Delivering Quality and Value

Focus on: Primary Hip and Knee Replacement

Institute for Innovation and Improvement
Introduction

This document aims to help local health communities and organisations improve the quality and value of care for patients receiving primary hip and knee replacements. It is one of a series of documents produced by the Delivering Quality and Value team at the NHS Institute for Innovation and Improvement as part of the high volume Healthcare Resource Groups (HRG) programme.

Figure 1

Healthcare Resource Groups (HRGs)
Cumulative % FCEs by HRG for England (2003/04)

HRGs are groups of clinically similar activities for which a similar quantity of resources is needed. They are also the basis for the NHS Payment by Results system.

50 HRGs account for 50% of all bed days. 50 different HRGs (however, there is overlap) account for 50% of all finished consultant episodes (FCEs). As the graph shows, a relatively small number of HRGs account for a large proportion of NHS resources.

The programme is based on the concept that by focusing on a limited range of high volume HRGs (or related care groups), the NHS Institute can help the NHS to make the maximum impact on improving the quality and value of care for NHS patients.

The initial series of HRGs (or related patient groupings) were chosen on the basis that they were high volume, and hence high resource consumers, and also represented a range of clinical areas.

The series of HRGs chosen were:
- acute admissions in adult mental health
- acute stroke
- Caesarean section
- fractured neck of femur
- cholecystectomy
- short stay emergency care (length of stay two days or less)
- urinary tract infections (as a tracker condition for frail elderly patients)
- primary hip and knee replacement.

The document covers:
- the Delivering Quality and Value team’s approach
- the key characteristics of organisations providing high quality care and value for money
- measures for improvement
- further information.
The approach

A literature review was undertaken of the recognised evidence in delivering optimised care for primary hip and knee replacement patients. The ‘Further information’ section gives further detail of the documentary evidence.

A thorough data analysis was undertaken using national data available from Hospital Episode Statistics (HES) as an indicator to rank and identify organisations.

The initial statistics were then adjusted for age and deprivation levels, mortality rate and readmission rates.

We identified a number of local health and social care communities with primary hip and knee replacement rates appearing in the upper and lower quartiles, with a range of size and service configurations.

Verifying the selection of organisations

Having identified the local health and social care communities, we then approached the organisations to allow us to visit them and observe how they manage this group of patients. The ‘Acknowledgements’ section lists the organisations we visited. The information contained within this document was only possible because health and social care communities allowed us to see their practice.

We then undertook site visits, ensuring that at least 50% of our time was spent observing, watching, listening and looking at the flow and processes of care. We also explored the use of information to aid clinical and non-clinical decision-making. The remaining time was spent conducting a series of semi-structured interviews with patients and key members of staff across the pathway of care. We talked to over 160 people in the many organisations we worked with, including:

- Patients.
- Finance managers.
- Orthopaedic consultants.
- Physiotherapists.
- Nurses.
- Occupational therapists.
- Heads of service.
- Booking coordinators.
- Service improvement managers/leads.
- Chief executives.

The knowledge we gained from these visits and the co-production events was then consolidated, and the optimised pathway of care illustrated later in the document was identified.

We worked in partnership with the NHS throughout this project to validate the pathway and the knowledge gained from the site visits, and to identify measures for improvement that would be helpful indicators for evaluating the impact of change.

Prototypes have been identified and tested with the NHS to maximise adoption. Some of these will follow on from the publication of this document. The key characteristics for delivering optimal care in the NHS have been tested with the organisations we worked with and others, to ensure that the change in practice is understood, is relevant and appropriate, and that measuring the improvement is possible within a short time frame.

The field test organisations described in this document developed the characteristics further and learned about how they might be implemented. The testing process is one of learning and development, often carried out quickly and with a small group of patients. Some example case studies are given in this document.

We conducted a survey by telephone to further explore and validate our findings, and held a valuable dialogue with professional colleagues and their representative bodies, service providers and users.

1 Co-production with the NHS, involving all sites visited and national bodies and experts relevant to the pathway.
The content of this document has been developed with the help of NHS staff for the benefit of any organisations and stakeholders that play any part in the primary hip and knee replacement pathway.

Key characteristics have been developed with the expectation that they will be widely adopted across the NHS, so that patients receive a high quality experience irrespective of where they receive their care.

