problems (see page 69).

---

**Did Not Attend (DNA)**

A Did Not Attend (DNA) is recorded where a patient does not attend any appointment or admission within the Trust without notifying the Trust.

**Treatment of DNAs**

Any patient who fails to attend their appointment or admission should be removed from the appropriate waiting list and suitable notifications made.

**Minimum Standard**

The patient’s referring GP or GDP should be notified that the patient has failed to attend their appointment or admission and has therefore been removed from the waiting list. Instructions should be included on how the patient can be returned to the waiting list. Instructions should also be included on what to do if the patient has a serious condition that requires urgent attention. Where the appointment was for a follow-up outpatient appointment or for an admission event, the person requesting the appointment or admission (e.g., the consultant in the previous outpatient clinic) should also be notified.

**Good Practice**

The patient should be notified that they have been removed from the waiting list because they have failed to attend their clinic or admission event. Information should be included that tells the patient how to get re-referred if they subsequently have problems.

---

**Could Not Attend (CNA)**

A Could Not Attend (CNA) is recorded where a patient notifies the Trust that they will not be able to attend an appointment or admission event.
**Treatment of CNAs**

*First CNA*

Any patient who contacts the Trust to notify it that they will be unable to attend an outpatient appointment or admission event should have another appointment or event arranged at the time of the notification. If the patient notifies by phone, the new appointment should be made then. If the patient notifies by letter or email, an immediate response should be sent asking the patient to contact the Trust by phone to arrange a new appointment.

At the time of contact, the Waiting List entry Date (WLD) should be reset to the date of the contact with the patient. In most cases this will be the current date.

*Second CNA*

When a patient contacts the Trust to cancel a second appointment the Trust may treat the cancellation as a DNA and not make an appointment. In this case, the communication standards for a DNA must be followed.

**Minimum Standard**

The patient’s referring GP or GDP should be notified that the patient has cancelled two consecutive appointments or admissions and has therefore been removed from the waiting list. Instructions should be included on how the patient can be returned to the waiting list. Instructions should also be included on what to do if the patient has a serious condition that requires urgent attention. Where the appointment was for a follow-up outpatient appointment or for an admission event, the person requesting the appointment or admission (eg the consultant in the previous outpatient clinic) should also be notified.

**Good Practice**

The patient should be notified that they have been removed from the waiting list because they have cancelled two consecutive outpatient clinic appointments or admission events. Information should be included that tells the patient how to get re-referred if they now or subsequently have problems.

**Reinstatement to the waiting list**

Reinstatement to the waiting list can be made by a reasonable request from the patient, or by an authorised Trust employee or the patient’s GP or GDP. The patient will be reinstated on the waiting list with their Waiting List Date (WLD) set to the date of the request for reinstatement. No reinstatement to a waiting list should take place more than three months from the date of removal. In these cases the patient will require a new GP referral.

Reinstatement will follow removal for one of a number of reasons. Patients may be removed because they were a DNA or DNP, because they were a multiple CNA, or because they failed to respond to validation or responded that they wished to be removed from the list. Reinstatement may be requested in all cases by the patient, Trust employee (usually a clinician) or the patient’s referring GP or GDP.

A reasonable request from the patient for reinstatement could be either clinical (because a condition has recurred or got worse since removal) or social (the patient may have been away from home when the validation letter or partial booking letter was received, and will ask for reinstatement on their return). In all cases the patient will be returned to the waiting list with their Waiting List Date (WLD) set to the date of the request for reinstatement.
Reinstatement by Trust staff or the patient’s GP will usually be for clinical reasons. The GP will ask that the patient be reinstated because their condition has not improved and the original reasons for referral still exist. The Consultant will ask for reinstatement to the waiting list or follow-up outpatient clinic because they believe that the patient continues to need treatment within the Trust.

In all such cases, indication should be sought from the clinician as to what steps will be taken to ensure the patient’s attendance at subsequent appointments. While a patient may be reinstated, simple reinstatement to a waiting list or making of a further appointment does not meet the obligation of the clinician to see the patient where there is a clinical need for the reinstatement.

Where the reinstatement has been requested by a consultant, the consultant should contact the patient’s GP to determine whether reinstatement is the best option, and to enlist the assistance of the GP in ensuring the patient’s attendance at subsequent appointments. Where the reinstatement is at the GP’s request, the GP should first contact the patient to find out why the patient did not attend, and to ensure that the patient will attend subsequently.

Where a request is made to reinstate a patient to a waiting list who has been removed from a waiting list or clinic because of two or more non-attendances or non-responses, the request for reinstatement should be made through the clinical head of the service involved. It must be emphasised that simple reinstatement or making a new appointment is not treatment of the patient, and if the patient requires treatment, avenues must be followed that will lead to the attendance of the patient, not simple reinstatement.

Change of care provider or treatment location
Trusts may ask patients whether they are prepared to be seen by a different care provider or at a different location than was originally intended. In all cases, the patient may exercise their right of choice and choose to remain with the original clinician or location.

In order to reduce overall waiting times, Trusts may pool waiting lists. This will involve moving patients from the care of one health professional to another, or from one location to another. A patient may be moved to a consultant of equivalent sub-specialisation who has a shorter waiting list; to a non-consultant clinic (such as a GPSI or advanced practice physiotherapist), or to a clinic held by the same consultant at a different location. All pooling after an initial offer of information must be subject to the agreement of the patient.

This means that where the Trust has notified a patient that they are on the outpatient waiting list of a particular consultant, they must contact the patient in person or by letter before pooling the referral. Similarly, if a patient has seen a specific consultant in clinic and been placed on that consultant’s inpatient waiting list, the consent of the patient must be granted to transfer them to another consultant’s inpatient list.

Where pooling is policy and normal practice for a service, or where referrals will be routinely seen by a non-consultant as part of an alternative pathway of care, individual consent does not need to be sought from the patient. In this case it is important that the policy and the current practices are made clear to all GPs who may refer into the Trust and to all staff within the Trust, so that patients are given clear information about pooling when they are referred. Confirmation of the receipt
of referral should also include a statement about the pooling policies of the Trust (see letter on page 68).

If the patient exercises their right to remain with an original consultant or clinic location their consultant or clinic will not be changed, however the Waiting List Date (WLD) will be reset to the date of the decision. This means that the patient will no longer show as a long wait on the original list. This does not affect their position on the waiting list however. They will remain in their existing position on the list for the purpose of generating the Primary Targeting List (PTL), as the PTL sort is done on the basis of the original Clinical Referral Date (CRD) not the WLD.

When a patient exercises their right to remain with an original consultant or clinic location, they must be advised at the time of choice that the decision may mean that their wait will be longer than if they accept the change. They should also be advised that they will no longer fall within the waiting times targets set by the Welsh Assembly Government. Some sample wording can be found in the letter on page 68.

In some Trusts, routine validation of long wait patients includes an offer to transfer care to an alternative consultant or care provider. In some cases the validation may offer treatment at an alternative facility. In these cases, the validation process should be seen as part of the pooling process. Where patients decline to be pooled, their WLD should be reset to the date of the validation letter. In these cases the consequences of declining the offer of pooling must be clearly spelt out in the validation letter. This process is covered in the section on pooling on page 47 and a sample validation letter can be found on page 29.

Transfers between consultants and specialities
Sometimes patients are referred to the wrong consultant or speciality, or a second opinion is sought. Referrals to the incorrect consultant, which are then forwarded to a different consultant within the same speciality, should be treated as follow-up appointments. Transfers to a different Trust (tertiary referrals) or to a different speciality in the same Trust, should be treated as a new referral. Transfers from an alternative care provider (such as a physiotherapy triage clinic) should be treated as a follow-up appointment.

Suspending patients
What are suspensions?
Patients may be suspended on both inpatient and outpatient waiting lists. The rules for suspension are the same for all cases. Patients can only be suspended for a period of up to six months, with the exception of suspensions for pregnancy. Where the patient is not available for treatment at the end of six months they will be removed from the waiting list.

Patients can be suspended for two reasons; either because they are medically unfit for surgery (medical suspensions) or because they have non-medical reasons why they are unavailable for surgery or the appointment (social reasons).

A patient cannot be re-suspended for the same reason after the six month period is up. A patient may be re-suspended for a period for a different reason. For example, a patient may be suspended for social reasons for a period of three months and then found to be unfit for surgery at pre-assessment. They could be suspended for further six months to stabilise their medical condition.
Medical suspensions
Patients are suspended for medical reasons when they are temporarily unfit to undergo the procedure for which they are waiting. One example of this would be when a patient is seen in a preoperative assessment clinic and found to be unfit for surgery.

Patients suspended for medical reasons can only be suspended for a maximum period of six months. There must be robust mechanisms in place to deal with the reason for the suspension. In cases where the patient is unfit for surgery a plan must be in place to ensure that when the suspension period ends, the patient will be fit.

Where the responsibility falls on the patient’s GP to ensure that their medical reason for suspension is dealt with, the Trust must have in place processes to ensure that the GP is notified of;

- the suspension and the time limit on the suspension;
- the clinical actions that need to be taken to ensure that the patient is fit for surgery;
- and the consequences of the suspension period ending while the patient is still unfit.

If the patient is not fit by the end of the six months, they will be removed from the waiting list and not placed back on the list until they are fit for surgery.

In one case the maximum period of six months can be extended. In the case of pregnancy, a patient may be suspended for a period of longer than six months, provided that an end date is recorded.

Where a patient is admitted for surgery which is subsequently cancelled because the patient has an underlying medical problem, the patient is managed as a suspension for medical reasons.

Social suspensions
Patients are suspended for social reasons when they are unavailable for their appointment or admission for reasons other than a medical condition. One example may be a patient going overseas for a period, or a student may be studying away from home. A patient may also be a social suspension if they are unavailable because they are caring for a relative.

When the patient notifies the Trust that they are unavailable for an appointment or admission for social reasons, the end point of the suspension will be the point at which the patient becomes available for treatment.

Where a patient is suspended for social reasons, the maximum period of suspension will not be longer than six months.

The patient’s suspension from the waiting list should end automatically at either the negotiated date or after six months, whichever is sooner.

Administrative processes after suspension
It is unlikely that a patient will be able to have their admission or their appointment the day that their suspension ends. Once a suspension ends, the patient will feed back into the normal administrative process described elsewhere in this document. This means that there will be a period of up to six weeks from the time the patient is available for an appointment and the appointment occurring. Where patients are close to maximum waiting times at the point of suspension, this may mean that the normal partial booking approach will lead to waiting list breaches.
For this reason it is recommended that Trusts differentiate between when a patient is available to *make* an appointment and when the patient is available for the appointment. Patients will be available for an appointment or admission six weeks subsequent to being available to make the appointment. This six weeks should be built into the suspension period, and the patient contact process should start six weeks before the end of the suspension. Two examples should make this clear.

Patient A is going overseas, and will not be available to make an appointment until their return. If they are going overseas for ten weeks, they will not be available to make an appointment until week eleven. Because partial booking covers a window of up to six weeks, the patient may not attend an appointment until week sixteen. The suspension should therefore be set to 16 weeks, not ten. They should receive the partial booking “phone in” letter in week ten, six weeks before the end of the suspension period.

Patient B is booked for surgical pre-assessment, but at the pre-assessment clinic they are determined to have an underlying medical problem that can be stabilised in three months (13 weeks). A letter is written to the GP explaining the course of treatment required over the three months, and the patient is suspended. Patient B will be available for pre-assessment in 13 weeks. They are not out of contact so before the end of the 13 weeks the booking process can recommence. Because there is a delay of up to six weeks but typically four weeks between letter and pre-assessment appointment, and because there is no point to bringing the patient to pre-assessment before 13 weeks, the “phone in” letter should be generated in week nine. The suspension should exceed the phone in date by six weeks, so the suspension should be set to 15 weeks (not 13) and the phone-in letter generated six weeks before the end of the suspension period.

**Deferments where a patient has not complied with instructions**

In some cases surgery or investigative procedures require that the patient undergo a period of preparation at home prior to admission or attendance. One example would be the requirement to fast before surgery; another would be bowel preparation before colonoscopy or barium enema. Sometimes patients attend their admission or appointment without having completed the required preparation, and the procedure cannot be completed.

In these cases the patient should be treated as a CNA. Time must be taken to explain to the patient why the procedure cannot be undertaken, and the new date for the procedure should be negotiated with the patient. It is also important that the preparation instructions are discussed fully with the patient or their carer so that the situation does not recur. The WLD will be reset to the current date as part of the CNA process, and multiple noncompliance would also fall within the CNA process.

Where a particular procedure has a high degree of noncompliance it is important to review the literature and instructions sent to the patient to determine if they are clear. Alternative methods of conveying the required information to the patient should be investigated.

**Reasonable offer**

An essential part of these definitions is that any offer to the patient is reasonable. Where patients are being removed for DNA or CNA the appointment must have been for a reasonable offer of appointment or admission as defined below. Patients cannot be removed for DNA or CNA where a reasonable offer did not exist.
Where a patient does not agree to an offer defined below as reasonable, they may, at the discretion of the Trust, be recorded as a CNA. However, a suitable appointment should still be agreed. The recording as a CNA purely affects the recording of the waiting time on the Trust performance monitoring systems.

**Normal outpatient appointment**
A normal outpatient appointment may be an appointment of any clinical priority. A reasonable offer must include the following factors:

- The patient must have been involved in agreeing to the appointment date and time, either by phone or in person;
- The patient must have been offered a choice of at least three possible dates and times, one of which must be at least four weeks into the future;
- The appointment will normally be at a Trust site, with Trust clinical staff. If the appointment is offered at a site outside the boundaries of the Trust, transport must be offered from a Trust facility. If non-Trust staff will be used, the patient must be advised at the time of the booking being made, and the patient advised that if they choose to decline the appointment, their waiting time may increase.

**Outpatient appointment under two weeks**
The short time frame involved with organising two week waits usually precludes the possibility of writing to the patient and asking them to phone the Appointment Centre. In this case, the patient must still be involved in the appointment process. It may be necessary to phone the patient, the appointment may be arranged while the patient is at the GP surgery, or the GP may hand the patient a form asking them to phone the Appointment Centre.

The patient must be offered a choice of two date/times for the appointment, at least one of which must be more than 24 hours into the future.

**Diagnostic procedure**
Diagnostic Procedures should work to the same definitions of reasonable as outpatients.

**Therapeutic outpatient appointment**
Therapeutic Services should work to the same definitions of reasonable as outpatients.

**Inpatient or Day case admission**
The inpatient and day case admission process should be treated as a two stage process.

**Preoperative Assessment**
The preoperative assessment may be undertaken by phone or in person. Good practice is for on-site preoperative assessment, so that consent may be taken during the assessment appointment.

If the assessment is done by phone, the patient should be sent a letter asking them to phone the clinic at one of a specific set of dates and times. There should be at least four date/time combinations, and one should be at least four weeks into the future.

If an on-site clinic is held, the same parameters apply as for an ordinary outpatient appointment.

**Surgical admission**
The date and time for admission should be agreed while the patient is present at the preoperative assessment appointment. The patient should be given a choice of two admission dates within the six weeks following the assessment.
Over time, waiting lists become out of date. Patients may require treatment when they are first added to the list, but circumstances may change. They may choose to have treatment at another location (either in the NHS or in private practice). They may move to another town. Their condition may improve so that treatment is not required. Or they may die. Systems must be in place to ensure that these patients are removed from the waiting list.

What does validation achieve?
Validation ensures that figures of patient numbers waiting are accurate. Where waiting lists are high, Trust performance may appear to be worse than it actually is if waiting lists contain high numbers of people who are not actually waiting for treatment. This may affect the commissioning process, as the perception may be that there is a more significant volume to be treated. It may affect information given to patients, who will think that they may have a longer wait than is actually the case. It may also lead to wasted clinical time if clinics are booked through traditional systems and patients not requiring to be seen are given appointments for treatment.

This is only true when the maximum waiting times for treatment are short. While patient focussed booking will validate patients before they are called for treatment, it does not do so until the patient reaches the top of the waiting list. Where waiting times are long, waiting lists will remain inflated if the lists are not validated at interim stages.

Frequency of validation
There is a need to balance the gains from validation against the time and cost of undertaking it. More importantly, there are issues to do with the reaction of patients and their GPs to the validation process. Innovations in Care recommends six monthly validation to achieve this balance.

Patient focussed booking and self-validation
Patient focussed booking (partial booking) is often referred to as self validating. This is because no action is taken by the Trust to allocate resources to the patient’s care until the patient has contacted the appointment centre and confirmed that they will be attending, and a date for treatment is agreed. For this reason, it is assumed that validation is not necessary once patient focussed booking is in place.

Cost of validation
Validation can be done by mail or by telephone. Either includes a cost. Mail validation will have costs associated with letter production and postage, phone validation will have costs associated with phone charges, but by far the most significant cost in both cases will be for the staff time involved. It is vital to balance the benefits of validation against this use of resource. It is also important,
where validation is done, to get the best value for the money spent.

Mail validation letters must be clear and targeted at identifying those patients who have either had their surgery, or whose condition has improved so that surgery is no longer necessary. Simple requests as to whether the patient wishes to remain on the waiting list are inadequate.

Validation letters must be clear and unambiguous. The validation process involves removal of patients from the waiting list if they do not respond to the validation letter, and this must be made clear to the patient. Removal of non-responding patients must be completed. Where patients are not removed from the list despite non-response, they should be told why their name has been reinstated.

Telephone validation should be scripted. Questions should be phrased such that the desired information is elicited; asking a patient whether they wish to remain on the waiting list will result in fewer removals than questions that ask if the patient is still having clinical problems. It is also important to make clear to the patient that there are mechanisms for getting back on the list if their condition worsens within a specific time period.

Sample phone scripts and letters can be found on page 29.

**Patient responses to validation**
Validation can be an imposition on patients, and too frequent validation will lead to patient complaints. If the only communication that a patient receives from a Trust is a three monthly letter asking whether they wish to remain on the waiting list, it is easy to see why they may become annoyed. The more frequent the validation and the longer the list, the more patient perception of the process will become a problem.

Previous documents from Innovations in Care recommend three-monthly validation. Frequent validation will have diminishing returns, with fewer removals each time the validation is performed.

![Good Practice Point](#)

### Validation
On all waiting lists, validation should be undertaken at the point the patient is placed on the list, then at six months, and again at 12 months. Where waiting lists are longer than 18 months, validation should be repeated at 18 months and then a six monthly intervals.

Most removals come from the first validation. There are a number of reasons for this: patients are removed from a list because they have had surgery elsewhere, or because their condition has changed. For a number of less serious problems, improvement is more likely to be in the first six months. There will be a high removal rate for this validation.

Innovations in Care recommends that subsequent validation be done at intervals of six months. There is no need to do validation close to the appointment time, so where waiting times are 12 months a second validation would be unnecessary. Similarly, where the speciality is working to an 18 month target, the 18 month validation would not be required as the partial booking process will satisfy the validation requirements.

**Timing of validation**
There are two ways in which validation can be timed – in bulk or continually. The trust may decide to do bulk validation at
six monthly intervals — all ENT validation in February and August for example. This approach has disadvantages. The validation workload is intensive, and if done episodically, will lead to significant peaks in workload. Additionally, the purpose of validation is to link it to the patient process, and if a speciality undertakes six monthly validation exercises, patients will be validated at less than six months on the list, or may wait up to 11 months before being validated. For this reason, where bulk validation is the only option, it needs to be done more frequently.

Continual validation can be generated by the PAS. Procedures in the PAS should automatically generate validation letters at the point where the wait hits six and 12 months. The advantage of this is that there are small numbers of letters generated every week, rather than very large numbers every few months, and the validation process can be handled as part of the ongoing work of the department rather than as an infrequent additional task.

Continual validation also ensures that small numbers of patients are removed each week, rather than large numbers at the end of a longer period. Infrequent “bulk” validation will lead to artificial peaks and drops in patient waiting list numbers, where continual validation will not.

The validation process at referral
Validation of patient data at referral is not normally thought of as validation, and is often overlooked. On referral, and at each subsequent stage of the administrative process, all patient details must be verified. This must happen on referral, at each outpatient appointment, when the patient is placed on a waiting list, at the pre-operative assessment and at admission. If the details differ from the PAS, it must be updated!

**Placing the patient on the outpatient waiting list**

GPs re-refer patients to the same Trust, and to different consultants within the Trust. When a new referral is received, the first step should be to see if that patient is already waiting for an appointment, or is currently on the inpatient waiting list for that speciality. If so, the GP should be contacted to determine why the patient has been re-referred.

As part of the patient focused booking process, it is necessary to contact patients by mail and sometimes by phone. It is vital that up to date information is stored on the PAS to allow that contact to happen. On receipt of a referral from a GP, the referral must be checked by clerical staff to ensure that all necessary information is included. Where it is not, the GP must be contacted and the full demographic information requested. Patients must not be added to waiting lists with incomplete demographics.

Where a referral is incomplete and not flagged by the GP as urgent, it should be recorded as received but returned to the GP practice with a form requesting the remaining information. The form should note that the referral cannot be received or actioned without complete demographic information. Where the referral is flagged as urgent it should be processed as complete but the GP practice should be contacted by phone for the remaining information.

Demographic information received at referral may go out of date when the waiting times are long. The partial booking acknowledgement letter must include a request that the patient phone the Trust Appointment Centre if any demographic details change while the patient is on the waiting list. This will ensure that records are kept up to date. A sample letter is found on page 68.
Placing the patient on the elective waiting list
When a patient is listed for a diagnostic procedure or surgery, it is imperative to check the demographic details at that point. The person placing the patient on the list should confirm the demographic details with the patient present, and ensure that inaccuracies are corrected.

As with the outpatient acknowledgement letter, the letter confirming placement on a diagnostic or treatment waiting list should include a request to contact the Trust appointment centre if any demographic information changes.

Administrative validation
Administrative validation is undertaken by management and clerical staff, and is primarily designed to determine whether the patient details are correct, and whether the patient wishes to remain on the waiting list.

Administrative validation is undertaken by mail or by phone and has already been covered. Sample letters and scripts will be found on page 29.

Clinical validation
Clinical validation is a more complex, and more time consuming, process. The purpose of clinical validation is to determine whether the patient’s clinical condition has changed in any way that may lead to their removal from the waiting list.

Clinical validation can be undertaken by GPs or by Trust staff. In the case of outpatient referral waiting lists, it is by default the GP who will need to undertake the validation. The Trust may supply the practice or the LHB with practice based lists of patients waiting for an outpatient appointment, and the medical records of those patients are reviewed to ensure that the patient still requires the appointment. Although the review process is undertaken in primary care, any contact to the patient advising them that their status has changed should be undertaken by the Trust, which has requested the validation.

In the case of validation of diagnostic or treatment lists, the clinical validation can be performed in the Trust, or in primary care, or both.

Trust based validation can be either a review of the notes, or a clinical reassessment of the patient. Notes review will have limited value, as it is unlikely that any information will be included in the record that will not have already been acted upon. However there can be considerable value to bringing patients into the Trust for reassessment if they have not been seen for some time.

These review appointments can be with consultant staff, but may also be by appropriately trained Allied Health Professionals, such as physiotherapists or nurses working to predetermined protocols.

Key Validation Points
- Check that a patient is not already on a waiting list before adding them.
- Check the patient details at every stage of the administrative process.
- Validate continually, rather than in batches.
- Balance the advantages against the cost of validation when determining the frequency of validation.
- Validation should be undertaken on a six monthly basis as a minimum.
- Carefully check wording of validation letters, and telephone scripts.
- Undertake clinical validation where possible, in addition to administrative validation.
GP based review of treatment waiting lists will also identify those patients whose condition has rendered them unfit for surgery. The GP may be treating the patient for an unrelated problem, which has arisen since initial referral, and would now mean that treatment is not possible. GP validation would normally be done by notes review, although in the case of patients who have not been seen for some time in primary care, it may be necessary to see the patient.

