10 High Impact Changes
for Service Improvement and Delivery

A guide for NHS leaders

Improve clinical quality

Eliminate 2 million unnecessary X-rays

Improve patient choice

Reduce hospital acquired infections

Virtually eliminate outpatient waits

Increase patient satisfaction

Enhance patient experience

Increase staff training and education

Better care without delay

Enhance patient safety

Save 25 million weeks of patient waiting time

Prevent a quarter of a million emergency admissions

Decrease length of stay

Release nearly 1.2 million inpatient bed days

Create 80,000 extra patient interactions per week

Improve staff morale

Eliminate one million DNAs

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as the norm for elective surgery

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Foreword

The NHS is changing for the better.

Waiting times for treatment are falling. New services are being developed. Patients are being offered greater convenience and choice. These improvements are happening because NHS staff are actively engaged in re-shaping service delivery. Between 2001 and 2004, over 150,000 NHS staff were involved in the work of the NHS Modernisation Agency, making health services more accessible, safer and more personalised.

There is further to go. We must aim for every single patient to receive the best possible care, every single time. The 10 High Impact Changes set out here can make a tremendous contribution to reaching that goal.

These changes are the results of learning from the Modernisation Agency's work. They build on successes already achieved. They are not the products of academic theory, or an isolated group of supposed experts. They are rooted in everyday experience and the achievements of thousands of frontline clinical teams, right across the NHS.

Three principles underpin this work. Firstly, the 10 High Impact Changes are patient-centred – we need to "see the service through the patient's eyes". Patients need us to provide care not as isolated episodes, but as a complete journey – one which sometimes lasts for the rest of their lives. Such care is not only physical: it is emotional, psychological and spiritual, and encompasses the needs of the whole person.

Secondly, the changes are evidence-based. We often talk about evidence-based medicine: here is evidence-based management! The 10 High Impact Changes draw on the best available learning in how to make organisations work effectively (whether in the public or private

sectors), both in the UK and overseas. They have been field-tested and evaluated in real life NHS settings, and developed and adapted to have the best chance of success.

Thirdly, the changes imply a 'systems' view of the world. Healthcare is a complex process. A high quality service is only possible if every member of the team and every part of the system is working effectively and in harmony with the rest. This means we need to look at the whole picture – valuing primary care, mental health services and ambulances just as much as acute hospitals. We also need to recognise the talents and contribution of all members of staff – those in such support functions as laundry, catering, transport and management just as much as clinical professionals.

The changes described here are an invaluable source of ideas. However, identifying what is possible is the easy part. The real challenges are in implementation. We know that life in the NHS can be pressurised, busy and often exhausting. We will only secure the potential benefits described here if we make a purposeful, directed leadership effort. We need to help frontline staff to stand back and think about how to do things differently. We need the courage to break with ingrained habits and practices. We need the energy and perseverance to overcome the inevitable difficulties and obstacles. Above all, we need an unwavering belief that it is possible to make far-reaching improvements for those we serve – patients, families, carers and communities.

We hope that the ideas and examples we provide here are a help and inspiration in your work.

David Fillingham
Director
NHS Modernisation Agency
31 August 2004

We know these changes work and we have the evidence to prove it.

Highlights

Implementing the **10 High Impact Changes** across the NHS – to the level that has already been achieved by frontline teams – could produce dramatic improvements. For example:

1 **Change Nº1:**
Treating day surgery (rather than inpatient surgery) as the norm for elective surgery could release nearly half a million inpatient bed days each year.

2 **Change Nº2:**
Improving patient flow across the whole NHS by improving access to key diagnostic tests could save 25 million weeks of unnecessary patient waiting time.

3 **Change Nº3:**
Managing variation in patient discharge, thereby reducing length of stay, could release 10% of total bed days for other activity.

4 **Change Nº4:**
Managing variation in the patient admission process could cut the 70,000 operations cancelled each year for non-clinical reasons by 40%.

5

Change Nº5:
Avoiding unnecessary follow-ups for patients and providing necessary follow-ups in the right care setting could save half a million appointments in just Orthopaedics, ENT, Opthalmology and Dermatology.

6

Change Nº6:
Increasing the reliability of performing therapeutic interventions through a Care Bundle approach in critical care alone could release approximately 14,000 bed days by reducing length of stay.

7

Change Nº7:
Applying a systematic approach to care for people with long-term conditions could prevent a quarter of a million emergency admissions to hospital.

8

Change Nº8:
Improving patient access by reducing the number of queues could reduce the number of additional FFCEs required to hit elective access targets by 165,000.

9

Change Nº9:
Optimising patient flow through service bottlenecks using process templates could free up to 15-20% of current capacity to address waiting times.

10

Change Nº10:
Redesigning and extending roles in line with efficient patient pathways to attract and retain an effective workforce could free up more than 1,500 WTEs of GP/consultant time, creating 80,000 extra patient interactions per week.

Introduction

- The NHS Modernisation Agency has identified 10 High Impact Changes through its work with thousands of NHS clinical teams.

- If these changes were adopted across the NHS to the standard already being achieved by some NHS organisations, there would be a quantum leap improvement in patient and staff experience, clinical outcomes and service delivery – and waiting lists would become things of the past.

- The High Impact Changes are underpinned by new ways of thinking about performance improvement to deliver and sustain national and local performance goals. They can make a significant contribution to local achievement of *The NHS Improvement Plan* goals, and also support the performance goals set out in *National Standards, Local Action: Health and Social Care Standards and Planning Framework 2005/06-2007/08*.

- Local communities, NHS Boards and PECs may consider incorporating the High Impact Changes into their local improvement and delivery strategies. They may wish to set up their own 'Board level improvement project' with clear strategic aims for improvement, a delivery plan and a set of system-level indicators that measure the progress of improvement across the whole organisation or community (see The role of the Board in supporting implementation, page 86).

- The changes should not be seen as one-off initiatives, but as part of a concerted long-term effort to transform NHS services.

Why has this guide been produced?

This guide is aimed at senior NHS leaders: NHS Boards, chief executives, their executive teams, clinical leaders and directors. It describes 10 High Impact Changes that organisations in health and social care can adopt to make significant, measurable improvements in the way they deliver care. These changes support the aims set out in

The NHS Improvement Plan and the *National Standards, Local Action: Health and Social Care Standards and Planning Framework 2005/06-2007/08* in particular, driving improvement and supporting the service to become more responsive to patient need.

Potential benefits

Each of these 10 High Impact Changes is already being used by some NHS organisations. If the changes were adopted systematically by the whole NHS, and produced the same results as those organisations are already achieving:

- millions of patients' experiences would be improved by more personalised, appropriate, timely and streamlined care delivery

- hundreds of thousands of clinician hours, hospital bed days and appointments in primary and secondary care would be saved

- waiting lists would be virtually eliminated

- clinical quality and outcomes would be tangibly improved

- it would be easier to attract and retain staff, with more enjoyment and pride at work

- there would be more reliable, flexible processes of care helping NHS organisations offer an efficient and responsive service which meets local and national goals.

Feedback

Through their work and consultation throughout the NHS, Modernisation Agency staff have consistently received two requests from NHS leaders:

> Tell us which service redesign improvements will make the biggest difference

> Tell us what (quantifiable) benefits can potentially be achieved through modernisation

We identified and audited the best practice advice developed as a result of the Modernisation Agency's work with tens of thousands of NHS clinical teams over the past three years. We distilled them into a set of 10 High Impact Changes for the NHS. Hundreds of NHS improvement leaders have helped us to identify and gather evidence for these changes. We would like to thank you all for your help.

These are the ten demonstrably successful improvement ideas from the largest healthcare improvement effort in the world.

Waiting lists would become things of the past

Table 1: 10 High Impact Changes for service improvement and delivery

1 **Change Nº1:**
Treat day surgery (rather than inpatient surgery) as the norm for elective surgery.

2 **Change Nº2:**
Improve patient flow across the whole NHS system by improving access to key diagnostic tests.

3 **Change Nº3:**
Manage variation in patient discharge, thereby reducing length of stay.

4 **Change Nº4:**
Manage variation in the patient admission process.

5 **Change Nº5:**
Avoid unnecessary follow-ups for patients and provide necessary follow-ups in the right care setting.

6 **Change Nº6:**
Increase the reliability of performing therapeutic interventions through a Care Bundle approach.

7 **Change Nº7:**
Apply a systematic approach to care for people with long-term conditions.

8 **Change Nº8:**
Improve patient access by reducing the number of queues.

9 **Change Nº9:**
Optimise patient flow through service bottlenecks using process templates.

10 **Change Nº10:**
Redesign and extend roles in line with efficient patient pathways to attract and retain an effective workforce.

The 10 High Impact Changes focus on the significant gaps between current NHS performance and best practice. They affect large numbers of patients. Every NHS organisation has a different starting point as to which High Impact Changes it has already implemented. However, no NHS organisation or community is high performing in all ten areas yet.

The changes fit with NHS leaders' requests for knowledge that will help to improve the whole system. They are based on evidence from major initiatives such as the Improvement Partnership for Hospitals and the Collaborative programmes.

How can I find out about the High Impact Changes?
The 10 High Impact Changes are summarised in Table 1. We have set out a leader's overview of each change, and provided details of a web-based resource
www.modern.nhs.uk/highimpactchanges
This gives detailed and practical advice on implementation, and signposts potential sources of support for NHS improvement leaders.

How should leaders use the High Impact Changes?
Local organisations and communities can adopt individual High Impact Changes to improve specific parts of their systems. However, the greatest gains will be made if the changes are implemented in their entirety, as an integral part of a comprehensive local improvement strategy.

The changes are applicable to all areas: primary, secondary and tertiary care and mental health settings. They can be used to underpin a NHS Trust, PCT or Foundation Trust performance improvement strategy. They will also help capacity planning. Increasingly, High Impact Changes are being adopted collectively by groups of health and social care providers to support a community-wide improvement partnership. Many service delivery problems are about the transition of patients from one part of the system to another. The greatest gains are likely to be made by taking a 'whole systems' perspective. The section on the Role of the Board in supporting implementation (see page 86) sets out the components of a Board level strategy for service improvement utilising the 10 High Impact Changes.

The changes can also play a powerful role in the commissioning of services. Commissioners could build the 10 High Impact Changes into their service agreements. Evidence tells us that the changes are a powerful lever for improving quality, patient experience, timeliness, value and appropriateness of care. *The PCT Guide to Applying the High Impact Changes* is available at
www.modern.nhs.uk/highimpactchanges

Commissioners could build the 10 High Impact Changes into their Service Agreements

A typical NHS performance strategy?

We need to move away from the typical approach to performance improvement as set out in Table 2.

Table 2: Typical NHS performance improvement strategy

- Design the system to prevent performance failure.
- Create awareness of targets and performance requirements, and raise leadership intent to deliver them.
- Seek to improve the performance of specific departments, specialties, practices or parts of the system.
- Work harder.
- Implement measurement systems to monitor compliance with the required performance.

Source: Helen Bevan, Kate Silvester and Richard Lendon (NHS Modernisation Agency), Institute for Healthcare Improvement 2004

For most NHS organisations, the system up to now has been designed to prevent performance failure; to avoid breaches of performance standards or targets (such as four-hour waits in A&E); and to achieve key targets and goals such as maximum wait times for elective, emergency and cancer care. The basic aim has been to achieve the performance or quality standard.

Executive teams typically seek to ensure that everyone who contributes to a particular goal is aware of what is required of them, and is personally committed to achieving the goal. This current system design tends to focus on improving a particular department, specialty, practice or part of the system, rather than seeking to transform the performance of the 'whole systems'. Too often, activity targets are only achieved by staff working more hours, or at a higher level of intensity.

We have seen a marked increase in the use of performance measurement systems by NHS organisations over the past few years. However, they tend to be 'measurement for judgement' systems – which tell us whether or not the performance of the team, specialty and, ultimately, the organisation, complies with the required standard on a 'pass/fail' basis. This strategy is probably unsustainable in the longer term, as the whole health and social care system moves to different models of care delivery and aspires to new levels of performance.

How is the thinking behind the High Impact Changes different?

The improvement philosophy underpinning the 10 High Impact Changes starts from a different mindset. The system should be designed not just to avoid performance failure, but also to enable continuous improvement across the whole organisation or community. The components are shown below in Table 3.

Table 3: Potential NHS performance improvement strategy

- Design the system to continuously improve.
- Take a process view of patient flow across departmental and organisational boundaries.
- Work smarter by:
  - focussing on the bottlenecks that prevent smooth patient flow
  - managing and reducing causes of variation in patient flow
  - segmenting patients according to their specific needs.
- Implement measurement systems for improvement that reveal the true performance of the system and the impact of any changes made in real time.

This approach takes a process view, following the patient journey through the health and social care system. Performance can be improved by removing activities that do not add value for patients, and by simplifying and speeding up processes. The starting point is to focus on high-volume flows of patients who follow broadly similar process steps, rather than individual specialties or conditions. Evidence from the High Impact Changes tells us that improvement of clinical processes can meet apparently contradictory objectives – improving the quality of care, patient and staff experience, as well as reducing waste and increasing value for money. It is also important to recognise that the improvement of clinical processes not only involves process redesign but also role redesign, and that the two should be considered in parallel.

NHS organisations with the new performance mindset reflected in the 10 High Impact Changes work smarter rather than just harder. There are three high impact ways of doing this.

High Impact Changes which address bottlenecks

1 2 3 4 5   8 9 10

The first aspect of working smarter is to address the bottlenecks that are a constant characteristic of traditional NHS systems. We should actively seek out bottlenecks and address the factors that cause them. A bottleneck is the stage in a patient process under the most pressure. It creates queues and slows down the whole process. It might be the most time-consuming step in a specific patient process. It might be a 'functional' bottleneck, where two or more patient flows converge on a single function such as diagnostic tests or an assessment unit.

The goals of *The NHS Improvement Plan* will require us to identify systematically and then eradicate bottlenecks in patient flow across the whole NHS system. Again, evidence from the changes tells us that by doing so, we can reduce organisational complexity, speed up care and eliminate 'hassle' factors for patients and staff.

High Impact Changes which address variation in patient flow

1 2 3 4 5   8 9 10

The second aspect of working smarter is to understand patient flow and recognise the importance of addressing variation in patient flow.

Demand (presentations and referrals) and capacity (supply of care) fluctuate over time. If average time demand is measured and the average capacity planned to meet it, then we can virtually guarantee a queue. This is because every time demand is greater than capacity, the excess demand is carried forward as a waiting list. Every time capacity is greater than demand, it cannot be carried forward due to the nature of scheduled sessional working.

Many best-practice NHS organisations and communities are tackling this issue at the 'whole systems' level. They systematically analyse and identify their demand and capacity, and set their average capacity higher than average demand, taking account of the variation in demand. This approach is vital to meeting and maintaining short timescales from referral to treatment. Again, the evidence from the High Impact Changes indicates that reducing variation in flow can eliminate delays for patients, improve clinical outcomes and reduce waste.

NHS organisations with the new in the 10 High Impact Changes

High Impact Changes that address patient segmentation

1 **2** **3** **4** **5** **6** **7** **8** **9** **10**

The third aspect of working smarter is to segment patients according to their specific needs and preferences. Segmentation identifies patients with similar needs and / or preferences, and groups them together. An example is **High Impact Change Nº7: Apply a systematic approach to care for people with long-term conditions** – which recommends grouping or segmenting patients by their level of risk.

Segmentation also means designing the system to meet the needs of each group, so that capacity matches demand at every stage in their journey, as in **High Impact Change Nº9: Optimise patient flow using process templates**. By working out the detailed resources required by each patient group, the flow of patients through the whole system is improved and queues and delays are avoided.

To personalise health services, we need to move beyond a 'one-size-fits-all' model of provision. We need to work with service users to design process flows according to patients' specific needs, rethinking the criteria by which we traditionally group patients and design their care delivery. We need to develop and test new processes of care specifically tailored to patients' needs, and to ensure that the resources are available for each group of patients, and every individual patient, to flow through the system according to their requirements.

Segment or carve-out?

We need to understand the difference between segmenting patients (which is about designing a whole care process which enables different groups of patients to flow through the system avoiding delays), and 'carving out' or ring-fencing capacity for certain groups of patients (which, although meant to reduce the time patients wait, actually makes queues longer).

'Carving out' has been one of the most common strategies in the NHS for reducing patient waiting time. It reserves specific 'pockets' of capacity in the system for different types of patient, irrespective of the demand or the process variation (i.e. reserving specific slots for 'urgent' patients in a community clinic, operating schedule or outpatient service). As a consequence there is a constant mismatch between case mix, process type and the reserved capacity pockets. This results in persistent queues and delays that may put the patient with unsuspected and serious pathology at risk. It also increases the overall system costs, and exhausts staff because waiting list initiatives are required to eliminate the backlogs that build up as a result. **High Impact Change Nº8: Improve patient access by reducing the number of queues** – provides proven techniques for eradicating or minimising carve out.

Evidence from these changes suggests that new models of patient segmentation significantly enhance patient experience, extend patient choices and lead to better outcomes because variation in the system is reduced.

performance mindset reflected work smarter rather than just harder

Measurement for Improvement

A major problem with the usual measurement methods is that apparent improvements in performance (waiting times, patient and staff experience, clinical outcomes, activity, cost, etc) may be due to the natural or inherent variation in performance. Even if there is a statistically significant change in average performance, the improvement is often unsustainable because the underlying causes of variability in the process have not been addressed.

As a result, a growing number of NHS organisations are adopting measurement systems for improvement, using statistical techniques to plot key measures over time. This enables us to understand the natural variation and the true performance of the system, and the impact of any changes made. Some forward-thinking NHS Trust Boards will now only accept performance data that is presented in this way.