The majority of improvements are applicable and easily transferable to other elective pathways, and implementation will have numerous benefits for the patient and all health and social care services.

How to use this document
The demand for orthopaedic services – and particularly for primary hip and knee replacements – has grown steadily over the past 20 years and continues to do so (see Figures 2 and 3). The complexity of both the conditions treated and the treatments available has also increased. The waiting times for joint replacements have been up to two years in the past, but current waiting targets are six months, and services are working towards achieving the 18-week target in 2008.

**Figure 2**

Primary hip replacements (H80, H81) since April 1996

**Figure 3**

Primary hip replacements (H04) since April 1996
The introduction of Payment by Results has imposed a financial discipline not experienced before, and this is having a major influence on the clinical process. The challenge is to deliver high quality care and high levels of patient satisfaction, and to maintain or improve the outcomes of joint replacement for greater numbers of patients within existing or reduced capacity and facilities.

It is through improvements in the quality of service delivery and clinical quality that cost effectiveness can be delivered. For example, pathway changes needed to deliver a shorter length of stay include:

- day of surgery admissions
- early mobilisation
- better patient preparation, leading to improved patient expectations
- improved postoperative pain management.

There can be no doubt that these all represent a higher quality clinical service.

Since 2001, there have been a number of national programmes to deliver improved quality and efficiency in elective orthopaedics: these include the national collaboratives, the National Orthopaedic Project and Action On Orthopaedics. The result has been a successful consensus on the ideal pathway for joint replacement and new ways of delivering services, with many themes that are applicable to all elective orthopaedics.

The key elements of this pathway have already been introduced in a number of trusts – with outstanding results in terms of quality, patient satisfaction and safe reductions in the patient’s length of stay. But despite the information being available to trusts, managers and clinicians, there remains wide variation in the implementation of these proven improvements in quality and cost effectiveness.
Figure 4 illustrates the national variation in England for all trusts. The average length of stay ranges from four days to 15 days. The national average for hip replacements is 10.6 days, and 9.7 days for knee replacements.

**Primary hip replacement:**
- Top 10 trusts’ average: 6.7 days.
- Highest 25% performers: 4.4–9 days.
- Lowest 25% performers: 11.7–26 days.

**Primary knee replacement:**
- Top 10 trusts’ average: 6.5 days.
- Highest 25% performers: 6–8 days.
- Lowest 25% performers: 10–12 days.
Figure 5 illustrates the percentage of trusts that manage to discharge patients who have had primary hip and knee replacements within four days of their procedure.

The variation shown in Figure 5 has several causes. Primarily, there has been difficulty with the initiation process that leads to the introduction of change in an effective and sustainable way. The process has started in some units, but has foundered because of:

- a lack of effective engagement of clinical leaders
- individual clinicians attempting to drive change without sufficient support for service redesign.
Figure 6 illustrates the national variation in readmission rates in England.

**Primary hip replacement readmission rate:**
- Highest 25% performers: 2.0-4.5%.
- Lowest 25% performers: 8.6-25%.

**Primary knee replacement readmission rate:**
- Highest 25% performers: 1.9%-4.1%.
- Lowest 25% performers: 7.2%-13.4%.
Changes to individual clinical practice are not enough to bring about the transformation required to provide a modern orthopaedic service that delivers a high level of clinical care and financial efficiency. It is the way the service is designed rather than individual clinical practice that has an overwhelming influence on cost effectiveness, length of stay (LOS). The organisation of the process requires the engagement of the whole team.

Clinical engagement and service redesign have to occur together in order to produce lasting results. Where this has happened, rapid, effective and sustainable improvements have taken place, delivering major improvements in patient and staff satisfaction, cost effectiveness and access.

Figure 7 illustrates the average length of stay and volume of cases for primary hip replacement for the top 10 and bottom 10 organisations in England for 2005/06. Although the variation in length of stay is greater in the group of surgeons performing fewer procedures.
Case study
Chapel Allerton Orthopaedic Centre

Chapel Allerton Orthopaedic Centre opened its doors on 4 January 2005. The centre is a purpose-built unit based on one in Holland that members of the Orthopaedic Clinical Management Team at Chapel Allerton visited as part of the Orthopaedic Collaborative three years ago.