Validation Phone Script
The following questions should be asked, using the wording provided:

Good morning / afternoon / evening.
My name is ... and I work for the ... NHS Trust.
I am phoning you about your referral to see Dr... in the ... Department.
Are you still having the problem that your GP referred you to Dr... with?

If yes:
Do you still require an appointment to see Dr...

If no:
In that case, is there any reason why you need to remain on the waiting list for Dr...?

If removed:
You can be asked to be put back on the waiting list if your condition gets worse in the next three months. If that happens, please phone 012 345 6789 or contact your GP.
Can you please confirm that the following contact details are correct (check demographics)
Do you have any questions about your referral or anything else I can help you with?
Thank you for allowing me the time to ask you these questions.

2.2 Validation

Dear ..., 
You have been waiting for an appointment to see Dr... since ...date.... You have not been overlooked and your appointment is still pending.

Sometimes patients change address or decide that they no longer want to see the Consultant and forget to let us know. So that we are sure that we have the correct details we write to patients about every six months to check.

We may be able to offer shorter waiting times with a different consultant. If you do not wish to be offered a shorter waiting time with a different consultant, please indicate this on the form.
To keep our records up to date please complete the form overleaf and return it to me in the enclosed reply-paid envelope.
If you need any further help please do not hesitate to contact me between 9am and 5pm Monday to Friday on ...

Yours sincerely

Please tick whichever applies to you:
☐ I still want an appointment
☐ I have an appointment and I am going to keep it
☐ I have had my appointment elsewhere so I no longer need an appointment
☐ I no longer want an appointment in this consultant’s clinic
☐ I wish to remain with the current consultant, even if this means I may wait longer for my appointment

If you no longer want the appointment please discuss this with your GP
If you have any comments to make about your choices, please write them below
Has your address or phone changed from those at the top of this page?
If they have please write the new one below. Please let us have any home, work and mobile phone numbers.
Address ...
telephone: home... work ... mobile ...

Validation letter for inpatient, outpatient or day case surgery
Validation Information Leaflet

produced by the
Data Quality Team.

These are the answers to some of the questions patients regularly ask when they receive their first letter from us.

Why are you sending me these letters?
- We need to make sure our records are kept up to date so it is essential that when you receive one of these letters you return it fully completed. It is important to remember that if you change your mind about coming to clinic or having your procedure, you must let us know straight away. Your appointment could be given to someone else. If you don’t keep your appointment for any reason it means that somebody else has to wait a little bit longer for their appointment.

How long will I have to wait for a date?
- This depends on which Consultant and Speciality you are waiting to see and the reason you are waiting. We are doing everything we can to keep your waiting time as short as possible.
- The Data Quality Team can give you an up to date waiting time. If they are unable to help you they will put you in touch with somebody who can.

What do I do if I want the date of my appointment to be deferred?
- Some patients ask to be deferred because they are pregnant, working away from home, or not ready for a visit to hospital. You will still be sent an administration letter. This is because you may change your mind about your appointment/ procedure or may change your address. However we are still aware that you wish to be deferred and that you still require an appointment. You will not be forgotten.

What happens if the hospital cancels my appointment?
- If your appointment is cancelled by the hospital, you will still receive an administration letter. This is because you are still on the waiting list but just waiting for an alternative date.
- Only if you, your GP or the Consultant decide, will your name be removed from the waiting list. If you do not let us know you have been treated elsewhere we will still send you these letters.

Do I need to let the hospital know if I change address?
- It is important for you to let us know as quickly as possible if you are moving to a new address. If we are not able to contact you, you could be removed from the waiting list.
- You also need to tell your GP your new address.
Clinical prioritisation

Traditionally patients on waiting lists have been prioritised according to a simple system: they are either "Urgent", "Soon" or "Routine". These categories are used for both inpatient waiting lists and for newly referred patients awaiting an outpatient appointment. Little thought is given to definitions for these terms, yet they have been fundamental to the development of waiting lists.

The "traditional definitions"
For outpatients, "urgent" has traditionally meant that the patient needs to be seen within two weeks. "Soon" patients should be seen within six weeks, and "routine" patients have no maximum time requirement. For elective surgery, the same terms are used, but there are no agreed corresponding time periods.

These definitions mean very little where waits for patients classified as "urgent" can be as long as nine months. Reviews of both inpatient and outpatient waiting lists also show that within a waiting list, patients classified as "routine" frequently wait much shorter time periods than those classified as "soon" or "urgent". There is little evidence that clinical prioritisation affects the amount of time a patient waits.

Prioritisation
Many projects have been run throughout the world to develop more effective methods of prioritisation. Some of these prioritisation techniques, such as those developed in the late 1990’s in New Zealand, do manage to prioritise patients in ways that correspond more to clinical need, and some of these methods have been adopted by some Trusts in Britain. Carmarthenshire NHS Trust has also developed a prioritisation system used in other Trusts in the UK with some success.

There is a fundamental flaw in all prioritisation methodology however. As soon as prioritisation is used to ensure that one patient receives treatment ahead of another based on any criterion other than time waiting, some patients will wait longer. "Jumping the queue", no matter that it is for the best of reasons, means that those at the back of the queue will have to wait longer. The higher the degree of prioritisation used, the longer those at the back of the queue will wait.
Indeed the problem can be worse than just delaying those patients with a low priority. Where there is not excess capacity over the demand, patients with a low clinical priority may never be seen — these patients are those at the back of the queue always being “pushed aside” by those with greater need (see figure 5).

Overall, the best way to ensure that all patients wait the shortest average time is to have no clinical prioritisation at all, and to see each patient strictly in turn according to when they were added to the waiting list. However, unless there is a very short waiting time, there is always going to be clinical risk if some patients wait too long. In these situations, a level of prioritisation should be used.

What sort of prioritisation?
The best form of prioritisation, if it must be used, is one with the fewest categories. Prioritisation systems based on complex points systems will add little value, and will take time to administer. The simple, original, “Urgent, Soon, Routine” is in fact a good degree of prioritisation to use in most situations where there are long waiting times. Where waiting times are under six months, the “soon” category becomes unnecessary and should be abandoned.

The key to good prioritisation is consistency of use (from patient to patient, across staff within a department) and ensuring that patients within each category are seen in strict date order. The problem with current systems is not so much the categorisation system used, but the way in which it is used. Prioritising a patient as “urgent” (i.e. needs to be seen in two weeks) when there is a waiting list of nine months for urgent patients is meaningless and makes the system pointless.

Finally, the important thing to remember about clinical prioritisation is that it is all about patients waiting. Prioritisation, like triage in emergencies, is a way of ensuring that no harm comes to those who have to wait. The best and most reliable way of achieving that goal is to have no waits. If everyone is seen within two weeks, then no-one will have their care compromised by waiting longer than two weeks — irrespective of the method of prioritisation used. The best method of safely and effectively prioritising patients is to ensure that no-one waits.

Figure 5. The danger of excessive clinical prioritisation
Primary targeting lists

As has already been shown, one of the main causes of long waiting times within the NHS has been the tendency for patients to be treated out of turn. In this section we look at how “primary targeting lists” can prevent patients being seen out of turn, and how they can reduce long waiting times.

What are primary targeting lists?
Primary targeting lists are simply a way of sorting waiting lists, and a set of procedures for ensuring that patients are removed from the sorted list in order. The system of booking outpatients described in chapter 3 incorporates primary targeting lists, however “PTLs” should be used wherever a waiting list exists.

Figure 6 shows the consequences of not using primary targeting lists. It shows data from some 500 routine priority patients seen in an outpatient clinic, and illustrates the variation in how long each patient waited.

Of the over 500 cases plotted, one third (to the left) waited over 13 weeks (the horizontal line) — yet the median wait (the vertical line) was below 13 weeks. A couple of patients waited nearly 40 weeks, yet many routine patients waited only a few weeks (those to the right of the graph).

**Figure 6 Distribution of waiting times**
are referred rather than being returned to the end of the list because they have changed their appointment and had their Waiting List Date reset. The Waiting List Date and Clinical Referral Date have specific definitions detailed on page 17.

This way of ordering of the PTL has one consequence that must be guarded against. Where a patient is offered an appointment and is unable to agree to a suitable date, their WLD will be reset. Because only the WLD is reset, and the list is sorted on the CRD, the patient will remain at the top of the PTL. If call in letters are generated automatically, the patient will be called again when the next cycle of letters is generated. Where this is likely to be an issue, it may be necessary to either flag these records in some way or to exclude them from the PTL for a specified period of time. One option would be to suspend such patients for a period of 4 weeks, and if this can be automated it is probably the best solution as suspended patients will not receive call in letters.

Primary targeting lists are very simple to explain to staff, and easy to administer. They are notoriously under-used despite this. There is a need to put in place monitoring to ensure that primary targeting lists are being consistently used in the administration of all waiting lists.

PTLs in outpatients and diagnostics
The use of PTLs in outpatient waiting lists is reasonably widespread, and PTLs form the basis of outpatient partial booking (covered in Chapter 3). New referrals are sorted by clinical priority, usually “Urgent”, “Soon”, “Routine”, and then by clinical referral date within each priority. Patients are removed from the top of the list – all “urgents” before any “soons”, all “soons” before any “routines”.

This may cause problems where there is a large backlog of “urgent” or “soon” referrals.

Good Practice Point
Primary Targeting Lists
Wherever patients are being selected from a waiting list, the waiting list must be prioritised and sorted. Waiting lists should be sorted first by clinical priority, and then by the date the patient was added to the list. Patients should be removed from the top of the list: Longest waiting “urgent” patients first, shortest waiting “routine” patients last.

Primary Targeting Lists
- Longest Wait "Urgent" Patient
- Shortest Wait "Urgent" Patient
- Longest Wait "Soon" Patient
- Shortest Wait "Soon" Patient
- Longest Wait "Routine" Patient
- Shortest Wait "Routine" Patient

Figure 7 Distribution of waiting times
In this case, using the PTL will mean that for a significant period, all clinic slots will be taken up by "urgent" and "soon" patients.

Clinically this is an acceptable situation, as the backlog of “urgent” and “soon” patients will contain many who have been waiting unacceptably long periods, and it is necessary to sort out the backlog in these categories. In terms of meeting waiting times targets, this process will unfortunately mean that as no patients are being taken from the end of the routine patients, maximum waiting times will increase during this initial period.

To avoid this happening, some Trusts are using a modification of the PTL so that a small number of slots are allocated solely to routine patients, who are taken from the top of the routine part of the list. This goes against the intent of the PTL, but will minimise the increase in waiting times in the short term, and may be a necessary compromise while the backlog is cleared.

**Inpatient PTLs**

Inpatient and Daycase lists should be managed as primary targeting lists in the same way as outpatient and diagnostic lists. The removal from the list should remain strictly according to list order. Temptations to pick specific conditions to balance theatre time requirements is a constant problem in inpatient lists.

There are two ways of managing this. Where possible, patients should be picked strictly in order from the primary targeting list for pre-operative assessment clinics, and then allocated to surgical lists from those pre-operative clinics (this is described in more detail in chapter 3). Where this is not yet in place, patients should be picked from a band at the top of the PTL, and the make-up of those within the band of patients monitored.

---

**Monitoring outpatients**

Gwent Healthcare NHS Trust

Measures were required to provide information about the performance of waiting lists. It was important to gather enough information on a regular basis to assess how modernisation strategies and capacity were affecting lists.

A number of measures were developed and were provided centrally to directorates. They are distributed monthly to Directorates.

The measures include:

1. Booked activity against template (to monitor under and over activity)
2. New to follow-up ratio and breakdown of priority (changes)
3. DNA rates by priority (monitor reductions and increase)
4. Cancellation rates
5. Average waiting times per Consultant and site (shows variation)
6. Waiting times by waiting band — by month (shows variation and reduction of “tail”)
7. Primary target rates (selection of patients from the back)
8. Primary target list score (selection of patients from the back)
9. Total list scores (change in waiting times measured in days not patients)
10. Referrals
11. Rate of partial booking

The measures and results have generated interest and development in three areas.

1. Pooling across Gwent — Variance in average waiting times and poor primary target rates have generated interest in pooling as a means of improving waiting times.
2. Tidying up data — common problems include erroneous prioritising of patients and multiple referrals.
3. Increased understanding of template variance - this has encouraged closer monitoring.
closely to ensure that no patient remains within the band for any length of time. This allows surgeons a "restricted flexibility" around who they choose for surgery.

Where there has been a practice of picking from well down the list to fill surgical lists (e.g. day case patients in orthopaedics) the problem is not one of managing the PTL, it is instead a problem of imbalance in the provision of inpatient and day case lists. In this situation, adjusting the balance of daycase work to inpatient work, or moving more work onto the daycase list, is preferable to maintaining unequal waiting times.

**Targeting services**

**Bro Morgannwg NHS Trust**

**The Problem**

During pregnancy, there is a client group who due to substance misuse problems such as alcohol or hard drugs have many health problems for themselves but more importantly their baby. This client group very often fail to attend for antenatal care, become high-risk pregnancies with low birth weight babies. There are very often complex social conditions and possible child protection implications.

**The Solution**

In an attempt to provide targeted and specialised antenatal services to this vulnerable client group, Bro Morgannwg NHS Trust has implemented a Substance Misuse Clinic. This antenatal clinic is run weekly in conjunction with:

- Substance misuse specialist midwife
- Specialist Obstetrician
- Community Drug and Alcohol Team

The women are able to receive antenatal care and advice, support and medical treatment to either control or address their substance misuse problem.

**Result**

The Clinic has been successfully run for the past year. It has resulted in a reduction of the failure to attend rate amongst this group of clients. A number of women have reduced their drug intake or stopped altogether. There has been less effect on the baby and fewer admissions to the Special Care Baby Unit.

**Prioritisation of inpatient PTLs**

Unlike the outpatient PTLs, there may be a need to prioritise patients more carefully on inpatient lists. The coarse prioritisation into "urgent, soon and routine" may not be adequate for inpatient lists that are very long. There may be patients who are not "soon" but cannot wait as long as the most "routine" case.

Additional levels of prioritisation are acceptable in this case, but should be used with care. As has been described in the prioritisation section, the more levels of prioritisation used, the longer the waiting times will be for the most "routine" cases. Where there is a greater flow onto the waiting list than off it (and consequently the list is getting longer) high degrees of prioritisation will ensure that some patients at the back of the list never receive surgery — and certainly not within the target times set by the Assembly.

**Monitoring primary targeting lists**

The use of primary targeting lists is erratic, even in Trusts where their use is policy. The development of a good monitoring tool that both ensures the use of PTLs and shows their impact on waiting lists, is essential.
Measuring primary targeting

Gwent Healthcare has developed measures to monitor the effectiveness of management of routine waiting lists by each directorate. It does this by determining the rate at which patients are taken from the back of the waiting list (ie in order of their waiting time). There are 2 measures: **Primary target rate** and **primary target list score**.

**Primary target rate (PTR):**
This is used to calculate the number of patients who were booked beyond the primary target date (ie the shortest waiting list date if routine patients were seen in strict order from the back of the list).

\[
\text{PTR} = \frac{\text{Number of routine patients seen in the month with a date on list before the primary target date}}{\text{Total number of routine patients seen in the month}}
\]

**Primary Target List Score (PTLS):**
Provides assessment of how many days could have been "saved or removed" from the waiting list if a 100% PTR had been achieved whilst taking into account the effect that booking patients from the middle or beginning of the waiting list has.

\[
\text{PTLS} = \frac{\text{The total number of days accrued on waiting list by the routine patients seen in the month}}{\text{The maximum number of days accrued that could have been removed through seeing the long wait patients (achieving 100% PTR)}}
\]

Changes to how waiting lists are managed are envisaged due to information gained from primary targeting.

For one speciality at Gwent in January 2003 the primary target rates were 53% at site 1 and 46% at site 2, but overall primary target rate was only 28% due to the inequality in waiting times at the two sites.

For same service if we look at their primary target list score:
Site 1 PTLS = 73%
Site 2 PTLS = 72%
Overall PTLS = 50%

Even if both sites were at 100% (ie selecting routine patients to be seen strictly from the back of each list), the overall primary target rates and lists scores would not be high due to a 7 month primary target date difference between the two sites.

Monitoring primary target rates and lists scores over time can monitor changes in the way lists are managed.

Changes in Primary Target Rates and Lists scores over time
Nurse practitioner ENT

Nurse practitioner for ENT is a development post, which has been funded for 12 months by Innovations in Care. Nurse-led Outpatient Clinics are now held to support our three ENT consultants.

Referral protocols developed by the Nurse Practitioner include the following:-

- Telephone clinic
- Thyroidectomy Pop care
- Laryngectomy Care
- Skin tests
- Hearing aid Clinic (new patients)
- Dressings
- Routine suction clearance
- Audiology

The role has been structured to reduce the workload of junior doctors, and improve the waiting times for outpatient clinics and the quality of the patient experience. It also helps to provide continuity of care for the patient, and allows professional development of nursing staff.

A greatly improved service for Audiology patients in the Hearing Aid Clinics has resulted from the introduction of the nurse practitioner role, and since January the number of new patients seen in the Hearing Aid Clinics has increased steadily, resulting in a reduction of the waiting time from 9 months in January 03 to the current waiting time of 5 months.

Number of patients referred since January to September 03 from Audiology and 3 ENT consultants.

The Nurse Practitioner role is a valuable asset to the department, and continual improvements are being made to the various services offered to patients, such as telephone clinics for appropriate patients, which means continuing reduction in review outpatient attendances, and the resulting increase in clinic capacity for consultant clinics.
Booking is integral to improvement in the NHS in Wales. This section will look at a number of different aspects of booking, dealing with the full range of inpatient and outpatient events. The total approach to booking is referred to as Patient focussed booking, and this phrase should be used whenever possible. Above all, avoid use of the phrase “partial booking” when communicating with the public.

**Why patient focussed booking?**  
The Innovations in Care Team recommends that all appointments between patients and Trusts be made by agreement. In some cases this means that appointments are made while the patient is present (for example some follow-up outpatient appointments) while in other cases it means that appointments are made by telephone. In some cases it will mean that an appointment with another health provider is made at a previous appointment – for example, a secondary care outpatient appointment may be made while the patient is at their GP.

**Patient focussed booking: A combination of full booking, direct booking and partial booking**

**Full booking**  
In England, policy requires that Trusts move towards a policy of full booking. The key principle for full booking is that the patient always leaves an appointment knowing the exact date and time of their next attendance at the Trust. In fact, this is common for follow-up appointments in most Trusts now.

**Good Practice Point**

**Patient Focussed Booking**  
All appointments where the patient attends the Trust should be booked. The key requirements of patient focussed booking are that the patient is directly involved in negotiating the appointment date and time, and that no appointment is made more than six weeks into the future.

Full booking requires a date to be negotiated with the patient no matter how far into the future an appointment will be. If the waiting list for a particular surgical priority is nine months, then under a full booking system, a date for surgery must be agreed for nine months into the future.
3.0 Patient focussed booking

With a six week policy for leave it is not possible to give the patient a reasonable assurance that the Trust will not have to cancel an appointment made several months into the future.

Partial booking
Partial booking has been included as part of patient focussed booking by Innovations in Care because it enhances patient choice, ensures clinic and theatre efficiency by reducing non-attendances and cancellations, and improves communication between the Trust and the public.

Partial booking differs from full booking in one key respect: no appointment is ever made more than six weeks into the future. With a six week agreed leave policy, the need to cancel appointments or surgical dates is significantly reduced. It is possible to give a strong assurance that an agreed appointment will be honoured by the Trust.

Direct booking
Direct booking has been a major focus of booking in England. Electronic booking is a key to the English implementation of direct booking.

Direct booking involves GPs having access to Trust appointment systems so that they are able to book appointments within the Trust from their surgery while the patient is present. In Wales, direct booking is recommended as part of patient focussed booking, as long as the appointment being booked is no more than six weeks into the future. Innovations in Care does not recommend direct booking more than six weeks into the future.

Electronic booking, as an enabler of direct booking for urgent appointments, is part of the Informing Healthcare strategy.

Nurse practitioner ophthalmic service

Conwy & Denbighshire NHS Trust

The needs of the ophthalmic patient have dramatically changed over the past decade. Changes and advances in computer and surgical technology, lasers, drug therapies, digital imaging and so forth have changed ophthalmic practice unrecognisably and the delivery of ophthalmic services has changed to address these demands. Technological advances have increased public expectation of patient and health service provision. Waiting is no longer an acceptable option, and this concept is supported by the Health & Social Care guide for Wales document (2002).

The development of the Nurse Practitioner role has evolved to include management of nurse-led glaucoma clinics and post-operative cataract clinics. Safe practice is assured through competency-based training, clinical supervision, mentorship and an induction programme. An advanced educational module for nurse practitioners is also available in North Wales and co-ordinated locally at H. M. Stanley hospital in St. Asaph. All practitioners adhere to agreed clinical pathways of recognised practice, with documentation and patient outcomes regularly monitored through audit. In addition to nurse-led clinics the practitioner team is responsible for diabetic retinopathy screening in the local community and the assessment and treatment of specified ophthalmic casualties.

Practitioners have played a vital role in assisting the Directorate to meet annual targets for referral waiting times, casualty services and nurse-led services. Feedback is gathered formally from service users in the form of user surveys, which provide feedback and favorable support for practitioner input.
The NHS exists for the benefit of the patient, and the vast majority of staff within the NHS strive daily to improve the life of their patients. Yet the role of the patient in health care is changing. Increasing demands for information, and for the right to be involved in the design of services, has led to a significant challenge for an NHS that has traditionally been seen as paternalistic. The NHS must involve patients in all levels of their care, and in the redesign of patient services.

**Involving the patient in redesign**

There are many ways to involve the patient in redesign of patient service, and these fall into two main groups: **patient involvement**, and **soliciting patient views**. In both cases, there is a fundamental position that must be observed. It is the patient’s right to be involved in their health care, and this right should extend to the design of the method by which that care is delivered. Any involvement must not be token. It must be sincere and it must be followed through. There is no point in inviting patients to sit on redesign teams if their views are not listened to. There is no point in undertaking patient surveys if there is no follow-through into action in improving those services.

**Soliciting the views of patients**

Do the patients like the service? Phone or mail surveys, interviews in clinic etc, are valuable to determine what parts of the system still need improving. Patient comments are essential to tailoring the service to their needs.

Too often in the NHS, patient surveys have been used to “pat ourselves on the back”. The purpose of surveys should not be to find out if the Trust is doing a good job; they should be explicitly aimed at finding out what can be improved. There are a number of tools to help in this process.

**Written Surveys**

The easiest way to gain information is through the patient survey, and this often elicits the least information. However patient surveys do have a place. Regular surveys of patients can be used as a quick and easy way of keeping a watch on the state of the service, and results collated over time can show up trends.

When designing the survey, it is important to ask first “Why?” The purpose of the survey will help frame the questions, and will affect the method of analysis. Then ask “How will we analyse this survey?” Too often survey forms are designed backwards; a form is created...
(incorporating all the questions anyone may ever want to know the answer to), circulated and collected. Then someone is asked "How do we analyse this information?"

The design of patient surveys should go through the following sequence of questions:

1. What question is being answered by this survey?
2. What information is needed to answer the question?
3. How will the information be presented once it has been analysed?
4. What sort of analysis will be necessary to allow this form of presentation?
5. What data must be collected, in what format, to allow that analysis to be done?
6. How will the data be collected?

This design process is the reverse of the process the actual data will follow — start at the end point to ensure that everything is in place to allow the process to be completed.