The evidence supporting many of the 10 High Impact Changes has been captured through these measurement systems. Measurement for improvement is the underpinning philosophy of the High Impact Changes.

Conclusion

The 10 High Impact Changes are an important distillation of the learning from improvement work jointly achieved by the NHS Modernisation Agency and NHS organisations over the past three years. We know the changes work and we have the evidence to prove it. To achieve their potential, the changes need to be built into mainstream systems for performance improvement. That is a key challenge for NHS Boards and clinical and management leaders.

Organisations that systematically adopt these High Impact Changes will be amongst the best placed to take forward the transformational challenges facing the NHS in the next five years.

We know the changes work and we have the evidence to prove it

Change Nº1

Treat day surgery (rather than inpatient surgery) as the norm for elective surgery

Treat day surgery (rather than inpatient surgery) as the norm for elective surgery

1

1. What do we mean?

The benefits of increasing day surgery are well known. However, between 1999/2000 and 2002/2003, the average day case rate across the whole NHS increased only one per cent to 67.2%[1]. Yet Trusts who have taken part in the NHS Modernisation Agency Day Surgery Programme demonstrated the potential to improve their day case rates by six to ten per cent in a single year.

Research by the Modernisation Agency suggests that the major reason for the slow growth is that hospitals predominantly organise themselves as providers of inpatient care. We typically do not have a 'day case mindset' and we design our system accordingly. Treating day surgery as the norm for elective surgery suggests a change in the way we think about elective care within hospitals. Senior clinical and managerial leaders and Trust Boards need to help their organisations make that 'switch' in thinking.

Rather than asking "is this patient suitable for day case?" we should ask "what is the justification for admitting this patient?". Inpatient care should be the exception in the majority of elective procedures, not the norm. The hospital's systems, processes, design, and physical space should be organised on this basis.

There is significant variation in Trust day case rates. For instance:

- a sixfold variation in day case cataract rates
- a fourfold variation in day case arthroscopy rates
- a threefold variation in day case hysteroscopy rates[2].

This variation cannot be explained solely by differences in case mix. Evidence suggests that a sizeable proportion of variation is due to differences in clinical practice and / or variation in measurement systems. Addressing clinical practice variation such as the Audit Commission's basket of 25 procedures,[2] and adopting a common measurement system, would significantly increase the potential for day case surgery in many Trusts.

The change is also about moving care to the most appropriate setting, based on clinical judgement. This means moving day case surgery to outpatient care and outpatient care to primary care where appropriate. An underpinning goal is to design the healthcare system so that the only time that patients spend in hospital is time that adds value for them. This may also mean using effectiveness guidance to assess whether surgery is necessary at all.

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1 Source: Hospital Episode Statistics elective G&A admissions 1989/90 to 2002/3.
2 See the Department of Health's *Day Surgery: Operational Guide*, Annex A for details or alternatively the Audit Commission's 2001 report, *Day Surgery: Review of National Findings*.

2. Where is this change relevant?

This change is relevant to all areas of work where patients need to be admitted for a short period of time.

The Modernisation Agency, working with day surgery clinicians and the British Association of Day Surgery (BADS), has identified a list of ten procedures that can easily be done as day cases, eight of which are drawn from the Audit Commission basket, with the remaining two drawn from the BADS 'trolley' of procedures.

The ten procedures that can easily be done as day cases are shown in Table 1 (right). These have been chosen because they have the potential to deliver large gains in the volume of patients involved. In addition, there is consensus among clinicians that these ten are appropriate and achievable as day case procedures. A group of clinical leaders in this field has suggested goals for day case rates for these procedures.

A starting point to improve day case rates is to:

- assess your day case rates against those in Table 1 (right), the ten procedures that can easily be done as day cases, then

- look at the remaining 17 Audit Commission's 'basket' of procedures (see Table 2) and aim to achieve at least upper quartile performance, then

- look at the remaining 15 of the BADS 'trolley' of 17 procedures, which is attached in Annex A, on page 22 and again aim for at least the upper quartile performance rates.

Table 1: Ten procedures that can easily be done as day cases

Procedure	Current national day case rate (%)*	Potential national day case rate (%)**
1 Inguinal hernia	47.5	85
2 Varicose veins	54.4	90
3 Termination of pregnancy	89.0	95
4 Cataract	90.6	99
5 SMR	22.9	95
6 Extraction of wisdom teeth	87.9	95
7 Cystoscopy / TUR bladder tumour	19.1	40
8 Arthroscopy menisectomy	73.1	90
9 Excision of Dupuytren's Contracture	41.7	95
10 Myringotomy / grommets	85.0	98

Source: Hospital Episode Statistics (HES) for 2002/3. Based on admissions (FFCEs)

* National day case rate is calculated by dividing the total number of elective day case admissions across all providers (Trusts and PCTs) by the total number of elective admissions for each individual procedure.

** Potential day case rates are drawn from an exercise undertaken with a group of clinical leaders to estimate what the best possible national rate could be based on an international comparison.

How does your Trust compare?

Table 2 summarises day case performance against the Audit Commission (AC) 'basket' of 25 procedures. It identifies lowest, highest, median, upper quartile and 95th percentile day case rates for each of the 25 procedures in the basket.

Compare your current performance with the rates in Table 2. For those procedures where you are undertaking more than 30 admissions per annum[4], you could aim to raise your day case rate to at least the upper quartile rate[5].

The Department of Health has developed a day surgery benchmarking tool. It enables NHS acute Trusts to compare their day surgery rates with the AC 'basket' procedures with those of other organisations. It will shortly be available to download at: www.dh.gov.uk/ policyandguidance/organisati onpolicy/secondarycare/day surgery/fs/en

Annex A (page 22) presents similar figures for the BADS 'trolley' of day case procedures.

Table 2: Summary statistics for the Audit Commission's basket of procedures

Procedure	Min	Max	Median	Upper quartile	95th percentile
1 Anal Fissure	18.2	91.3	64.5	73.4	82.1
2 Arthroscopy	24.9	97.4	65.4	73.4	81.9
3 Bat ears	1.1	94.2	57.6	75.0	89.0
4 Excision of bunions	0.0	89.6	18.5	33.2	66.5
5 Carpal tunnel decompression	41.1	100.0	90.4	94.3	97.8
6 Cataract with / without implant*	16.3	100.0	94.4	97.9	99.7
7 Circumcision	35.7	96.8	77.9	84.8	92.8
8 Correction of squint	12.1	100.0	85.8	93.3	98.2
9 Cystoscopy / TURBladderTumor*	0.0	53.8	16.3	24.1	43.2
10 D&C/Hysteroscopy	31.7	100.0	78.0	85.0	91.5
11 Excision of breast lump	1.0	94.0	65.7	74.0	88.4
12 Excision of Dupuytrens contracture*	3.1	93.3	38.7	56.4	83.1
13 Excision ganglion	57.4	100.0	87.5	91.2	94.7
14 Haemorrhoidectomy	0.0	78.2	12.3	28.1	57.4
15 Inguinal hernia*	1.3	84.2	47.1	56.1	66.9
16 Laparascopic cholecystectomy	0.0	46.8	0.3	5.1	17.6
17 Laparoscopy	0.0	92.6	72.7	78.1	86.1
18 Myringotomy / grommets*	33.7	100.0	87.2	93.5	99.9
19 Orchidopexy	18.8	97.1	77.5	85.8	93.9
20 Reduction of nasal fracture	4.6	100.0	87.1	94.1	100.0
21 Removal of metal-work	6.6	84.4	47.2	59.6	70.5
22 SMR*	0.0	100.0	12.5	36.2	96.2
23 Termination of pregnancy*	8.1	99.6	89.0	93.5	97.1
24 Tonsillectomy	0.0	98.3	0.0	1.1	65.5
25 Varicose vein stripping / ligation*	2.4	91.9	54.0	68.2	79.5

Source: Hospital Episode Statistics (HES) 2002/3. Drawn from admissions (FFCE) activity data. Note that day case rates calculated for acute trusts only, where more than 29 of the relevant procedures have been undertaken.
* procedure is included in the Modernisation Agency 'easy ten' grouping – see Table 1

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4 Day case rates calculated for less than 30 procedures / episodes / admissions will not be statistically robust.
5 Unless there are specific reasons or circumstances which mean this is impractical.

3. What is the benefit?

We have drawn upon our experience of acute Trusts working with the Modernisation Agency Day Case Programme, national statistics (HES data), and the expert judgements of those working in day surgery. Figure 1 outlines the benefits from treating day case surgery as the norm for elective surgery.

Figure 1: Benefits from treating day case surgery as the norm for elective surgery

Service Delivery
Evidence indicates:

- if the maximum potential day case rates could be achieved nationally for each of the ten procedures that can easily be done as day cases, it is estimated that an additional 120,000 episodes (FCEs) would be treated as day cases rather than inpatients per year (based on 2002/03 elective volumes)
- treating 120,000 additional episodes (FCEs) as day cases could free up some 170,000 bed days which could be used to increase activity or to generate financial savings
- if all acute NHS Trusts were brought up to at least the upper quartile day case rates for each of the Audit Commission's basket of 25 procedures, then some 90,000 admissions (FFCEs) would be treated as day cases rather than inpatients (based on 2002/3 HES data)
- theatre utilisation for inpatients and day cases should be optimised (aim for 85% utilisation)
- as commissioners begin to purchase more day case activity – this could impact on Trusts financially if day case shift is not made
- this helps to keep Trust costs below the payment by results tariff.

Patient Experience
Evidence indicates:

- patients have a preference to be treated on a day case basis with minimum disruption to their lives
- waiting times reduced due to better utilisation of hospital capacity
- care is provided through a patient focused pathway
- day case patients generally receive good information about their care and treatment
- much lower risk of cancellation (Trusts should aim for zero cancellations for non-clinical reasons).

Clinical Outcomes
Evidence indicates:

- speedier recovery is promoted
- it leads to better outcomes as patients are more likely to follow an evidence-based pathway of care
- risk of hospital acquired infection reduced (lower infection rates in day case units).

Benefits for Staff
Evidence indicates:

- flexible working
- improved training opportunities – nurses in day surgery often rotate throughout ward, recovery and theatre thus enhancing skills and experience
- involvement in all aspects of the patient pathway
- enhanced roles in pre-operative assessment and nurse-led discharge
- staff feedback influences the day surgery patient pathway
- professional development opportunities, e.g. clinical practitioner roles
- improved job satisfaction
- clear start and finish times for shifts.

4. What contribution could this potentially make to your local improvement efforts?

Below are some examples of what could be aimed for locally. Your own plans will reflect current baseline performances and local priorities.

Improvement examples:

- An increase of at least 6-10% in day surgery rates over a 12 month period if there were a concerted effort.
- A Trust which switches 2,000 patients to day case surgery might release 2,800 inpatient bed days a year. Using an estimate of excess bed day costs[6] of £200[7], this would free up more than half a million pounds' worth of resources.
- Even if we only treat an additional 100 patients in the ten procedures that can easily be done as day cases rather than inpatients, we could release around 140 inpatient bed days, worth around £28,000.

We could potentially release nearly half a million inpatient bed days each year

5. What do you need to do?

A number of acute Trusts have been working with the Modernisation Agency to improve day case surgery performance. The Trusts found they could make significant improvements in their day surgery rates by addressing the following operational issues:

- Patients admitted night before for day case procedures.
- Patients kept in overnight for non-clinical reasons.
- Patients planned to be day cases but coded as inpatients.
- Poor use and organisation of theatres.
- Inconsistent criteria for day case anaesthesia.
- Lack of focused clinical leadership (evidence suggests that where there is an identified clinical lead, the commitment to improve day surgery rates is increased).

To initiate a day case strategy:

Hospital Trusts may want to:

- undertake a baseline diagnosis of day case potential in the Trust (by comparing current day case rate performance to best practice day case rates, for key day surgery procedures, individually)
- gain widespread clinical and managerial support for a strategy of day case surgery (rather than inpatient care) as the default
- set ambitious goals for day case rates on a procedure specific, specialty and Trust-wide basis
- undertake a campaign for full implementation of correct coding rules
- implement standardised procedures for admission and discharge of day surgery patients
- establish monitoring systems for continuous improvement.

PCTs may want to:

- commission surgical procedures on a day case basis. Particular focus needs to be on the ten procedures that can easily be done as day cases, the Audit Commission 'basket' of procedures and the BADS 'trolley' of procedures.

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6 where an excess bed day cost is the cost of caring for a patient excluding treatment costs.
7 Source: Department of Health Reference Costs returns 2002/3

6. What are the costs of implementing this High Impact Change?

In cost / benefit terms, the benefits are likely to far outweigh the costs. The main investments required are:

- staff time
  - training – inpatient teams will need to work with day case staff to transfer skills in order to deliver a day case model of care
  - service and system redesign
  - working with service users and carers to co-develop the new system
- management time – a nominated person must lead the changes
- physical redesign – some remodelling of physical facilities if dedicated day case surgery facilities need expanding. However, the Audit Commission identified significant potential spare capacity in NHS day surgery units. **High Impact Change Nº3: Manage variation in patient discharge**, **Change Nº8: Improve patient access by reducing the number of queues** and **Change Nº9: Optimise patient flow using process templates** might help to maximise the flow of patients within existing resources.

The benefits are likely to far outweigh the costs

Conclusion

7. If this were implemented across the NHS, what would the impact be?

Switching appropriate procedures to day case supports the national imperative of giving patients more choice and reducing waiting times. Patients want treatment that is safe, efficient and effective, and which causes the least disruption in their lives. This High Impact Change is an effective way of moving towards that goal.

Potential NHS impact

If this High Impact Change were implemented across the NHS to existing best practice rates, it is estimated that:

- more than a quarter of a million patients would get the better experience of day surgery each year
- we could potentially release nearly half a million inpatient bed days each year through:
  - the ten procedures that can easily be done as day cases
  - the remaining Audit Commission 'basket' of procedures
  - the remaining British Association of Day Surgery recommended procedures.

You can find tools and resources to help you implement this High Impact Change at www.modern.nhs.uk/highimpactchanges For further details, see page 89 of this guide.

1

Annex A
The British Association of Day Surgery Trolley of procedures

Table 3 below presents a summary of the lowest, highest, median, upper quartile and 95th percentile day case rates for each of the 17 individual British Association of Day Surgery (BADS) 'trolley' procedures, across NHS acute Trusts. The data is drawn from the 2002/2003 Hospital Episode Statistics and is based on admissions and main operations (see footnote to Table 3 below).

The day case rates presented in this table are not as accurate as those presented for the Audit Commission's 'basket', as work on the identification of the relevant full clinical codes for the trolley of procedures is still in progress. The codes used here and, therefore, the presented figures should be seen as best currently available and may be revised subsequently.

Day case rates have only been calculated for Trusts which undertook more than 30 of the procedures in question (on an admission or 'first finished consultant episode' basis) to ensure that the calculated day case rate is statistically robust. Although only acute Trusts have been included, there is a range of types of acute Trust included, from small providers through to teaching Trusts. Also included are specialist Trusts, which may have outlying low or high day case rates for specific procedures because of their typical caseloads.

As for the Audit Commission 'basket' figures, the upper quartile rates should be taken as a guide to the best practice level, and Trusts with day case rates below this for any individual procedure should treat it as a benchmark to aim for.

Table 3: Summary statistics for the British Association of Day Surgery 'trolley' of procedures

Procedure	Min	Median	Upper quartile	95th percentile	Max
1 Anal fissure	18.2	91.3	64.5	73.4	82.1
2 Arthroscopy	24.9	97.4	65.4	73.4	81.9
1 Extraction of wisdom teeth *	1.7	92.3	96.6	99.4	100.0
2 Arthroscopy menisectomy *	16.1	73.7	81.2	90.7	96.4
3 Laparoscopic hernia repair	1.4	46.7	57.2	64.8	96.0
4 Thorascopic sympathectomy**	-	-	-	-	-
5 Submandibular gland extraction	0.0	0.0	2.7	4.5	5.3
6 Partial thyroidectomy	0.0	0.0	0.0	0.7	5.6
7 Superficial parotidectomy	0.0	0.0	3.0	9.3	22.5
8 Wide excision of breast lump with auxiliary clearance	0.0	2.3	5.6	15.3	59.4
9 Urethrotomy	0.0	8.6	22.4	52.7	63.3
10 Bladder neck incision	0.0	0.0	1.6	6.5	7.5
11 Laser prostatectomy	0.0	0.0	0.6	2.7	10.7
12 Transcervical resection of endometrium	15.7	69.4	75.0	86.8	91.0
13 Eyelid surgery	50.9	95.4	98.2	100.0	100.0
14 Arthroscopic shoulder decompression	0.0	32.9	48.5	74.9	88.6
15 Subcutaneous mastectomy	0.0	5.7	14.6	17.0	18.2
16 Rhinoplasty	0.0	3.5	8.7	26.7	100.0
17 Tympanoplasty	0.0	3.4	9.5	47.5	100.0

*   Procedure is included in the 'easy ten' grouping.
  Source: Hospital Episode Statistics, Department of Health 2002/2003. Note that the data for 2002/2003 has not been adjusted for shortfalls (i.e. data ungrossed). The data presented are based on admissions (FFCEs), and the main operation only. The main operation is the first recorded operation in the HES data set and is usually the most resource intensive procedure performed during the episode.
** There are no figures quoted as no English Trusts have undertaken more than 30 FFCEs for thoracic sympathectomy.