The centre consists of an admissions area, a suite of four theatres, a 16-bed postoperative unit, a 40-bed rehabilitation unit, an outpatient unit, a pre-assessment team and an administration team. The unit is staffed by a comprehensive multidisciplinary team (MDT) including qualified nursing staff, clinical support workers, theatre staff, occupational therapists, physiotherapists and other support staff.

The centre cares for patients undergoing all elective orthopaedic procedures, including major joint replacement surgery and day surgery. The unit’s clinical and administration pathways have been designed for a multidisciplinary service with support from the service improvement team.

The centre’s big successes have been:
- surgery on day of admission for virtually all patients
- reduced length of stay
- very low infection rates
- positive effects on mortality/morbidity rates
- virtually no complaints
- no recruitment and retention problems.

The unit has now been open for 18 months. Its pathways are currently under review, in an effort to build on the success so far.

Services that have been able to implement change successfully have designed a local service not by introducing a prescribed ‘off the shelf pathway’, but by designing or identifying models that suit the local health economy. Each redesigned service demonstrates a number of achievements and characteristics that are common across them all: the introduction of these characteristics to any hip and knee service would deliver significant improvements in both the clinical quality and the value of that service.

Having listened to our colleagues in primary hip and knee services, rather than prescribing the ideal pathway, we felt it would be more useful to share the benefits of well functioning pathways and ideas for how to go about achieving them, recognising that each orthopaedic service is bound by local constraints and will potentially have different aspirations.
The key characteristics of organisations providing high quality care and value for money

The following characteristics have been found to be the key features for delivering quality and value for primary hip and knee replacement patients. They are followed by suggested measures for improvement. The suggested measures for improvement are those that we judge to be of value to organisations to enable them to benchmark their current practice against the characteristics described and to further improve it.

Understanding the benefits of change will not necessarily bring that change about. In all the well performing units visited, a constant theme ran strongly through the process of change and service improvement. In each unit, a clear and obvious decision had been made to change the service – prompted by an event or pressure – and was accepted by the team as a whole. The event most frequently cited as something that would initiate change was a positive experience of the Orthopaedic Collaborative or the implementation of a local change programme designed in response to local challenges. These circumstances created a clinically led, productive and empowered MDT, which understood the potential for change and achieved engagement in the decision to change the service. The incentives for change included:

- the need to protect the service from competitors
- the offer of increased theatre capacity without any expansion in numbers of beds
- a simple recognition that the service could not survive in its current configuration.

Implementation of the key characteristics requires an understanding of the major benefits that each can deliver for services, staff and patients, as well as a clear explanation of why the characteristics are essential for meeting service aspirations. Above all, the advantages for patients – and the wider NHS – must be clear. This document sets out how each of the key characteristics identified can deliver such advantages. It also describes the key requirements for delivery, as well as some examples of how to achieve success.
The clinical pathway in each of the high performing services was underpinned by six overarching characteristics. These had emerged from the process of improvement - they were not the original goals of the process. However, the commonality across all of the well performing services was striking.

Each of the characteristics is supported by a number of tailored pathway activities that are designed to overcome the local challenges that might be encountered at various stages in the patient journey.

The six overarching characteristics are:

- Patients’ expectations are consistently managed.
- Patients are admitted on the day of surgery.
- Patients’ planned procedures are not cancelled.
- Patients are mobilised within 12–18 hours of surgery.
- Patients are discharged using a criteria-based process.
- Decision to change your service.
Summary of the benefits

- Focusing on reaching a shared decision to change will deliver widespread engagement and will improve the sustainability of any changes made.

- The information and methods contained in this document will support discussions and meetings aimed at reaching that decision to change.

- Taking a shared decision to change, together with the recognition of staff/service aspirations and a clear link to service improvement will create a powerful, effective MDT which will be able to drive further improvements and deliver value through concentrating on the quality of the clinical service.

- The work required for service improvement can be broken down into manageable tasks that are focused on separate characteristics of the pathway, rather than on the service as a whole.

- This document includes clear, meaningful and measurable benchmarks (‘measures for improvement’) to provide clarity of purpose and a guide to the progress of the process of improvement.

- Delivering service improvement through the application of the key characteristics will introduce and encourage the development of lean thinking and the elimination of waste.