Surveys should be used to monitor positions over time, using graphical output to show trends. They can also be used to solicit a wide number of views quickly. Tick box surveys are quicker to complete and analyse, but solicit a poorer quality of information. Open questions such as "please tell us of any problems you experienced at the reception desk" will give more information than check boxes or questions that elicit a "Yes/No" answer, but they are harder to design and analyse, and more of a burden for the patient to complete. You should take into account the burden of completing the form, if for no other reason than that you will get better results if the survey is easy and quick to complete.

Most people are not professional survey compilers. When in doubt, talk to your audit department about survey design.

**Patient focus groups**

Focus groups can also be useful in providing regular feedback on services and in identifying areas that need improvement. Where focus groups are being contemplated, trained facilitators should be consulted and used in designing and running the groups. Questions to be covered by the group should be clear, and time must be given to allow those involved to raise other issues that may concern them. Above all, the focus group should be seen as belonging to the patients, and not to the facilitator or Trust.

**Patient diaries**

A powerful but time-consuming tool is the use of a patient diary. Asking a patient to record their thoughts and feelings about their care as they pass through the process can be valuable but will be a significant burden on the patient at a time when they may be experiencing stress and vulnerability. Patients must have the process explained to them clearly, be given a choice of written or recorded diaries, and above all it must be clear that they can opt out of the process at any time.

Patient diaries have given greater impetus to change service delivery than any other tool.

**Patient walk through**

An alternative to the diary, for shorter patient care processes, is the patient walk through. This is typically used as an aid to process mapping, giving a clear view of the process from the patient point of view.
The process involves a member of the improvement team shadowing a patient from the time they arrive at the front of the hospital, to the time that they leave the premises. Everything that happens is recorded using the process mapping approach of "one person, one place, one time".

If privacy concerns are met, a valuable aid to the walk through is a camera, so that a photographic record of the patient journey can be compiled. This, coupled with a diary from the patient, can give a more complete understanding of the patient process than any other tool.

Who should do the walk through? Some Trusts have found non-executive directors to be particularly interested in this tool. As well as giving them a better understanding of the processes within the Trust, it will give valuable insight when the improvement projects require Board level decisions.

**Patient involvement in change**

All the tools above are about finding out the views of the patients about their care. Far more difficult, and challenging for redesign projects, is involving patients in the redesign process itself.

If the NHS is to provide a patient focussed service, patients must be involved at all levels of the organisation. This includes improvement programmes, project boards, Innovations in Care Boards, and redesign teams. The question when selecting membership for any board or team should not be "Do we need a patient?" but rather "Is there any valid reason to exclude patients from this process?" The answer to the question should nearly always be "No".

Patient involvement should not be token. In some cases a single patient may be enough; in many cases, at least two patients will ensure that the patients are not isolated within the group.

Patient involvement in the group should not be confused with patient representative involvement. Organisations such as Community Health Councils should be represented on many groups, but CHC involvement is not the same as patient involvement. The purpose of patient involvement is not to ask that person to represent patients, but rather to represent themselves – to offer views from their perspective as an outsider who has to interact with the hospital.

**Finding patients**

How do you identify patients for these activities? There are a several sources.

- Notices in hospital waiting areas asking for people who would be interested in giving up some time to be involved.
- Postcards in waiting areas that explain the patient involvement process. Patients complete the card if they are interested in being part of a pool of patients who will be canvassed from time to time.
- Complaint letters. These are written by people who have views on the quality of service and will often be prepared to participate in programmes to improve services.

Staff are not patients. Avoid the easy option of saying that “all staff are potential patients”. Staff who are patients can offer valuable insights into problems with services, but they are not independent. They will always carry their perspective from working in the NHS, which will filter their perception of service delivery, and will rarely lead to the same insights as an independent patient.
Copying letters to patients

One area where all organisations in the NHS can improve the involvement of patients is by copying letters to patients.

Enabling patients to receive a copy of letters written about them by one professional to another should be seen as an essential part of good clinical care. It should improve communication between patients and healthcare professionals, and also improve the patient’s ability to understand and make choices about their own care and treatment.

This practice is policy in England, and the Welsh Assembly Government is currently undertaking a scoping exercise to determine what form the initiative will take in Wales. Much of the good practice described here is based on the English policy and experience.

Why copy letters to patients?

Overwhelmingly, surveys of patients and carers show that they want to see copies of letters about their care. Evidence is available from England, and some departments in Welsh Trusts, that copying information to patients reduces errors, improves communication, and leads to better standards of care*. There is little evidence that patients do not want to see this information.

Copying letters should be the default policy of all NHS organisations, with a clear “opt out” option explained to patients on their first, and preferably subsequent visits. As a first step, and a minimum standard, patients must be informed of their right to receive copies of all letters, and supported in their requests to receive such copies.

What letters should be copied?

All letters between two health professionals should be included in the copying process. This includes referral letters from GPs to the trust, letters from clinical staff to the GP, and letters from clinical staff to each other. It should also include letters to outside agencies such as Social Services.

Single results, such as laboratory reports, or x-ray reports, should not be copied. The information in these reports is likely to be included in subsequent letters in many cases, and there is consequently no need to copy the raw data to the patient.

Who should receive letters?

Letters should be copied to the patient and their carer where appropriate. The patient must retain the right to opt out of receiving letters. Good practice is to write all letters to the patient, and copy the letter to the other health professional.

There will be explicit situations when it is not appropriate to copy a letter to the patient. Two examples are when the letter contains information about a third party, or when the clinician considers that the letter would be harmful to the patient. In the second situation, the clinician has a responsibility to explain to the patient the reasons why the letter is not sent.

* Copying letters to patients: Summaries of 12 pilot project sites. Health Organisations Research Centre, Manchester School of Management 2003

Good Practice Point

Copying Letters to Patients

All communications between health professionals should be copied to the patient. Patients must be given the right to opt out of receiving letters. Good practice is to write all letters to the patient, and copy the letter to the other health professional.
In general, care should be taken to avoid patients learning about bad news by letter, and where a letter contains bad news the patient should receive the letter in an environment where the contents can be explained before the letter is read.

**Questions of Jargon**
It is often assumed by clinical staff that patients do not need or desire to see letters. As has been stated, the evidence is that the patient view is very different. Another common clinician view is that the patient would not understand the letter if it was sent.

There is some anecdotal evidence to support this belief, although where letters are currently sent, the patients surveyed showed a greater level of understanding than the clinicians had assumed. The solution is to present information in a clear format, avoid the use of jargon, and be explicit in statements made.

There are ways of demystifying letters through the use of substitution (using non-jargon words wherever possible), providing explanations for medical terms in an annex to the letter, or by providing a

### Copying letters to patients

**Cardiff and Vale NHS Trust**
The Wales Epilepsy Unit at the University Hospital of Wales routinely copies all letters to patients unless there are specific reasons to do otherwise. Diagnoses, management plans, medication and lifestyle advice are also communicated and can thus be read and reread away from the stress and distraction of the clinical environment.

**Swansea NHS Trust**
The diabetic and lipid clinic at Morriston Hospital copies all letters to patients routinely. Staff consider this process to be essential as a supplement to the advice given verbally to the patient in clinic. Letters also include the results of blood tests and explanations of what the results mean.

The consultant in plastic surgery at Morriston Hospital issues letters directly to patients who have had an augmentation procedure. This is because the consultant feels that some patients may not fully understand what is being said to them in clinic.

In community paediatric services, there is limited routine copying of letters to the parent/guardian relating specifically to the Development Co-ordination Disorder clinic.

**Velindre NHS Trust**
Cervical Screening Wales and Breast Test Wales send results of mammography and cytology directly to women. In addition to this, for the more complex assessments in CSW less technical letters are sent to patients.

**Conwy & Denbighshire NHS Trust**
In the paediatric allergy clinic, the consultant copies letters to patients as a matter of routine.

**North Glamorgan NHS Trust**
One paediatrician issues copy letters as standard practice and has done so for a number of years. Another takes the view that letters should be copied selectively. In these cases, the letter is addressed to the patient and copied to the GP.

The Head Psychologist (appointed from an English Trust) has continued the policy of copying correspondence to patients. He has had considerable practical experience of the advantages and disadvantages of letter sharing, and takes the view that the advantages of copying letters outweigh the disadvantages. He comments:

"... Greater openness and copying all correspondence is in line with a more patient-centred philosophy in which more active participation and dialogue is encouraged rather than merely passive compliance with "expert" pronouncements and prescriptions. To this end, patients appreciate being kept well informed and clinicians are challenged to use simple language, and certainly to refrain from being pejorative."
help line for patients who have difficulty understanding the letters.

A good practice is to write all letters to the patient, and copy the letter to the health professional. This practice, already used by some health professionals, leads to clearer communication and an improvement in the doctor patient relationship.

Translation
In some situations, letters may need to be translated before being sent to patients. Translation can be problematical when technical terms are used.

Experience in England has shown that many patients would be happy to receive their letter copies in English even where this is not their first language. Where translation is desirable, formatting the letter in such a way that the key points are at the start of the letter and outcomes and actions are at the end, then only translating the key points and summary, is a reasonable compromise.

Where possible, patients should be able to request translations of letters as well as large print versions.

Conclusions
The process of moving towards all patients who want copies receiving them will be a difficult one. There are IT and cost implications, although these may ultimately not prove to be as significant as they may seem at first glance. However, there is no doubt that informed patients are better able to participate in their own care. They are likely to pick up on mistakes and errors that they find in letters thus reducing risk. Above all, patients want to see this information. Twenty years ago patients were not able to see their own medical records. That situation has now changed, and copying letters to patients is the logical next step towards a more open and patient centred health service.

Developments in England
Good practice guidelines “Copying Letters to Patients” have been issued in England to assist NHS organisations in putting the policy into practice. These guidelines have been informed by the results of pilot studies, which aimed to test key aspects of issues relating to implementation. Copies of the guidelines can be obtained from the website:
www.doh.gov.uk/patientletters/issues.htm

The way forward in Wales
Close links have been established with the initiative in England. In Wales a number of pilot studies are being considered in order to test implementation on an organisation wide basis such as a hospital or GP practice. The results of these studies and further developments in England will be used to inform how the copying letters initiative will be taken forward in Wales.
Generic referrals and pooling

Traditionally in the NHS, referrals have been made from a GP to a named consultant. Patients seeing a specific consultant have been placed on that consultant’s waiting list. Patients seen in one location are followed up in the same location. Patients seen on one site will have their diagnostic procedures performed on that site. Patients will be seen in specialist or subspecialist clinics. All of these factors increase waiting times, and all can be addressed through generic referrals and pooling.

What are waiting lists?
Staff tend to think of waiting lists as an indication of a shortage of resources, but resource shortage is not the only reason waiting lists develop. Waiting lists are simply queues, and a lot can be learnt about managing waiting lists from how other organisations manage queues.

Understanding queues
Queuing theory is a well developed science in mathematics, and fortunately one does not need to understand it in depth in order to make progress on managing waiting lists. The one thing it is important to know is that a single queue in front of multiple “windows” will have shorter overall waiting times than a series of short queues in front of each window. This is the “Post Office” queue, seen in most commercial premises apart from supermarkets.

The basic unit of the queue is the primary targeting list described in the previous section. Rather than each consultant having a single outpatient waiting list, there should be a single list for the speciality. Rather than multiple inpatient waiting lists, each surgeon should pick from the top of a single list. Eventually, outpatient and inpatient lists should be managed as a single process on a single list. This is the same as having a single queue in a bank, and the customer going to the next available window.

Problems with pooling
Unfortunately, waiting lists are not bank queues. There are multiple priorities within waiting lists, and there are multiple subspecialities within a speciality. Multiple priorities within a list are easily managed through the use of PTLs, as illustrated in chapter 2. Management of subspecialisation is more of a problem, but it is one that must be resolved. There are three possible solutions.
3.2 Generic referrals and pooling

Maintenance of a "pooled" list
The simplest solution to the problem of pooling in subspecialities is to maintain a generic pooled list in addition to each consultant’s own subspeciality list. All patients who need to be seen within a subspeciality are added to the individual consultant list, while those able to be seen by any consultant are added to the pooled list. The main problem with this approach is ensuring that the pooled list is treated at the same level of priority as the individual lists. In most situations where this approach has been used, consultants exhibit a tendency to remove patients from their own subspeciality list ahead of those from the pooled list. In some cases it has been found that patients are added to a pooled list and no-one removes them.

"Hidden" pooled lists
A solution to this problem can be to "hide" which patients are on generic lists and which are on the subspeciality lists. This solution is the best option where it can be implemented electronically, or where waiting lists are maintained centrally. It is harder to maintain where each surgeon or their secretary maintains the list.

In this method, separate lists are maintained on the IT system, one for each subspeciality and one for the generic patients. Patients are added to the bottom of each list.

When the lists are displayed, the subspeciality lists are merged with the generic list in referral date order. Patients from the generic list (the white numbers in the example) are shown on each list. The patients have not been added to both lists — they still exist on a third actual list, so they are not duplicated although they appear to be. They are simply shown in the new “virtual” lists as demonstrated in figure 8b.

"Figure 8b. Step 2: Combine the lists"
When the lists are displayed, it is important not to distinguish on screen between the generic patients and the subspeciality patients. Each consultant will see a single waiting list of their own patients merged with the generic patients, with no visible distinction between the generic and the subspeciality patients.
The reason that this method works best when implemented electronically or through a centralised waiting list management team is that otherwise there is the possibility for a patient to be picked from the list by more than one consultant. In an electronic system using virtual lists, record locking protocols will prevent multiple picking, while in a centralised environment management procedures can be put in place to have the same effect.

**The Matrix approach**

What if it is not possible to implement a generic list either electronically or centrally? What about situations in large Trusts where there may be multiple consultants in each subspeciality, making the implementation of the “Hidden Pooled List” more complex? A number of Trusts use an approach of adding each new referral to the shortest waiting list, using a matrix to determine which waiting lists are available.

The first step in this approach is to sit down with the clinical staff in the speciality and list all the conditions on the waiting list, and all the staff available to see or treat those patients. A matrix is then constructed as follows:

![Figure 9a. Step 1: Create the matrix](image)

Then, with the involvement of the clinical staff, each cell of the matrix is filled in so that every condition has at least one consultant marked. Where there is not a consultant, it must be determined who is available to see those patients, or what the Trust policy is for managing those patients. There must be no blank rows on the matrix.

![Figure 9b. Step 2: Fill in the matrix](image)

Each row of the matrix can now be considered as a “clinical care group”, that is a group of patients who can be managed by a specific group of clinicians. In some cases, a condition may only be within one clinical care group. Some consultants may appear in several clinical care groups with different colleagues:

![Figure 9c. Step 3: Identify the Clinical Care Group](image)

Each consultant will have their own entirely unique waiting list. The patient is added to the shortest waiting list within the clinical care group. In the example in figure 9d, a patient with condition 3 will be added to Consultant AA’s list, because that is the shortest waiting list out of AA and DD, the only two waiting lists in the matrix for condition 3.
What do we mean by shortest?
There are many definitions of "shortest" when describing waiting lists. Each has potential problems.

Fewest patients on the waiting list
This definition does not take into account the rate at which patients are removed — a consultant who operates on a lot of complex cases will take patients off the waiting list at a slower rate. A consultant who has many outpatient clinics will remove outpatient referrals at a faster rate than one who has few clinics.

Shortest Wait
The consultant with the shortest maximum waiting time may seem a sensible definition of shortest, but it is defining shortest future wait on the basis of shortest historical wait, and will not take account of changes in circumstances. This will be most clearly seen in cases where most consultants have a wait of 12 months, and a new consultant starts work. By definition, that consultant will have the shortest wait (under 12 months) for the first year, and potentially all patients referred in that year will be added to that list — leading to an inflated list for one consultant which may take some time to clear.

Clearance Time
A better definition, which is prospective rather than retrospective, is clearance time. This is calculated on the basis of the number of patients on the waiting list divided by the rate at which patients are being removed. The clearance time in weeks is the number of patients on the list, divided by the number expected to be removed each week. In effect, this is the time that it would take to clear the list if no new patients were to be added, or the time that a patient added today could be expected to wait.

Pooled waiting lists in Cardiology
Cardiff and Vale NHS Trust
This initiative was taken in response to the need to address differential and unacceptably long waiting times for cardiology outpatients referred to the Trust’s 6 consultant cardiologists.

A detailed consultant-led review was undertaken to determine how this situation could be addressed. This resulted in a plan to pool all referrals for agreed conditions. Waiting lists for both Trust sites were merged, and booking templates agreed for all clinics so that the same number of patients is planned for each. A protocol was agreed with consultants for assigning referrals to subspeciality clinics only on an exception basis, with all others being considered as suitable for the pool. In each consultant clinic, a certain number of slots are set aside for subspeciality patients, with the remainder of the slots being used for patients from the pool. The consultant who sees the patient at their first appointment undertakes any subsequent follow-up. The system was designed to be compatible with partial booking.

The new system achieved a reduction in numbers of patients waiting over 18 months between January and March 2003 from 188 to just 13, and this figure has since been further reduced. At the end of September, a maximum waiting time of 15 months has been achieved.
Clearance time will only be accurate as long as circumstances do not change, but will be adjusted automatically if circumstances do change. It does take some account of casemix on the list, as casemix will affect removal rates. Counting on the basis of casemix would be even more accurate however.

Counting casemix rather than patients
Chapter 4 points out the danger of counting work as patients or Finished Consultant Episodes (FCEs). When calculating clearance time, it would be useful to allocate an expected theatre time for the condition to each patient on the list, so that the clearance time can be calculated in theatre minutes. This will be far more accurate than any measure that works on patient numbers.

Who owns the pooled list?
There is one final question: who has clinical responsibility for a pooled or generic list? It is a requirement of the Assembly that every patient waiting for either inpatient treatment or on an outpatient list is allocated to a specific consultant in terms of clinical responsibility. Where a matrix approach is used to allocate patients to lists, generic or pooled lists do not exist so this is not an issue. Where “hidden” pooled lists are used, or even the simple pooled lists mentioned first, there needs to be a named consultant for the pooled list.

In most cases in Wales, the Clinical Director of the service has taken on responsibility for the pooled list and is recorded as the named consultant. The important thing to keep in mind is that the named consultant for a pooled list has responsibility for the patient while they are waiting. Once the patient has been booked for surgery with a consultant, they become that consultant’s responsibility.

---

<table>
<thead>
<tr>
<th>Caerphilly Back Pain Pathway</th>
<th>Gwent Healthcare NHS Trust</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Back Pain Pathway started on 1st October 2002 following funding from Caerphilly Local Health Group. It offers GPs within Caerphilly Borough an acute access service for patients with low back pain. The team is headed by an Extended Scope Practitioner (ESP) and senior physiotherapists, supported by technical and administrative staff. Patients access the pathway via GP referrals made against set criteria and are then paper triaged by the ESP, (usually within 48 hours of referral).</td>
<td></td>
</tr>
</tbody>
</table>

Patients with complex conditions are assessed and treated by the ESP or referred on appropriately to main stream physiotherapy, a back education and lifestyle programme, Pain clinic, or Radiology for further investigations as required. There is direct access to an Orthopaedic Consultant should any patient present with serious pathology or require a surgical opinion.

This pathway offers a comprehensive integrated service to GPs allowing patients with low back pain to be seen promptly by the most appropriate practitioner at a location most convenient to them.

Between 1st October 2002 and 31st August 2003 a total of 869 patients were referred to the Pathway. Of these, only 1 was referred to the Orthopaedic Consultant and 1 was referred to Radiology.

The pathway has improved quality of patient care, with 88% of patients reporting satisfaction with the waiting time for their first appointment, 75% showing an improvement in their condition with physiotherapy and 96% of patients being satisfied with their treatment location.
The impact of pooling
Pooling will have its biggest impact when there are significant differences between the length of waiting lists (either by consultant or site). Where lists are relatively even, the effect of pooling on waiting times will be minimal. However, the use of pooling and generic referrals is good practice, and should be encouraged even when the impact on waiting lists would be minimal.

Why generic referrals?
Generic referrals are referrals sent to the Trust, rather than a named consultant. In most cases, the referral will be to a “Dear Doctor”. Generic referrals are good practice. They recognise that the Trust delivers a service, not solely the consultant, and they allow the Trust and primary care to determine how the service should best be provided (either pooled consultant lists, or alternative practitioners). Generic referrals will promote equity of access as waiting times will be based on the date referred rather than the consultant referred to.

Cost savings will be found when the use of generic referrals means that patients can be seen by staff other than a consultant. For example generic dermatology referrals could be seen by a GPSI rather than the consultant. This will reduce the cost per case, allowing greater volume through the system.

### Pooling in Pembrokeshire

**Pembrokeshire and Derwen NHS Trust**

**The Problem**
Surgical outpatient waiting lists had inequality between three consultants — waiting times varying from two weeks to 13 months. The consultants, who sub-specialize (ie breast, vascular and colo-rectal), would not accept a generic waiting list for outpatients. Despite this, GPs often have very little idea about ‘who does what’ in the hospital.

**The Solution**
1. Ask the consultant with the longest waiting times if he would consider transferring any patients to the other consultant’s lists. Ask the other consultants if they will see the transferred patients.
2. Trawl through all of the longest waiting list with the consultant to see who could be transferred.
3. Send letters to both the patients and their GPs asking if they want to be transferred and thus be seen sooner, with an option to stay with the original consultant if they so wish.
4. Draw up a matrix of conditions and get each consultant to acknowledge which he will see as an outpatient, and subsequently as an inpatient or day case.
5. Inform the GPs of each consultant’s waiting times for first outpatient appointments, day case surgery and inpatient lists, together with the matrix of conditions. Inform the GPs on a quarterly basis of the waiting times as above.

**The Results**
97 patients were deemed suitable by the consultant to be transferred. The other consultants agreed to see them. Out of the 97 only 13 patients were not transferred either at their or their GPs request.

The 84 patients were all seen within six weeks.

The consultants supported the matrix and informing the GPs of their individual waiting times. The matrix was only given to the GPs at the beginning of August and so there are firm numbers to report. However, on looking at the outpatient waiting lists at the beginning of September it appears that the two consultants with shorter waiting times have had more referrals in August than the previous months. It will be easier to establish whether it has had an impact after 3 months. The Trust is hoping to introduce this method of keeping GPs informed for all specialities in the future.
The booking process

This section deals in detail with the booking process: how and why partial booking works, how to apply it to returning outpatients as well as new referrals, how patient focussed booking can be used to ensure that cancer wait patients are seen within ten days, and how booking works with inpatients and day cases.

Partial booking basics
Partial booking is an unfortunate phrase that has become common currency within Trusts, but which should be avoided when communicating with patients. Innovations in Care recommends the phrase Patient Focussed Booking, which incorporates the entire booking process. This document defines partial booking as part of the overall booking process.

Partial booking is not, in itself, a form of booking. It is a way of managing the waiting list to ensure that when booking takes place, it is done with the direct involvement of the patient. Partial booking is a set of processes and procedures to manage the waiting list (such as the integration of primary targeting lists into the PAS letter generation process); a set of principles around patient booking (such that no appointment is made without the direct involvement of the patient either by phone or in person); and a set of practices, such as the use of appointment centres to provide a single and central point of contact for patients within the Trust.

The relationship between partial and full booking is shown on the diagram on page 54, but it can be reduced to a very simple rule: if the appointment is going to occur within the next six weeks, then full booking should be used. If it is going to be further than six weeks into the future, then partial booking should be used.

Why patient focussed booking?
There are three main reasons for abandoning the old system of appointments. Patients are not seen in order; patients do not have a choice of date and time when receiving their appointments; and a lot of time is spent cancelling appointments. Patient focussed booking addresses all of these issues.