Change Nº2

Improve patient flow across the whole NHS system by improving access to key diagnostic tests

Improve patient flow across the whole NHS system by improving access to key diagnostic tests

1. What do we mean?

Evidence shows that waiting for diagnostic tests, or the results of tests, is often a major bottleneck in care for patients. In addition to long waits, it creates communication problems and leads to a lack of certainty and choice for patients. This High Impact Change utilises proven service redesign methods to rectify the situation. Often we think that the problem is a lack of available diagnostic capacity. However, in the majority of cases, the root cause is the mismatch between the variation in demand and the variation in capacity. It is within our power to sort this out.

Evidence from diagnostic services across the NHS tells us that systematic application of some basic redesign tools to match demand and capacity can have a dramatic effect on the 'flow' of patients through the system. These tools, together with strong clinical leadership and the active engagement of clinical teams, have led to some NHS organisations virtually eliminating waiting for some diagnostic tests. The changes outlined here should form a key component of the Trust or community strategy for achieving an 18 week maximum referral to treatment time by the target date of 2008.

By applying redesign methods to diagnostic tests and diagnostic reporting processes, we can:

● reduce or even eliminate delays for patients in getting a diagnosis and therefore provide earlier treatment
● reduce the amount of time patients spend in hospital, therefore improving the patient experience and freeing up inpatient capacity
● reduce emergency hospital admissions and reduce waits in A&E
● avoid hospital admissions for patients with long-term conditions if tests are carried out early.

Many diagnostic specialties are the subject of major workforce, technology and investment strategies.

Matching demand and capacity and improving the flow of patients through the system is an essential first step, even where new technology is being introduced. Technological advances – for example Picture Archiving and Communications Systems (PACS) and additional MRI capacity – will support improved service delivery but the introduction of new technology will only reap full benefits when linked to robust service redesign.

2

2. Where is this change relevant?

This High Impact Change is about improving access to diagnostic tests as part of inpatient, outpatient, primary, and emergency care pathways.

This High Impact Change applies to a whole range of diagnostic tests including radiological examinations, endoscopy, pathology, ophthalmology and cardiology. An optimal position to start from is to apply the changes to the small number of tests that impact on the largest number of patients.

This High Impact Change can be adapted and applied to suit specific local circumstances to achieve maximum impact.

3. What is the benefit?

This work has drawn upon a variety of information and data sources to identify the benefits associated with improving access to key diagnostic tests. We have drawn upon the networks and Trusts working with the NHS Modernisation Agency Radiology Programme, the Pathology Service Improvement Framework, the Coronary Heart Disease Collaborative, Hospital Episodes Statistics (HES) data, and the expert judgements of those working in diagnostics. Particularly helpful has been the outcome from the 22 acute Trusts piloting new methods as part of the National Radiology Programme.

Figure 1 outlines the benefits of improved patient flow across the whole NHS system. These can be achieved by improving access to key diagnostic tests.

Matching demand and capacity and improving the flow of patients through the system is an essential first step

Figure 1: Benefits of improving access to key diagnostic tests

Service delivery
Evidence indicates:

- it will significantly reduce patient waiting time. In the 22 Radiology Programme pilots across all modalities, there was an average reduction of 32 days per patient and a total saving across the pilot sites of 4.7 million weeks of patient waiting time
- reduced CT scan waiting times on average by 43 days across 23 pilot sites
- ultrasound waiting times reduced on average by 77 days (11 weeks)
- reduced average wait from angiography to results being obtained from 162 days to 99 days over a nine month period
- released inpatient bed days as a result of faster turnaround of tests. For example, Aintree Hospital reduced bed days by 168 for endoscopy, and 150 days for lung perfusion scans in one year
- reduced inpatient length of stay by one day per patient for ECGs across 25 organisations. Similar results have come from pilot sites for ETTs and angiographies
- reduced DNA rates by an average of 50% in six radiology pilot sites
- unnecessary hospital admissions for tests alone avoided. An example is the pilot at Pinderfields where they have introduced a rapid access ultrasound service (to be evaluated)
- reduced the overall need for tests as there will be less duplication of work in the system.

Patient experience
Evidence indicates:

- waiting times are reduced
- anxiety about potential bad news is reduced for both the patient and carer
- there are reductions in hospital visits because the process is more streamlined
- patients can have confidence about the right information being provided in the right place at the right time
- patients get more choice and certainty of appointment times and locations.

Clinical outcomes
Evidence indicates:

- reduced number of long-term conditions if diagnostic tests can be performed early and appropriately
- achieved earlier access to definitive diagnosis and earlier start of treatment. Across 10 organisations, the average time in days for eligible myocardial infarction patients to undergo their inpatient Exercise Tolerance Test has dropped by nearly one day
- reduced average time in days from decision to request for echocardiography to results being obtained by the referring clinician. Across 25 organisations this has reduced by almost 1.5 days for inpatients
- placed patients on the right route for care at the beginning of their journey.

Benefits for staff
Evidence indicates:

- reduced the level of 'firefighting' and managing patient backlogs
- reduced time spent on patient complaints
- increased time spent on positive interactions with patients
- improved staff morale
- created significant opportunities for professional development (see **High Impact Change Nº10 – Redesign and extend roles**).

NHS case studies

There are many examples across the NHS where improving access to diagnostic tests has made a significant difference, including:

James Paget Hospital, Norfolk
By using process redesign techniques, the time to treatment for lung cancer was dramatically improved. This included all diagnosed patients, not just those referred urgently.

One of the major changes was to enable direct referral from radiologist to physician following a suspicious chest X-ray, rather than the traditional path of referral to the GP, who then has to refer the patient back into the hospital system. This resulted in an improvement from 30% to 80% in achieving the NHS Plan target of 62 days from initial referral to treatment, providing a critical base from which to move towards even more ambitious goals.

We could potentially release half a million bed days due to speedier access to diagnostic tests and results

St James Hospital, Leeds Teaching Hospital NHS Trust

In September 2002, the total number of patients waiting over 13 weeks on the active list for diagnostic procedures including gastroscopy, flexible sigmoidoscopy and colonoscopy was 225. The waiting lists were validated and the Trust was able to re-assess their demand and available capacity. This led to them moving direct access gastroscopy sessions off-site, allowing St. James's to add an extra GI list in order to better meet the demand for that specialty. In addition, clinical guidelines were produced to ensure that referrals for colonoscopy were appropriate. The Trust's new DNA policy was also strictly enforced, and scheduling was improved using the scheduling simulation tool from the NHS Modernisation Agency. These changes led to an improvement whereby no patients on the active list were waiting over 13 weeks. An additional benefit was that medical problems were identified and treated more quickly, reducing the amount of stress and worry for the patient.
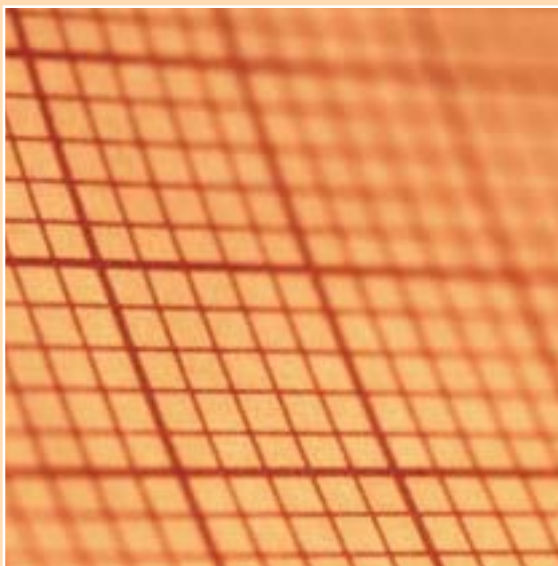
East Lancashire Hospitals NHS Trust

Waiting times were 12 months for a routine gastroscopy and 17 months for a colonoscopy. The Trust set a goal that by January 2004 all patients needing endoscopy for the first time would be seen within 13 weeks of referral. To achieve this goal they process mapped the patient journey and identified times for each stage, and then introduced partial booking, personalised team referrals (see **High Impact Change Nº8 – Improve patient access by reducing the number of queues**) and validated the waiting lists. The use of these redesign techniques led to a greater understanding of where the Trust could improve the process and they identified additional capacity to treat two extra patients on every list. In addition they secured the appointment of a third consultant gastroenterologist, which further increased the capacity by two sessions a week.

This improvement work resulted in the achievement of the gastroscopy target of 13 weeks by September 2003 and the colonoscopy target by December 2003. The active waiting list is now four weeks for gastroscopy and eight weeks for colonoscopy.

4. What contribution could this potentially make to your local improvement efforts?

Below are some examples of what could be aimed for locally. Your own plans will reflect current baseline performances and local priorities.

Improvement examples:

- A reduction in outpatient DNA rates for diagnostic tests of at least 50%.
- Inpatient length of stay reduced by at least 0.5 day if tests can be carried out, and/or results can be returned to the referring clinician for action in shorter timescales.
- A reduction in the number of unnecessary X-rays (pilot work suggests around a 7% reduction in the total number of X-rays).
- A reduction in waiting time for GP referral to first treatment by up to 50% by redesigning access to diagnostic tests.
- A reduction in waiting time in A&E that will lead to fewer emergency admissions (including fewer admissions via GP).

5. What do you need to do?

- Gain high level leadership support for the strategy (this is critical as the changes will impact on many teams and specialties).
- Co-develop the changes with service users and involve them at every stage of the change process.
- Map the existing flows of patient referrals to the service.
- Map the existing patient process and identify bottlenecks in the system.
- Measure potential and actual capacity.
- Measure and understand the true nature of demand for the service.
- Match demand and capacity.
- Identify the resources and time required for the service (see **High Impact Change Nº9: Optimise patient flow using process templates**).
- Redesign and simplify the process – including role redesign (see **Change Nº10: Redesign and extend roles**).

6. What are the costs of implementing this High Impact Change?

The costs below exclude the cost of technical developments:

- Leadership time – a nominated senior leader must champion the changes.
- Staff time for analysis, redesign and engaging service users in the change process.
- Full time or substantial time project management support may be required, depending on the scope and ambition of the project.
- Training for new roles, including the cost of backfill, supervision and mentoring.
- Costs of changing existing working patterns and practices.

We could potentially save 25 million weeks of unnecessary patient waiting time

Conclusion

7. If this were implemented across the NHS, what would the impact be?

Potential NHS impact

If this High Impact Change were implemented across the NHS to existing best practice rates, it is estimated that:

- we could eliminate two million unnecessary X-rays per year
- we could release half a million bed days due to speedier access to diagnostic tests and results
- we could save 25 million weeks of unnecessary patient waiting time.

You can find tools and resources to help you implement this High Impact Change at www.modern.nhs.uk/highimpactchanges For further details, see page 89 of this guide.

We could eliminate two million unnecessary X-rays per year

Change Nº3

Manage variation in patient discharge thereby reducing length of stay

Manage variation in patient discharge thereby reducing length of stay

Introduction to High Impact Change Nº3: Manage variation in patient discharge and Change Nº4: Manage variation in patient admission

One of the most effective strategies for reducing total patient journey time is to focus on the bottlenecks in the process. Work on specific bottlenecks has demonstrated that it is the mismatch between the variation in demand and the variation in capacity that results in queues and waiting lists. Controlling, reducing and, wherever possible, eliminating unnecessary variation through redesign and by using appropriate analytical tools, such as statistical process control, is key to success.

Traditionally, it has been assumed that it is emergency admissions that impact on elective planned admissions because it is assumed that emergency admissions are highly variable and more unpredictable. However, repeated case studies have shown that elective admissions are often the major cause of variation across the system, being far more variable and unpredictable than emergency admissions in many NHS organisations.

However, the greatest variation is typically in the number of discharges and, therefore, efforts to reduce variation should start with the discharge process not the admission process. Variation in discharge process leads to variation in patient length of stay. In this context, admissions represent demand for a bed and discharges represent capacity, an empty bed. It is the variation and mismatch between demand and capacity that creates the queues and bottlenecks in the system.

Both discharges and planned elective admissions are within our control and, therefore, efforts will need to be focused on the discharge process and the elective admissions process with measurement and appropriate analysis support. The discharge process should start at the point of admission – if not earlier – as in the case of planned admissions.

Implementing these High Impact Changes will allow NHS organisations to predict more accurately and control demand and capacity in real time, that is, on a daily or hourly basis. Smoothing variation in this way can result in less capacity being required than is currently dictated by the large fluctuations in demand and capacity presently seen in NHS services. Clinical quality will be improved and costs may be reduced.

These two High Impact Changes are inexorably linked and can form the basis of your organisation's strategy for reducing variation.

3

The discharge process should start at the point of admission – if not earlier

1. What do we mean?

There is usually far more variation in the patterns of patient discharge from hospital than in the patterns of admission. The main cause of this variation is the way we manage our processes – ward rounds, ward processes, inpatient tests and results, pharmacy, etc. The result of this is a highly variable and unpredictable patient length of stay. There is generally a peak in discharges on Fridays, with a trough over the weekend. Patients are admitted seven days a week (emergencies), but typically only discharged five days a week.

Not only is there day-to-day variation in discharge, but also variation by hour of the day. The peak in discharge is generally late afternoon. The peak in admissions is usually earlier in the day. Trusts working with the NHS Modernisation Agency as part of the Emergency Services Collaborative found that matching the hour of the day at discharge, to the times that beds are required for transfer from A&E has had a significant impact on A&E waiting times.

NHS hospitals have identified significant variation in the length of time that patients with similar clinical requirements stay in hospital. For instance, a patient who is admitted on a Friday may have a length of stay that is 25% longer than a patient admitted on a Tuesday.

It is well recognised that a patient with an uncomplicated myocardial infarction (heart attack) should follow a fairly standard protocol and have an inpatient stay of five days. However, several studies have shown that the length of stay varies between three and seven days if not more, due to differences between processes, not differences between patients. At one Trust between October 2002 and October 2003, 51% of inpatients stayed in excess of five days. This resulted in potentially 1,682 unnecessary bed days for patients.

Patients are admitted seven days a week (emergencies), but typically only discharged five days a week

Traditionally there has been a tendency to concentrate efforts on patients with a length of stay exceeding 28 days. However, evidence shows this represents less than 20% of patients. Efforts should also be focused on addressing the bottlenecks for the remaining 80% of patients. For example, one Trust saw a 50% decrease in cancelled operations and 10% higher elective admissions after reducing variation in the length of stay and discharge times.

The discharge process and, therefore, variations in length of stay are largely in our control. There is significant opportunity to redesign the system and create significant benefits for patients.

By smoothing variation in patient length of stay and discharge we can:

● put patients in control, improving their certainty, choice and ability to plan their lives around the hospital episode
● reduce the amount of time patients spend in hospital, therefore improving the patient experience
● improve the flow of patients through the system, reducing queues, waiting lists and backlogs.

2. Where is this change relevant?
Discharge processes can be redesigned for any patient experiencing inpatient stay and day case procedures. This can have a major impact on A&E, unplanned, and planned admissions because the performances of these areas are dependent on bed availability. Smoothing length of stay has the most positive impact on high volume 'same process' groups of patients requiring elective planned or unplanned emergency care.

3

The discharge process, and therefore variations in length of stay, are largely in our control

3. What is the benefit?

Figure 1 outlines the benefits that can be achieved by managing length of patient stay and discharge.

Figure 1: Benefits that can be achieved by managing length of patient stay and discharge

Service Delivery
Evidence indicates:

- shorter wait in A&E for admitted patients due to beds becoming available more quickly
- up to 50% reduction in cancellations of planned admissions
- shorter length of stay for emergency admissions[1]
- shorter length of stay for elective admissions[1]
- greater information on length of stay provided for bed manager/capacity managers to plan around and forecast demand/capacity mismatches
- reduced cost per patient episode (reduced length of stay).

One Trust reduced average length of stay by one day for all inpatients using this approach.

Patient Experience
Evidence indicates:

- greater co-ordination of care
- certainty, patient control and ability to plan post-hospital care
- less feelings of helplessness due to delays in discharge
- shorter length of stay[1].

Clinical Outcomes
Evidence indicates:

- reduced waiting time and more timely treatment will improve clinical outcome. There would certainly be less variation in patient journey times
- reduced length of stay reduces risk of patient being exposed to hospital acquired infections
- patients receive consistently high quality standards of care.

Benefits for Staff
Evidence indicates:

- fewer 'hassle factors' due to better pre-planning of care
- less stress in the working environment.

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1 Improved admission protocols and improved primary and secondary care communication may lead to a decrease of very short-stay patients, which will actually lead to an increase in average length of stay. Care should be taken in using average length of stay for large cohorts of patients.

4. What contribution could this potentially make to your local improvement efforts?

Below are some examples of what could be aimed for locally. Your own plans will reflect current baseline performances and local priorities.

Improvement examples:

- A one day reduction in length of stay for patients staying 10 days or less. This would result in an approximately 10% reduction in total bed days used, depending on individual profiles.
- An available bed for all patients at all times.
- No 'on the day' cancellations of elective patients.
- The four hour A&E target met and surpassed.
- Reduction in hospital acquired infections.
- Patients discharged home when fit to be discharged with no unnecessary delays.

The gains will be more significant if a holistic approach to managing variation is adopted that combines **High Impact Change Nº3: Manage variation in patient discharge**, **Change Nº4: Manage variation in patient admission**, **Change Nº5: Avoid unnecessary follow-ups**, **Change Nº9: Optimise patient flow using process templates** and **Change Nº10: Redesign and extend roles**.

3

10% of total bed days would be released for other activity

5. What do you need to do?

Gain high-level leadership support for the strategy. This is critical as the changes will impact on many teams and specialties.