A guide for delivering the six characteristics

The following sections set out:

- the importance of each characteristic
- what needs to be in place to make each characteristic work
- what the benefits of each characteristic are for:
  - patient experience
  - staff experience
- quality of care
- service delivery
- finance
- what is available to help you achieve these benefits
- what barriers there are to achieving each characteristic
- how you can measure the improvement in the performance of your service.

Illustrated at the beginning of each new section are the steps in the pathway that are influenced by each characteristic.

The pathway reflects where you have to undertake improvement activity in other steps of the pathway to achieve the benefits, and the steps in the pathway where you can reap the greatest benefits.
• The team requires clarity of purpose and patient focus.
• Outcomes are improved, cost effectiveness increases and the length of stay is reduced.
• High levels of patient satisfaction are experienced.
• Patients are aware of their role in the management of their care before, during and after their operation.

Why is it important?
From the point of GP referral onwards, there needs to be consistent communication with the patient about their procedure, hospital stay and post-discharge care.

To manage patient expectations consistently, information from all professionals across the patient journey needs to be provided in a coordinated and systematic way. This can be achieved through the following:

- Standardised information leaflets.
- Hip and knee patient education classes.
- A video in the waiting area or to take home.
- Patient dialogue.
- Patient care plans.
- MDT policies, procedures and guidelines.

Patients and staff will need to work together to ensure that the patient is confident in their understanding of the process and has realistic expectations of pain management and rehabilitation goals.

Setting an expected length of stay during the pre-admission phase with patients will ensure that staff, patients, carers and families can all plan for the transfer home. This planning will include early identification and ordering of relevant equipment to support mobilisation in the community environment.

To maximise the coordination of information, there needs to be one specific member of the MDT who will help to navigate the patient’s journey from referral to discharge, and will act as a central point of communication between the service and the patient.

An effective MDT is essential when developing a consistent approach to managing patient expectations. Consensus must be achieved through discussion and the development of guidelines to support consistent communication among team members when talking to patients.
What are the benefits?

To patient experience:
• Patients are confident and knowledgeable, and understand what to expect from the process and their operation.
• Patients are able to play an active role, and can challenge the quality of service delivery if their expectations are not being met.
• Patients’ perceptions of their hospital stay provide a sense of wellness, not illness.
• Patients are aware of the potential long-term gains from early mobilisation and early discharge from hospital.

To staff experience:
• Increased engagement with patients leads to a more fulfilling staff/patient relationship.
• Clinicians and managers share common goals with patients.
• Eliminating variation in messages and goals strengthens team working and communication.

To quality of care:
• Patients who are provided with consistent information are more likely to maintain a sense of independence.
• Information on the benefits of early mobilisation encourages patients to take proactive postoperative steps towards becoming physically active, and so complications are reduced.

To service delivery:
• Patients who have a realistic sense of what to expect are more likely to be satisfied with the care provided - translating into high satisfaction scores.
• When patients are made aware of their rehabilitation goals and expected date of discharge, it is more likely that these goals will be achieved. Advanced planning of resources will facilitate the effective utilisation of beds, theatres, physiotherapy time and equipment.

To finance:
• High levels of patient satisfaction will support patient choice.
• Improved planning (and therefore more efficient utilisation of resources) reduces waste within the system.
• The cost of rehabilitation is shared across the health economy.
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What could be available to help you achieve these benefits?


What are the barriers to achieving this characteristic?

- Patients are not necessarily familiar with this level of engagement in their care, and may find it daunting.
- New ways of working will require education for staff and effective team working. The characteristic will take time to be embedded as a common, day-to-day practice.
- MDTs might not exist or function effectively to develop shared goals.
- Patients are exposed to other information which might differ from that given by the MDT.

Measures for improvement

- Number of patients given a predicted length of stay at pre-admission (from patient satisfaction surveys).
- Number of patients who are aware of their ‘expected’ length of stay on admission. (Feedback from the patient satisfaction survey can be used to routinely review consistency of information).
- Number of patients mobilised within 12–18 hours of surgery. (Clinical records should be routinely audited).
- Number of patients who walk to theatre. (Clinical records should be audited).
- Number of patient cancellations prior to being seen at pre-admission. (Data can be collected from the electronic booking system).
- Percentage of patients discharged on their planned date of discharge. (Clinical records should be audited).
Patients prefer to be admitted on the day of surgery.