Patients are seen in order
Patient focussed booking uses clinical priority and time on the list to calculate when a patient will be seen. This is a considerable improvement on the essentially random allocation of appointments that has happened in the past. The patients who need to be seen within six weeks are booked directly into appointment times through direct booking. Patients who are not able to be seen in six weeks are placed onto a list which is sorted first by clinical priority and then by waiting time. The sorting of waiting lists is covered in more detail in chapter 2, Primary targeting lists.
Patients have a choice of appointment date and time

Patient non-attendances and patient cancellations consume a vast amount of resource, as well as severely affecting the flow of patients through clinic (as shown in chapter 1). By agreeing a date and a time with the patient, either face to face in the case of direct booking or over the phone in the case of partial booking, the incidence of cancellations and DNAs because the appointment is booked for a date or time that the patient cannot attend is considerably reduced.

Because the patient is arranging their appointment at a time that suits them approximately four weeks into the future, they are far less likely to forget their appointment. This will further reduce DNAs. DNA rates have dropped from 14% to 3% in some clinics.

Hospital cancellations reduce

Because the Trust has a leave policy requiring six weeks notification of any leave that will affect an outpatient clinic, and because the clinics are only filled approximately four weeks before they happen, clinics which are cancelled for routine reasons (annual or study leave) will be cancelled at a point when there are no patients booked into them. No patients need to be cancelled, and no re-work is necessary. The few cancellations at short notice (e.g. due to sickness) can be rescheduled into an empty clinic in five weeks time. Less re-work means more
staff time available for other duties.

**Partial Booking: New Referrals over six weeks**
The partial booking process is illustrated in figure 11. The process acknowledges the referral when it is received, and sends letters to patients four weeks before they need to attend, asking them to phone and make an appointment.

1. **The acknowledgement letter**
As a patient is registered and prioritised, a letter is generated telling them the approximate wait, and telling them to expect another letter closer to the time. An explanatory leaflet on the process is enclosed with the first letter. A sample letter can be found on page 68.

If the patient is to be seen within 6 weeks, they are asked to phone straight away and make an appointment. These are patients that should be seen through the direct booking process, but have been referred in as a lower priority or because the GP does not want to use the direct access route.

2. **Generating the "Pick List"**
Every week, staff look at clinics for four weeks ahead. For each clinic they calculate how many patients will be needed to fill the clinic, and select those patients from the top of a “pick list”. The pick list is sorted first by priority order, then referral date order.

3. **The "Phone" letter**
The "picked" patients are each sent a letter, which asks them to phone the Appointment Centre as soon as possible to arrange a suitable date and time for their appointment. When they phone, an appointment is made on the PAS and a confirmation letter is printed and sent.

4. **What if not enough people phone?**
The system is "self balancing”. If too few patients phone in any week, extra letters can be generated the following week. Similarly, if more patients phone, bookings can be made into week five, and correspondingly fewer patients "picked" the following week.

**3.3 The booking process**
5. What if the patient does not phone?
A reminder letter is generated automatically for those patients who do not respond to the “phone” letter. If they do not respond to this reminder within two weeks, the referral is automatically closed and a letter is sent to the GP as well as the patient.

Partial booking: Follow-up bookings over six weeks
There are considerable advantages to be gained by applying the methodology to follow-up outpatients as well as new referrals. Cancellation and DNA rates are usually higher for follow-up patients than for new referrals. Clinics are frequently overbooked with follow-up appointments because these patients are perceived as having a higher clinical priority than new referrals. In specialities where “mixed” clinics (containing both new and returning patients) are common, all the benefits of partial booking will not be seen until all patients are booking using patient focussed booking.

There are different issues involved in partial booking for follow-up patients. New routine referrals are seen on a “first come, first served” basis within clinical priority. With non-urgent follow-up patients there is usually a clinically significant time in which they should be seen. We cannot see the two week postoperative follow-up in 10 weeks, or the 12 month review patient in 6 weeks. For this reason, partial booking for follow-up patients is implemented in a slightly different form. This involves a calculation of priority when generating the pick list, rather than a sort of the pick list on the basis of assigned clinical priority and then waiting time.

Some Trusts have tried prioritisation of patients based on required appointment date. This means that at the start of June, the list will show patients due for appointments in July. This works where there is adequate capacity for the service — but if there are more requests for appointments than there are available appointment slots, then the patients will be called later and later after the requested time. If requested appointment date is the sole prioritisation criterion, limited appointment slots may not be made available to those who need them most. While some patients may be able to wait two months from the requested date, others may not. A patient who should be seen in twelve months may safely be able to wait fourteen months. A patient due to be seen in two months may not be able to wait four. If this system is used, the monitoring process described on page 97 is necessary.

Prioritising returning patients:
A solution
While no prioritisation system will resolve a mismatch between capacity and demand, where there is a mismatch it is important to prioritise the patients to make best use of the limited resources. This suggested solution takes account of the “flexibility” that may be present in longer time period appointments.

1 Define the “Appointment Delay”
Two dates need to be provided: the Request Date RD (when the appointment was requested) and the Target Date TD (when the appointment should occur).

2 Calculate the acceptable range
Two further dates are now determined: calculate the delay TD - RD, then set the Start Date SD (TD - 20% of the delay) and the End Date ED (TD + 20% of the delay). These two dates define the acceptable range for the appointment. Note that because a percentage is used, longer interval appointments e.g. 12 months will have a larger acceptable range than shorter interval appointments e.g. three months.
3 Assign a priority
At the time the pick list is generated, a priority must be assigned. This is recalculated each time the pick list is generated, because the priority is determined by the relationship between the clinic date \( CD \) (the date for which the pick list is being generated — usually four weeks into the future) and the dates above.

Priority One
The Clinic Date (\( CD \)) is after the End Date (\( ED \)). This means that the appointment is already overdue, beyond the acceptable range of possible appointments.

Priority Two
The Clinic Date (\( CD \)) is within 14 days of the End Date (\( ED \)). This means that unless the appointment is made immediately, the clinic will fall outside the acceptable range of dates.

Priority Three
The Clinic Date (\( CD \)) is after the Target Date (\( TD \)), but not within 14 days of the End Date (\( ED \)). This is an acceptable position for the appointment to fall.

Priority Four
The Clinic Date (\( CD \)) is before the Target Date (\( TD \)), but it is after the Start Date (\( SD \)). This is an acceptable position for the appointment to fall.

Priority Five
The Clinic Date (\( CD \)) is before the Start Date (\( SD \)). There is no point in making this appointment, as the patient will be seen before they need to be.

4 Pick the patients
Pick the patients to send for in order of highest priority (One is high) first, then within the priority order, by Target Date.

Using the pick list as a monitoring tool
A useful consequence of the prioritisation system is that it gives continuing feedback on the capacity available for return appointments. If priority One or Two patients are appearing consistently in the pick list, the demand for appointments exceeds the capacity and more must be made available. If there are any priority Five patients picked, there is too much capacity, and some resources should be diverted to seeing more new patients.

---

**Figure 12. Prioritisation of follow-ups**
3.3 The booking process

Direct booking: Appointments within six weeks
Because there is a six week cutoff, appointments cannot be made into clinics further than six weeks into the future, and so partial booking is used. Within six weeks from now it is possible to guarantee a clinic and direct booking can be used.

Direct booking for new referrals
There are two circumstances that apply with new referrals. One, the preferred situation, is called GP direct access booking and it is covered shortly. The second is where the referral is received through the normal “non-urgent” mail referral, but the GP has marked the letter urgent or the consultant has upgraded the referral to urgent. As already described these patients are sent a “phone us now” letter through the Appointment Centre, and are in other respects handled as if they were a partial booking referral. The exception to this case is those patients who fall within the “ten day” rule — primarily cancer referrals. These are dealt with separately on the following pages.

Direct booking for follow-up patients
This is almost the trivial case of direct booking, as it is no change from the traditional practice. Where a follow-up appointment is required within six weeks, it is made in person at the reception desk before the patient leaves the clinic. The only difference from traditional practice is that the appointment will be easier to make — because the clinic will not be clogged up with long term follow-ups already booked in some months earlier.

GP direct access
Allowing GPs direct access to booking systems will provide a greater degree of confidence to the GP and the patient that they are being appropriately cared for by the Trust. While GP direct access may be based on technology, there is also the option of implementing GP access through existing phone technology by use of the appointment centre.

The flow chart in figure 13 illustrates how both full and partial booking would work under either system.

Figure 13. GP referral process
The NHS in Wales is not currently trying to achieve a system where all outpatient appointments are booked by the GP. Because there is a system in place that means no patient is booked over 6 weeks into the future (partial booking), GP access to clinics with waits over 6 weeks will result in registering the patient for partial booking rather than allocating a specific appointment time.

One of the advantages to direct access booking is that it allows short notice appointments (under six weeks) to be allocated at the time that the patient is in the GP practice, reducing both time and work at the Trust. Another advantage is found if an automatic process is put in place to provide feedback to GPs on the referrals they make — this is covered in chapter 6 under "GP Feedback".

**Booking “Ten Day Wait” patients**
The Assembly has a requirement that certain categories of patients (primarily some patients with suspected cancer) are seen within ten working days. Booking systems must be set up to ensure that these patients will be seen within the required time.

One of the problems in meeting the requirements of the 10 working day guarantee involves ensuring that there are enough appointment slots for these patients every week. Normal booking processes attempt this by setting aside an average number of slots for urgent and cancer referrals. This does not work.

Some weeks there are not enough slots...
Because the clinics are planned for the average, there will be some weeks when there are not enough slots. If this is an isolated week, or if the clinic did not have to adhere to a ten working day standard, there would not be a problem — patients would be booked further ahead, and it would "all average out over time". With the ten day standard, a couple of weeks of higher than average referrals will breach the standard.

Some weeks there are more slots than patients...
As with the "too many patients" problem, there will be some weeks, or a run of weeks, with too few patients to fill the available slots. Because the number of slots is based on the average number of referrals, using these vacant slots at the last minute eats into the supply of slots, yet if not used, they are wasted — the next referral cannot be booked into a slot last week just to "average" the clinics out!

**What is the solution?**
The problem is one of allowing adequate slots for a "run" of above average referrals, yet not wasting slots by providing more slots than there are referrals. The challenge is to provide this without overbooking or underbooking the clinic — the right number of patients arriving at every clinic.

One approach to this problem uses the Appointment Centre and patient focussed booking. The number of slots each week...
3.3 The booking process

is set to almost the maximum referrals received in any week (actually to the 80th percentile). This sets aside more slots than there will be patients most weeks. Innovations in Care recommends using data from a full year for this calculation.

Any vacant slots in the current week are filled with routine patients, or other GP referrals, if there are no ten working day referrals. There is no danger of breaching the ten working day wait rule, as there will almost certainly be enough slots next week for however many patients are referred, even if all this week’s slots are filled.

Because there are always patients phoning for appointments, slots not used during the preceding week can be filled. The process is described diagrammatically in figure 15. The template shown includes two clinics per week (Wednesday and Friday, shaded) and a calendar is shown for four weeks.

The first column shows the situation on the first Tuesday (3rd). The cancer slots in the two clinics that fall between six working days and 10 working days (the clinics on the 11th and 13th) are strictly reserved for cancer patients only. The slots in the clinics between today and five working days (the clinics on the 4th and 6th) may be used for any cancer referrals, but they may also be used for any other patients who phone for appointments — even if they are routine appointments.

Two days later (on Thursday 5th) the situation has changed. The time periods are now shown in the middle column. The 0 to 5 working day period (reversed) now includes the clinic on Wednesday 11th, and any cancer slots in this clinic are now available to be filled by any patient who phones in. The loss of those slots to cancer referrals is compensated for by the fact that the clinic on the 18th is now available for cancer bookings.

The following week, the situation has changed again (third column). Once again, the clinics within 0 to 5 days (those on the 11th and 13th) are now available for any referral, while those in the 6 to 10 day frame (18th and 20th) are reserved for cancer patients only.

The moving template will continue to slide on through the month — always reserving at the very least one full week of clinics within the 10 working day deadline, yet back-filling any slots not used by day 5 with any referral.

![Figure 15. Booking “10 day wait” patients](image-url)
Where this system is in use it is possible to ensure that all patients are seen within the 10 working day target, without wasting capacity or overbooking clinics.

*Patient focussed booking, inpatients and day cases*

The system of booking outpatients described above cannot simply be extended to inpatients or day cases. Appointment Centre staff are unlikely to have the expertise or access to information needed to make up theatre lists, which will require matching groups of patients with varying length procedures to make best use of skill mix, equipment and time. Yet the benefits of patient focused booking will be even more significant in booking theatre lists where the costs are so much higher than outpatient clinics.

*Booking as a two stage process*

The best approach to booking for inpatient and day case surgery is to treat it as a two stage process. First book the pre-operative assessment, and then book the actual surgical date at the pre-operative assessment.

*The Preoperative assessment appointment*

Where the patient is to receive surgery within six weeks of being placed on the list, the preoperative assessment should be completed at the time of the outpatient appointment. In many Trusts this is done within the day surgery unit or on the appropriate surgical ward, and the patient is directed there from the outpatient clinic.

Where the wait is longer than six weeks, the patient is listed in the normal way and advised of the likely wait. The preoperative assessment is then treated as if it was an outpatient appointment. An appointment is booked for a preoperative assessment in a clinic run on the ward or in the Day Surgery Unit. This is booked using the partial booking process through the appointment centre. Because the assessment is likely to be relatively generic, there are none of the problems of booking the appointment directly for theatre.

Preoperative assessment clinics can be booked for a range of theatre lists. It is not necessary for all patients on a list to be booked into the same assessment clinic. “Phone in” letters for the assessment clinics can be generated on the basis of an “average” flow through to the actual theatre list, as the actual matching of patients to lists can be done at the preoperative assessment when the patient attends in person.

*Arranging surgery at preoperative assessment*

When the preoperative assessment is completed and the patient is clearly fit for surgery, the list can be booked. There will be a range of theatre lists over the next six weeks available to the person doing the booking, and if necessary the booking could be made slightly further into the future. Because the staff doing the assessment are also doing the booking, the issues of casemix on the list do not apply — the specialist knowledge required is held by the preoperative clinic staff.

In some cases it may not be necessary for the patient to attend for a preoperative assessment. In these cases, an assessment may be carried out over the phone.

*Telephone preoperative assessment*

Telephone assessment is best done by writing to the patient and inviting them to contact the appropriate department at a date and time convenient to themselves within a given range, eg. Monday to Friday between 2pm and 6pm.
3.3 The booking process

On contacting the department the patient is asked a series of questions, and is either deemed fit to proceed to negotiate a date for admission and surgery, or it is felt that the patient will need to attend for outpatient preassessment and therefore the date for this will be negotiated with the patient whilst on the phone.

At the time of the telephone call, the date and time for surgery are agreed as if the patient were present at the pre-op assessment clinic.

The booking of preoperative assessment clinics and the impact on theatre performance is covered in more detail on page 71.

Partial Booking in Diagnostics and Therapies

Diagnostics and Therapies fall between the simplicity of booking outpatients and the complexities of booking theatre lists. In most cases, the lists will be able to be booked through the Appointment Centre as long as particular attention is paid to the setup process and training.

---

**Figure 16. Booking inpatients and day cases**
Appointment Centre staff to deal with these more specialised clinics.

One specific problem that may be seen is that many services have no access to the PAS, or use a computer system that is independent of the PAS. This means that many of the issues seen in the early stage of setting up outpatient booking will need to be revisited. Either partial booking capabilities will need to be put into the existing diagnostic computer systems, or a link will need to be made to the PAS. Where systems are manual, they will need to be set up as PAS clinics, which will involve some network and equipment issues.

As the NHS in Wales moves towards measuring waiting times in Diagnostics and Therapy services, integrating booking systems with those in the main clinical specialities is essential. Too often in the past problems in diagnostics and therapies have been overlooked, but that situation is changing.

Implementing patient focussed booking
Patient focussed booking will lead to significant reductions in DNA rates and cancellation rates. As many consultants have taken DNA rates into account when calculating clinic sizes, an important step in introducing patient focussed booking must be to review the clinic profiles.

Step 1: Meet with the medical staff
There is less potential for confusion amongst staff if patient focussed booking is introduced speciality by speciality, rather than consultant by consultant. This means that clerical staff in the medical records area do not have to decide whether a generic referral has to go to the new or the old process. Staff in clinics, who may need to answer questions about referrals, will be less confused. Overall the change will be smoother.

It is important to approach each consultant individually. Avoid working solely through third parties, such as a Clinical Director. A group meeting with the consultants in a speciality may be an alternative if individual meetings are not possible, but ensure that a follow-up meeting is arranged with any staff not present. There are a few outcomes that must flow from the meeting.

Adherence to a six week leave policy
You must get the agreement of the consultant staff that they will adhere to a six week notification of leave policy. This is essential. In changing the system, you are removing some apparent certainty for the patient in return for far greater certainty that their appointment will not be cancelled. Without agreement from consultant staff that they will not cancel clinics at short notice, you are unable to give that certainty to the patients who phone in. This is the only concession that you will require from the consultant staff, and most will see it as a small imposition — in fact, there are likely to be only a small number who do not do this already.

The notification period must apply to the junior staff as well — in fact, to all staff whose absence would lead to the cancellation or reduction in size of a clinic. In general, consultant staff are much better at adhering to this policy than are junior staff. This may reflect the fact that we are poor in communicating with junior staff due to regular rotation, and it will be useful to ensure that this policy is covered in any orientation material sent out to new staff.

One reason for short notice cancellation by junior staff is that leave is applied for in another run or hospital, and the staff arrive in a new department with pre-approved leave for the next week. Good communication and orientation practices should reduce this problem.
Of course, having the agreement of staff to adhere to a six week policy will only work if the processes are in place to ensure that leave notification is promptly acted upon. It is essential to have clear leave approval procedures that ensure clinics are able to be closed off within a few days of the leave being requested, otherwise clinical staff who adhere to the policy will still see clinics cancelled, but for purely administrative reasons. A clear policy backed up by good and prompt procedures will make the process work.

Clinic profiles
Consultant staff must review their clinic profiles. The new profiles must assume there will be no DNAs. Do not accept an assurance that the profiles are OK — review them anyway. This is likely to be the most time consuming stage of the process.

Implementation timetables
Ensure that all staff understand that the new system will not have an effect until all patients currently booked into the system are seen. A common misunderstanding is that the patient focussed booking is not working because clinics are over booked six weeks after the meeting — but the clinics were booked up 12 weeks ahead, and are still working under the old system.

After the meeting, send a letter to each consultant thanking them for their time, and reconfirming the six week rule, the commitment to review the clinic profiles (with a date for the first draft) and a date by which the clinic should be operating fully.

Step 2: Meet with other clinic staff
Before working on profiles, it will be useful to meet with the nursing and clerical staff for the speciality. The purpose to the meeting is to explain the new booking system to them, and to get any information they may have on quirks of the clinics. Once again stress how the new system will resolve current problems, and aim to get them enthusiastic in support of the changes. Dissatisfied staff in the clinic can do a lot to sway the consultant staff against change, and staff who are on board will help with the minor...
problems that will arise during implementation.

**Step 3: Prepare the profiles.**
Start from the existing clinic lists - not the booking rules on the system, but the lists of actual attendances in clinic. Often the clinic profiles on the system bear little resemblance to the actual booking rules, which may exist solely in the heads of the consultant and clerk.

Determine how many slots need to be reserved for urgent patients — based on how many patients attend within seven days of referral. How many acute patients are seen? How many soon? Are the clinics made up of new and follow-up patients, or are there separate clinics for new patients? Analysis of the clinics for the past few months should give a good starting point for this information. Determine both the average figure and the maximum in any particular clinic — it is important to determine whether there is much variability in types of referral, or whether the referral rates are predictable.

Avoid “carve-out” caused by allocating too many “slot types”. Reduce the number of types of slots to a basic four: new referrals under two weeks; new referrals over two weeks; follow-ups under six weeks; follow-ups over six weeks. See page 95 for more detail on carve-out.

Once the booking rules are drafted based on this information, confirm them with both the consultant and the clinic staff as being workable. Remember that they must not include any assumed cancellations or DNAs. Also check that the number of new referral slots will allow the Trust to see the number of patients referred. Be careful of allowing clinic numbers to drop significantly unless there are clear reasons why the clinics were previously overbooked. It is important to not create a problem of reduced capacity through this process.

Finally, set up the new profiles on the system to start from the date that you have determined all previously booked patients will have been seen.

**Step 4: Start patient focussed booking for this speciality**
The system “goes live”.

**Step 5: Review the booking rules**
Once patient focussed booking is implemented, and several clinics have run

---

### Booking and mail costs

One concern about the use of booking is that the system will increase costs. It is true that there are more mail costs, and in some cases extra staff may be needed in appointment centres.

There are ways to reduce the costs however. Many staff are involved in printing, checking and enveloping appointment letters at present, and there are also mail costs involved in the current system. One potential solution being investigated by Trusts in England and Wales involves forming a partnership arrangement with an outside contractor to print and process the letters.

In this system, letters are sent electronically to a print bureau, who sort the electronic file by postcode, print and despatch the letters. The sorting of the files means that Trusts can take advantage of Royal Mail discounts on postage, and less space and capital expenditure is taken up by printers and enveloping machines. Where Welsh language is required, the use of fast duplex printers allow the printing of English and Welsh on opposite sides of the page, again reducing cost.

It is also possible to use the checks in this system to reduce wrongly addressed mail.
where all patients have been booked through the new system, go back and meet with the staff again to determine whether any changes need to be made to the booking rules. It is quite possible that there were perceived problems that have led to under booking, or that insufficient slots were removed to allow for the reduction in DNAs.

**Step 6: Diary dates for regular review of the booking rules**

Things change. Don’t assume that getting things right the first time will mean that the booking rules are set in stone. All clinic profiles should be reviewed at the minimum annually. This review should include start and finish times, the number of new and follow-up slots, and the timings of appointments. The review should be conducted as part of the process of balancing annual capacity and demand, so that increases or decreases in demand over the year can also be addressed.

**Setting Up an Appointment Centre**

The heart of the patient focussed booking system is an efficient phone centre. Avoid the use of the term “call centre” as it sometimes has negative connotations, but there is no doubt that the system depends on a dedicated team of staff who can accept calls and make appointments.

Setting up a centre is no different than it would be in any other industry, and it is useful to benchmark your service with call centres from outside health. The requirements are simple:

1. **Location**

The Appointment Centre must be somewhere where mail access for external (referral) mail and internal mail is delivered several times a day. While in theory it is possible to site the centre anywhere, proximity to the trust will make phone and computer connections simpler.

2. **Equipment**

Dedicated phone lines are essential. These should have a single number for the public to call, feeding into multiple operator lines. Look into the availability of specialist equipment – eg call distribution software that randomly allocates calls to the operators, headsets to allow hands free operation, and phones which allow staff to complete transactions on their computers before accepting another call.

*Figure 17. The Appointment Booking Centre at Cardiff and Vale NHS Trust*
In response to the ongoing quality development programme in Ophthalmology it is now common practice for patients to attend their new letter clinic appointment, be placed on the surgical waiting list and undergo preoperative assessment all within the same visit.

It is recognised that for most referrals, the reason for referral may be identified (NHS Executive 2000). The patient is therefore sent an information booklet regarding the condition they are referred with prior to their appointment. This process provides the patient with sufficient opportunity to be informed before their appointment.

This practice meets with best practice recommendations and is evidence of improved efficient and effective patient preparation preoperatively to reduce cancelled surgical cases at short notice. The objective of preoperative assessment clinics incorporated at listing in the clinical area is to provide efficient delivery of ophthalmic services to the patient in an informative manner. Careful planning and health education processes provided during this process enables the Directorate to plan duty rosters, skill mix and full theatre utilisation.