Diagnosis

- Map the processes, identify bottlenecks and main causes for delay.
- Map the information flows and responsibility for direct patient care at all points in the patient journey.
- Measure and analyse current patterns of discharge by day of week, hour of day, specialty, etc.
- Analyse all inpatient stays by length of stay to identify where improvements in the discharge process will have the greatest impact.

Problem solving

Plan for discharge early on admission or pre-admission:

- Use predictive discharge methods to reduce variation and to help eliminate delays.
- Set a planned date for discharge on day of admission or at pre-admission, using, if possible, protocols for common conditions.
- Use visual triggers, e.g. visible expected data discharge.
- Involve patients and their families or carers in discharge planning (so they are prepared and can make their own arrangements).
- Involve social services early if required.

Orchestrating discharge

- Establish regular decision making ward rounds at least once a day.
- Consider nurse-led discharge.
- Identify lead-in times required, e.g. test, and test result availability, medicines, transport, social services.
- Plan around the lead-in times.
- Match time of discharge with time beds are required on an hourly basis.
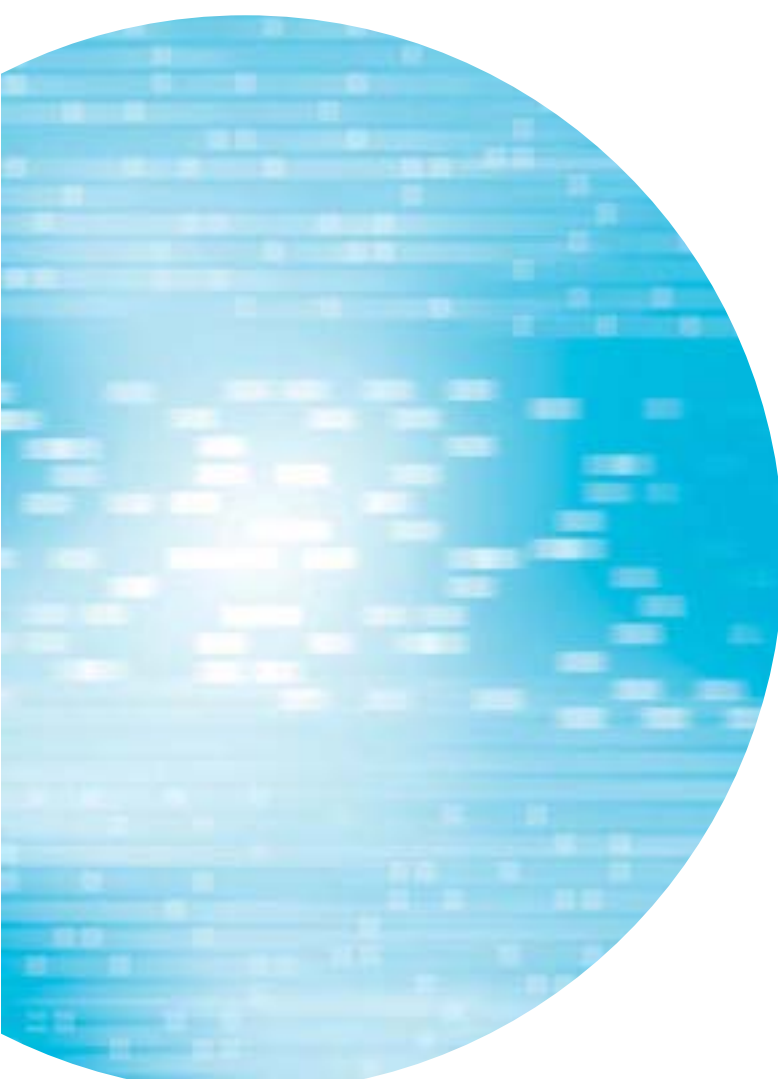
6. What are the costs of implementing this High Impact Change?

The majority of costs involve the changes in work pattern and practice. For example, we advocate seven day a week discharge from acute Trusts. This does not necessarily require great capital outlay or an increase in consultant presence. Nurse-led discharge requires better planning, development of protocols, and training of nurses.

This can be offset against cost savings from a reduction in cancellations and a reduction in time to manage waiting lists, as well as reduced cost per patient episode (reduced length of stay).

3

The average length of stay would be the same regardless of day of admission

Conclusion

7. If this were implemented across the NHS, what would the impact be?

This High Impact Change looks at one of the major reasons why we have queues in the NHS. That is variation. Concentrating on managing the variation in discharge processes and, thus, reducing variation in length of stay, will have widespread effects across the whole healthcare system. Progress would undoubtedly lead to a substantial improvement in healthcare delivery with the desirable side-effect of achieving and exceeding the NHS Improvement Plan goals. However, more importantly, achievement of these targets will be sustainable due to real system improvements.

Potential NHS impact

If this High Impact Change were implemented across the NHS to existing best practice rates, it is estimated that:

- 10% of total bed days could be released for other activity
- average length of stay could be the same regardless of day of admission
- patients could be given a predicted day of discharge at admission or pre-admission
- a similar percentage of patients could be discharged every day.

You can find tools and resources to help you implement this High Impact Change at www.modern.nhs.uk/highimpactchanges For further details, see page 89 of this guide.

Change Nº4

Manage variation in the patient admission process

4

Manage variation in the patient admission process

See page 31 for joint introduction to High Impact Changes Nº3: Manage variation in patient discharge and Change Nº4: Manage variation in patient admission.

1. What do we mean?

Traditionally, it has been assumed that it is the emergency admissions that impact on elective planned admissions because it is assumed that emergency admissions are highly variable and more unpredictable. However, repeated case studies have shown that elective admissions are often the major cause of variation across the system, being far more variable and unpredictable than emergency admissions in many centres. This is due to the way that elective surgical scheduling is planned. Many hospitals have embarked on the redesign of their elective scheduling systems as a high-impact strategy to improve emergency admissions.

For example, leaders of one NHS Trust has undertaken a concerted effort to manage the elective and emergency flow. This has enabled them to predict and match demand and capacity much more accurately in real time. Results include:

- 68% reduction in medical outliers
- 44% reduction in last minute cancelled operations
- 8.2% increase in elective inpatient activity
- 7.6% in rease in session utilisation for day case capacity.

2. Where is this change relevant?

This change can be applied to any healthcare organisation, particularly those that schedule patients on an elective basis. This ranges from primary care services to treatment centres to community hospitals to major acute centres.

4

3. What is the benefit?

Figure 1 outlines the benefits that can be obtained by managing variation in the patient admission process.

Figure 1: Benefits that can be obtained by managing variation in the patient admission process

Service Delivery
Evidence indicates:

- closer match between bed availability per hour/day (capacity) and bed requirement per hour/day (demand)
- reduced A&E waits and fewer number patients delayed in ambulances for access to A&E
- lower inpatient cancellation rates
- fewer inpatient DNAs
- fewer medical outliers
- potential for increased activity and/or reduced cost per case.

A 350 bed Trust with 'average' variation in its elective admissions could release 10 beds per day by reducing the daily variability in the number of elective patients admitted.

Patient Experience
Evidence indicates:

- more personalised service – the patient is able to choose what and when
- improved patient experience through shorter waits and more timely treatment
- less likelihood of wait for emergency admission
- certainty of guaranteed elective dates.

Clinical Outcomes
Evidence indicates:

- more timely emergency admission
- earlier treatment
- reduced waiting times
- fewer cancellations.

All these factors affect clinical outcomes.

Benefits for Staff
Evidence indicates:

- enhancement of the working environment for clinical teams contributes to reduced stress and improved staff retention
- managed activity leads to lower stress in the working environment
- fewer patients in each clinical area at a time
- right patient, right place, right time.

4. What contribution could this potentially make to your local improvement efforts?

Below are some examples of what could be aimed for locally. Your own plans will reflect current baseline performances and local priorities.

Improvement examples:

- An average district general hospital could increase the throughput of patients by 10% within existing capacity. Alternatively this could free up capacity to reduce the elective waiting list and/or achieve financial balance.
- An available bed for all patients at all times.
- No 'on the day' cancellations of elective patients.
- The four hour A&E targets met and surpassed.
- No medical outliers.

The gains will be more significant if a holistic approach to managing variation is adopted that combines **High Impact Change Nº3: Manage variation in patient discharge**, **Change Nº4: Manage variation in patient admission**, **Change Nº5: Avoid unnecessary follow-ups**, **Change Nº9: Optimise patient flow using process templates** and **Change Nº10: Redesign and extend roles**.

5. What do you need to do?

- Map the processes and existing patient flows across the whole patient elective planned admission pathway (elective planned admissions and emergency admissions).
- Link the value-adding steps in each process, where possible, and combine steps or perform them in parallel; only sequence steps where one is dependent on the previous one.
- Measure and analyse elective and emergency demand by day of week and hour of day.
- Reduce variation in elective admission patterns if analysis supports this.
- Consider methods of reducing variation in emergency admissions if analysis supports this.

6. What are the costs of implementing this High Impact Change?

- Time allocated for redesign work prior to implementation.
- Training costs for key staff.
- Time spent to engage key stakeholders.
- Setting up new systems to support the new processes, e.g. central admissions teams.
- Funding set up costs – posts such as project manager.

Resources would be freed up due to less re-booking of cancellations and less waiting list management required.

These costs are much lower than the costs of unnecessary additional capacity.

4

Conclusion

7. If this were implemented across the NHS, what would the impact be?

By managing variation in the patient admission process, we can have a bed available for everyone who needs one, reduce cancellations, improve clinical quality and help eliminate patient waiting. If we combine this with other High Impact Changes that reduce variation, we have the potential to create real, sustainable, system-wide improvements.

Potential NHS impact

If this High Impact Change were implemented across the NHS to existing best practice rates it is estimated that:

- the 70,000 operations cancelled each year for non-clinical reasons could be cut by 40%
- an 'average' Trust could require 3% less beds or could 'free' 3% of its existing bed stock, allowing for an increase in activity (in the presence of a waiting list)
- A&E targets could be met and surpassed
- elective access targets could be met and surpassed.

You can find tools and resources to help you implement this High Impact Change at www.modern.nhs.uk/highimpactchanges For further details, see page 89 of this guide.

Change Nº5

Avoid unnecessary follow-ups for patients and provide necessary follow-ups in the right care setting

Avoid unnecessary follow-ups for patients and provide necessary follow-ups in the right care setting

1. What do we mean?

Each year in the NHS there are 37 million 'follow-up' appointments where patients are asked to return to hospital to have their progress checked, to undergo tests, or to get test results.

A significant proportion of these follow-up visits are clinically unnecessary, create inconvenience and anxiety for patients and waste valuable resources. 75% of all outpatient 'Did Not Attends' (DNA) are for follow-up appointments. The follow-up DNA rate varies between specialties and locations but a range of 10–40% is common. There are more than four million follow-up DNAs per annum, which cost the NHS more than £100 million a year. Many patients are voting with their feet.

Much of the current emphasis of NHS redesign work is on the front end of the patient process – demand management and avoiding initial hospital visits. Follow-up arrangements have not typically been the focus of our efforts. Yet there are great gains to be made. We should view follow-up visits as part of the front end of the patient's journey. To date common practice has been to invite patients for a follow-up appointment 'just in case'. If we change that practice to one which is based upon, 'no follow-up unless there is a specific reason', i.e. clinical need or patient-led request, this would undoubtedly reduce the number of unnecessary follow-ups and DNAs.

Many Trusts will be challenged to achieve the NHS Improvement Plan standard of six weeks from GP referral to initial outpatient consultation. Reducing clinically unnecessary and inconvenient follow-up visits will free up clinical resources for initial consultations.

The first aspect of this High Impact Change is to streamline the patient's journey to create a 'one-stop' approach where all relevant tests are planned, scheduled and booked to occur in one visit. This requires the visit process to be carefully co-ordinated to ensure access to relevant tests occurs in sequence and results are available within a timescale that allows health professionals to make the appropriate clinical decisions.

The second aspect to this is that follow-up appointments after treatment should take place in the right healthcare setting and be delivered by the appropriate healthcare professional. This means investigating alternatives to a consultant-led hospital-based outpatient appointment. The first question should be "is a follow-up visit really necessary?" If it is, the assumption should be that the follow-up can be performed in a primary care setting and should be instigated by the patient. Automatic secondary care follow-up should be used only where necessary and clinically appropriate.

5

75% of all outpatient DNAs are for follow-up appointments

Follow-up does not have to mean that a patient is physically present with a healthcare professional. Telephone calls, questionnaires, web based services and group visits could be used to replace the traditional visit.

By redesigning and streamlining the visit process we can:

- reduce unnecessary visits for patients and their carers therefore improving the patient experience
- reduce patient anxiety by providing tests and results within one visit
- create capacity to see new patients more quickly
- reduce non-value added time for staff by reducing duplication.

Despite the potential benefits for both patients and staff, the redesign of the visit process to avoid unnecessary follow-up visits and provide follow-up visits in the right care setting such as primary care has been slow. Although each visit is not as costly as some other health events, it still represents a significant amount of resource, both for the NHS and for society in general. It is the most common way in which the general public interacts with the hospital system and therefore has huge potential to influence the way that the public views the quality of treatment provided by the NHS.

If you are not already looking at follow-ups and want to know where to start, you might try benchmarking your current services to see where there is likely to be the most potential for improvement.

The speed with which you can realise the benefits of spreading this change across your organisation depends on a number of factors. Some of these are:

- development of booking systems
- training up of clinical nurse specialists
- introduction of non face to face follow-ups
- commissioning of standard care packages
- Primary Care Trusts (PCTs) monitoring financial flows
- clinical agreement on discharge and follow-up protocols.

Some of these require cross-organisation working. If you are setting up a project, make sure that you get real engagement from colleagues in other sectors of the health and social care community.

2. Where is this change relevant?

This High Impact Change is relevant at all stages in the patient journey from access to discharge. It can be applied to all specialties and patient groups and to all healthcare settings.

It has significant relevance for:

- patient experience and choice
- access and waiting times
- capacity and demand management work
- National Service Frameworks
- management of long-term conditions.

It is a key component that should be integrated throughout the package of care.

3. What is the benefit?

Figure 1 outlines the benefits that can be obtained by avoiding unnecessary follow-up visits and providing necessary follow-up visits in the right setting.

Figure 1: Benefits that can be obtained by avoiding unnecessary follow-up visits and providing necessary follow-up visits in the right setting

Service Delivery
Evidence indicates:

- reduced number of follow-ups in the patient journey
- reduced DNA rates
- increased level of nurse led follow-ups where appropriate
- redirects consultant's time to more appropriate clinical priorities
- improved clinic scheduling to see new patients
- compliance to follow-up protocols can be audited
- active discharge of five year cancer patients.

Patient Experience
Evidence indicates:

- follow-up in the community near to home
- choice for the patient
- reduction in the number of visits
- reduced waits
- patient is seen by the right person, with the right skills, in the right place and at the right time – specified by protocol
- nurse-led clinics can offer patients more time
- enhanced continuity of care in nurse-led clinics for frequent visitors (particularly important for people with cancer)
- patient satisfaction surveys have been positive about nurse-led clinics
- reduced pressure on often overcrowded hospital car parks.

Clinical Outcomes
Evidence indicates:

- reduced follow-up appointments creates capacity to see new patients sooner
- achieved National Service Framework compliance more easily.

Benefits for Staff
Evidence indicates:

- enhanced nurses/therapists role (in outpatient setting and primary care)
- training opportunities to enhance skills
- follow-up protocols can aid instruction of junior doctors
- students and junior doctors get the learning experience of following the same patient from initial consultation to diagnosis in one single visit in some specialties
- reduced duplication and non value added time
- enhances timely decision making (single visit results available).

5

NHS case studies

Total Service Redesign, Bradford Haematuria Service

Service users and the clinical team have jointly redesigned the service. Patients who test negatively for pathology are now sent a letter rather than waiting for a follow-up outpatient appointment. They still have the choice to meet with their consultant if they wish but most people prefer to receive a letter. This is a potential saving of more than 300 clinic slots a year which can be reallocated.

One Stop Clinics, Gynaecology Postmenopausal Bleed Clinic (Mid Yorkshire Hospital Trust)

The patient receives examination, assessment, trans-vaginal scan and any other relevant investigations on the same day. If cancer is suspected, the patient receives an appointment for hysteroscopy before leaving the clinic. Numbers of patient visits are reduced from three to one.

One-Stop Rapid Access Chest Pain Clinic, Heatherwood and Wexham Park Hospital NHS Trust

Nearly 1,500 patients have benefited from the implementation of the single visit clinic. It has reduced waiting times and the need for follow-ups appointments. Exercise test, 24 hour tape, blood tests and X-rays are carried out during a single appointment. The results are reviewed and patients are informed immediately.

If DNA rates could be reduced to upper quartile performance there would be at least one million fewer DNAs each year

Nurse-led Follow-up Clinics, Audiology (Bradford)

Nurse-led specialists have released 750 consultant follow-up appointments in a year. If this were extrapolated nationally this would release more than half a million follow-up appointments each year.

Aural Care, East Lancashire

A single nurse has released 770 consultant follow-up appointments in a year. If this were extrapolated nationally this would release nearly 800,000 follow-up appointments each year.

Urology, Weston Area

Nurse-led follow-up clinics for bladder cancer patients benefits 100 patients per annum redirecting consultant time to see more new patients.

Patient Triggered Follow-Up, Hillingdon Breast Unit

Breast cancer patients completing initial treatment are offered self-managed follow-up with early mammography for five years and direct access to the clinic via the breast care nurse but no booked routine appointment. Follow-up appointments have dropped by 30% and clinics which used to need two doctors can now be covered by one, re-directing valuable resources. Evaluation of the new process shows 89% of GPs were happy with the new arrangement, 83% of patients were happy with the contact they received after completion of treatment, 92% of patients felt secure with the new system. Patient triggered follow-up is feasible and acceptable to staff and patients.