- Patients prefer to be admitted on the day of surgery.
- There is a higher volume of activity through the existing beds.
- Patients go into hospital with a sense of independence and wellness.
- The pre-admission process is effective.

‘If you want to get everyone in on the day, just having a day room to bring patients into isn’t enough. You’ve got to have curtained-off bed spaces or consulting rooms with chairs to see them in.’

Staff nurse in an NHS trust in the north east of England

**Why is it important?**

- Patients prefer to be admitted on the day of surgery.
- There is a higher volume of activity through the existing beds.
- Patients go into hospital with a sense of independence and wellness.
- The pre-admission process is effective.
What needs to be in place to make it work?

- The pre-admission process needs to ensure that:
  - patients are informed and have given their consent
  - patients are medically fit for the procedure
  - there is anaesthetic review prior to admission for high-risk or medically complex patients.
- Beds need to be guaranteed for all planned admissions.
- Patients need to be admitted to a dedicated admissions area within walking (or wheelchair) distance of the theatre.
- Effective management of patient expectations of same-day admission (e.g., nil by mouth prior to surgery) needs to commence at home.
- An effective scheduling process needs to be established to ensure that theatres and wards are prepared for same-day admissions.
- Admissions need to be staggered to fit in with the operating list schedule, to avoid excessive waiting time for patients in the admissions area.
- There need to be facilities for surgical and anaesthetic review at the time of admission.
- All staff need to understand their own roles in same-day admissions, as well as the roles of the other members of the MDT.
- There need to be documented and up-to-date procedures, guidelines and protocols in place, specifying the MDT’s shared view of how same-day admission is to be implemented.
- All team members need to have regular opportunities to discuss how same-day admission is working.

What are the benefits?

To patient experience:
- Patients spend the night before admission at home.
- Patients and carers are certain about the timing of admission.
- Patients go into hospital with a sense of wellness, not illness.
- Patients are encouraged to retain their independence.
- Patients get an impression of an efficient, high quality service.

To staff experience:
- There are no late-night admissions.
- Staff are able to plan capacity and patient flows.
- Theatre lists can be planned well in advance.
- Everyone in the MDT is clear about what is expected to happen and who is responsible.
To quality of care:

- Ward staff are focused on postoperative patients.
- Patients are adequately prepared for anaesthetic prior to admission - there is a certainty of treatment.
- The risk of hospital acquired infections is reduced as patients spend less time in hospital.
- Improved patient expectations can produce improved outcomes in terms of patient satisfaction and fewer complications. This delivers lower morbidity, resulting in enhanced outcomes and a shorter length of stay.

To service delivery:

- If the service can increase its activity levels, admission on the day of surgery will facilitate higher activity through the same bed base. If additional activity cannot be achieved, there is still the potential to make cost improvements by reducing the bed base.
- If more patients are receiving higher quality treatment, improved efficiency (with shorter waiting times) is possible.
- The improved preparation of patients prior to admission can virtually abolish cancellations for medical reasons.
- Proactively planning and managing the availability of equipment, beds and HDU facilities in advance of any admission prevents cancellations for non-medical reasons.
- The certainty of patient flow increases.
- The service is simpler to deliver; there are fewer variations and the confidence of staff, patients and GPs increases.
- Most non-elective admissions are known to occur in the afternoon or in the early evening. Admission on the day of surgery can remove the peak in elective admissions, thus spreading the number of admissions across the day.
- Managers and clinicians are realistically able to run wards flexibly at high levels of occupancy and still demonstrate efficiency. The successful separation of elective and emergency flows allows the elective bed occupancy to approach 96%.

To finance:

- Increased income is generated as activity levels increase, patient flow is smoothed out and efficiency gains are realised, resulting in greater productivity.
- Same-day admissions are seen as an imperative by independent providers. Acute trusts will need to reflect this as an integral element of any marketing strategy when seeking to demonstrate competitive advantage.
A consistent message from all staff when admitting patients can be achieved by following a standard admission protocol.

Clinical governance meetings are used to discuss how same-day admissions are working.

Demand and capacity, eg weekly admissions and discharges are analysed.