One-stop clinics for surgical listing take place daily at HM Stanley hospital, and are planned at Colwyn Bay and Holywell peripheral clinics. The success of these clinics is dependent on resources and skilled ophthalmic staff supported by well co-ordinated clinic bookings.

Future aims to improve this service will be to expand technical resources available such as biometry, focimetry and keratometry equipment to increase potential throughput.

The service provides patients with their admission date at this assessment, when anaesthetic support is available for all theatre lists.

It is planned to include all peripheral clinics in this one-stop service to provide true equity of services in the NHS in our catchment area of North Wales.

Dear

I have received a letter requesting an appointment for you to see a consultant in **Specialty**.

A consultant has seen the letter and asked us to make you a 'non-urgent' appointment.

The current waiting time for this kind of appointment is ... months. *(If the waiting time will be longer than 6 months include the following: We are very sorry that you will have to wait this long for your appointment. I can assure you that we are doing everything we can to reduce our waiting times).* If you request to see a specific consultant, your waiting time may increase, and maximum waiting time guarantees may not apply.

Because we will need to write to you about your appointment, please remember to phone us if your address or phone number changes.

We will write to you five weeks before your appointment is due, and ask you to contact us. We will then arrange a convenient date for you to see the consultant, or a member of his or her team.

Should your condition worsen while you are waiting for your appointment, please inform your GP.

If you have any questions please phone us on 0123 456 789. You can phone between 8am and 8pm Monday to Friday. Outside these times, you can leave a message on our answerphone. Please leave your name, hospital reference number (found at the top of this letter) and daytime phone number, and we will phone you back the next working day.

Yours sincerely

---

**Acknowledgement letter**

(sent after prioritisation)

---

**First invitation to telephone**

---

**Figure 18. Making an appointment in the North West Wales Trust appointment centre**
Dear
We recently asked you to make an appointment to see

**Consultant's Name and specialty**

You have not yet arranged to do so. Please contact the appointment office on 0123 456 789 to arrange your appointment.

If you no longer need to make an appointment please let us know.

You can contact the appointment office between 8am and 8pm Monday to Friday. Outside these times, you can leave a message on our answerphone. Please leave your daytime number, and we will phone you back the next working day.

If you do not contact us within 2 weeks of receiving this letter, we will assume that you no longer need your appointment. You will be removed from the waiting list. We will also let your doctor know that you no longer need your appointment.

If you have any questions please contact the appointment office.

Yours sincerely

**Reminder letter sent when patient has not responded.**

---

Dear
We recently asked you to make an appointment to see

**Consultant's Name and specialty**

As you have not contacted us to make your appointment we have assumed that you don’t need your appointment. We have now removed your name from the waiting list.

We have also let your doctor know that you have decided not to see the consultant.

If you have any questions please phone the appointment office on 0123 456 789.

Yours sincerely

**Letter to patient advising of removal from the Outpatient Waiting List**

---

Dear Dr
You referred

**Patient Name, Address, NHS Number, CRN**

to **Consultant Name and Specialty**.

We have written to your patient twice over the last 4 weeks to ask them to telephone the appointment clerk to make an appointment.

They have not responded and have therefore been removed from the outpatient waiting list.

If you have concerns about your patient not being seen, please contact your patient and then, if necessary, the appointment clerk on 0123 456 789.

The patient can then be reinstated on the waiting list at their original position.

Yours sincerely

**Letter to GP advising of patient’s removal from the Outpatient Waiting List**
Dear

Recently you phoned the appointment centre to make an appointment to see

**Consultant’s Name and Specialty.**

As we agreed on the phone, an appointment has been made for you on

day at time

This appointment will be at

**location**

Enclosed with this letter is a map showing you how to get to the appointment, and indicating parking and public transport stops.

Also with this letter is an information sheet that you should read before you come to the hospital. It tells you important information about the clinic you are going to attend.

If for any reason at all you are not going to be able to attend your appointment, please phone us on 0123 456 789. This will allow us to offer your original appointment to someone else. We will be able to arrange another date and time while you are on the phone.

If you have any questions please phone us on 0123 456 789. You can phone between 8am and 8pm Monday to Friday.

Yours sincerely

---

**Appointment acknowledgement letter**
(sent after phone booking made)

---

**Partial booking letter for pre-operative assessment**
(sent when patient is to be brought in for assessment)

---

Dear

You have been on the waiting list for

**Consultant’s Name and Specialty.**

We are now able to offer you an appointment to have your surgery.

In order to arrange your surgery we need to see you in a pre-operative assessment clinic. This clinic allows us to check your general health and fitness for surgery, and it will also give you a chance to discuss your operation with staff. You will also have the opportunity to book a convenient date and time for your surgery at this appointment.

Also with this letter is an information sheet that you should read before you come to the hospital. It tells you important information about your surgery.

**Please phone our appointment office on 0123 456 789 and arrange a convenient date and time for your appointment. You can phone between 8am and 8pm Monday to Friday.**

If you no longer wish to have your surgery please phone us and let us know.

If you have any questions please phone us as soon as possible on 0123 456 789.

Yours sincerely

---

**Partial booking letter for pre-operative assessment**
(sent when patient is to be brought in for assessment)
Pre-assessment for theatre

It is evident that the efficient and effective use of theatres are essential to the provision of good and timely patient care. Too often patients are booked for admission on times or dates that they cannot attend, their surgery is cancelled at the last minute, or they are admitted and then found to be unsuitable for surgery.

**Preoperative assessment**

Figures for the period April to June of 2003 show that out of all the cancelled operations in Wales, 47% were instigated by the patient. 35% of these postponements or cancellations were on the day, or one-day before surgery was due to take place. The main reasons for the surgery not happening, as shown in figure 19, were that the patient did not attend or that the patient cancelled the surgery because the date was inconvenient.

The Modernisation Agency considers that: "Pre-operative assessment establishes that the patient is fully informed and wishes to undergo the procedure. It ensures that the patient is fit for the surgery and anaesthetic. It minimises the risk of late cancellations by ensuring that all essential resources and discharge requirements are identified" (Modernisation Agency, 2003)

Trusts that have effective and timely preoperative assessment have a lower cancellation rate.

Innovations in Care recommends that preoperative assessment should be carried out not more than six weeks before the anticipated date of surgery but not so close that organising another patient (in the event of the first patient being unfit) is difficult. It is advisable to have a list of patients who are willing to attend at short notice. The patient’s assessment should not only evaluate suitability for surgery but should also take into account suitability for anaesthetic, understanding of what the procedure and its aftercare entails. Planning for discharge and any follow-up social care can also be discussed and instigated and the opportunity taken

![Top patient reasons for cancellation Q1 2003/04](image)

*Figure 19. Example of trust theatre utilisation report*
for a proper discussion with the patient to ensure properly informed consent. The consent form can be signed at this point with the patient confirming their decision to proceed when they are admitted. At preoperative assessment, if the patient meets all relevant criteria, negotiation regarding date and time of admission within recognised constraints can take place, and a firm date for surgery can be agreed. This model fits well with the booking process recommended by Innovations in Care described on page 62.

The Audit Commission in Wales Acute Hospital Portfolio report states that booking patients before preoperative assessment is common in most Trusts in Wales, as shown by figures 20 and 21. Booking patients and informing them of their date of surgery before determining if they are suitable is one reason for the high number of cancellations, and should be avoided by using the booking methodology described in chapter 3. A detailed flowchart of the process is shown in figure 22 opposite.

3.4 Pre-assessment for theatre

**Good Practice Point**

**Preoperative Assessment**

Preoperative assessment should be undertaken six weeks prior to surgery, and should be booked using partial booking. Preoperative assessment allows both staff and patient to check suitability for anaesthetic and surgery, agree the booking date for surgery, and organise discharge arrangements.
Immediately following decision that operation is necessary, patient undergoes initial assessment

Patient meets locally agreed criteria

- Patient added to day surgery waiting list
- Patient added to inpatient waiting list

Contact patient 6 weeks before anticipated operation date and invite them to telephone to either undertake a telephone assessment or discuss a suitable date and time for outpatient preassessment (as appropriate)

- Does patient need tests or POA?
  - Yes → Agree date for re-assessment or tests in primary or secondary care
  - No → Re-assessment or tests performed

- Ask questions to ensure that no changes in condition have occurred

- Review by relevant professional
  - No → Surgeon, anaesthetist & critical care consultant (if appropriate) to reconsider risks and benefits with patient
  - Yes
    - Does patient meet locally agreed criteria?
      - Yes → Agree date of operation and any necessary tests and give pre-operative information and instructions
      - No → To minimise cancellations it is considered best practice to confirm attendance prior to admission

- Do benefits of Surgery outweigh risks?
  - Yes
    - Perform any tests as required near time of surgery
  - No → Consider other forms of treatment

- Are test results satisfactory?
  - No → Treat patient to correct abnormalities
  - Yes → Patient has operation

*Agree is defined as ‘the patient is able to choose from a reasonable range of available dates’. This should take into account availability of resources.

Figure 22. Flow chart of the pre-assessment process.
National guidelines for effective preoperative assessment
The National Institute for Clinical Excellence (NICE) has issued a clinical guideline on the use of routine preoperative tests in elective (pre-planned) surgery for children and adults. Carrying out lots of preoperative tests can lead to unnecessary delays or cancellation of operations as well as inconvenience and discomfort to patients because of 'false positive' test results. The NICE guideline will ensure that health professionals have clear recommendations about the tests that should and should not be carried out.

The website address to access these guidelines is http://www.nice.org.uk/cat.asp?c=56818

This also links to the directive delivered in WHC (2003) 137 – Better Blood Transfusions that states clinicians should avoid the unnecessary use of donor blood in clinical practice by securing appropriate and cost-effective provision of blood transfusion and alternatives in surgical care. This can be achieved by ensuring that mechanisms are in place for the preoperative assessment of patients for planned surgical procedures.

Effective training to undertake preoperative assessment
A training package has been developed by the University of Southampton that equips relevant professionals with the skills necessary to perform effective preoperative assessment. Details for acquiring this can be found on the Modernisation Agency website.

Website address for Modernisation Agency Preoperative Assessment Guidance:

Preoperative Assessment Co-ordinator in Surgery
Conwy & Denbighshire NHS Trust

During the development of an Integrated Care Pathway for patients undergoing Day Case Hernia Repair Conwy & Denbighshire NHS Trust developed an evidence based preoperative assessment phase. Following a successful pilot and evaluation the Modernisation Task Group felt it was important to ensure that all patients undergoing surgical procedures had equitable access to this quality service. A Preoperative Assessment Co-ordinator has recently been appointed and their specific remit is to co-ordinate the modernisation of preoperative assessment across all areas of the Trust.

A baseline audit of existing activity across the Trust is currently in progress and is aimed at measuring where different areas are in relation to best practice. The audit is looking at referrals systems, documentation, processes, environment, clerical, administrative and clinical roles. A training programme for staff involved in preoperative assessment has been developed, led and piloted by one of the Consultant Anaesthetists. It is hoped to expand upon this and develop this training programme to provide centralised training for all staff involved in pre-operative assessment across the Trust.

The preoperative assessment co-ordinator will play a key role in ensuring that the Trust will have one recognised process and consistent standards for preoperative assessment and should only be undertaken by suitably trained individuals in an environment conducive to patient’s needs.
Staff managing clinical departments need to understand a number of key elements of the services they are responsible for. They must know the capacity of the service, activity levels, and the level of demand on the service; the processes that are involved in the service; and the management of flow around constraints in the system.

Understanding the service: Three essential measures for managers
Managers often talk about capacity and demand for services making assumptions that (a) all their problems are caused by a lack of capacity, and (b) if only the Local Health Board commissioning the service would provide more capacity, they would be able to improve services and reduce waiting times. This is not true.

Commissioning is not the solution. Time after time the requests for more resources are refused, not because the LHB is unwilling to improve services, but because the requests are based on "more of the same, at the same price" rather than grounded in good information and demonstrated need based on hard information.

Many clinicians and managers do not fully understand the services they work in. There are a number of reasons for this; the NHS is poor in the provision of good information, many managers work in a state of continual “fire-fighting”, clinicians are caught up in an endless progression of overbooked clinics and long waiting lists. There is a way out of this information vacuum.

Innovations in Care recommends the use of three key pieces of information which will provide the basis for informed process change and performance improvement: measurement of activity, backlog, capacity and demand; process mapping; and patient flow modelling.
The three tools are:

- Activity, Backlog, Capacity and Demand graphs;
- Process Maps of the key processes in the service;
- Flow Models of the use of key constraints in the service.

This chapter deals with these three essential tools.

Activity, Backlog, Capacity and Demand — the four measures

A common unit of measure

Because it is important to compare the four measures on a single graph, the same measures must be used for each. In the example shown in figure 24, minutes of theatre time is used as a common unit, although there are other measures that can be used.

Activity

Activity is the throughput of the system — the number of patients seen in clinic, discharged from the ward, or processed through theatre. The number of patients must be converted to the common unit of measure. Figure 24 shows cataract operations measured in minutes of theatre time.

Backlog

The waiting list needs to be converted to the common measure. The backlog may be the number of patients on the waiting list, or it may be the number of patients refused admission if measuring a process such as bed utilisation. Once again the patient numbers must be converted to the common unit. In figure 24, backlog is represented as the number of minutes of theatre time on the cataract waiting list.

Capacity

The capacity of the system is the time that the resource is available. In the case of theatres, this will be staffed time in theatre. In the case of beds, the total bed nights available. For outpatients, it may be staffed clinic sessions. Capacity is usually measured in time: in the figure, capacity is surgeon minutes in theatre.

Demand

The demand on the service is all the patients referred into the service from all sources, once again converted to a common measure of time. In figure 24, the referrals are recorded as minutes of theatre time.
4.0 Essential measures for managers

A common graph
Figure 24 shows the four measures for the cataract waiting list, plotted on the same graph. The relationship between the four measures can now be seen clearly. Graphs of the four main measures for key performance indicators should be routinely produced and regularly reviewed.

Flow models are about understanding bottlenecks and determining whether we are scheduling the work around the constraint. In the example of figure 26, the constraint is represented by the second section of each bar. The graph shows that the scheduling of patients in this theatre list is not around the constraint, and there is a large amount of wasted time.

Conclusions
NHS managers do not have the knowledge they need to manage services without an understanding of and regular monitoring of activity, backlog, capacity, demand and the constraints in the system; the process from the patient perspective and where there are bottlenecks; the flow of work through the service, and an understanding of how to schedule care to make best use of scarce resources.

A guide to good practice
Rapid access nurse led colorectal service

Conwy & Denbighshire NHS Trust

Historically patients presenting with symptoms including rectal bleeding were assessed in the Outpatient department and investigations initiated from that visit. The timing of their outpatient appointment is dependent upon the information provided by General Practitioners and availability of Consultant and appointment slots. From the patient’s point of view, a series of visits is often necessary, depending upon the findings of the investigation and the course of treatment.

A nurse practitioner was appointed in October 2002 with the specific objective of improving access to endoscopic diagnostic services. Following successful training and the implementation of agreed protocols and treatment pathways, urgent suspected colorectal cancer patients are seen and diagnosed within 10 working days, reducing the amount of visits to just one.

In addition, the nurse practitioner is able to diagnose and treat common anal conditions such as Haemorrhoids and Anal Fissures. This service involves close and timely follow-up appointments to allow for successful outcomes.

The nurse practitioner performs 300 - 350 flexible sigmoidoscopies per annum and 100 - 150 follow-ups.

Enabling nurses to perform such complex and necessary procedures has resulted in a reduction in waiting times for diagnostic services, freeing up the surgical colorectal consultants to see more complex patients in the Outpatient department.
An understanding of the dynamics of waiting lists is essential to managing them. There are four key measures that must be understood and monitored on a continuous basis if waiting lists are to be managed effectively. In addition, it is vital to understand the two key types of limitations in the system: constraints and bottlenecks.

Consider the following scenario: waiting lists are increasing, and it is necessary that they are reduced. The demand is 5000 patients per annum, and only 4500 patients are seen in clinic. Waiting lists are going up by 500 patients per annum. What should be done? The Trust asks the commissioning body to pay for an additional 500 cases.

Consider another: there is an increase in waiting times for CT scans. The wait has gone from 12 months to 18 months over the past two years. The data supports the impression that there are more referrals. What should be done? The Trust asks for an additional CT scanner.

And again: waiting times for orthopaedic surgery are over 18 months. The waiting list is increasing. What should be done? The commissioner is asked for an additional orthopaedic surgeon.

There is an unstated assumption behind all three of these scenarios. The consultant in clinic works 100% of the time. The CT scanner is utilised 100% of the time. The surgeon in theatre utilises 100% of the theatre time. These assumptions are usually wrong.

Capacity is the ability to do work, not the amount of work done. It may be true that the CT scanner is working at 100% capacity, but without data for both activity and capacity, two separate and distinct measures, that cannot be assumed.

The NHS collects data on activity, but rarely on capacity. Activity is measured in patient numbers, and is collected for commissioning purposes. There are many systems in place to automate the data collection process. To understand capacity, we need to dig deeper. So what is the relationship between activity and capacity, and how can they be related?

*Figure 27. The four key measures, and the limiting factors*
Measuring capacity
Capacity is the resource available, multiplied by the time it is available. The capacity of an operating theatre is not the number of patients operated on, but the time the theatre is available to be used. Because an operating theatre is “hardware”, the annual capacity of an operating theatre is theoretically 525,600 minutes (43,800 per month). This assumes the theatre to be available for use 365 days a year, 24 hours a day. But theatres must be staffed to be of use. A single shift (7 hours per day, 5 days a week) would give a monthly capacity of only 9,125 minutes, substantially less.

What about the surgeon? For a given waiting list, surgical capacity must be reduced even further. A typical calculation is that a surgeon works 42 weeks each year, so the actual average monthly availability must reflect that reduction. It must also take into account the number of lists (hours) each week that the surgeon spends in theatre. Typically, three half day lists would give a surgeon a monthly theatre capacity of 2,205 minutes.

There are two key points here. Does theatre capacity mean physical capacity? Staffed capacity? Surgeon capacity? And capacity is measured in units of time, because the important information is the time the resource is available.

Measuring activity
It is not possible to compare two items measured in different units, so if the intent is to compare activity to capacity, activity must be measured in time as well. In the case of outpatient activity, this is relatively simple — assumptions are made about how long it takes to see each patient (usually longer for new patients than follow-ups) and the number of new and follow-up patients attending are multiplied by those times. For theatre lists, diagnostic tests, or inpatient procedures, other measures are necessary. The relative merits of various

Capacity and demand in CT
In August 2002 the Radiology Directorate applied the capacity and demand framework to CT services. There were long outpatient waiting times and it was difficult to balance the priorities of ward patients and urgent outpatients. There was a perception that there was insufficient capacity to meet demand.

The data for a two-week period showed that there was enough capacity to meet current demand but not to address the waiting list backlog. The process maps indicated a number of tasks to be undertaken and regular monthly meetings were introduced at one site. Some of the improvements to date are:

- An increase in the average number of patients seen per session from 10 to 13;
- Improvement in timeliness of vetting of referrals;
- Delegation of some vetting from Consultant Radiologists to radiographers resulting in less delay;
- Reduction in out patient waiting times from around 12 to 8 weeks partly by re-directing referrals to another DGH within the Trust;
- Scheduling ward patients at the beginning of each session to make it easier for Consultants to provide reports to clinicians on the same day;
- Freed up radiographer clinical time by moving scheduling to clerical staff;
- Improved attendance at the evening clinics by over booking to allow for DNA’s;
- Introduced additional Monday morning session to treat more ward patients;
- Developed booking template for all sessions;
- Re-organised porter support for the department.
measures are covered later, but on a basic level, calculate an estimated time for each procedure, and use that time rather than patient numbers when calculating activity. Activity is measured as the total number of patients processed, multiplied by the time it took to process each patient.

**Measuring Demand**

In order to compare capacity and activity to demand, it must also be converted to time. Demand must be measured by the number of patients added to the waiting list, multiplied by the time each patient is likely to take having the appropriate procedure. Demand should be measured by the additions to the waiting list each day, as historical demand may not show patients added and then quickly removed (for example, acute theatre cases which will affect throughput, and appear in activity data, but may not appear on the waiting list).

It is also essential to ensure that total demand is measured — in outpatients, demand will include GP phone-in patients, or patients sent up from A&E, not just the “paper GP referrals”. And remember — each patient is converted to time.

**Measuring Backlog**

The waiting list is also measured in terms of time. Converting waiting lists to theatre minutes is not difficult. Estimated times for each procedure can usually be obtained — in the case of theatres, this data is usually captured in the theatre IT system. The appropriate time can then be allocated to each patient on the waiting list, and the total waiting lists expressed in theatre minutes can be captured at the end of each month. Be careful not to use the average theatre time — see the end of this section for the best way to calculate estimated times.

**The common graph**

The graph below shows the four measures for one such list, plotted on the same graph. The relationship between the four measures can now be seen.

**Why theatre minutes?**

Figure 29 on page 82 show the dangers of not using time as a measure. Figure 29a is a graph showing the number of patients...
on a day surgery waiting list, expressed as patient numbers (or FCEs). The curved line represents a trend for the waiting list, and it can be seen that the trend is down but levelling off. The data line shows a drop over the first part of the graph, with a levelling off towards the end. Clearly, the waiting list has reduced and is under control.

Figure 29b tells a different story. On this graph, the waiting list converted to theatre minutes is superimposed on the original. The trend now looks somewhat different. After hitting a low point part way through the year, the waiting list has started to rise again. It is not under control. Which is correct? Why are they different?

Waiting list numbers measured by patient numbers leave open the possibility of searching the list for short (easy, cheap) cases as a way of reducing quickly the number on the waiting list. The result of this practice is to increase the weight of the casemix of the remaining patients — the casemix on the waiting list becomes steadily more time consuming as the easy cases are selectively removed. The ability to identify easy work, as a way of keeping lists low, is reduced. Ultimately, a point will be reached when the patient numbers will rise rapidly, because the remaining cases on the waiting list are all time consuming ones.

**What measures should be used?**
The examples on this page use theatre minutes as a measure. This is a useful measure for surgery, where theatre time is likely to be the most expensive and scarce resource, but other measures must be used in other situations.

**Bed nights**
Bed nights, measuring length of stay, is useful for medical patients and situations where there are bed shortages. For activity, measure actual bed nights; for capacity, number of bed nights in the time period; for demand, the estimated length of stay for those patients booked. Backlog is measured by the estimated length of stay for those patients whose operations were cancelled.
**Diagnostic machine use**
For equipment like ultrasound, CT, MRI, endoscopy etc., session time and procedure time make useful measures. Remember that as with theatre time, the equipment is not useful unless the operator is also available, so capacity is the number of operator hours, not the 24/7 equipment availability.

**Clinics**
Outpatient clinics and therapy clinics should be measured as resourced clinic time. Where courses of treatment are involved such as a planned series of physiotherapy appointments, these are part of the demand on resources, and should not be overlooked.

**Case weights**
In some countries, all resource allocation and commissioning is done on the basis of case weights. The case weight unit is a measure of resource use, and takes into account factors such as length of stay, drug costs, theatre costs, ICU costs etc. averaged for a DRG (Diagnostic Related Group) or HRG (Health Related Group). Case weights are useful measures of resource use, as they give a relative value to patients on the waiting list that is more meaningful than the traditional NHS measure of patient discharges, but case weights are not ideal for improvement work because they are not specific enough in how a particular case weight is derived — for example a short LOS condition with a high theatre component may have a similar case weight to a condition with a long LOS and no theatre component.