5

4. What contribution could this potentially make to your local improvement efforts?

The quantified aims for improvement that you set around this High Impact Change will depend on your casemix and current patterns of outpatient working and systems between primary and secondary care.

Below are some examples of what could be aimed for locally. Your own plans will reflect current baseline performances and local priorities.

- You could aim to reduce follow-up DNAs by 50% (particularly for services that do not operate partial booking systems).
- Any hospital with overall new to follow-up appointment ratio above 1:3 should aim for a substantial reduction in follow-up appointments. Even taking account of case-mix issues, any ratio above 1:3 signifies a problem with systems design and control of outpatient services.

In just Orthopaedics, ENT, Ophthalmology and Dermatology, there would be half a million fewer follow-up appointments a year

5. What do you need to do?

For hospital Trusts:

- undertake a baseline diagnosis of the patient's journey
- co-develop services with patients and carers
- gain widespread clinical and managerial support to take forward an agreed redesign strategy
- set local goals and measures
- test out new ideas
- challenge thinking – ensure it is redesign not re-shuffle
- initiate cross boundary and cross professional working
- communicate the benefits for patients and staff
- implement standardised procedures and protocols to support the process
- support and train staff to undertake new role
- establish monitoring systems to monitor sustainability and continuous improvement.

For PCTs:

- commission single visit clinics
- commission follow-up care where appropriate to alternative healthcare settings
- be involved from the start of redesign of the patient's journey.

6. What are the costs of implementing this High Impact Change?

- A one stop visit costs more than a traditional first appointment – but costs are offset by removing following visits.
- Need to gather the evidence before one can convince clinicians that change is beneficial. This requires either data collection locally and/or visits to organisations that have already successfully changed. This has resource implications in both monetary and time terms.
- Additional costs of clinical nurse specialists and primary care follow-ups will have to be weighed up against the reduction in follow-ups and the released consultant time locally.
- Management time – a nominated person must lead the changes.
- Physical redesign – some remodelling of facilities may be required to bring together activities.
- Staff time:
  - training – nurses, therapists or technicians to undertake follow-up clinics
  - service and system redesign
- Working with service users and carers to co-develop the new system.

5

Conclusion

7. If this were implemented across the NHS, what would the impact be?

The *Step by step guide to outpatient improvement*, published in 2000, stated that outpatient services had been bypassed by the modernisation movement and many had been unchanged since the 1940s. Since then many strides have been made to improve access to initial outpatient consultation. However, the follow-up issue remains largely unchanged.

Adopting High Impact Change Nº5: Avoid unnecessary follow-ups will enable your Trust and community to realise a number of benefits. These benefits support the national imperatives of giving patients more choice and reducing waiting times. Patients want treatment that is safe, efficient and effective and which causes the least disruption in their lives.

Potential NHS impact

If this High Impact Change were implemented across the NHS to existing best practice rates, it is estimated that:

- DNA rates could be reduced to upper quartile performance (8% or less for follow-ups) and there would be at least one million fewer DNAs each year which waste clinical and administrative time
- should all Trusts achieve upper quartile performance in follow-up to new appointment ratios in just Orthopaedics, ENT, Ophthalmology and Dermatology, there would be half a million fewer follow-up appointments a year.

You can find tools and resources to help you implement this High Impact Change at **www.modern.nhs.uk/highimpactchanges** For further details, see page 89 of this guide.

Change Nº6

Increase the reliability of performing therapeutic interventions through a Care Bundle approach

Increase the reliability of performing therapeutic interventions through a Care Bundle approach

1. What do we mean?

This change is about making sure clinical processes deliver to patients what they should be delivering.

A recent series of articles in The Lancet (*Inpatient Safety, March to April 2004*)[1] argued that improving patient safety is a common goal of clinicians and managers, and that giving appropriate therapy in a reliable manner can improve patient outcomes by improving the quality of care. The 'Care Bundle' approach, which encourages clinical teams to examine the way they deliver therapeutic interventions, is a direct way of improving the delivery of clinical care to achieve better clinical and organisational outcomes.

Often 'improvement' is discussed in terms that fail to connect to clinical teams. It is framed in terms of projects or targets that may seem inconsistent with the ethos of frontline staff. This High Impact Change provides an illustration of how clinical governance can be used to reduce, in Wennberg's phrase, "unwarranted variation in clinical care" (Fisher 2003). At the same time, equity of care is improved by ensuring that patients with the same clinical condition are managed consistently.

The existing evidence and data indicates that the creative abilities and motivation of managerial and clinical staff can make significant improvements to clinical processes and patient outcomes – clinical outcomes, in terms of reduced morbidity, and service outcomes in terms of bed availability.

The NHS Modernisation Agency's Critical Care Programme has been using an approach referred to as a 'Care Bundle.' Originally developed in the USA, Care Bundles is an approach which systematically appraises clinical processes. It is based on measuring the actual provision of therapeutic interventions according to standards, informed by evidence, which local clinicians set themselves. Although clinical teams frequently monitor compliance with individual therapeutic items, a Care Bundle approach requires measurement of compliance with a *whole group* of items, not just individual items. By comparing actual performance with the expected, clinical and non-clinical staff can make local organisational changes to improve the delivery of therapy. Examples of two Care Bundles are given below.

Elements of a ventilator Care Bundle
- DVT prophylaxis
- Peptic ulcer prophylaxis
- Prevention of ventilator associated pneumonia by elevation of the head of the bed
- Managing sedation effectively.

Elements of a tracheostomy Care Bundle
- Humidification
- Tube patency/inner tube care
- Suction
- Safety equipment availability
- Cuff pressure
- Tracheostomy dressing/tapes.

6

Measuring whether these interventions are performed appropriately and giving feedback to clinical teams leads to alterations in practice. The experience of doing this in England has shown effects on service outcome in terms of throughput and cost in some critical care units. Essential to success in each locality has been strong local leadership, both clinical and managerial.

The steps of a Care Bundle are:

- agreement by clinical and non-clinical professionals to measure processes of clinical care as a means of reducing avoidable morbidity and mortality
- selecting a small number of elements of care to be measured, based on the available evidence of their effectiveness, standards of best practice, or the logic of their applicability
- agreeing local guidelines showing the indications and exclusions for the particular therapeutic interventions
- using simple methods to measure and give timely feedback on the delivery of the elements to indicate compliance with the local guidelines
- facilitating creative discussion to develop ways for improving the reliability of giving elements of care.

The utility of the Care Bundle concept lies in its ability to provide a mechanism for timely measurement that clinical guidelines are being followed and to influence clinical practice accordingly. While similar to an 'audit cycle', the difference is the speed with which the feedback takes place. In an audit, data is analysed retrospectively, but a Care Bundle is monitored prospectively. Hospital clinical audit/effectiveness departments may have a role to play if they can facilitate rapid feedback of data. However, the best results have been obtained where measurement has been incorporated into the daily routine.

Reducing unnecessary morbidity would reduce length of stay and increase capacity

2. Where is this change relevant?

Ensuring the reliable administration of therapy is a goal which can be applied to all specialties and clinical processes. Indeed, although this version of the approach has been developed in the specialty of critical care, interest in the approach has also been expressed by A&E and Orthopaedic departments.

The principle of observing details of clinical processes is not new. Mant and Hicks (BMJ 1995) showed that measuring and improving the regularity of delivering specific items of therapy to patients with myocardial infarction could improve standardised mortality statistics. Recent studies have borne this out.

Elsewhere in Europe, the Danish National Indicator Project (www.nip.dk) is looking at six different specialties to demonstrate the quality and equity of healthcare and to improve clinical outcome. Each specialty has a number of goals for specific clinical interventions, which are monitored continually. For example, one of the clinical goals for stroke patients is, "administration of an anti-platelet agent within 48 hours of admission". Measuring and displaying the degree to which the goal is attained leads to discussion between all staff groups and the generation of organisational changes so the goal can be reached in 100% of appropriate patients.

The Institute for Healthcare Improvement (IHI) has reported on the use of Care Bundles to reduce hospital deaths from acute myocardial infarction (AMI) and surgical site infection, from the perspective of American case-mix and hospital practice. Based on best practice data from Hackensaw University Medical Centre, McLeod Regional Medical Centre and Tallahassee Memorial Healthcare, IHI estimates that it could be possible to achieve an 80% reduction in surgical site infections (of which 3% could be fatal) and a 50% reduction in deaths from AMI. IHI estimates that an average bed-sized US hospital could save 18 lives from surgical site infections and 108 lives from AMI each year as a result of implementing Care Bundles.

6

3. What is the benefit?

Delivering the optimum clinical care consistently can prevent morbidity. One of the consequences of reducing unwarranted variation in clinical care is a reduction in the length of hospital stay.

For example, in the specialty of critical care, published evidence shows that clinical teams paying close attention to compliance with guidelines of therapy, such as weaning and sedation regimes, reduce the duration of and the costs of a critical care stay directly. In orthopaedics, local presentation of patient information and compliance with locally developed clinical guidelines has been associated with a significant decrease in length of stay.

Weingarten (1998) commented that, "There was a statistically significant increase in adoption of practice guidelines and decrease in length of stay for patients hospitalised with hip and knee replacement".

In addition to organisational outcomes, local feedback about clinical processes allows clinical teams to learn from the daily provision of routine clinical care and improve practice.

Figure 1 below outlines the benefits that can be obtained by improving the reliability of performing therapeutic interventions through a Care Bundle approach.

Figure 1: Benefits that can be obtained by improving the reliability of performing therapeutic interventions through a care bundle approach

Service Delivery
Evidence indicates:

- improved clinical governance procedures
- improved equity of care between patients
- faster delivery of care because of explicit agreement on therapies
- possibility of decreased length of stay
- possibility of decreased cost
- lower sedation costs
- small changes in length of stay in specialties under pressure may have significant cumulative effect.

Patient Experience
Evidence indicates:

- fewer complications
- fewer complaints
- fewer omissions of indicated therapy
- reduction in unnecessary length of stay and other risks of hospitalisation.

Clinical Outcomes
Evidence indicates:

- reduced morbidity
- improved outcomes if therapy is given more regularly
- this treatment is based on agreed, evidence based, guidelines
- fewer adverse events
- fewer complications as prophylaxis regimens are administered more regularly
- that it draws attention to the link between outcomes and processes.

Benefits for Staff
Evidence indicates:

- clinical and managerial staff aligned to provide the best care for patients
- a systematic approach to improve the delivery of healthcare is encouraged
- creative discussion between staff leads to new insights on care processes
- improved relationships between staff by stimulating dialogue.

NHS case studies

University Hospitals Coventry and Warwickshire NHS Trust

University Hospitals Coventry and Warwickshire NHS Trust critical care unit looked at their care processes for the ventilator Care Bundle and improved the delivery all four elements (as on page 51). They tailored the critical care unit data system to give timely feedback on care processes, making the monitoring of the clinical process integral to the clinical process itself. The reliability of giving therapy increased, patient throughput increased by 9% in one calendar year without any change in occupancy, and the pharmaceutical costs of sedation reduced.

Hillingdon Hospital NHS Trust

Hillingdon Hospital ICU improved the care of tracheostomy patients by developing a set of six elements indicating quality of care (as on page 51). As a result, the number of clinical incidents reduced, the number of visits and interventions by the critical care outreach service decreased, and emergency equipment was more reliably present at the bedside.
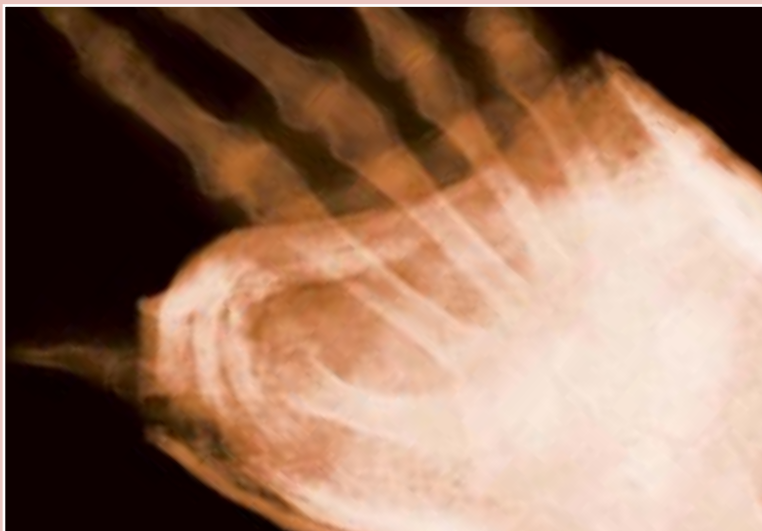
Bolton Hospital NHS Trust

Bolton Hospital Intensive Care Unit utilised the care bundle approach to look at sedation practice and made a saving of £2,000-£5,000 per month on pharmaceutical costs. This money is being directed for other items, including new drug infusion equipment.

6

By increasing the reliability of performing therapeutic interventions through a Care Bundle approach, patient safety would be enhanced

4. What contribution could this potentially make to your local improvement efforts?

Below are some examples of what could be aimed for locally – your own plans will reflect current baseline performance and local priorities.

Data on hospital standardised mortality rates (HSMR) are being reported (Jarman 1999). While the contribution to HSMR of sub-optimal clinical processes is unknown, it is known that only a proportion of patients receive all the care that is indicated (McGlynn 2003). Luton and Dunstable NHS Foundation Trust are using Care Bundles as part of a total package of measures to reduce their HSMR by 20 points.

In critical care, although variation within and between units renders precise prediction impossible, two findings have been an alteration in drug costs and a change in patient throughput. However, two necessary components of commissioning critical care services, the critical care minimum dataset and the funds flow arrangements, would provide better quality data on the changes in patient throughput and cost.

Using the 2002-2003 Augmented Care Period dataset, the median length of stay of patients in intensive care in England is two days. However, these patients only account for 20% of the total number of patient days in intensive care. Patients who stay nine days or less take up 50% of the number of patient days. Based on experience of Trusts which have pioneered the Care Bundle approach, effective management of sedation in critical care can produce a major benefit in length of stay, if an improvement in sedation techniques is possible. Even small changes in the length of stay of longer stay patients could have a significant effect in terms of bed availability.

A Care Bundle is not a method for comparing clinical care processes between different Trusts or units.

A Care Bundle approach could contribute to a reduction in HSMR

5. What do you need to do?

For care providers:

- identify specialties, diagnoses or patient groups that could benefit from close attention to a small number of elements of care
- help to make the introduction of Care Bundles an explicit part of the organisation's clinical governance strategy
- involve hospital/PCT clinical audit/effectiveness departments to support the process
- allow clinical staff to decide on relevant elements of care
- provide a simple system for data capture and rapid feedback to clinical teams
- perform a baseline audit, or 'environmental scan' to assess current practice
- provide time and facilities for clinical staff to generate ideas to improve the delivery of care
- provide data to high quality clinical databases and examine results to observe trends in patient outcomes.

For Commissioners:

- negotiate with providers to examine the possibility of using specific clinical process indicators to give an objective assessment of the quality of care.

6. What are the costs of implementing this High Impact Change?

Improving safety needs a commitment in terms of time, effort and resource "to provide an infrastructure that facilitates safe care and to support those responsible for delivering it" (Bion 2004). In critical care, initial investment has been made by funding the NHS Modernisation Agency's Critical Care Programme which has supported clinical networks in performing the Care Bundle work. The work of the Modernisation Agency can be continued by SHAs, Trusts and PCTs providing the resources and spreading the principle throughout other specialties.

Specific support is needed for education and training in the technique of collecting data on clinical processes. Time will need to be be allocated for staff to collect data, to reflect on the results of measuring clinical processes and to create new ways of increasing the reliability of therapeutic interventions. The precise nature of the support should be decided on locally, with the involvement of stakeholders and could be seen as part of a whole organisational development package.

An information systems infrastructure needs to be provided to reduce the burden of data collection, especially if quality of care measures were specified in a service level agreement between commissioners and providers.

6

Conclusion

7. If this were implemented across the NHS, what would the impact be?

Potential NHS impact

If this High Impact Change were implemented across the NHS to existing best-practice rates, it is estimated that:

- it could contribute to a reduction in HSMR
- patient safety would be enhanced
- reducing unnecessary morbidity would reduce length of stay and increase capacity.

For critical care alone, data from the critical care Augmented Care Period dataset 2002–2003, indicates that if intensive care patients who stayed longer than five days had their stay reduced by only half a day, after improving care processes overall, approximately 14,000 bed days would be released.

You can find tools and resources to help you implement this High Impact Change at www.modern.nhs.uk/highimpactchanges For further details, see page 89 of this guide.

Change Nº7

Apply a systematic approach to care for people with long-term conditions

Apply a systematic approach to care for people with long-term conditions

1. What do we mean?

The next phase of service improvement outlined in The NHS Improvement Plan emphasises the importance of patient choice and the development of personalised services. A key element of this is to enable people who have a long-term condition (sometimes called chronic disorders) to take greater control of their own treatment and gain support from health professionals in the community. Long–term conditions, which many people will live with for the rest of their lives, include diabetes, asthma, arthritis, heart disease and depression. Many people suffer more than one of these conditions.