Patients are provided with information about their arrival time, fasting regime, Methicillin Resistant Staphylococcus Aureus (MRSA), anti-coagulation management, thrombosis prophylaxis, routine medication, management of diabetes, etc.

If an admissions unit does not exist then a bed day can be converted into an admissions area using chairs or trolleys.

Patients walk to theatre.

Systems to track patient flow from admission to surgery and beyond are developed.

Theatre lists are organised so that surgeons can see patients in the admissions area before surgery; the surgeon can mark the limb for surgery, confirm all of the details and have a final conversation with the patient before surgery.

Ensure that patients have access to anaesthetic assessment where required as part of the pre-admission process.

Anaesthetic teams accept each other’s preoperative assessments.

Leeds Teaching Hospital NHS Trust (2006), Surgical pathways improvement programme: Admission on the day (See Appendix).

National guidelines for pre-admission: www.pre-op.org.

What are the barriers to achieving admission on the day of surgery

• Exceptions due to unexpected emergencies will affect bed availability and could impact on same-day admissions (however, an understanding of emergency demand will minimise this).
• Pre-admission processes might be inadequate.
• If patients are not discharged on their planned date, a backlog can build up, and bed availability is reduced.
• If staff are unfamiliar with the same-day admissions system, there could be delays or even a complete failure in the processing of admissions.
• The scheduling process might not relate to the operating list.
• Patients might arrive late.
• Communication within the team might be inadequate.

Measures for improvement

• Length of time between admission and surgery. (For the best performers, this is four hours. If you are already achieving this, can it be reduced further?)
• Percentage of patients admitted on the day of surgery. (For the best performers, this is 99%. If you are already achieving this, can it be increased further?)
• Number of non-medical cancellations and the reasons for them.
• Number of medical cancellations (these should be minimised).
• Bed occupancy numbers. (Reviewing these will give the MDT a better picture of service activity and will ensure the efficient utilisation of resources).
• 100% of patients are assessed prior to admission.
Patients' planned procedures are not cancelled.

- Patient satisfaction is greater, as patients undergo their procedure when they expect to.
- Patient flow through the service is predictable.
- Rescheduling of patients is avoided.
- Patients are treated within 18 weeks of referral.
- Utilisation of expensive theatre facilities is maximised and surgical lists go ahead as planned.
There needs to be an agreed MDT process prior to admission, which delivers the following:

- A well coordinated pre-admission process, ensuring that patients are medically optimised for anaesthetic and surgery.
- Robust discharge planning.
- Accurate information for patients (and their carers and relatives where appropriate) and staff.
- A rigorous policy for theatre list organisation, ensuring that lists are constructed at least three weeks in advance.
- Active involvement from all primary and social care providers/partners who are part of the management of patient expectations and the planning for post-discharge care.
- Elective orthopaedic beds and theatre lists need to be guaranteed for patients admitted on the day.
- Patients need to be fully informed of the implications of the planned treatment before the decision to admit is made.
- An effective scheduling process needs to be established to ensure that theatres and wards are prepared and that the necessary equipment is in place.
- All staff need to feel that they have a shared understanding, ownership and responsibility for the complete service.

‘I’m going home. If they’d told me earlier all these things that can go wrong, I would never have come in!’

Inadequately consented patient
What are the benefits?

To patient experience:
- Patients experience greater satisfaction, as they undergo their procedure when they expect to.
- The experience is less stressful for patients – going into hospital can be an anxious time, and it is made worse by cancellations.

To staff experience:
- Rescheduling patients within 28 days of a hospital cancellation is time-consuming for staff.
- Staff work with patients who feel that they have greater independence, patients who are more relaxed and more able to contribute effectively to their care.
- Surgical teams can actually operate - if beds are unavailable, then teams are unable to utilise their skills. (This is particularly important for consultant productivity and junior doctor training.)

To quality of care:
- Patient care is optimised when procedures go ahead as planned.

To service delivery:
- High levels of in-session theatre utilisation are achieved.
- The service is able to meet cancellation targets.
- Patients are more easily treated within 18 weeks of referral.
- The clinical and managerial team is focused on patient care, rather than on access targets.