**Cash**
There is one other measure that people use to measure relative worth, and that is cash value. In many respects cash is the same as case weights as a measure for improvement, although it does have the added advantage of showing the actual value of time saved or resource used. The NHS is poor at realising the financial impact of change (or lack of change). Measuring improvement as money saved can be a powerful argument when dealing with commissioning groups.

**Constraints and Bottlenecks**
The graphic on page 101 contains two other items it is necessary to understand in order to manage capacity and demand: constraints and bottlenecks.

**Constraints**
The constraint in the system is the factor that ultimately restricts the capacity of the system. In theatres, the constraint may be the surgeon operating on the patient. In outpatients, the constraint may be space. In diagnostics the constraint may be skilled staff to undertake procedures. In every process there will be a constraint which ultimately limits the throughput of the system. The constraint is not easily removed without substantial investment in terms of staffing, or facilities. Identification of the constraint is an essential part of understanding a service.

Once identified, the constraint should become the most important part of the process. Work should be scheduled so that the maximum use is made of the constraint. Resources at the constraint should not be used for jobs that other staff could do. It is poor management to have surgeons fetching their own patients — especially if the reason is to save money on porters!

**Bottlenecks**
The bottleneck is altogether a different beast. Health processes are complex and full of bottlenecks. A typical bottleneck in theatres may be portering staff — the entire theatre system stops while waiting for a patient to arrive from the ward because of a shortage of porters. Constraints cannot be removed without
Rather than using the average (50th percentile) you should use the 80th percentile.

Take 100 patients who have cataract surgery. The average (the median in this case) length of the procedure can be found by sorting the patients by length of procedure, then counting to the middle (patient 50) and seeing how long their operation took. If this figure is used, half the time the operation will take longer than you have allowed, and you will be in danger of running short of time if several patients take longer than average (which they will, 50% of the time). Variation will average out over a long period, but will not average out over a small number of cases such as a theatre list. This is the same issue seen in booking 10 day waits (page 59) and described under carve out (page 95).

Constraints and bottlenecks: A three step process
1. Identify the constraint in the system. Use process mapping (page 107) to determine where the constraints are.
2. Determine whether the process is scheduled around the constraint. Use patient flow modelling (page 109) to determine this.
3. If not, use PDSA cycles to eliminate a bottleneck (page 115) and then repeat step 2.
4. When you reach the point where the use of the constraint is maximised, analyse your capacity to determine whether it is sufficient. If it is not, then it is time to meet with the commissioning group — but now you have hard data.

Maximising use of the constraint: The 80% rule
When calculating throughput do not use averages. Averages are seductive; using the average theatre time to calculate theatre minutes on the waiting list may seem like an obvious solution, but it will usually under estimate the actual demand.

Variation is a normal part of all processes and clinical processes are no different. Accounting for the variation is important when doing the calculations in this section, and averages hide variation.
Process mapping: Understanding the whole

Process mapping is ubiquitous within the NHS improvement movement. There is one reason for this: process mapping is the single most useful diagnostic tool for determining where problems lie. Understanding the process from the patient perspective is essential if services are to be improved.

There are two stages to process mapping. First, understand what happens to the patient, where it happens and who is involved. Then examine the process map to determine where there are problems such as multiple hand-offs*, parts of the process that are unnecessary or do not add value, or parts of the process which would flow better if undertaken in a different order. These problems can be addressed by designing a new more streamlined process.

Second, use process mapping to determine where bottlenecks and constraints occur. Is use of the constraint maximised? Do the patients flow through the system without delays? This approach is covered on page 109 in “Managing patient flow”.

The high level process map
The first step in understanding any service should be to get as many of the staff together as possible, and attempt to map the process at a high level. Choose clearly defined start and end points; for a referral process these may be the arrival of a referral letter in the trust through to the appearance of the patient in the outpatient clinic. For a surgical admission, these may be from the decision to place the patient on a waiting list through to discharge. The important thing is to be clear which parts of the process are inside the map and which are outside. At this stage a quick mapping exercise by a few staff may be useful to determine who will be involved in a more detailed mapping exercise. It is essential to have representatives of all staffing groups involved in the process at the main mapping exercise, and a quick high level map will help ensure no staff group is forgotten. Do not forget to involve patients in the mapping process.

At the mapping workshop, use “post-it” notes to capture the information about the patient journey down to the level of “One person, one place and one time”. This will ensure that hand-offs, multiple

* Hand-offs are places in the process where the patient, or patient information, is passed from one member of staff to another. Hand-offs are not only inefficient, they are also a source of clinical errors, and should be eliminated where-ever possible.

Figure 31. The high level process map
staff, changes in location, and loops in the process are all captured.

Arrange the “post-its” into order, and look for:
• Things that are done more than once.
• Steps that do not add to the patient outcome — ask “Why is this being done?”
• Count the number of hand-offs.
• Identify where there are delays, queues, and waiting built into the process.
• Ask for each step whether the action is being undertaken by the most appropriate staff member.
• Look for “re-work loops” where activities are taken to correct situations that could be avoided.

It may be useful to re-draw the process map to look at a specific issue. For example, a process map can be drawn with each staff group in a different column to identify the hand-offs — a hand-off occurs each time the process map moves across to a different column.

![Process Map Example]

**Figure 32. Looking for hand-offs**

**Focussing in on the problem**

Once the overall process map has been drawn and the staff agree with the process, it will be useful to identify where there are bottlenecks in the process. Which step causes the most delays? This step can then be mapped in more detail,

![Process Map Example]

**Figure 33. Focussing down on the detail**

expanding out the process. This can be done several times, each time expanding and getting to a greater level of detail.

An example might be a map of the cataract process. Initially map the whole process from referral to discharge, with each step representing a hospital encounter. Then focus in on the step with the longest waiting list — maybe the surgical admission. Finally focus down to what happens in theatre.

Any level of mapping is useful, and it is rare for a group to undertake process mapping without identifying at least one step that some members of staff were unaware of. Process mapping is basic and simple — the best way to learn it is to do it.

Some simple tips:
• Try photographing key steps of the process and illustrating the map for a staff presentation;
• Walk through the process with a patient to check that all events are included;
• Work to the 80% rule — there will be differences in the process for different patients — draw the map for the majority;
• Involve everyone — remember, the porter probably has a better idea than the surgeon where the delays are in the process.
• Don’t forget to include the patient.
Managing patient flow

Process Mapping looks at the care process from a patient perspective. There is another tool that will help identify where the bottlenecks in the process are, and how to maximise use of the constraint in the system. Patient flow models look at the care process from a unit perspective, bringing together a number of patient process maps to look at work flows through the unit.

Flow models are the best way to analyse the work of a unit, such as an endoscopy suite, an outpatient clinic, or an operating theatre. The process of building up the model is simple if all the steps are followed.

1. Map and agree the process
The process must be mapped to a high level of detail. A detailed map of theatre may cover the process from the arrival of the patient in theatre until discharge from recovery — each step involving one staff member should be distinct.

2. Time the steps
For a session, record the times for each step of the process.

3. Identify the constraint
The constraint is that part of the process which is the ultimate restriction on the amount of work that can be done. It is the part of the process that cannot have resources added to improve throughput — it is often the most expensive part of the process. In theatres, the constraint will nearly always be a surgeon operating on a patient. In outpatients, it may be a clinic room in use by a consultant. In an endoscopy suite, it may be a “scoper” examining a patient.

4. Draw the flow model
Using graph paper, or a spreadsheet programme, draw each patient as a horizontal bar one above the other. Set the horizontal axis to represent time, with the start of the session on the left, and the end on the right. Colour each stage of the process a different colour — it may help to colour the constraining process red. The length of each line will now represent the time each step of the process takes, and multiple patients will show as a series of horizontal lines (see figure 36). Add up the total of the “red” sections, and calculate it as a proportion of the total time.
In the example above, there were seven patients operated on. The total time in theatre (excluding the time in recovery) was 7hr 42min (from 0830 to 1612). The total time a patient was being operated on was 2hr 56min (the total length of the "red" bars) or 38% of the total theatre time.

5. Ask Why...
Over the course of the theatre day, operations took up 38% of the available time (actually even less, because the session ended 18 minutes early). This is not a good utilisation of a very expensive resource. Why are there long periods when there is no surgery taking place? What else is happening during this time? In one case, the delays were caused by the surgeon leaving the theatre to fetch the next patient from the preoperative lounge — because the theatre management had "saved money" by reducing the number of porters.

6. Ask How...
How can the situation be improved? It should be possible to schedule the theatre in such a way so as to maximise the use of the scarce resource, which is a consultant operating on a patient. What is currently being done in theatre that could be done elsewhere? Can tasks be undertaken in parallel?

7. What is possible?
It is possible to put together an “ideal” flow model scheduling around the constraint. Use estimated time for each stage based on the 80th percentile time for each step of the process. This will make it possible to estimate the optimum use of the constraint and give a target to the improvement project. Figure 37 shows that should be possible to double the number of operations.

**Conclusion**
This analysis tool will not show what should be done, or even what the causes of the delays are. Process mapping will provide that information. The tool will show how well scarce resources are used, and how much room there is for improvement.
Chapter 5

Analysis tools

This chapter covers a number of additional analysis tools and procedures that Trusts have found helpful in managing waiting lists. Access to good information, and understanding the meaning of that information, is essential if the NHS is to manage waiting lists effectively.

These tools should be considered additional to the three essential tools in chapter 4, (activity-backlog-capacity-demand monitoring, process mapping, flow modelling) which are fundamental to understanding services in the NHS.

Understanding Demand
This section looks at the relationship of demand to activity and the importance of monitoring demand and analysing changes in demand.

Carve out: Understanding queues
The NHS sometimes seems to be primarily about queues rather than care. Patient experience is often about waiting, and has been described as long periods of waiting broken by short periods of activity. Understanding the principles behind queue management will reduce queues and improve waiting times.

Key performance indicators: What should we monitor?
Knowing what to look for when monitoring clinic performance is essential to getting performance improvement. Innovations in Care recommends the use of the CPaT toolkit for monitoring the performance of waiting times.

Understanding theatre use
Performance in theatres is critical to improvement of elective processes. Theatre resource is one of the most expensive within a trust, and Innovations in Care recommends the Modernisation Agency Step Guide as a means of monitoring theatre performance.

Measuring follow-up demand
Follow-up patients in outpatients are one of the main demands on clinic time. But before reducing demand, it is important to understand it, and measuring follow-up demand for outpatient space is difficult.

Statistical Process Control
Of the tools available to managers, statistical process control is one of the most useful in a wide variety of applications. From bed use to waiting times, from referral to progress through a care pathway, SPC provides a set of tools to analyse performance.
Team working

Bro Morgannwg NHS Trust

Within Bridgend, therapists provided allocated sessions to each of the funded Speech and Language resources based within mainstream primary schools.

The Speech & Language Therapy Service had difficulties with recruitment and retention of therapists. Therapists felt isolated, and if a post became vacant an inequality of service across locations resulted. The service was unable to meet demand.

Additional recurrent funding from the LHB enabled a rotation package to be established. Qualified therapists now work as a team across the targeted resources, up dating assessments, jointly agreeing Speech and Language Therapy targets with school staff and other care-givers and preparing programmes.

Each resourced class has additional support from a Speech and Language Therapy Assistant who is able to follow through on tasks set by the therapist for continued direct work.

The outcome of an Audit questionnaire has shown the benefits of this initiative. Therapists no longer feel they work in isolation and are able to support each other clinically. Each school location has received a therapy package of care based on the needs of the individual children within the current level of funding. The Assistant has provided a vital and continuous link between the school and therapy services.
Understanding demand

Understanding the demand for services, and how it balances against the activity the system is producing, is fundamental in understanding where waiting lists come from and how to deal with them. This section addresses issues of activity levels, changing demand, and how to relate one to the other.

**Demand and Activity**

Many analyses of outpatient problems look at the waiting time, or the number of patients waiting. While these are important measures, they are symptoms of a deeper problem. Understanding this deeper problem is essential to any attempt to address outpatient performance. Absolutely the first information required relates to clinic inflows and outflows.

Figures 38a and 38b show two typical outpatient clinics. The number of referrals for each month is shown (Demand), as is the number of patients seen in clinic (Activity). It is obvious that there is variation in both the demand and in activity. The variation is small, and the difference between demand and activity is also small. On their own these graphs are not particularly meaningful. It is necessary to extract the difference between referral and appointments to see the true impact of a relatively small imbalance.

Figures 38c and 38d extract that information. The additional line represents the cumulative difference between the inflow and the outflow to the system — the backlog. It can be seen at once that despite significant variations from month to month, the clinic in speciality A is in

![Figure 38a. Speciality A demand and activity](image1)

![Figure 38b. Speciality B demand and activity](image2)
balance. The variation is around a horizontal line – the backlog remains relatively stable. Figure 38d (Speciality B) tells a different story. There the trend of the line is definitely upward. There are some months where the line dips (possibly due to seasonal variations), but over time, the line creeps up. This speciality is in trouble and the backlog (waiting list) is increasing.

Waiting lists are like water in a bath. As long as the water is running out of the drain as fast as the water is flowing in from the taps, the bath will neither Overflow nor empty. The size of the bath doesn’t matter – only the rate of the flow in (demand) and flow out (activity). Like the waiting list, the catastrophe occurs when the inflow is greater than the outflow – and the bath overflows.

There are three possible states for any dynamic system such as this. In the first, demand is greater than activity. Over time, waiting lists will increase and waiting times will get longer.

The second possibility is that demand and activity are in balance. This may still not be the ideal situation, because it is possible that the system is in balance, but with a large waiting list of patients in the system. There is a perception that the problem is unmanageable, because there is a huge waiting list – but in fact this situation is far more manageable than the first, because one-off initiatives will have a lasting effect, whereas they will not resolve the first case.

The third possibility is that demand is less than activity. This may seem a better situation to be in (especially if there are large waiting lists) because over time the waiting list will reduce. But as with the slowly draining bath, the situation is no more sustainable in the long term than the first case. In time, the waiting list will disappear, and there will not be enough work to maintain current staffing levels.

Is it possible to get the system in balance? If a speciality has greater demand than activity, there are only two ways to resolve the problem. Permanent increase in activity (one-off initiatives will only delay the day of reckoning) or permanent initiatives to reduce demand. Chapter 6 addresses the issue of referral guidelines using priority setting at the GP practice, and this is a good solution to reduce demand. In general, there are many referrals into secondary care that could
be handled in ways other than a consultant outpatient appointment, and each of these represents a waste of resources.

Even if the system is in balance, referral guidelines may still be a good idea. The size of the waiting list is in itself a factor in determining referral rates. If waiting times are long, patients will seek other options for treatment and GPs will be less likely to refer. When waiting times reduce (as a result of increased capacity or a one-off initiative) there is less incentive to treat patients, and more incentive to refer into secondary care. Having referral guidelines in place before undertaking the volume reduction initiative will prevent the surge in referrals, and preserve the effect of the extra capacity.

**Changes in demand over time**

Even if demand is in balance with activity, there is still the risk that it will change over time. Figures 39a and 39b show the number of referrals per month for the past 18 months in two specialities. Figure 39a shows a speciality where the demand is stable or even dropping slowly. It is important to realise that in this case, reducing demand does not mean that there is no problem or waiting list. The speciality may still have an increasing waiting list — because there is less activity than demand.

Figure 39a shows a different problem. Since February, the numbers of referrals in this speciality are up on the previous year, despite the seasonal variation. Identifying specialities where the demand

**Activity is not capacity**

Chapter 4 has already dealt with the differences between activity and capacity, and the issues associated with measuring them. Activity is the rate at which patients flow out of the system — off the outpatient waiting list, off the inpatient waiting list. Capacity is only the same as activity when the whole system is operating at 100% efficiency — and experience shows that this is rarely the case. Capacity is the ability to do work. It is a combination of the resources available and the time that those resources can be used.
is increasing is important in determining what the long term activity will need to be — and how it will need to change over time. Balancing activity and demand today is not going to provide a long term solution because if referral rates continue to increase, the demand will eventually outstrip activity again. The solution is to understand why the demand is increasing, and address that problem.

**Seasonal variation**
Are referral rates stable across the year? In some clinics, referrals increase at certain times — typically medicine referrals increase in winter, as do those for orthopaedics. Referrals in dermatology increase in summer. Some specialities such as ophthalmology do not have obvious trends. Seasonal trends are important as they can skew the analysis — if you do not look at the whole year, is the increase you have detected a real increase, or is it due to a summer bulge? When looking at long term trends it is useful to compare years on the same graph, so that changes between months can be separated from the year to year changes. An example can be found in figure 40, where waiting lists for several years are compared. Note that the newest line is stable — compared to an upward slope for the same months of previous years.

**Conversion ratios**
It is important to treat the elective process as an integrated whole. Increased activity at outpatient clinics may affect the flow on to the surgical waiting list, but simple conversion ratios may not give accurate predictions of future surgical demand.

With long waiting lists, an initiative clinic to remove patients from the tail of the waiting list where primary targeting lists have not previously been used, may deliver lower conversion ratios due to the nature of the patients who tend to accumulate at the end of waiting lists. Conversely, pre-screening of orthopaedic referrals by a physiotherapist may considerably reduce the number of new referrals onto the consultant outpatient waiting list. However, if the consultant continues to see the same number of outpatients, the ratio requiring surgery and thus the number flowing onto the inpatient waiting list, will increase substantially as those patients unlikely to proceed to surgery have been screened out.

![Figure 40. The waiting list compared year on year.](image-url)
“Carve out” is an insidious process that steals capacity before our eyes, while appearing to protect the capacity for those patients who need it. In complex processes like health, some carve out is inevitable, but it must be eliminated where it can be, and managed where it cannot.

What is carve out?
Carve out is a term given to circumstances where reserving some of a resource for one group reduces the resource available to another group. Carve out is seen every day. It is present in supermarket car parks (parent with child parking), in the supermarket itself (basket only queues), on the road (bus lanes) and in health. Health is the natural home of carve out — the NHS has adopted it as a solution to a problem, and in doing so created an even bigger problem.

How many queues are there?
In a typical outpatient clinic there are probably hundreds of queues. There are slots for new patients, there are slots for urgent new patients. There are postoperation slots and there are soon review slots. In some clinics the number of slots can run well into two digits. These slots are created in an attempt to balance out the capacity to match the patients coming through the clinic, but it is an endeavour doomed from the start. There is a very simple reason.

That many queues cannot be managed.

The odds that every week (or any week for that matter) the exact proportion of patients will match the available slots are minute. What happens instead is that there are empty slots, then the clinic is overbooked to fit the extra patients in. The schedule goes out of the window, and the flow of work is totally disrupted.

Banks worked this out some time ago: they have a single queue, feeding into multiple windows. The days when you joined one of multiple queues at the Post Office and cursed because the others were always moving faster are long gone.

What is the impact of carve-out?
Carve out wastes capacity. Figure 41 over the page represents an outpatient clinic with a high degree of carve out — separate slots for each patient type, different clinics for different conditions. The waiting list is represented by the upper line (circles). The lower thick line (solid squares) shows what the waiting list would have been if each patient was booked into the next available slot instead of the allocated speciality slot.

Dealing with carve out
Some carve out is necessary and has benefits in spite of the negative impact on waiting times. Two such examples are carve out to reserve space for urgent patients in partial booking, and carve out to allow clinical subspecialisation. The
important thing is to allow the benefits and manage the carve out to minimise its effects.

**Dealing with the 10 day waits**
Partial booking allocates patients to clinics about four weeks before the appointment. There is a need to reserve some capacity for those patients that the Trust does not know about four weeks from the clinic.

As described on page 59 there are ways of managing this carve out so that it does not affect the waiting times for non-10 day patients. The key to resolving carve out in this case is to manage the impact of carve out.

**Managing subspecialisation**
The section on pooling in waiting lists gives methods that allow Trusts to deal with carve out caused by subspecialisation. Subspecialisation has benefits in improving skill mix in specialist areas. The carve out caused by subspecialisation must be managed, rather than trying to prevent it.

**Prioritisation and carve out**
It is important to distinguish between clinical prioritisation and carve out. While there are issues with the type of prioritisation used, if waiting lists are longer than a few weeks, some degree of prioritisation will be essential. The degree of prioritisation should be minimised, so that as few categories are used as are required to meet the need to see patients within clinical priority.

Accepting clinical prioritisation does not mean allocating carved out slots to each category of prioritisation. This is the key to managing carve out caused by prioritisation; prioritise a single list of patients, and then allocate those patients from the top of the list into non-differentiated slots in the clinic. "Urgent" patients do not go into "urgent" slots; "soon" patients do not go into "soon" slots and "routine" patients are not booked into "routine" slots. Instead all "urgent", "soon" and "routine" patients are booked into generic outpatient slots.
Key performance indicators: What should be monitored?

No system works so well that you can assume it will work from day one, and continue to work. Ongoing monitoring and feedback to staff is as essential to the success of the improvement process as work going into the initial setup. There are a number of factors that must be carefully watched if the long term success of booking is to be maintained. These are Key Performance Indicators (KPIs).

Outpatient KPIs
Could not attend (CNA) delays
It is useful as a performance measure to be able to see what notice you are getting of CNAs. If CNAs are dated in the PAS, it is possible to report on the proportion of cancellations that are on the day of appointment or surgery (these appointments cannot be reused by another patient) as compared to those made early enough that the appointment time can be reused. This also allows you to compare the number of appointments or theatre minutes lost which were as a result of patient cancellations more than 24 hours in advance (pointing you to work on improving the short notice booking mechanisms in the appointment centre).

DNA Rates and cancellation rates
Regular (at least monthly) reporting on DNA rates and both patient and hospital cancellation rates is a must. This is the information required to convince staff that any new system works. It is important to flag those patients booked through the old system, and compare the rates to those managed through the new, in order to highlight the differences in those clinics where not every patient is booked.

How far ahead are we booking?
The time to the currently allocated phone date is vital information about potential workload. If your PAS calculates this information as is the case in our pilot, weekly reports by clinic enable you to see where wait times are getting longer or shorter, a simple and effective measure to assist in calculating capacity issues.

Are patients booked in 4 weeks?
Some Trust outpatient systems may not be able to implement the method for booking follow-up patients recommended in chapter 3. If your system cannot be adapted, you will need to introduce KPIs to allow the monitoring of follow-up booking.

If the system sends “phone now” letters 4 weeks prior to the original estimated appointment, weekly monitoring of the available slots is vital. We suggest a “traffic light” system where you record which appointment date a phone booking is made.

If the appointments made in response to phone calls are four weeks away, then the clinic is in “Green” and the system is performing well. There are two “Amber” states. “Amber and increasing” at five
weeks means that there are more patients phoning than there are appointment slots, and the system must be watched closely to determine if this is a statistical fluctuation or a longer term trend. If it is a trend, the number of slots for follow-up will need monitoring. If statistical, the situation will right itself. Statistical variation may be caused by a single cancelled clinic.

In the "Amber and decreasing" state, once again careful monitoring is in order. The same questions arise as to whether the decrease is statistical, or due to too few patients for the clinic slots.

"Red" states are more serious. At "Red two weeks", measures need to be taken to: a) ensure that clinics are booked fully; and b) determine whether this is a worsening problem. If you have been monitoring you will know this from the work done during "Amber", but now action is needed, and a predetermined course (bringing patients forward etc) put in place.

"Red six weeks” is an issue of a different sort. Action is needed here because we can now no longer give patients certainty, and urgent action is needed to pull the booking back to under six weeks. Once again, an action plan should be in place to respond.

**Are we cancelling patients?**
An important measure is the number of patients getting their appointment on the date they originally negotiated. Related to hospital cancellations, this measure gives surety that the patient is getting the service promised.