There is a growing acceptance that our current focus within the NHS on managing acute episodes of care is no longer appropriate, either in terms of the type of care offered or in terms of managing large and increasing numbers of people who suffer from one or more long-term conditions. 17.5 million adults may be living with chronic disease. About 45% of these people have more than one condition. By 2030, we estimate that the incidence of long-term disease in those who are over 65 will more than double. At present:

- about 78% of all healthcare spend relates to people with long-term conditions
- 80% of GP consultations relate to long-term conditions
- for patients with more than one condition costs are six times higher than those with only one
- patients with long-term conditions or complications utilise over 60% of hospital bed days, often as a result of an emergency admission
- 10% of inpatients account for 55% of inpatient days; 5% account for 42% of inpatient days
- in the NHS pilots of the American Evercare[1] system, 3% of the at-risk over 65s accounted for 35% of the unplanned admissions for that group

- between 50-80% of that cohort were not known to district nursing services or social services.

This leads us to believe that we must change how patients with long-term conditions are supported by the NHS if we are to improve the quality of their care, reduce the fear, anxiety and needless cost of having to go into hospital and enable people to lead fuller lives with their families and communities.

The experience we have gained in UK primary care about the benefits of a more proactive, systematic approach to managing patients with long-term conditions underpinned by good prevention is being strengthened by recent learning from US models of care. Pilots in the UK have confirmed that by identifying the local population with long-term conditions and then understanding the personalised needs of individuals within that community, health and social care services can be more closely matched to individual requirements. Through risk stratification, a strong focus is applied to:

- recognising the key role that **self care/ management** plays in the daily life of everyone with a life long condition and by providing help and support harnessing this for better care and better outcomes
- systematic **disease management** that includes automatic recall, review and reassessment. Care planning which provides the focus for individualised care and care co-ordination for those patients with more than one condition, is appropriate in every setting
- **case management** for those at highest risk of deterioration and admission to hospital.

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1 Evercare's own interim report of the work was published and made available on the DH website as well as the NatPaCT website (www.natpact.nhs.uk) under the CDM link

2. Where is this change relevant?

This change is relevant for all people suffering from one or more long-term conditions. Primary care disease registers will help identify the cohort of patients.

People with long-term conditions should be stratified by level of risk:
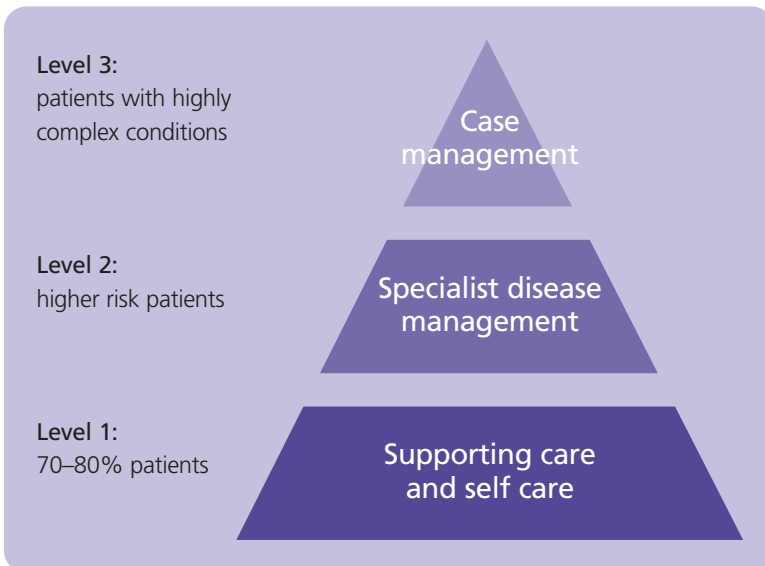
Courtesy of Kaiser Permanente: Population management through risk stratification

At Level 1, with the right support, many people can take an even more active part in their own care, and in managing their own conditions. Quite small improvements can have a huge impact. For the majority of people with long-term conditions this maybe all they need Those who have had support in managing their own conditions within the Expert Patient Programme report their health is better, they are less dependent on hospital care and that they feel less limited in what they can do.

At Level 2, specific disease management is provided mainly by primary care working through evidence-based protocols based, for example, on National Service Frameworks or NICE guidelines. Recall, review and reassessment is automatic and regular. Multi-disciplinary teams provide high quality, evidence-based, personalised care to patients. This can help patients avoid complications, slow down the progression of their disease, and promote good health. For many people this care is integrated with supported self care in Level 1. However those with the highest risk or special problems should be identified for additional tailored input of 'care' management. Proactive management of care is important and underpinned by good information systems – patient registries, care planning, shared electronic health records, and increasingly, including disease specific group education.

At Level 3, case management provides care for patients with complex needs. These are often elderly or with three or more conditions and they require a highly personalised service. Where this type of case management has operated, dramatic improvements have been seen, including the prevention of admission to hospital and, where an inpatient stay is necessary, reductions in the length of time people spend in hospital. Case management involves a key professional worker (often a nurse) actively managing and joining up care, including social services, for these patients.

3. What is the benefit?

We have drawn upon a variety of information and data sources to identify the benefits associated with moving to a more systematic approach to long-term disease management. We know that people with long term conditions want to be more in control of their own condition and patient experience is improved for everyone. Being systematic at Level 1 and 2 has a high impact on quality of care, quality of life, patient satisfaction and prevention of more complex problems in the future. Being systematic at level 3 has a high impact on resource use.

Figure 1 outlines the benefits that can be obtained by applying a systematic approach to the care of people with long-term conditions. At levels one and two, structured proactive preventive care, for all disease groups where it has been studied, improves outcomes and patient experience, often reduces hospital costs and delays in the short term and/or prevents expensive long-term complications.

At Level 3, The Castlefields Health Centre work was evaluated and described by the Audit Commission as an example of effective practice. The Evercare pilots in England are still being evaluated and first results will not be ready until early 2005[2]. Evercare's independent US evaluation and that of the Veterans Administration provide us with results that lead us to believe that we can replicate some of the benefits within the NHS.

Figure 1: Benefits from applying a systematic approach to the care of people with long-term conditions
(Benefits at Levels 1 and 2 are shown in normal text. *Benefits at Level 3 are shown in italics*)

Service delivery
Evidence indicates:

- pressure on hospital services can be reduced:
  - in a randomised controlled trial of structured group education including an exercise component for people with COPD, hospital costs were reduced by £239 per patient compared to controls
  - in East Suffolk, structured district wide foot care for people with diabetes reduced hospital admissions by 49%
  - 30% fewer people with COPD admitted through A&E in Lambeth & Southwark
- education programmes in asthma and diabetes reduced hospital costs in numerous international studies in the short term
- skills based group training for Type 1 diabetes (DAFNE) pays for itself in four years via reduced complications, reduces intermediate outcomes and prevents complications. The cost of a programme whose effect lasts three years is roughly equivalent to one year of a new oral hypoglycaemic agent.

Patient experience
Evidence indicates:

- patients report increased satisfaction and confidence in primary care teams carrying out structured care
- the Expert Patient Programme leads to dramatic improvement in patient well-being and confidence in managing their own care
- structured skills based education (diabetes and asthma) improves quality of life, self-efficacy, knowledge and confidence
- *case managers, advanced primary care nurses and new roles such as 'community matrons' are able to act as patient advocates.*

Figure 1 continues overleaf

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2 Evercare's own interim report of the work was published and made available on the DH website as well as the NatPaCT website (www.natpact.nhs.uk) under the CDM link

Continued from previous page

Figure 1: Benefits from applying a systematic approach to the care of people with long-term conditions
(Benefits at Levels 1 and 2 are shown in normal text. *Benefits at Level 3 are shown in italics*)

Service delivery – continued
Evidence indicates:

- Expert Patient Programme reduces attendance at hospitals
- asthma action plans enable people to manage with less help
- reductions in unplanned admissions, 15% in Castlefields for older people
- 35% reduction in urgent care visit rates, Veteran's Administration in US
- *reductions in hospital lengths of stay, 31% in Castlefields for older people – from 6.2 days to 4.3 days and total hospital bed days fell by 41%*
- *reduction in bed days for Veteran's Administration in US, dramatic differences in length of stay (LOS) in Kaiser Permanente (California)*
- *significant reduction in medications reported by US Evercare with benefits to health. NHS test sites are already yielding stories across all PCTs of better medicines management, reduction in prescribing budgets with overall savings predicted (Walsall PCT).*

Patient experience – continued
Evidence indicates:

- *patient satisfaction improves: US Evercare yielded 97% family and carer satisfaction rates. In England advanced primary care nurses are already reporting individual satisfaction from their patients in NHS test sites and referrals to hospital are more appropriate and timely.*

Figure 1: Benefits from applying a systematic approach to the care of people with long-term conditions
(Benefits at Levels 1 and 2 are shown in normal text. *Benefits at Level 3 are shown in italics*)

Clinical outcomes
Evidence indicates:

- structured proactive care including education programmes improves intermediate outcomes and prevents complications
  - in diabetes, the risk of developing complications reduces by 25%, and the danger of incapacitating swings in blood glucose in Type 1 and weight gain in Type 2 is reduced
  - structured diabetes foot care reduced major amputations by 69%
  - in East Kent and North Tyneside, all the risk factors for heart disease were improved over an entire population
- personalised negotiated targets and care plans in Type 2 diabetes have reduced the incidence of heart disease and other complications
- we can expect to see less hospital acquired infection if hospitalisation is avoided (levels one, two and three)
- *we can expect to see significant reductions in contra-indicated medications*
- *we can expect to see deterioration in patients slowed down*
- *we can expect to see Care Plans reflect patients' own goals which often leads to greater concordance with treatment.*

Benefits for staff
Evidence indicates:

- by meeting General Medical Services targets, practices as a whole benefit
- staff involved in structured group education report greatly enhanced professional and job satisfaction
- *improved links between practice staff, hospital staff and other agencies in the community. Castlefields work shows that more appropriate referrals were made to other services and much faster response times were received for social services assessment*
- *better integration between primary, secondary and social care with information flows much improved (NHS test sites)*
- *high job satisfaction rates amongst advanced primary care nurses in England. GPs and geriatricians taking part on the testing also report high satisfaction with the model (See interim report)*
- *the advanced primary care nurse role provides an advanced career pathway for nursing*
- *GPs' role has been extended through case managers and advanced primary care nurses.*

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4. What contribution could this potentially make to your local improvement efforts?

Below are some examples of what could be aimed for locally. Your own plans will reflect current baseline performances and local priorities.

Improvement examples:

Level 1 and 2:
It would be reasonable to aim to:

- the National Service Framework targets for registration of patients and the demonstration of systematic care they define for cardiovascular disease (CVD) and diabetes are met on time for patients of all ages
- 80% of the practice population identified at Level 1 and 2 risk have the choice of working within a care planning approach
- 90% of the practice population identified at Level 2 risk (often during care planning) are benefiting from active care management
- 90% of patients are offered referral to a disease specific education programme and/or the Expert Patient Programme
- there is a year on year increase in percentage of patients attending practices which are increasing their quality and outcomes framework points.

Level 3:
It would be reasonable to aim to:

- *identify all patients in a practice population (average 25) who are admitted to hospital on two or more occasions in a year*
- *reduce by 5% inpatient emergency bed days for the entire population*
- *reduce the length of hospital stay amongst this target population by 25%*
- *ensure that 95% of the practice population identified at Level 3 risk to benefit from a case management approach with identified links to district nursing and social services*
- *achieve a substantial reduction in medication expenditure for this target population.*

Level 3 patients make up nearly 30% of the four million emergency admissions in the NHS each year

5. What do you need to do?

Good long-term disease management includes the following essential components:

- use of information systems to access key data on individuals and populations and for decision support
- identifying patients with long-term disease(s)
- stratifying patients by need
- involving patients in their own care
- encouraging participation in the Expert Patient Programme and disease specific education programmes for appropriate conditions
- co-ordinating care for those at highest risk (using case managers)
- identifying named 'navigators' to help people use the complex health and social care system for everyone
- using trained multi-disciplinary teams
- integrating specialist and generalist expertise
- integrating care and policy across organisational boundaries including those with local authority and social services
- aiming to minimise unnecessary visits and admissions
- providing care in the least intensive setting as close to home as possible.

The most developed models at Level 3 stress the importance of intermediate care:

- as step down care from hospital for rehabilitation and mobilisation
- as step up from primary care to manage patients' exacerbations.

6. What are the costs of implementing this High Impact Change?

This is a whole system change, designed over time, to greatly improve the service available to people with long-term conditions. There will be development costs associated with these changes in the short and medium term, however, it is reasonable to expect considerable improvement and efficiency gains during the same period.

Development costs include:

- leadership time: a senior leader must steer the changes
- project management resources
- time for system, service and role redesign
- investment in new roles (technicians, educators and associate practitioners at levels one and two, and case managers, advanced primary care nurses, community matrons at level three)
- training for new roles and systems (e.g. IT skills, shared informed decision making etc)
- work with (and resource) service users and carers to co-develop the new system and the local education and Expert Patient Programmes
- relationship building as part of team development and across organisational boundaries
- development of cross-organisational information and measurement systems.

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Substantial reduction in medication expenditure for this target population

Conclusion

7. If this were implemented across the NHS, what would the impact be?
It is estimated that half a million high-risk patients with long-term conditions would benefit from this High Impact Change. Those at Level 3 make up nearly 30% of the four million emergency admissions in the NHS each year.

You can find tools and resources to help you implement this High Impact Change at **www.modern.nhs.uk/highimpactchanges** For further details, see page 89 of this guide.

Potential NHS impact

If this High Impact Changes was implemented across the whole NHS to best-practice rates, it would contribute to a significant reduction in bed days used. Outcomes would be improved due to reductions in contra-indicated medications and the patient experience significantly enhanced.

- quality of life could be extended for millions of people with long-term conditions
- there could be a quarter of a million fewer emergency admissions to hospital
- 1.2 million days of inpatient bed capacity could be released.

1 Source: based on reducing by 20% the number of admissions of a target population comprising 30% of unplanned hospital admissions each year

95% of the practice population identified at Level 3 risk to be benefiting from a case management approach

Change Nº8

Improve patient access by reducing the number of queues

Improve
patient access
by reducing
the number
of queues

1. What do we mean?

Multiple queues are an endemic feature of the way we manage patient waiting in the NHS. Patients may be split into separate queues by degree of urgency (urgent, soon, routine), by patient 'location' (inpatient, outpatient, emergency), by clinical condition within a consultant practice, or by individual clinicians within a specialty or primary care team.

This queue separation is called 'carve-out', because chunks of capacity are carved-out or ring-fenced for particular queues of patients. For instance, clinic slots are set aside for urgent or emergency patients. The mathematics of queuing tells us that the greater the number of queues and the level of carve-out, the greater the propensity for delays, variation in care, and waste in the system. Multiple queues make it impossible to match the capacity to demand. Multiple queues lead to multiple waste because the case mix being added to the waiting list (demand) is never the same as the pockets of capacity reserved for each type of case.

If there are 15 doctors working in the clinic and each has his or her own queues (urgent, soon and routine), that means 45 different queues of patients being scheduled into a single clinic. We frequently see radiology and endoscopy departments where there are more than 100 separate patient queues within a single schedule. Systems experts tell us that this may be a more complex scheduling task than any manufacturing production process in the world.

Reducing the number of queues (wherever possible and where it is clinically appropriate to do so) can result in a dramatic improvement in waiting times. This may even reach the point when splitting the queue into degrees of priority becomes unnecessary, because everyone gets seen quickly.

Waits and delays are not inevitable features of healthcare services, they are just symptoms of poorly designed systems. Multiple queues are the number one issue in problematic service design.

Number of patient queues being managed in a typical specialty clinic

For example:

Number of appointment types
● Emergency
● Urgent
● Soon
● Routine
● Follow-up

Number of doctors
1   2   3   4   5

In one clinic if there are five doctors with five different appointment types, there are 25 queues to manage. Two similar clinics per day, five days a week means 250 queues to manage each week.

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Multiple queues challenge the principle of equitable management of waiting lists. Patients with the same level of clinical priority should be offered the opportunity to select their date in broadly chronological order. When slots that have been ring-fenced for urgent patients are not used, the next routine patient due to be added to the list is generally offered that slot so as not to waste it. This means that some routine patients (with the same level of clinical need) will wait for less than two weeks and others will wait for twenty weeks. Reducing queues significantly increases the potential to treat patients equitably.

Using the approach outlined in the 'Clinically Prioritise and Treat' (CPaT) toolkit[1], Trusts can understand the variation in waiting times for patients of similar clinical need. Through informed dialogue between clinicians, managers and administrative staff, Trusts can implement fairer systems to deliver shorter maximum waits. This is in line with the equitable management of waiting lists.

Reducing the number of lists or clinic types in a service will reduce the effects of variable demand for each element of the service. In outpatients, you will want to reduce the number of specialist clinic types within a specialty. The main reason for setting up a sub-specialist clinic should be that the resources for the clinic are not available at other times. This may be either equipment, (e.g. sterile endoscopes), or staff, (e.g. joint clinics with visiting specialists). The bulk of referrals in most specialties should be managed in general clinics.

A particularly effective strategy to reduce queues is Personalised Team Referrals (PTRs). These are an integral part of the patient choice agenda. Rather than being referred to a named consultant, patients can choose to be referred to a team of consultants in a specialty. The consultants share the referrals as a team. They are collectively responsible for the clinical quality of their care.

There are many benefits:

- It is fairer for patients.
- The average total backlog and average waiting times are substantially reduced when work is shared, due to managing the variation in capacity which occurs in single provider services.
- The service continues when one or more members of the team are on leave, which can be important for meeting the needs of urgent patients.
- Patients with complex or sub-specialist needs can be assigned to the most appropriate clinician.
- Other team members, such as specialty nurses, will work to shared protocols of care across the team.
- The system is administratively more straightforward with reduced risk of errors.
- Staff morale is enhanced in healthcare teams.
- Clinical outcomes are improved when care is delivered by teams[2].