To finance:
- The efficiency of the most expensive resources - surgeons and theatres - is maximised. If a patient’s planned procedure is cancelled, these costs still exist but there is no income at all if the procedure doesn’t go ahead.
- The administrative costs associated with a cancellation are avoided.
• Elective and emergency admissions and procedures are separated, and beds are ring-fenced.
• Anaesthetic review is part of the pre-admission process.
• The consenting process is formally commenced in the outpatient department.
• Patients are provided with information about the whole process. (Cancellations on the basis of a lack of domestic planning or a lack of knowledge of the process are avoided.)
• Information systems distribute patient and scheduling details across all parts of the service. (ie between the waiting list office to theatres.)
• Booking forms containing all of the operative information necessary for theatre planning are completed by surgeons.
• Patients are not listed until they are fit for surgery.
• Lists are drawn up at least four to six weeks in advance.
• All planned staff absence is identified at least six weeks in advance.
• Department of Health, Reducing cancellations, DH, London
• NHS Modernisation Agency, A step guide to improving operating theatre performance.
• No Delays Achiever. The NHS Institute has created a free online tool that will help all NHS organisations to achieve the 18 week patient pathway. The No Delays Achiever, available from November 2006, will integrate nationally uploaded data with appropriate service improvement actions and tools for more information. (www.institute.nhs.uk/PriorityProgrammes/NoDelays/Introducing+the+No+Delays+Achiever.htm).
• NHS Institute for Innovation and Improvement (2006), No Delays Essentials (www.institute.nhs.uk/NR/rdonlyres/53AED2DA-53AD-4BC3-B3DC-F81FF69CA3C0/0/NoDelayslowres.pdf).
• NHS Institute for Innovation and Improvement (2006), Improvement Leaders’ Guides (www.institute.nhs.uk/Products/ImprovementLeadersGuidesBoxSet.htm).
• NHS Institute for Innovation and Improvement, NHS sustainability model (www.institute.nhs.uk/ServiceTransformation/Using+the+NHS+Sustainability+Model+and+Guide.htm).
What are the barriers to preventing cancellations?

There is no single 'magic bullet' solution to the problems of delays and inefficiency. It is the combination of the approaches listed above and throughout this document that will make change possible, adapted to local circumstances.

• Beds or theatres might act as a constraint, leading to optimal utilisation of one, but not the other. (Services need to understand what the constraints are, and then implement a management plan to reduce this risk).

• Because of emergency admissions to medical outliers, elective orthopaedic beds might not be available to patients admitted on the day.

• If theatres do not start on time and/or lists are constructed poorly, not all patients can be operated on. (List construction needs to account for theatre turnaround time between cases, including anaesthetic time).

Measures for improvement

• Number of (and reasons for) cancellations. (Potential areas for improvement in quality can be identified).

• Number of cancellations within 48 hours of the planned surgery time. (These should be no more than 2% of the total).

• Rates of theatre utilisation. (This can demonstrate how efficiently the theatre team and surgeons are working, and how well lists are being constructed).

• Percentage of planned procedures that are actually completed for each list. (This illustrates how well the pathway is functioning against agreed processes. It can also reveal how well specific teams are performing).

• Number of patient complaints relating to cancellations. (This can help both clinicians and managers to refine patients' experience of the service).

• Consultant productivity figures. (Routine publication of these encourages healthy competition, and increased productivity and efficiency. By discussing and comparing performance, consultants, managers and members of the MDT are able to identify examples of what works well and can share learning).
Patients are mobilised within 12-18 hours of surgery.

- Patients retain a sense of wellness, independence and rehabilitation, rather than adopting a passive illness role.
- The complications associated with prolonged bed rest are prevented.
- High quality postoperative management of pain, fluids and nausea becomes standard practice.
- The patients’ length of stay is reduced, as the rehabilitation goals required for discharge are achieved more quickly.
There needs to be an agreed MDT process prior to admission, which delivers the following:

- Patients expect and understand the need to be mobilised within 12–18 hours of surgery. (There might be occasional exceptions.)
- Patients receive information about early mobilisation in a variety of formats: written (to take home), verbal (at pre-assessment), on video, or at hip and knee patient education classes.
- Anaesthetic techniques need to be geared towards postoperative pain management and the patient’s ability to be mobilised early and comfortably (with minimal opiate requirement).
- Suitable training, monitoring and clinical leadership for staff needs to be available to prevent adverse events related to analgesia and early mobilisation.
- Analgesia needs to be clearly identified within each patient’s plan of care and drug charts prior to their arrival in recovery, ensuring that there is no delay in the provision of necessary pain relief.
- A proactive approach needs to be taken to postoperative management to return the patient to physiological normality.
- Adequate therapy staff and equipment need to be available to provide support for early rehabilitation.