**Smooth running of clinics**
The promise to clinicians was that booking would improve their quality of life in the clinics. Hard evidence about over / under booking, over / under run clinics, late starts and finishes will all help keep control of this area.

**Clinic profiles**
Annual review of all clinic profiles, or review whenever clinic procedures change, is vital. A system needs to be in place that monitors when each profile was last updated and when it is due for review. It is too easy for this to slip over time.

**Elective waiting lists**
There are a number of tools which can be used to monitor elective waiting lists. The two most important are monitoring the trends in numbers and waiting times, and monitoring the way in which patients are removed from the list for booking.

**Trends in list performance**
The monitoring of waiting lists, both in terms of numbers waiting and the length of waits, is best done through the use of SPC charts (see page 105). SPC charts will allow the detection of trends, and distinguish between trends and random variation. SPC charts for both the number of patients on the list and the number of patients waiting over a pre-set amount of time (e.g. 12 months) are essential.

**How are patients booked?**
The biggest problem with managing waiting lists is ensuring that the patients are removed in strict date order according to pre-determined clinical priority. There are several approaches to this.

**How long did patients wait?**
Report on the length of time each patient waited, and look at the distribution of waits. If patients are being booked in turn, all patients of the same clinical priority will have similar waits.

**How long are patients waiting?**
What is the shape of the waiting list? If patients are being taken in turn, it should
have a level period followed by a steep drop, rather than a steady drop over time.

The "Gwent" measure
Gwent NHS Trust monitor removals by converting the waiting list to "days waiting" and seeing how close the actual number of days removed is to the theoretical days that could have been removed each month. This tool (described on page 37) was developed for outpatient monitoring, but would be applicable to elective lists as well.

CPaT
The Modernisation Agency has put together a set of tools for monitoring waiting lists. See the box below.

Effective Use of Theatres
The Audit Commission in Wales Acute Hospital Portfolio report states that in Wales:

- Patients wait longer than those in England to be admitted for routine surgical treatment;
- There is strong evidence that when more beds are available, more patients are placed on the waiting list;
- 10% patients have had their admission cancelled within a week of a planned operation;
- Only 70% of patients received their operation within a month of the original cancellation;
- There is variation in pre-assessment practices;
- Published waiting time data do not always reflect the full patient experience.

It is recognised that Operating Theatre time is one of the most expensive resources that a trust has to manage and it is an extremely complicated task to ensure that all the correct equipment, stores and staff are assembled in the same place at the same time that the patient needs them.

The publication of the Modernisation Agency’s Step Guide to Improving Operating Performance (2002) was the culmination of an extensive project involving nine pilot sites in England. The project examined all aspects of Operating Theatre provision and the tools developed, along with the Step Guide itself, offers straightforward, step by step advice to improving theatre services. Innovations in Care were involved in the revising of the final draft of the document and there was a recognition that the issues identified were common to Wales and that the solutions suggested would be as valid. It was agreed to adopt the document as the main reference document for the All Wales Theatre Programme.

The CPaT Toolkit

The Modernisation Agency
The Modernisation Agency in England has produced a toolkit for monitoring waiting lists. Called the Clinical Prioritise and Treat, the step guide and toolkit allows detailed analysis of waiting lists and waits by clinical priority within waiting lists. CPaT is a process as well as a set of tools, and there are instructions on using the toolkit with multidisciplinary teams as a way of reducing waiting times.

Innovations in Care recommends the use of this toolkit both as an initial analysis tool, and for ongoing monitoring purposes

The toolkit can be obtained from:
www.modern.nhs.uk/cpat
or contact Innovations in Care.
We recommend that trusts complete the Self Assessment Checklist that is included in the Step Guide.

This will provide a baseline assessment against the standard and will highlight areas of compliance and non-compliance from which trusts can target their improvement action plans.

The importance of theatre management is underlined by nominating an Executive Director to be responsible for theatre performance.

Step 2: Diagnosis & analysis
The Theatre programme in Wales has developed its own Key Performance Indicators that reflect the areas that management should have knowledge of on a regular (monthly) basis. These indicators build on the information already submitted by trusts in the Cancelled Operation data. Analysis of both will identify key areas for trusts to focus their efforts on to ensure improvement to the service. An example of the type of outcome chart is shown in figure 43.

The sharing of this information between Trusts has allowed benchmarking and identification of areas of good practice and it is recommended that trusts continue to meet with each other on a regular basis to ensure the continuation of this 'shared learning'.

The Step Guide also contains diagnostic tools that examine the patient experience and staff satisfaction. Innovations in Care recommends that Trusts undertake these surveys and discuss the results with colleagues across Wales and in England.

5.3 KPIs: What should we monitor?

The first section of the guide also covers:
- Actions for NHS Trust Boards.
- The role and membership of the Theatre Management Group.
- Theatre policy documents.
- Examples of effective practice.

One of the key recommendations is that the importance of theatre management is underlined by nominating an Executive Director to be responsible for theatre performance.

Step 2: Diagnosis & analysis
The Theatre programme in Wales has developed its own Key Performance Indicators that reflect the areas that management should have knowledge of on a regular (monthly) basis. These indicators build on the information already submitted by trusts in the Cancelled Operation data. Analysis of both will identify key areas for trusts to focus their efforts on to ensure improvement to the service. An example of the type of outcome chart is shown in figure 43.

The sharing of this information between Trusts has allowed benchmarking and identification of areas of good practice and it is recommended that trusts continue to meet with each other on a regular basis to ensure the continuation of this ‘shared learning’.

The Step Guide also contains diagnostic tools that examine the patient experience and staff satisfaction. Innovations in Care recommends that Trusts undertake these surveys and discuss the results with colleagues across Wales and in England.
Step 3: Improving operating theatre performance
Where areas of concern are identified Innovations in Care will provide training in ‘Process Mapping’ techniques to enable staff to highlight the bottlenecks and constraints in a system and be able to redesign the service using Plan Do Study Act cycles to ensure measurable improvement.

The Modernisation Agency step guide divides this section into three key areas:
1. Patient experience;
2. Human Resources;

It must be recognised when attempting to improve Operating Theatre services that some of the key impacts are often outside the department. So it is vital that all stakeholders in the Operating Theatre services are identified and involved in any improvement strategy. As with the other sections of this guide it is recommended that a whole system approach is taken when making improvement.

Step 4: Scheduling
The main areas that affect effective use of theatre time are scheduling and internal arrangements for getting the patient to the right theatre at the right time. Effective pre-operative assessment has a double effect on theatre efficiency by ensuring that cancellations are minimised and therefore ensuring that utilisation is increased.

Overbooking of theatre sessions will have a detrimental effect on cancellation rates. It is the second most important cause of cancellations due to non-clinical reasons: in the first quarter of 2003, over 370 operations were cancelled due to list over-runs. This is where effective and timely scheduling is key. Surgeons and theatre management teams must make use of available information to ensure theatre sessions are accurately planned. Prospective lists should be published with adequate time or early notification must be given of special needs to ensure theatres have the correct equipment available.

Systems of work must be examined to ensure that delays in patient transfers are minimised.

Electronic copies of the following documents are also available on www.modern.nhs.uk/theatreprogramme
- Step Guide to Improving Operating Performance
- Theatre programme diagnostic tools & user manuals
- Audit Commission Theatre Kit

Conclusions
The purpose of key performance indicators is to ensure that everything is running smoothly. It is far easier to keep on top of the problems than to fix them later.

Do not be afraid of setting up too many monitoring tools. It is easier to set up tools to monitor more than you think will be necessary and then to stop the ones that are less use than to have to set up new measures six months down the track because the process has gone wrong. Overmeasure at first, and pare down the tools over time.

Avoid using KPIs as a way of imposing performance targets. While KPIs can be (and are) used this way, the real value of KPIs is in allowing the staff in a service to look at their performance and see what is really happening.
5.3 KPIs: What should we monitor?

Dermatology Nurse Specialists
Conwy & Denbighshire NHS Trust

As a result of the long waiting times in Dermatology, Dermatology nurses within Conwy & Denbighshire NHS Trust have developed their roles to relieve some of the demands on the service.

A nurse-led acne clinic has been developed, seeing patients directly from the waiting list, which has reduced the waiting times from 18 months to 6 months within a 6-month period.

Those patients prescribed Roaccutane require close monitoring and support. A nurse-led monitoring clinic has been established which fulfils this need, allowing more time for doctors to see patients from waiting lists.

SOS patients are given an access phone number for short-notice appointments.

Teledermatology
Conwy & Denbighshire NHS Trust

To improve access to the service, a Dermatology nurse was appointed in September 2002, with the focus of introducing teledermatology to the Trust. Following an introductory period of training, planning and developing protocols, teledermatology clinics have been introduced to three peripheral sites on a "store and forward" basis. Images are viewed by a consultant Dermatologist, and the suspected skin cancer referrals prioritised accordingly.

Initially, this has been used as a triage imaging assessment tool of skin lesions, and not a substitute for consultation.

As a result, a nurse-led lesion-screening clinic has been developed, allowing greater access to the specialty for routine conditions, thus reducing waiting times by a quarter over the last few months from 24 to less than 18 months, with a target waiting time of 12 months by March 2004.
Many trusts and specialities have a problem with seeing outpatients at short notice. In response to the need to fit patients into full clinics two or less weeks into the future, Trusts have traditionally set aside appointment slots or overbooked clinics at the last minute.

**Understanding the workload.**

Typically, Trusts understand demand for follow-up services even less than they understand demand for new referral slots. As a result, clinics are often overbooked and capacity is often exceeded by demand, leading to overcrowding and reduction in new referral capacity. Even where information about the number of available appointment slots is available when booking, one vital piece of information is missed out: how many more patients will be referred to that clinic between now and the clinic happening?

One way to understand what the demand will be on future services is to prospectively record every follow-up appointment made for a time period (preferably several months) and keep a track of how many 1 week, 2 week, 3 week etc. appointments are made each week. An alternative is to estimate the demand based on historical data. By analysing all the appointments made over an 18 month period, and calculating the time between the appointment and its predecessor, an estimate of appointment frequency can be made. For one ENT service, the distribution is as follows:

![Graph showing the percentage of patients follow-up appointments allocated each period](image)

**Figure 45. Number of weeks / months between a followup being made and the appointment.**

Note that 5% of appointments are made for 1 week, 5% for 2 weeks, 5% for 3 weeks etc. 25% of appointments are made for less than 6 weeks. In order to leave room for these patients, at 6 weeks the clinic should be only 75% full. The clinic in figure 44 is already full for the next seven weeks. Where will these patients be placed?

There needs to be a way to look at clinics and take account of the work that will come in, not only the work that has already come in. If that information is made available to clinicians, then they will be better able to make the decision about when to bring patients back —
balancing clinical need with clinic availability. This can then be combined with a partial booking process for follow-up patients to reduce the last-minute overbooking and cancellation that is common today.

**Step 1: Plot the distribution...**

Use as long a time frame as possible — the shorter the time you choose, the more under-represented the longer appointments will be, as either the first or the second appointment will be missing from the sample. Use a sample size of 18 months; more would be better!

**Figure 45a. Step 1**

**Step 2: Convert to a cumulative graph...**

The lower area represents the proportion of the clinic that should be filled, based on the distribution in the first graph. The upper area is the proportion needed to deal with the appointments “yet to come”. The boundary between the upper and the lower is the proportion of the clinic that should be filled at any time. The boundary line represents “full” if there is to be space available for any appointments yet to come.

**Figure 45b. Step 2**

**Step 3: Plot your “actuals”...**

The jagged line represents the ENT clinic seen overleaf. As can be seen, there are times when it is above the boundary line — the clinic is over full. There are also times when the clinic is underfull for that week or month.

**Figure 45c. Step 3**

**Step 4: Simplify the presentation...**

The last graph “flattens” the boundary line, setting it as “100%”. The jagged line becomes the series of vertical bars, showing over and underbooking against the new profile. This graph could be given to consultants or clinic staff to show where problems are predicted. Compare this graph for the clinic to figure 44.

**Figure 45d. Step 4**

Understanding demand for follow-up appointments will assist booking, and it will go a long way to improving the current chronic overbooking found in many clinics.
Statistical Process Control (SPC) can help in virtually all aspects of managing healthcare. From monitoring of waiting times for a Trust to monitoring prescribing on a ward, SPC provides a way of separating the “information” from the “noise” so that managers and clinicians can understand what is going on. Too often decisions are made without knowing whether changes in data are due to actions taken, or merely due to chance.

The time has come to reclaim the benefits of this methodology and use the tools to understand and monitor the work we do on a daily basis. To help in this, this section abandons the nomenclature traditionally used in statistical process control methodology. To assist those who are familiar with the older jargon, there is a short glossary on the next page.

Ignoring time:
The curse of the monthly report

Most healthcare organisations manage through monthly reporting. These reports present data for the past month (often several weeks after the end of the time period) and probably a year to date position, including a target.

Unfortunately, a monthly progress report shows little about the future. Indeed, managing by the monthly report has been likened to driving a car by watching the road in the rear view mirror. To manage future events, you must predict the future. The best approach to prediction is analysis of past trends.

The best way to display trends in data is the run chart — plotting weekly or monthly values as a time sequence. Run charts are a significant improvement over traditional reporting techniques, because they introduce the concept of changes over time.

Unfortunately, in order to manage a trend, it is necessary to go one step further. Is the change in the run chart due to a change in the process, or is it simply due to random fluctuation. To do this the trend must be separated from the noise resulting from random variation. Much damage can be done by assuming a monthly change is the break in a trend, or represents a change resulting from action taken last month, when in fact it represents the effect of routine variation caused by random factors. This is where process behaviour charts come in.

The process behaviour chart

Process behaviour charts are a type of run chart. The aim of a run chart is to look for changes in performance over time. The aim of a process behaviour chart is to show whether the changes seen in the run chart are as a result of routine variation in the process, or the result of exceptional variation, indications that something in the process has changed. From the separation of routine and exceptional variation it is possible to determine whether the changes in data represent
changes in performance or simply the normal variability of the system.

Figure 47 on the next page illustrates this problem. It is a run chart showing the time sequence from April 2000 to March 2001, and the number of patients waiting over 18 months for an outpatient appointment. The graph shows a drop in March, which is against the trend for the previous year. Does this drop represent a real change, a one off event, or random variation?

It is difficult to see changes in the trends in figure 47. They can be made clearer by plotting the change from month to month, rather than the actual values. This has been done in figure 48. A constant trend will now be shown as a horizontal line, and the difficulty of estimating changes in slope are removed.

Figure 48 shows that the change in numbers waiting from month to month does vary between -200 and +450, and it also shows that March 2001 represents the first point at which there is a negative value – a reduction in the waiting list. Is this reduction real, or simply random fluctuation? The answer can be provided by converting the run chart to a process behaviour chart.

Creating the process behaviour chart
To convert this run chart to a process behaviour chart, some calculations are necessary, and some information must be added.

1. Calculate the average change. Exclude the March 2001 data from the averaging process as the purpose is to see if this is outside the normal range. The average line (shown on figure 49 as the dotted line) is therefore the average of the values from May 2000 to February 2001.

2. Calculate the average moving range (AMR). This is the difference between each value and the next. If the difference is a negative number, ignore the sign. In this example the AMR is 150.

3. Multiply the AMR by 2.66 (150 X 2.66 = 400). 2.66 is a constant, derived for this purpose.

4. The upper natural process limit is the value from step 3 added to the average (206 + 400 = 606).

5. The lower natural process limit is the value from step 3 subtracted from the average (206 - 400 = -194).

These limits can now be plotted on figure 49. They are represented as the dashed lines.

---

The natural process limits represent the range within which the process can be expected to vary. Any variation outside these limits will indicate that the process has in some way changed.

**Interpretation of the process behaviour chart**

The natural process limits represent the range within which variation is routine. If a point falls outside those limits, it is due to exceptional causes — either to some one-off exceptional event, or a change in the process in some way. When the data fall outside the range shown on the charts, you will know that something has been done that has affected the number of long waiting patients.

The March 2001 value, while low and the first reduction seen, does not fall outside the natural process limits. While the reduction may be due to extra end of year work, there is no reason to put the reduction down to anything other than routine variation within the process.

**Extending the series**

What happens if we extend the graph? On Figure 50, data through to October 2001 has been added.

Both September and October 2001 are outside the natural process limits on figure 50. This indicates that these two months represent a change in the process. Something has led to an increase in the rate at which the number of over 18 month waits is growing. But when did the increased trend start? Was it in September,
or was it earlier and took until September to exceed the limits?

There are three tests of a change in behaviour in a process behaviour chart. Each of these tests indicates that something outside the normal course of variation has occurred.

1. The appearance of a point outside the natural process limits has already been covered. A single point (rather than a series of points) outside the range could represent a one-off exceptional variation, due to either a change in the process or an outside cause that affected only that month. A single point should therefore be regarded with caution as an indication that the process has been changed.

2. A run of eight or more points on one side of the average line. In figure 50, all the points from April 2001 are on the upper side of the average, and if the November data was also above 206 this would satisfy the test that a change existed from April 2001. At present it does not. This test will pick up relatively small changes in the trend, but it needs a long period (8 time intervals) to show up.

3. Three of four consecutive points are closer to the one of the natural process limits than the average. On figure 50, May 01, July 01 and August 01 are all closer to the upper natural process limit than the average. This test has been met, and indicates a change in the process from earlier than September 01 when the first point is outside the upper natural process limit. It indicates that there has been a change in the process in place since around May 2001.

Figure 51 extends figure 47 over the same date range, and shows that the slope on the chart from March 2001 is steeper than prior to that date. This supports the proposition that something has changed across Wales since April 2001, but the process behaviour charts confirm the significance of the change.

It would be possible to generate the process behaviour chart on the raw data in figure 47. To do this, as there is a trend upwards in the data, the average line
needs to incorporate the steady state increase. This can be done by creating an "average" line that is a "best fit" and calculating the natural process limits either side of the best fit line. Although this is possible (see March 01 to September 02 in figure 52) it is more complicated.

**Use of process behaviour charts**
process behaviour charts are used to separate the "noise" from the "information" in a data series. They can be used to analyse trends and make reliable predictions about the future. They can also be used to monitor performance and determine whether performance changes are real or simply an artifact of the variation in the system.

More importantly, process behaviour charts can be used to analyse and monitor changes made as part of an improvement process. As part of the PDSA cycle (change through experimentation) process behaviour charts can be set up to monitor the processes that are being changed. It will then be possible to determine whether a change to the process (as part of a Plan Do Study Act cycle) has in fact led to a change in the performance of the process. Without using process behaviour charts to monitor performance of the Plan Do Study Act cycle it will not be possible to determine accurately whether the outcome is a result of the change, or simply the effect of variation.

**Wheeler's principles for understanding data**

**First principle:**
No data have meaning apart from their context

**Second principle:**
While every data set contains noise, some data sets contain signals. Therefore, before you can detect a signal within a data set, you must first filter out the noise.
One stop clinics: Office gynaecology
Conwy & Denbighshire NHS Trust

As a result of the long inpatient and outpatient waiting times in Gynaecology, the Obstetric and Gynaecology Directorate within the Conwy and Denbighshire NHS Trust have expanded the One Stop Clinic to reduce the waiting list times.

The main aims of the One Stop Clinic are as follows:

- Investigation and management of postmenopausal bleeding
- Investigation and management of menorrhagia
- Investigation of female urinary incontinence

The clinic is run every Monday and every other Thursday and led by a Consultant Obstetrician and Gynaecologist. This consultant currently runs a rapid access postmenopausal bleeding clinic, other "see and treat" procedures carried out within the One Stop Clinic are:

- Hysteroscopies
- Biopsies
- Scans
- Insertion of Mirena coils

With the successful introduction of the One Stop Clinic waiting lists have been reduced dramatically over the past twelve months, thus reducing pressure on the Service. Future aims are to double the capacity for combined colposcopy and hysteroscopy procedures.
Chapter 6

Managing change

The previous two chapters have covered analysis tools. But analysis is not enough. Analysis without action is an academic exercise. This chapter covers some basic tools for implementation of change.

The human dimensions
Change happens when people want change to happen. Taking the staff and patients along with you on the change process is essential.

PDSA cycles: A model for improvement
The use of PDSA cycles as a mechanism for delivering change has revolutionised the change process in England, Wales and the United States where the technique was first developed.

Reducing follow-up demand
The follow-up patient is a major source of demand on outpatient clinics. Understanding what happens in clinics and then making changes to reduce follow-ups is a major source of additional outpatient capacity.

GP feedback systems
The use of access protocols in primary care is a common way of trying to reduce demand on secondary care services. Innovations in Care recommends an alternative to access protocols, the use of active feedback to GPs.

Using “Plan Do Study Act” cycles in Endoscopy
Cardiff and Vale NHS Trust

Demand and Capacity principles are being applied to Endoscopy services at the University Hospital of Wales. Detailed process-mapping at multi-disciplinary workshops identified opportunities to improve patient preparation prior to the endoscopy examination as a means of increasing the number of patients who attend.

The team planned a PDSA cycle by selecting an Endoscopy list for non-urgent patients, and training a senior nurse to carry out telephone pre-admission assessment of patients. Data collected included changes in patient attendance rates and the time taken to assess the patient with and without the service.

On completion of the PDSA cycle the nurse-led pre-admission service was shown to have achieved a reduction in patients’ non-attendance or cancellation rate from 18% to 6%, which if made available to all patients, could increase patient attendances by up to 500 per year.
6.0 Managing change
The human dimensions

No change can be achieved without the support of all those involved. There are a number of approaches to managing the human dimensions of change, and this is a brief introduction of some of the approaches to involving staff in the change process.

Most people do not like change. Implementing change successfully inevitably means working with people who would prefer things to continue as they are. How is it possible to get people to not only cooperate with the change process, but to be enthusiastic about it?

**Top down versus bottom up**
Change can be imposed by management, or it can develop organically from below.

Top down change will usually have a clear plan, will have support and leadership, and will have clear objectives. On the other hand, staff will see the change process as imposition from above and they are less likely to feel part of the process.

Bottom up change will be more inclusive of staff, because this is change from "within the ranks”. It is likely to be a continuous, rather than an episodic, process. There is often no plan or clear objective to the change. Outcomes may not be supported by senior management, as they may not fit with organisational objectives. There is less likely to be senior management acceptance of solutions.

The best option is a combination of the two approaches. Clear leadership and support for the process from management, with clear objectives. Staff should be using improvement tools in their daily work, and change should be a continuous process.

Change will be encouraged by “intelligent leadership**”. Clinicians are more likely to become involved in change if they are confident that managers understand the problems faced by the service, and are competent in the analysis and understanding of data.

**The four essential factors**
Before staff will encompass change there are four factors that must be present.

**Dissatisfaction**
Staff must be unhappy with the process as it currently is. No one will want to change something that they think is working well.

**Vision**
There must be a view that things can be better, and an agreed vision of how things could be. We do not give up what we have without a clear idea of what we will put in its place.

**Capacity**
There must be capacity to change. There must be a commitment from management.

* Alistair Mant. *Intelligent Leadership.*
to the change process and to providing the resources that will be necessary to implement the change.

First steps
There must be a clear understanding by all of what will happen first. Overcoming inertia is easier if there is a clear plan, with manageable first steps.

The Comfort Zone
Part of involving people is getting them out of that comfort zone where they feel that the status quo is OK. But it must be done in such a way that staff do not panic. In any group there will be those in the comfort zone (I don't want to change), and those in the panic zone (I can't change). The art is in moving both into the discomfort zone (I can change).

What is in it for me?
The best way to move people is to identify what is in the change process for them. Everyone will have some motivation for either adopting or resisting change. Everyone will have something about the current process that they do not like. The key of good change management is to identify and use these drivers. Ensure that solutions to problems meet the needs of the staff, and they will be much easier to implement.