Some clinical units have been delivering care in this way for years and found it to be a highly effective way of working. Many of the clinical teams that piloted the Cancer Services Collaborative have discovered how powerful this approach is in improving both access and the quality of care.

Patients should always be offered a choice of appropriate providers. They should be given information about waiting times and clinical quality of respective services (team and individual providers) to help them make a choice. Even within specialty teams, if a patient prefers to select a named consultant they should have the opportunity to do so.

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1 see Resources and tools guide p89

2 Team working and effectiveness in healthcare, Borill C., West M., Dawson J., et al (2002), Aston University Birmingham, http://research.abs.aston.ac.uk/achsor/achsor.html

2. Where is this change relevant?
This principle is relevant to any staff or service which requires patients or staff to be scheduled into slots of time. This includes:

- clinics in primary and secondary care
- GP surgeries
- operating theatre lists
- day case surgery units
- mental health services
- diagnostic tests
- patient transport
- drug treatment facilities
- ante-natal services
- social services appointments.

The application of this change is particularly effective when combined with other strategies to reduce variation in patient flow through the system. These include **High Impact Changes Nº2: Improve access to key diagnostic tests**, **Change Nº3: Manage variation in patient discharge**, **Change Nº4: Manage variation in patient admission**, **Change Nº5: Avoid unnecessary follow-ups** and **Change Nº9: Optimise patient flow using process templates**.

Through informed dialogue between clinicians, managers and administrative staff, Trusts can implement fairer systems to deliver shorter maximum waits

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3. What is the benefit?

Figure 1 outlines the benefits of reducing carve out and patient queues as part of a whole systems approach to patient centred improvement. There will be both qualitative and quantitative benefits for service delivery, patient experience, clinical outcomes and benefits for staff.

There are many examples where waiting times for tests and procedures has reduced from six months to zero. Simplifying the system by reducing the number of queues means it is easier to maintain the new performance level.

By eliminating carve out and sharing referrals in an ovarian cancer patient pathway, the time from GP referral to first definitive treatment was reduced from over 140 days to less than 40 days.

Figure 1: Benefits from reducing carve-out and reducing queues

Service Delivery
Evidence indicates:

- reduction in average waiting time for outpatient appointments
- reduction in average waiting time for diagnostic procedures
- reduction in maximum waiting time for inpatient and day case treatment
- reduction in variation in individual patient wait for similar appointments / procedures.

Patient Experience
Evidence indicates:

- restored equity in waiting times for all patients with similar levels of need
- shorter waits
- better care without delay through a pathway of care that involves the whole multi-disciplinary team.

Clinical Outcomes
Evidence indicates:

- Personalised Team Referrals actively promote team working
- improved clinical outcomes from care delivered by effective teams
- PTRs will generate a noticeable improvement in clinical outcomes in specialties where it is applied
- a more stable and consistent system which clinically prioritises patients sequentially and sees patients more quickly should reduce risk of deterioration in patient's condition whilst waiting for treatment.

Benefits for Staff
Evidence indicates:

- reduction in the clinical, managerial and administrative time dedicated to managing queues and waiting lists
- less complexity in the system gives staff an opportunity to achieve consistent standards of care to patients who have been clinically prioritised
- increased job satisfaction and less stress amongst staff may become evident.

NHS case studies

North Northamptonshire NHS Trust

PTRs are part of a whole system reform which has seen the wait for a routine appointment reduce from six months to three months. Other benefits have been an 85% reduction in cancelled clinics and 35% reduction in DNA rates.

Rotherham General Hospitals NHS Trust

Has seen a reduction in clinic waiting times from approximately 16 weeks wait for first appointment to four weeks by eliminating carve out and allocating patients sequentially to the next available clinic slot.

Ealing Hospital NHS Trust

The average waiting time for barium enema has reduced from ten weeks to zero and has enabled the service to offer a 'no wait' system for all patients.

There will be both qualitative and quantitative benefits for service delivery, patient experience, clinical outcomes and benefit for staff

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4. What contribution could this potentially make to your local improvement efforts?

Below are some examples of what could be aimed for locally. Your own plans will reflect current baseline performance and local priorities.

Eliminating carve-out and introducing Personalised Team Referrals wherever possible will significantly improve access by reducing waiting times and make the achievement of access improvements much more likely within the current capacity. It will be a critical element in meeting the NHS Improvement Plan goal of 18 weeks total journey time from referral to definitive treatment.

Pilot projects show that in services with a large backlog and several degrees of priority (typically radiology or endoscopy) taking patients chronologically may be expected to reduce average waiting times by 50% with no change in underlying capacity.

SHAs have calculated the additional numbers of inpatients and day cases they need to undertake to hit access targets. CPaT analysis shows that this could be reduced by between 1,200 and 12,000 per SHA if queues are managed effectively and patients requiring routine surgery are treated in broadly chronological order.

An example of an improvement aim could be to:

● reduce number of queues within key services by 50–80%.

Taking patients chronologically may be expected to reduce average waiting times by 50%, with no change in underlying capacity

5. What do you need to do?

- Gain high level leadership support for the strategy (this is critical as the changes will impact on many teams and specialties).
- Make the reduction in queues part of an overall improvement strategy along with other High Impact Changes, especially **High Impact Changes Nº2: Improve access to key diagnostic tests**, **Change Nº3: Manage variation in patient discharge**, **Change Nº4: Manage variation in patient admission**, **Change Nº9: Optimise patient flow using process templates** and **Change Nº10: Redesign and extend roles.**
- Co-develop the changes with service users and involve them at every stage of the change process.
- Ensure all staff understand the patient perspective – particularly on the importance of reduced delay, and equity.
- Educate clinicians and others regarding the evidence from queuing theory and about the benefits of reducing the number of queues by PTRs.
- Map the existing flows of patient referrals to the service, measure the demand and identify how queues are subdivided in the system.
- Identify areas where number of queues can be reduced.
- Give clinical colleagues and the wider multi-disciplinary team the opportunity to influence, shape and make decisions about their area or specialty.
- Spend time and effort building clinical teams and relationships.
- Build team-based objectives into Consultant Contracts.
- Generate meaningful local information about the variation in waiting time for patients with similar needs.
- Continue to measure and monitor the variation in waiting times and the number of queues.

6. What are the costs of implementing this High Impact Change?

The overall goal is to eliminate carve out and reduce queues across the whole patient pathway. This may require additional resources in the short term but once the changes have been implemented and the benefits achieved it is likely that resources can be redirected to tackle other priority areas.

To make this change, Trusts will need to commit resources to:

- support a clinical champion who is well versed in queuing theory and its application to healthcare
- dedicated clinical time for the development of an overall strategy for clinical systems improvement
- an individual to help make agreed changes across the organisation or clinical team
- allow additional analytical time so that challenges can be understood and measures developed to demonstrate the impact of changes made
- explore new formats for reporting progress to executive boards so as to raise awareness of benefits of introducing PTRs and team working
- involve those negotiating consultant job plans in promoting the benefits of PTRs and incorporate this issue into personal and team objectives.

8

Conclusion

7. If this were implemented across the NHS, what would the impact be?

Introducing this High Impact Change across a whole system will realise substantial benefits for the whole organisation, staff and patients. In particular it will have significant impact in terms of achieving care with less delay, and greatly increase the system's capability to meet or exceed national access targets.

Potential NHS impact

If this High Impact Change were implemented across the NHS to existing best practice rates, it is estimated that:

- the number of additional FFCEs required to hit elective access targets could be reduced by 165,000 by managing queues effectively and seeing patients in broadly chronological order
- not only would the 13 week outpatient target be exceeded, outpatient waits could be virtually eliminated.

You can find tools and resources to help you implement this High Impact Change at www.modern.nhs.uk/highimpactchanges For further details, see page 89 of this guide.

Change Nº9

Optimise patient flow through service bottlenecks using process templates

Optimise patient flow through service bottlenecks using process templates

1. What do we mean?

Process templates are used extensively in the manufacturing sector but their utilisation in healthcare is relatively new. The early NHS results are very significant. NHS teams report that they are able to free up around 30% of additional capacity within existing resources. Process templates have the potential to make a major contribution to effective operational management in the NHS.

Process mapping and 'time and motion' studies can be used to build up a representation of the time and resources required by a patient during their process of care. This representation is known as a process template and can be used to identify the bottlenecks and reduce the effect of variation in demand and capacity at the bottlenecks to improve scheduling of patient care.

The use of process templates allows us to:

● find the actual bottlenecks in the system
● plan to relieve the bottlenecks by:
  ▸ reducing the demand on the bottleneck by shifting work upstream or downstream and changing roles, e.g. training an ophthalmic nurse to measure visual acuities and eye pressures rather than the ophthalmologist
  ▸ increasing capacity, e.g. making more ophthalmologists available
● calculate the return on investment at the bottleneck – consider how many more patients we could treat by training the ophthalmic nurse or employing another ophthalmologist
● schedule patients to improve flow through the resources in the whole system
● scenario plan, e.g. what is the impact if the ophthalmic nurse goes on holiday?

2. Where is this change relevant?

Process templates can be applied to any clinical process in primary and secondary care. To date, process templates have been designed for single bottlenecks in endoscopy, chemotherapy, day case surgery and radiotherapy. They have also been used on a whole hospital basis to plan elective admissions.

The effectiveness of using process templates to schedule care will be limited by the extent of 'carve out' or 'ring-fencing' of the shared resources in the total capacity of resources. See **High Impact Change Nº8: Improve patient access by reducing the number of queues**. For example if a group of ophthalmologists see their own referrals in their individual clinics, the process templates and scheduling will improve the productivity of each opthalmologist's clinic but not the whole ophthalmology unit. This will only occur if the team were to become a 'carve out free zone', introducing Personalised Team Referrals (PTRs), and pooling their clinic capacity. Then the templates could be used to schedule the flow of patients through the whole ophthalmic resource to increase productivity, reduce waiting times, improve access, and guarantee a robust schedule for booking.

3. What is the benefit?
Figure 1 outlines the benefits that can be obtained by optimising patient flow through the service bottlenecks using process templates.

Figure 1: Benefits from optimising patient flow using process templates

Service Delivery
Evidence indicates:

- whole system – capacity released in elective inpatient care
- single bottlenecks:
  - reduced bottlenecks leading to higher throughput and reduced length of stay
  - reduced waiting lists
  - reduced hospital initiated cancellations
- one hospital that utilised process templates:
  - increased activity from 946 to 1,272 patients over nine months (over 30% improvement)
  - reduced waiting list from 940 to 650
  - halved patient waiting time.

Patient Experience
Evidence indicates:

- planned patient care around the constraints allows faster, more personalised yet fairer treatment
- improved patient information
- patients are able to book a date that is convenient for them
- removes patient waiting as a result of the constraint.

For example, an endoscopy team reduced patient and hospital led cancellations by 75%, reduced average times that patients spent on the unit by 40%, and 100% of patients had the procedure booked to suit their convenience.

Clinical Outcomes
Evidence indicates:

- improved timeliness of care by planning resources around constraints and ensuring patients get treated on time. The potential dividend regarding timeliness could potentially be no waiting lists and speedier care.

Benefits for Staff
Evidence indicates:

- improved working environments with better patient flow
- staff able to plan and control their work which leads to reduced stress and increased goodwill
- increased training and education for staff.

Endoscopy and radiology units have by 40% through the use of process

NHS case studies

George Eliot Hospital NHS Trust

Endoscopy and radiology units have been able to improve productivity by 40% through the use of process templates. Templates have also enabled them to identify the time constraints in the system, make appropriate investment decisions (role redesign, voice recognition software, etc) and improve patient scheduling.

Within the emergency system process, one hospital used templates to clearly identify two distinct groups of patients, minor and major patients. Segmenting these patient groups into process template types and managing them within distinct resources initially resulted in a significant increase in the numbers of patients seen in A&E in under four hours .

Process templates for the major group of patients identified that the bottleneck was in the discharging of patients from the wards and in the initial assessment in A&E. The same junior doctor on call performed both tasks. The variation in demand for these 20 minute tasks can vary from 17 to 93 patients per day. By relieving the constraint (by moving to consultant based wards in which the junior doctors only look after one ward), and scheduling the discharges before the admissions, has resulted in a reduction in the length of stay of half a day for 80% of patients discharged from hospital. This resulted in no medical outliers, no surgical cancellations on the day (due to lack of bed), and an achievement of the 2004 4-hour A&E target.

4. What contribution could this potentially make to my local improvement efforts?

Below are some examples of what could be aimed for locally. Your own plans will reflect current baseline performances and local priorities.

Improvement examples:

- NHS organisations may consider using process templates prior to investment in additional capacity to ensure that the investment is required. This could become standard NHS practice.
- At the level of a single bottleneck, i.e. endoscopy, chemotherapy or radiotherapy unit, assume a minimum of 10% improvement in effective capacity. Combine this with a reduction in the number of queues (**High Impact Change Nº8: Improve patient access by reducing the number of queues**) to get much more dramatic capacity gains.

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been able to improve productivity
templates

Conclusion

5. What do you need to do?

- Process map and redesign the process to reduce the number of steps.
- Understand how the patient's clinical condition and procedure relates to the process template, e.g. a hip replacement has a similar process template to a knee replacement, but a colonoscopy template is very different to either of the above.
- Undertake a quick time and motion study of 20 to 50 consecutive patients going through the process. You need to time the individual steps to find out how long 80% of patients undergoing each task in the process take. Use the time that the procedure takes for 80% of patients because if the average time is used, the time required for 50% of patients will be underestimated and you will not be able to 'catch up' on the schedule.
- Schedule (line up) the process template for sequential patients to enable you to identify the constraints and identify changes and the cost benefits of the changes that can be made.

6. What are the costs of implementing this High Impact Change?

This High Impact Change requires initial data collection (time and motion study) by staff that may take a single full time resource at the beginning. However, simple paper and pen technology is required to draw up the process templates. Excel, which is available to all hospital and primary care staff, can be used for more sophisticated analysis.

Specific scheduling software is not required initially and should be avoided until NHS organisations and teams gain significant experience in designing process templates.

7. If this were implemented across the NHS, what would the impact be?

Process templates are one of the most effective tools for identifying and addressing the causes of bottlenecks in patient processes.

Potential NHS impact

If this High Impact Change were implemented across the NHS to existing best practice rates, it is estimated that:

- you could free up 15–20% of current capacity to address waiting times
- you could prevent wasting money by investing in inappropriate additional capacity, e.g. waiting list initiatives or more beds
- you would ensure that clinical teams could follow and book patients into a predictable schedule, achieving full booking and eliminating cancellations and re-scheduling of appointments or procedures.

You can find tools and resources to help you implement this High Impact Change at www.modern.nhs.uk/highimpactchanges For further details, see page 89 of this guide.

Change №10

Redesign and extend roles in line with efficient patient pathways to attract and retain an effective workforce

Redesign and extend roles in line with efficient patient pathways to attract and retain an effective workforce

1. What do we mean?

Optimising roles along an agreed pathway or process of care leads to significant improvements for staff and patients. We know that by redesigning roles and matching them against skills and competencies we can improve patient care, reduce waste, improve working lives, and reduce errors and mistakes.

When we implement new and amended ways of working, we can achieve significant impact in key areas, for example:

● reduced delays and waits for procedures
● improved staff retention rates
● reduced agency spend and recruitment costs
● achieve Working Time Directive (WTD) compliance.

2. Where is this change relevant?

Role redesign can be applied to a variety of service problems, for example, where there is variation in capacity caused by skills shortages, problems with implementing the Working Time Directive (WTD) and/or the Consultant Contract. Examples from emergency services, primary care, intermediate care, mental health, and acute services have shown that role redesign can help place staff with the right skills in the right place at the right time.

There are three categories of role redesign that are making a significant difference for patients and staff:

● **Administrative and clerical roles** – extending administrative and clerical roles releases care-givers from administrative duties and improves communication between providers and patients. Developing attractive careers for this group of staff also improves retention and recruitment of a vital part of the NHS workforce.

● **Assistant practitioners** are healthcare workers with a level of knowledge and skill beyond that of the traditional healthcare assistant or support worker. They deliver care and undertake tasks that previously have been within the remit of registered professional staff. Developing assistant practitioner roles not only creates additional workforce capacity, it also widens access into NHS careers by attracting staff from more diverse backgrounds.

● **Advanced practitioners** are experienced clinical professionals who have developed their theoretical knowledge and skill to a very high standard, such that they have a level of decision making and often have their own caseload. They are able to undertake tasks that would previously have been performed by another professional. For example, nurses and allied health professionals (AHPs) undertaking tasks previously assigned to doctors.

We suggest that every NHS organisation will want to consider the maximum potential of these roles in redesigning their services.

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3. What is the benefit?

High Impact Change Nº10 makes a significant contribution to achieving benefits from other High Impact Changes, in particular **High Impact Changes Nº2: Improve access to key diagnostic tests**, **Change Nº3: Manage variation in patient discharge**, **Change Nº7: Apply a systematic approach to care for people with long-term conditions**, **Change Nº8: Improve patient access by reducing the number of queues** and **Change Nº9: Optimise patient flow using process templates**. Major service redesign and change delivery programmes will need to be supported by workforce reform, in particular pay and regulation reform.

Figure 1 outlines the benefits that can be obtained by redesigning and extending roles in line with efficient pathways to attract and retain an effective workforce. The projected benefits have been calculated using evidence from NHS Modernisation Agency pilot sites, existing workforce data and expert knowledge of those working with health and social care organisations throughout England. The benefits set out below relate to the specific categories of role redesign:

- administrative and clerical (A&C)
- assistant practitioner
- advanced practitioner
- some of the benefits relate to more than one role[1].