Transitions
"Every beginning ends something"
— Paul Valery, French poet

Every change destroys something that has gone before, and some people will regret that loss even if they are happy with the new process.

William Bridges* calls the process that people go through as they face change "transition". Transitions start with an ending, go through a period of uncertainty, and end with a new beginning.

1. Managing the ending
Before you can start something new, you must end what used to be. To do this effectively you must understand who is losing what? What is over? You must positively acknowledge the losses and be clear what is over and what isn’t.

It is often useful to ritually mark endings. In some cases, you can let people take a bit of the past with them — their door sign, their desk, a plant or poster.

2. Managing the neutral zone
Neither the old ways nor the new ways seem to be working. This is the dangerous time, where anxiety rises and motivation falls. There will be more illness, but it is also a more creative time — redefine it and use it constructively. Create temporary systems to manage through this stage.

3. A new beginning
This is the easy part, especially if the endings have been managed. You must clarify and communicate the purpose, painting a picture of how it will be. Create a plan, and show everyone their part in the future.

PDSA cycles: A model for improvement

After analysis, after identifying the problems, comes the moment of truth. What can be done to improve the service? How can changes be introduced in a clinical environment so that staff feel comfortable and patient care is improved not disrupted. Traditionally, the NHS approach to change has been through project management. Project plans are produced, Gantt charts prepared, programmes of meetings arranged. Change is introduced, but meets opposition and does not always succeed.

Innovations in Care recommends an alternative approach to introducing change. A process of continuous improvement through incremental change, the use of PDSA cycles provides a model of improvement that enables an ongoing change programme to exist in a clinical environment.

What is the PDSA model?
The model for improvement has two parts: it starts with three questions, followed by a series of improvement cycles.

1. What are we trying to accomplish?
The start of the improvement process should be statement of the aims of the project. It is impossible to reach a goal without knowing what it is. The goal statement should be clear, specific, aspirational and measurable.

2. How will know that a change is an improvement?
The key to an effective improvement process is measurement. Without effective measures there is no way to know whether any change is improving the process. Selection of a range of measures for improvement should be central to any improvement process.

3. What changes can we make that will result in improvement?
The PDSA cycles are a way of testing suggested improvements in a controlled environment. The changes that are developed in response to question 3 are the changes that the cycles will test. Changes can come from staff suggestion, from other sites who have looked at the same problems, or from the literature. Innovations in Care is developing a database of good practice which can also be used as a source of ideas.

The PDSA Cycle
The PDSA cycle is a repeated cycle of four stages.

Plan
Define the question that you want answered in this cycle, including what you would expect the outcome to be expected. Design an experiment to test the question, covering the “who, what, when and how” of the cycle, and the measures that will be used to determine success.

Do
Do the experiment, ensuring the data has been collected. Record what went wrong,
and what went well. Were there any unexpected outcomes?

**Study**
Get everyone together to look at the data. What has been learned? Do the outcomes agree with the predictions? Are there circumstances where the outcome might be different?

**Act**
Decide what to do next cycle. Should the change be implemented more widely? Can it be extended to more patients, or is something else necessary? What will be the objective of the next cycle? If the change was unsuccessful, it should be abandoned and something different tried for the next cycle — there should not be pressure to adopt every change.

**Figure 54. The PDSA Cycle**

**Figure 55. Improvement: A series of cycles**

**Advantages of PDSA**
The PDSA model is ideally suited to introducing change in a complex clinical environment, where there is a high element of risk. Small changes are more acceptable to staff and patients, and there is far less disruption than the more traditional “major redesign programme”. The process also promotes the philosophy that change is a normal continuous process that the staff are involved in, rather than a major event that “happens” to people.
Reducing follow-up demand

One of the main pressures on outpatient clinics is the volume of follow-up appointments. Regular follow-ups are seen as a high priority by many staff, often taking priority over new referrals into a clinic. It is common for new referrals to be cancelled when space for follow-ups is tight, and this leads to increased waiting times for new referrals. Reducing follow-up attendances is the quickest way of increasing capacity within an outpatient clinic.

There are many ways to reduce follow-up attendance. In some cases, it is simply a matter of understanding the impact of follow-up appointments, and deciding as a multi-disciplinary team that the situation needs to be reviewed. In other cases, more formal approaches to reviewing the situation will be useful.

Understanding clinic profiles
It can be difficult to see the wood from the trees. Sometimes it is necessary to step back and review what is happening in outpatient clinics as a concerted exercise, rather than relying on perception and anecdotal evidence.

One way of doing this is to create a “Week in the life of a clinic” to determine just what happens during a typical week.

The basic technique is to set up a data collection tool that can be applied to every patient seen in a department in a typical week. This data can be collected from the PAS, from patient records, and from checklists completed by staff during

Nurse Practitioner in ENT
Cardiff and Vale NHS Trust

In common with many other Trusts in Wales, Cardiff and Vale has long waiting times for ENT and Audiological Medicine. The longest waiting patients are those with routine conditions whose needs inevitably have to be prioritised against those with urgent conditions including actual or suspected cancers.

A nurse practitioner was appointed in July 2002 with the specific objective of improving access times to the service. Following a period of training and development of care pathways and treatment protocols, she now works autonomously and provides assessment, diagnosis and treatment for patients referred from consultants and junior medical staff and GPs, and those she is able to select directly from the waiting list. Conditions the nurse practitioner is able to diagnose and treat include assessment of hearing loss, mastoid cavity care, aural care and treatment of infections, assessment for tonsillectomy and recurrent epistaxis.

The nurse practitioner’s annual capacity is 2550 new outpatients, and 1000 follow-ups. For the patients she is able to treat, this has enabled a reduction in waiting times from 38 months to 2 months for one consultant, and to between 11 and 3 months for the other four.
the clinic. Each of these will give a part of the picture:

**From the PAS**  
Patient demographics including age/sex profiles, postcode analysis, referrer analysis.

**From the patient record**  
Diagnosis and co-morbidities, number of times the patient has attended in the last year.

**From a checklist**  
Who saw the patient, action taken, tests ordered, when the next appointment will be.

The information collected from these sources over a typical week should give enough data to be statistically significant. Combining the data into a single database will allow collation across the different sources. The aim of the collection exercise should be to provide a picture of a typical cross section of patients seen in the department, and should help in answering a number of questions such as: what proportion of patients are local? What is the level of co-morbidity? What disease groups make up the highest proportion of frequent attenders? How many of the follow-up appointments were seen by junior staff, and what were the decisions taken?

The analysis may not provide any quick answers, but it will contribute to any subsequent improvement process. Without knowing the nature of the thing that is to be improved, there is a danger of concentrating on what seems obvious, or what “everyone knows is the problem”. Good data on the current situation is the first step to improvement.

This exercise can take a significant resource. Collection will involve looking at patient notes, and staff completing checklists for every patient they see during the week. The benefits are well worth the effort, as no-one can say that they are managing a service if they do not understand what is happening within that service.

**Frequent attender analysis**  
A combination of analysis and action, this technique is a way of focussing efforts on the patients where the most return is likely.

From at least a year’s data download from the PAS, do a frequency analysis of attendances by patient. The only data required for this is the patient number and the date of the outpatient appointment. Within a spreadsheet, a pivot table can be used to count the number of attendances by each patient. The pivot table can then be used to count the number of patients who had one appointment, two appointments and so on.

This is likely to show that the number of patients with significant multiple appointments is low, but that the number of appointments taken up by those patients is significant. In figure 57, which represents data for two years, one patient had 28 appointments, and three had 24 or 25 (one every month). In all, 18 patients (0.20%) accounted for 343 appointments (1.81%), while 125 patients (1.40%) had 10 or more appointments over the two years, representing 1,615 appointments (8.53%).

What can be done with this data? Pulling the patient records of the 18 patients and doing a clinical review may reveal changes to the care which would result in fewer appointments. Are these patients being best managed in outpatients? Would there be benefit in meeting with the patient’s GP? By focussing on patients who are frequent attenders it may be possible to customise their care and improve the
### Frequency of Attendance, 2 years data

<table>
<thead>
<tr>
<th>Attendances</th>
<th>Number of patients</th>
<th>% of Patients</th>
<th>Cumulative % of Patients</th>
<th>Number of attendances</th>
<th>% of attendances</th>
<th>Cumulative % of attendances</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4761</td>
<td>53%</td>
<td>53%</td>
<td>4761</td>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>2</td>
<td>2005</td>
<td>22%</td>
<td>97%</td>
<td>2005</td>
<td>21%</td>
<td>46%</td>
</tr>
<tr>
<td>3</td>
<td>959</td>
<td>11%</td>
<td>86%</td>
<td>959</td>
<td>15%</td>
<td>62%</td>
</tr>
<tr>
<td>4</td>
<td>530</td>
<td>6%</td>
<td>92%</td>
<td>530</td>
<td>11%</td>
<td>73%</td>
</tr>
<tr>
<td>5</td>
<td>259</td>
<td>3%</td>
<td>95%</td>
<td>259</td>
<td>7%</td>
<td>80%</td>
</tr>
<tr>
<td>6</td>
<td>117</td>
<td>1%</td>
<td>96%</td>
<td>117</td>
<td>4%</td>
<td>83%</td>
</tr>
<tr>
<td>7</td>
<td>92</td>
<td>1%</td>
<td>97%</td>
<td>92</td>
<td>3%</td>
<td>87%</td>
</tr>
<tr>
<td>8</td>
<td>59</td>
<td>1%</td>
<td>98%</td>
<td>59</td>
<td>2%</td>
<td>89%</td>
</tr>
<tr>
<td>9</td>
<td>48</td>
<td>1%</td>
<td>99%</td>
<td>48</td>
<td>2%</td>
<td>91%</td>
</tr>
<tr>
<td>10</td>
<td>26</td>
<td>0%</td>
<td>99%</td>
<td>26</td>
<td>1%</td>
<td>93%</td>
</tr>
<tr>
<td>11</td>
<td>27</td>
<td>0%</td>
<td>99%</td>
<td>27</td>
<td>2%</td>
<td>94%</td>
</tr>
<tr>
<td>12</td>
<td>19</td>
<td>0%</td>
<td>99%</td>
<td>19</td>
<td>1%</td>
<td>96%</td>
</tr>
<tr>
<td>13</td>
<td>14</td>
<td>0%</td>
<td>100%</td>
<td>14</td>
<td>1%</td>
<td>97%</td>
</tr>
<tr>
<td>14</td>
<td>10</td>
<td>0%</td>
<td>100%</td>
<td>10</td>
<td>1%</td>
<td>97%</td>
</tr>
<tr>
<td>15</td>
<td>11</td>
<td>0%</td>
<td>100%</td>
<td>11</td>
<td>1%</td>
<td>98%</td>
</tr>
<tr>
<td>16</td>
<td>4</td>
<td>0%</td>
<td>100%</td>
<td>4</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>17</td>
<td>6</td>
<td>0%</td>
<td>100%</td>
<td>6</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>18</td>
<td>1</td>
<td>0%</td>
<td>100%</td>
<td>1</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>19</td>
<td>3</td>
<td>0%</td>
<td>100%</td>
<td>3</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>0%</td>
<td>100%</td>
<td>0</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>21</td>
<td>0</td>
<td>0%</td>
<td>100%</td>
<td>0</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>22</td>
<td>0</td>
<td>0%</td>
<td>100%</td>
<td>0</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>23</td>
<td>0</td>
<td>0%</td>
<td>100%</td>
<td>0</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>24</td>
<td>1</td>
<td>0%</td>
<td>100%</td>
<td>1</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>25</td>
<td>2</td>
<td>0%</td>
<td>100%</td>
<td>2</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>26</td>
<td>0</td>
<td>0%</td>
<td>100%</td>
<td>0</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>27</td>
<td>0</td>
<td>0%</td>
<td>100%</td>
<td>0</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>28</td>
<td>1</td>
<td>0%</td>
<td>100%</td>
<td>1</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>29</td>
<td>0</td>
<td>0%</td>
<td>100%</td>
<td>0</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>30</td>
<td>0</td>
<td>0%</td>
<td>100%</td>
<td>0</td>
<td>0%</td>
<td>100%</td>
</tr>
</tbody>
</table>

|          | 8955               |               |                          | 18928                 |                |                            |

**Figure 57a. Frequent attendance data, 2 years clinics**

**Figure 57b. Distribution of patients and appointments by frequency**
outcome, while also reducing the demand on outpatients. The key is identifying the small number of patients who are consuming relatively large amounts of clinic time, and then seeing if they can be managed better.

Use of "SOS" appointments
Many departments now use self referral for follow-up rather than fixed appointments. This can be very effective in reducing both follow-up appointments and DNA rates in some situations. So called "SOS" appointments can be used to advantage where the patient has a recurrent problem, where a procedure is being followed up, or where monitoring of a chronic condition can be undertaken in part by the patient.

Recurrent problems
This is the most common use of SOS appointments now. There is little point in regular follow-up of a condition which flares up from time to time, rather it is preferable to have rapid access to an appointment when the problem recurs.

Procedure follow-up
In many situations it is common to recall patients while they are recovering from a procedure. Often appointments are made on a regular basis, until the patient reports no further problems. This will always result in one more appointment than necessary (when the patient attends to report no symptoms) and often more than one appointment.

Informing the patient about the progression of recovery (through a patient pathway), and allowing the patient to make an appointment quickly if there is a deviation from the pathway or if the patient has any concerns, will mean that patients on the normal recovery path will not take up clinic time, which can then be devoted to those patients with problems.

Chronic condition monitoring
Patients with chronic conditions can also use SOS appointments, with the possibility of less frequent scheduled review.

In the case of chronic conditions, as with procedure follow-up, it is essential that the patient understands what events should trigger an appointment. Laminated cards with the events that should lead to an SOS appointment and instructions on how to make one are used with many patients.

Care must be taken with chronic conditions that have trigger events not apparent to the patient. Examples of these may be glaucoma or diabetic retinopathy in ophthalmology, or cholesterol levels in cardiology. In these cases, where the patient cannot monitor their own health, non-consultant monitoring can be used to reduce attendances in the outpatient clinic.

Follow-up referral protocols
Many attempts have been made to reduce referrals through the use of primary care referral protocols. Yet few departments have explicit protocols relating to the generation of a follow-up appointment although unnecessary follow-up appointments make up a higher proportion of clinic time than unnecessary new referrals.

Where junior staff review patients, the development and use of explicit protocols on the need to bring patients back to clinic will significantly reduce follow-up appointments. Junior staff have a tendency to bring patients back if in doubt — protocols make explicit when a patient should be brought back (or given an SOS appointment).

All departments should develop follow-up protocols for their major patient groups, and monitor their use.
When talking to consultants and GPs about direct access to outpatient appointments, two things become clear. Consultants are concerned about the number of referrals wrongly directed, with inadequate information, uncompleted tests, or wrongly prioritised. GPs are concerned about receiving feedback on the quality of, or problems with, referrals. There should be a process to address these concerns. Innovations in Care recommends the following approach.

Using clinical guidelines the GP determines if the patient requires an appointment within. The guidelines are not restrictive — they give guidance, but do not override clinical judgement.

The GP then uses the Trust Appointment Centre to make an appointment if the appointment is needed within six weeks. This is done with the patient present, and the appointment is arranged to the patient’s convenience.

A referral form is faxed through to the appointment centre within 48 hours (if it is not received the Appointment Centre will contact the practice.) The consultant does not need to see the referral until the patient attends the clinic, but may choose to do so.

At the time the patient attends the appointment an evaluation form is completed (see page 122).

The evaluation form is returned to the GP. A summary of the data on the form is also returned on a regular basis to the LHG clinical governance structure.

Issues with specific GPs are the responsibility of the LHG. General diagnostic or referral problems are the responsibility of the Trust, and should be addressed through a GP education programme.

This process will improve the quality of referrals through a positive feedback process, rather than the more restrictive use of protocols to limit access.

Figure 58. Flow chart of the GP feedback system
### GP Referral Feedback Form

<table>
<thead>
<tr>
<th>Hospital Number:</th>
<th>123987</th>
<th>Referral Source:</th>
<th>GP Direct Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Name:</td>
<td>Master David</td>
<td>Referral Source:</td>
<td>GP Direct Access</td>
</tr>
<tr>
<td>Consultant:</td>
<td>Mr Earsay</td>
<td>Specialty:</td>
<td>ENT</td>
</tr>
<tr>
<td>Referral Type:</td>
<td>Urgent</td>
<td>Specialty:</td>
<td>ENT</td>
</tr>
<tr>
<td>Date Received:</td>
<td>8 Feb 2001</td>
<td>Appointment Date:</td>
<td>23 Feb 2001</td>
</tr>
<tr>
<td>Seen By:</td>
<td>Consultant Assoc. Specialist Registrar SHO</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Was the referral appropriate?**
- Yes
- No

If no, should it have been:
- [ ] Urgent
- [ ] Routine
- [ ] 2 week cancer wait

**Was the referral according to any available guidelines?**
- Yes
- No
- No Guide

**Comments:**

> This referral was not appropriate because the child’s symptoms were chronic, not acute

**Dr Walton**

---

*Figure 59. Feedback form.*
Chapter 7

Useful resources

This document provides a very brief introduction to a number of different tools and techniques. It is hoped that the following resources will allow you to delve deeper into some of the tools and learning resources.

A good starting place for more information is the Innovations in Care website:

howis.wales.nhs.uk/inic

Government Publications

Improving the Health in Wales: A Guide for the NHS with its Partners

The Review of Health and Social Care in Wales
Report of the Project Team advised by Derek Wanless. Welsh Assembly

Waiting List Accuracy: Assessing the Accuracy of Waiting List Information in NHS Hospitals in
England and Wales

Audit Commission Acute Hospital Portfolio Report on Operating Theatres

Copying Letters to Patients: Summaries of 12 Pilot Project Sites
Health Organisations Research Centre, Manchester School of Management, 2003.

Healthcare Improvement

To Err is Human: Building a safer health system
Institute of Medicine report, National Academy Press, 2000

Crossing the Quality Chasm
Institute of Medicine report, National Academy Press, 2001

Curing Healthcare. New Strategies for Quality Improvement

Escape Fire. Designs for the Future of Health Care
7.0 Useful resources

**Modernisation Agency Publications**

Clinically Prioritise and Treat: The CPAT Step Guide

Clinically Prioritise and Treat: The CPAT Toolkit Guide


**Modernisation Agency: Improvement Leaders Guide Volume 1 and Volume 2**

1. Process Mapping, analysis and redesign
2. Matching capacity and demand
3. Measurement for improvement
4. Spread and sustainability
5. Involving patients and carers
6. Managing the human dimensions of change
7. Setting up a collaborative programme

**Step by Step Guide to Improving Operating Performance.**


**Quality Improvement**

The Improvement Guide: A Practical Approach to Enhancing Organisational Performance  

Quality Improvement Through Planned Experimentation  
*Moen, Nolan, & Provost. ISBN 0-07-913781-4*

The Fifth Discipline: The Art and Practice of the Learning Organisation  
*Peter Senge. ISBN 0-09-182726-4*

The Fifth Discipline Fieldbook  
*Peter Senge. ISBN 1-85788-060-9*

The Dance of Change: The Challenges of Sustaining Momentum in a Learning Organisation (a Fifth Discipline Resource)  
*Peter Senge. ISBN 1-85788-243-1*

Understanding Variation: The Key to Managing Chaos (2nd Edition)  
*Donald J Wheeler. ISBN 0-94532-053-1*

The Memory Jogger Plus+ and Featuring the Seven Management and Planning Tools  
*Michael Brassard. ISBN 1-879364-41-7.*

Promoting Advanced Access in Primary Care: A handbook  

Lean Thinking: Banish Waste and Create Wealth in Your Corporation (revised)  
*James P Womack and Daniel T Jones. ISBN 0-74324-927-5*

The Lean Toolbox.  
*John Bicheno. ISBN 0-9513-829-9-3*
7.0 Useful resources

**Presenting Information**

Visual Explanations  

The Visual Display of Quantitative Information  
*Edward R Tufte. ISBN 0-9613921-0-X.*

Envisioning Information  

**Leadership Skills**

Intelligent Leadership  
*Alistair Mant. ISBN 1-86508-052-7*

Leading Change  
*John P Kotter. ISBN 0-87584 -747-1*

Managing Transitions: Making the most of change  

**The Theory of Constraints**

The Goal  
*Eliyahu M Goldratt. ISBN 0-88427-061-0*

It's Not Luck  
*Eliyahu M Goldratt. ISBN 0-566-07627-6*

Critical Chain  
*Eliyahu M Goldratt. ISBN 0-88427-153-6*

Necessary but Not Sufficient  
*Eliyahu M Goldratt. ISBN 0-88427-170-6*

Project Management in the Fast Lane: Applying the Theory of Constraints  
*Robert C Newbold. ISBN 1-57444-195-7*

Goldratt’s Theory of Constraints: A Systems Approach to Continuous Improvement  
*H William Dettmer. ISBN 087389-370-0*

What is this Thing Called the Theory of Constraints and How Should it be Implemented  
*Eliyahu M Goldratt. ISBN 0-88427-085-8*

The Haystack Syndrome  
*Eliyahu M Goldratt. ISBN 0-88427-089-0*

Deming and Goldratt: The Theory of Constraints and the System of Profound Knowledge  
*D. Lepore and O Cohen. ISBN 0-88427-163-5*

Management Dilemmas: The Theory of the Constraint Approach to Problem Identification and Solutions  
*Eli Schragenheim. ISBN 1-57444-222-8*

The Measurement Nightmare: How the theory of Constraints can Resolve Conflicting Strategies, Policies, and Measures  
*Debra Smith. ISBN 1-57444-246-5*

Critical Chain Project Management  
*Lawrence P Leach. ISBN 1-58053-074-5.*
7.0 Useful resources

Websites

howis.wales.nhs.uk/inic
The Innovations in Care Team website.

www.modern.nhs.uk
This is the NHS modernisation agencies official website.

www.modern.nhs.uk/scripts
This is the web address for the modernisation agency pre-operative assessment guidance.

www.modern.nhs.uk/cpat
This is the web address for the Clinically Prioritise and Treat Programme.

www.modern.nhs.uk/theatres
Modernisation Agency Operating Theatre and Preoperative Assessment website.

www.modern.nhs.uk/theatreprogramme
This website contains electronic copies of the following documents:
- Step guide to improving operating performance
- Theatre programme diagnostic tools and user manuals
- Audit commission theatre kit.

www.ihi.org
The Institute of Healthcare Improvement website.

www.chl.wales.nhs.uk
The Centre for Health Leadership Website.

www.doh.gov.uk/patientletters/issues.htm:
Good practice guidelines for "copying letters to patients" in England.

www.doh.gov.uk/waitingbookingchoice
The Department of Health Waiting, Booking and Choice programme website.

howis.wales.nhs.uk/Microsite/page.cfm?orgid=296&pid=5803
Cancelled Operation Reports.

wwwaudit-commission.gov.uk
The Audit Commission website.

www.nice.org.uk
The National Institute for Clinical Excellence website.

www.his.org.uk
The Hospital Infection Society website

www.natn.org.uk
The National Association of Theatre Nurses website.

www.aodp.org
The Association of Operating Department Practitioners.

www.cf.ac.uk/carbs/lerc
The Lean Enterprise Resource Centre at Cardiff University.

www.qualityhealthcare.com
Quality and safety in healthcare — a journal.

www.lean.org
The official website of the Lean Enterprise Institute.

www.goldratt.co.uk
The official Goldratt UK website.

www.jeantodd.co.uk.
The Jean Todd Partnership (Appointment Centre training).

www.brecker.com/quality.htm
The Continuous Quality Improvement movement of Deming and Juran.