Figure 1: Benefits from redesigning and extending roles

Service delivery
Evidence indicates:

- in radiography, the introduction of advanced practitioner roles has helped bring down waiting lists because tests are no longer cancelled when a radiologist is not available, e.g. 30 week wait for barium enema down to four weeks (advanced practitioner), also 83% reduction in waits for plain film reporting
- intermediate care teams are reporting reduced variation in delayed discharges as a result of implementing support worker roles. These roles enable older people to be discharged back into the community. Pilot sites are reporting that delayed discharges have reduced from 11% to 7% (assistant practitioner)
- in radiography – results include 10% reduction in turnover (for certain roles), 47% reduction in qualified staff agency spend
- role redesign contributes to WTD compliance by improving team working and making better use of skills across the teams (A&C, assistant practitioner, advanced practitioner)
- the introduction of a trauma and orthopaedic practitioner has reduced the time from arrival in A&E to transfer to a ward for patients with fractured neck of femur from 150 minutes to 90 minutes at one pilot site (advanced practitioner).

Patient experience
Evidence indicates:

- fewer handoffs benefit patients. Service users no longer have to experience the "procession of healthcare faces" to obtain treatment or advice
- improved communication and reduced delays in transfer of information between care givers (A&C, assistant practitioner, advanced practitioner)
- visits are shorter. Peterborough Diabetes Care Team introduced the role of diabetes care technician. The technician carries out most of the checks for the annual screening review (assistant practitioner). Patient visits now last one hour instead of three and only involve the technician and the consultant.

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1 see Section Three, tools and resources

Figure 1: Benefits from redesigning and extending roles – continued

Service delivery – continued
Evidence indicates:

- the emergency care practitioner role (see case studies on page 82) has led to a reduction in people taken to A&E from 70% to an average of 57% over the first six months of the trial. 38% of responses were treated at scene or referred (non-conveyed) compared to 30% previously, plus 2% referred and transported directly to more appropriate care pathways (advanced practitioner).

Clinical outcomes
Evidence indicates:

- improved clinical quality through increases in direct clinical care time and timely interventions through reducing time to diagnosis (A&C, assistant practitioner, advanced practitioner)
- in Winchester and Eastleigh, medical assistants who are trained to carry out routine investigations have freed up junior doctors and reduced waiting times to treatment (assistant practitioner)
- in Frimley Park, night nurse practitioners are treating routine patients, freeing up SHOs to deal with more complex patients that need their level of skill (advanced practitioner)
- improved outcome as patients receive most appropriate care at the right time in the right place (A&C, assistant practitioner, advanced practitioner)
- health communities that are testing the role of the emergency care practitioner (ECP) are developing protocols and care pathways that enable the ECP to directly refer patients to the most appropriate place rather than transferring all patients to A&E (advanced practitioner).

Benefits for staff
Evidence indicates:

- as a result of role redesign, a new career framework has been developed that will improve recruitment and retention for key groups of staff. For example early results from medical secretaries, across acute and primary care trusts (A&C) achieves:
  - more effective use of secretarial skills can free up more than two hours of medical time per doctor every week
  - reduction in vacancy rates
  - reduced sickness absence rates
  - improved job satisfaction
  - staff are reporting improved team working and increased partnership working
- in radiography, the implementation of the careers escalator has improved the career opportunities for radiographers. The role of the assistant practitioner has allowed radiographers to extend their clinical skills and become advanced practitioners (assistant practitioner, advanced practitioner)
- the assistant practitioner is also widening access to qualified roles, some pilot sites are reporting that 30% of radiography assistant practitioners are transferring to undergraduate programmes.

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NHS case studies

Enhancing the role of medical sectretaries (Accelerated Development Programme)

49 Trusts and GP surgeries taking part in the Accelerated Development Programme for medical secretaries focused their efforts on reducing doctors' administration time. The development of the medical secretary role provided more career opportunities for this group of staff, for example taking responsibility for patient co-ordination and enhanced use of IT meant administrative duties were completed much more quickly and with greater accuracy. In addition, applications per vacancy were reported to increase. At all of the participating organisations, the doctors reported that they were able to spend more clinical time with patients. The range was between 0.5 and 15 hours extra availability per doctor, per week, averaging at 2 hours 45 mins. For GP surgeries in the Accelerated Dvelopment Programme, this enabled between four and 27 extra patients to be seen per week.

Emergency Care Practitioners, London Ambulance Service

The Emergency Care Practitioner (ECP) role offers an alternative and broader career path for nurses and paramedics. This has the potential to retain them in the NHS. The ambulance service predicts the new role will help to retain these

experienced staff that might otherwise seek less physically demanding work. ECPs are the first point of patient access. They respond to less urgent 999 calls and bring benefits to patients, to staff and to the cost of providing the service. For example 40% of patients were 'treated at scene', or referred directly to another care pathway A&E intake was reduced from 70% to 57% in the trial (this is expected to improve further), and in 80% of cases a full ambulance crew was not required.

Assistant and Advanced Practitioners in radiology, City Hospitals Sunderland

Implementing assistant and advanced practitioners in radiography at City Hospitals Sunderland (CHS) has advanced the role of radiographer within the fluoroscopy section of the radiology department as part of the Accelerated Development Programme. Its efforts have mainly been focused on the barium enema service, and as a result the fluoroscopy room is used much more effectively. It has also had a dramatic effect on waiting times for routine barium enemas, reducing them from 30 weeks to less than two weeks in the space of 11 months. Increased activity was achieved because these radiographers were given sessions to perform and report barium enemas, some of which were dedicated radiographer lists, while others were lost sessions created due to radiologist leave.

4. What contribution could this potentially make to your local improvement efforts?

Below are some examples of what could be aimed for locally. Your own plans will reflect current baseline performances and local priorities.

Improvement examples:

- Enhancing the role of medical secretaries has the potential to release an average of 2 hours of clinical time.
- New support worker roles in intermediate care have the potential to significantly reduce delayed discharges.
- The introduction of assistant and advanced practitioner roles within teams helps ensure that clinical capacity is released in order to provide direct patient care and improve access at key stages in the patient journey.

5. What do you need to do?

An action plan for implementing **High Impact Change Nº10: Redesign and extend roles** would include the following steps, in order:

- Identify and define the service problem or constraint that can be solved by new or amended roles.
- Assess the current workforce – identify who does what in the current process.
- Agree opportunities for new or redesigned roles with additional skills or training.
- Define protocols and guidelines which will allow a wider range of professionals with the appropriate skills to provide care for patients.
- Agree a training and development plan.
- Write a business case for sustainability.
- Agree an action plan for testing and/or implementation.
- Undertake recruitment process into new role.

The emergency care practitioner role has led to a reduction in people taken to A&E from 70% to 57% over the first six months of the trial

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Conclusion

6. What are the costs of implementing this High Impact Change?

When roles are reviewed, part of the process is to identify how service redesign, in conjunction with role redesign, can eliminate wastage of resources and free up capacity to work differently. The costs associated with implementing this High Impact Change include:

- developing practical skills and competencies requires adequate supervision and mentoring. This should be factored into appropriate job plans
- most staff who are extending their skills and taking on new roles have to stop doing an element of their existing role. Cost of backfill should be identified to allow staff to take on additional training
- cost of developing education programmes. The initial set up costs for a new education programme requires investment
- costs of enhanced audit processes for assistant and advanced practitioner roles.

7. If this were implemented across the NHS, what would the impact be?

Potential NHS impact

If this High Impact Change were implemented across the whole NHS to existing best practice rates, it is estimated that:

- a reduction in the amount of time that clinicians spend on administrative tasks could free up more than 1,500 WTEs of GP/consultant time, creating 80,000 extra patient interactions per week
- a reduction of NHS staff turnover by 1% to 13% could result in the release of £90m to the NHS by 2007/08
- a reduction in sickness absence of 0.2% could result in the release of £50m to the NHS per year
- a reduction in radiography agency costs could potentially release more than £11m to the NHS through the reduction in radiography agency costs.

High Impact Change Nº10 makes a significant contribution to achieving benefits from the other High Impact Changes.

You can find tools and resources to help you implement this High Impact Change at www.modern.nhs.uk/highimpactchanges. For further details, see page 89 of this guide.

Supporting implementation

The role of the Board in supporting

What role can the Board play in making sure the High Impact Changes get implemented?

These 10 High Impact Changes are designed as a package to support fundamental improvement in the overall performance of a healthcare organisation or community. The active contribution of the Board, as the ultimate leadership body for the organisation, is critical to achieving system-level (in addition to team-level, practice-level and / or directorate-level) results.

The High Impact Changes provide valuable knowledge about what healthcare organisations can do to significantly improve their services for both patients and staff. However, the gains can only be realised if they are part of a comprehensive improvement strategy backed by concerted Board action.

Table 1 sets out the components of a Board improvement strategy to get systems-level results. This can also be adopted by the PEC at PCT level. Whilst the steps are numbered as stages in a strategy, leaders must not regard them as "once we have done this, it is taken care of". Each component will require on-going attention and action from the Board or PEC to ensure sustainability and on-going success.

Table 1: Components of a Board improvement strategy to get system-level results

1 Set ambitious, tangible and measurable aims for improvement into which everyone can buy.
2 Ensure alignment between these aims and the wider health community and organisational strategy, operational performance priorities and other quality improvement projects.
3 Create a clear sense of ownership and overview by the Board.
4 Actively engage the clinical community.
5 Make the business case for improvement visible and explicit.
6 Frame the strategy in ways that enable staff to connect it to their motivations for being in the job and to their core values.
7 Identify the key individuals who will lead the work and get the right combination of people on board.
8 Ensure that senior leaders and Board members channel their attention to 'hands-on' improvement of health care processes.
9 Create partnerships with service users and carers and work with them to co-develop the strategy.
10 Deploy a deliberate strategy of building improvement skills in the senior leadership team and across the organisation.
11 Create an expectation that everyone has a responsibility to improve the services they provide and / or lead.

Source: adapted by Helen Bevan from *An Improvement Strategy to Get Systems-level Results*, Jim Reinertsen, IHI, 2004

Where might the Board start?

Just as local clinical teams establish projects to improve their services, we recommend that the Trust Board or PEC considers establishing its own improvement project. A potential framework is shown in Table 2.

The first stage is for the Board to set strategic aims for improvement. Many organisations and communities are setting their ambitions for improvement far beyond nationally defined targets. An example is the 'no needless' framework adopted by communities within the 'Pursuing Perfection' programme[1].

Figure 1: 'No needless' framework

The 'Pursuing Perfection' programme states that a transformed health and social care system is one where there is:

● no needless death or disease
● no needless pain
● no feelings of helplessness (amongst service users and staff)
● no unwanted delay
● no wasted resources
● no inequality in service delivery.

Source: adapted by the NHS Pursuing Perfection communities from IHI, 2004

The 'Pursuing Perfection' communities use these goals not because they expect them to be attainable, but because the framework creates a challenging moving target against which they work These goals therefore stretch, rather than constrain, local ambition.

The second stage in the Board improvement project is to agree a set of measures against which to track progress towards the aims. The aim should be to use a small set of high level, system-wide measures as opposed to a large set of highly specific measures that reflect the performance of discrete, highly selected aspects of a large health system.

implementation

Table 2: A Board level improvement project				
Strategic aims	**Measurable goals**	**'Stay in business' goals**	**High Impact Changes**	**Improvement work**
Agree improvement aims that connect with the values that brought people into health and social care in the first place	Develop system-level measurable goals that track progress against these aims	Build ownership of delivery by showing how externally set targets sit within the context of the strategic aims	Identify how High Impact Changes can support the achievement of system level goals	Assess current improvement work against the system-level goals to ensure effort is focused in areas of greatest priority

Source: adapted from *Leading for Improvement: Whose job is it anyway?*, Jo Bibby and Jim Reinertsen, 2004 www.modern.nhs.uk/pursuingperfection/

The specific set of measures selected will depend on the nature of the organisation, whether at the level of an individual Trust or PCT or a whole community and the level of ambition of the strategic aims. However, the set of measures should be balanced to reflect a range of performance priorities. They might include high-level measures of patient focus, timeliness, efficiency, safety, equity, benefits for staff and productivity. These measures may include the national targets.

Table 3 (overleaf) sets out examples of system-level measures that Boards and / or community leadership teams are currently using to gauge the impact of their improvement projects. Some Boards make the mistake of picking too many measures. Evidence tells us that we get optimal results by selecting around six to eight measures for this level of improvement project.

The third stage is for the Board to relate the strategic aims to 'stay in business' goals. These are the 'must do' national and local performance levels agreed with local commissioners and the Strategic Health Authorities. These appear at this stage because whilst the 'must dos' are critically important, the strategic aims may extend beyond the limitations of the 'must do' targets. Evidence tells us that it is easier to get ownership and buy-in to externally set goals if they are set in the context of the Trust, PCT or community's own strategic aims.

The fourth stage is for the Board to consider the contribution that the High Impact Changes can make to the measurable goals. We recommend the following process:

- Assess the applicability of each High Impact Change to the local context and local priorities, plus the framework set out in The *NHS Improvement Plan*, and the planning framework *National Standards, Local Action: Health and Social Care Standards and Planning Framework 2005/06-2007/08*.
- Audit the baseline level of performance in the aspects of service delivery covered by the 10 High Impact Changes and determine the potential opportunities for improvement.
- Identify improvement aims related to the High Impact Changes, utilising the "what is the benefit" and the "what contribution could this potentially make to your local improvement efforts?" guidance to assess benefits.
- Make use of the detailed practical advice in the web-based resource (www.modern.nhs.uk/highimpactchanges) to plan testing and implementation of the High Impact Changes and identify sources of support.
- Establish a system for regular reporting to the Board on the implementation of the 10 High Impact Changes.

Table 3: Examples of high level measures that Boards, PECs and communities are using in their system level improvement projects

- Patient and / or public satisfaction rates.
- Mortality rates for specific diseases, e.g. CHD.
- Patient access time to a primary care professional.
- Morbidity rates.
- Numbers of specific categories of patient referred to secondary care.
- Acute admission rates for people with long-term conditions.
- Time to third next available appointment.
- Staff vacancy rates and retention rates.
- Staff satisfaction rates.
- Measures of intermediate care, patient flow, length of stay.
- Efficiency measures – numbers of patients in follow up, number of re-presentations, re-referrals or re-admissions, numbers of medical outliers.
- Equity of care – variation between consecutive patients' times to diagnosis, treatment or discharge.
- Variation in admission and discharge times.
- Total time from referral to first definitive treatment.
- Hospital standardised mortality rate (HSMR).
- Hospital acquired infection rates.
- Patient length of stay or bed "turn over" rate (number of times each hospital bed is 'turned over' to a new patient).
- % of patients Did Not Attends, hospital or practice attendances, cancellations, booked appointments.
- % of patients getting original booked appointment / admission.

The final stage is to align existing improvement projects to the strategic aims and measurable goals. A local health and social care community may play host to more than 300 improvement projects. The senior leadership of organisations within the local community is often unaware of the number and coverage of projects[1]. There is typically a lack of alignment between the strategic direction of the organisation and the focus of improvement projects at clinical team level[2].

NHS Boards and PECs will want to take steps to ensure that improvement efforts at the frontline of clinical care are a) focused on areas of the greatest priority and b) utilise improvement approaches that are most likely to deliver results. Evidence tells us that there is a direct correlation between the achievement of organisation-wide improvement goals and the extent to which chief executives, senior leaders and Boards get involved in a 'hands-on' way in the redesign of processes for delivering care.

1 Matrix MHA Research report: Measuring Local Improvement, 2003
2 Matrix MHA Research report: Making Modernisation Mainstream, 2003

Resources and tools

This section outlines where you will find tools and resources to support implementation of the 10 High Impact Changes. Much of the evidence used to draw up the changes comes from pilot work the NHS Modernisation Agency (MA) has supported as well as national data. Tools and resources have been developed to underpin the pilot work and they provide support for implementation. In addition, there are summary papers and presentations that provide more detail. You will also find an explanation for the assumptions that were made in order to calculate the quantified impact of each of the 10 High Impact Changes.

Table 1 summarises the type of support material available for each High Impact Change. These resources can be found at www.modern.nhs.uk/highimpactchanges

The High Impact Changes provide quantified benefits of service redesign in 10 key areas. We are interested in your feedback on this approach. Please join in the online discussion and tell us your views on the material and how you intend to use it. We will be reviewing and updating the support materials regularly. Your comments and observations are critical to the evaluation and quality assurance of these changes for the benefit of patients everywhere.

Table 1: Support materials, resources and tools

High Impact Change	Toolkits or guides	National or pilot data	Case studies	Reports	Assumptions which underpin the change
Change Nº1 – Treat day surgery as the norm for elective surgery	●	●	●		●
Change Nº2 – Improve access to key diagnostic tests	●	●	●	●	●
Change Nº3 – Manage variation in patient discharge	●	●	●		●
Change Nº4 – Manage variation in patient admission	●	●	●		●
Change Nº5 – Avoid unnecessary follow-ups	●				●
Change Nº6 – Perform therapeutic interventions through a Care Bundle approach	●	●	●		●
Change Nº7 – Apply a systematic approach to care for people with long-term conditions	●	●	●	●	●
Change Nº8 – Improve patient access by reducing the number of queues	●	●	●		●
Change Nº9 – Optimise paitent flow using process templates	●	●	●		●
Change Nº10 – Redesign and extend roles	●	●	●	●	●

Acknowledgements

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