What needs to be in place to make it work?
What are the benefits?

‘I couldn’t believe it when the physio came to see me while I was still in recovery.’

Patient receiving treatment in an NHS trust in the south of England

To patient experience:
- Patients can expect a rapid recovery, and therefore a quicker return to independence.
- Patients have a reduced level and incidence of postoperative pain.
- Patients are reassured about their pain management during pre-assessment, which should reduce anxiety.
- Patients can plan for a shorter length of stay if they are mobilised earlier.
- Patients will perceive a higher quality service if they experience effective pain management and are in hospital for a shorter length of time.
- If patients are set specific mobilisation goals at pre-assessment and on admission, they will feel more in control of their own recovery.

To staff experience:
- All clinical staff are confident about managing pain, as a result of regular training, agreed protocols and support from acute pain specialists.
- Staff have immediate access to any pre-identified analgesia, enabling more time to be spent supporting patients. Staff can administer protocolised analgesia.

To quality of care:
- Anaesthetic techniques are focused on postoperative pain management, facilitating early patient mobilisation.
- Patients are able to maintain their independence and experience high levels of satisfaction, with fewer complications.
- Risk of complications are reduced, such as deep vein thrombosis, pulmonary embolism, pressure sores.
- Illness type behaviour can be avoided by reducing opiate related side effects, sedation, lethargy and loss of motivation.
To service delivery:

- Early mobilisation results in a shorter length of stay for the patient, allowing an improved patient throughput.
- Providing mobilisation support for seven days a week reduces the patient’s length of stay by at least one day.
- Productivity is increased through a greater focus on rehabilitation, and a shorter length of stay is achieved – patients are able to return home earlier, thus releasing beds and clinical time for other patients.
- Excess bed capacity is used for additional activity, or is removed to bring about cost improvements.
- The service’s reputation improves as patients share their personal experience, and patient satisfaction increases. This provides a powerful driver in patient choice and Payment by Results.
- As a result of less variation due to complications or clinical variation, patients are more likely to follow the pathway and achieve discharge goals as expected.

‘If the nurses tell me that they can’t get a patient up because of pain or nausea, I review the patient, usually have to give them fluids and change their pain meds. If they can’t mobilise the patient later that day, it’s a disaster.’

Orthopaedic consultant in an NHS trust in the north of England

To finance:

- A reduced bed base leads to cost reductions.
- Improved throughput within the existing bed base reflects an efficient use of resources. Fewer complications and extended admissions help to minimise additional costs and utilise resources effectively.
• Education and training updates on the assessment of risks associated with early mobilisation are available for all relevant staff.

• Postoperative pain management protocols allow proactive management of pain, rather than staff having to wait for the senior house officer.

• A pain management lead - either a nurse or an anaesthetist - educates others and develops guidance on up-to-date evidence-based practice.

• Postoperative pain and adverse events are routinely audited, and feedback is provided to the anaesthetic team regularly.

• Risk assessments take place prior to admission, maximising the opportunities for early mobilisation.

• Anaesthetic techniques are standardised, using regional anaesthesia with spinal opiates.

• Patients talk about their experiences in preoperative hip and knee patient education classes to reassure those awaiting treatment.

• Suitable chairs and therapy equipment are made available for patients who spend extended periods in recovery and postoperative units.


What are the barriers to achieving mobilisation within 12-18 hours of surgery?

- The number of patient falls might increase as a consequence of earlier mobilisation. Specific action, possibly a reduction in opiate usage, should be taken in advance to minimise any possible risks.
- All staff will need to agree on how early mobilisation will be achieved - success depends on a team commitment.

Measures for improvement

‘The new source of power is not money in the hands of a few, but information in the hands of many.’

John Naisbitt

- Time between transfer from theatre, recovery and first mobilisation. (An internal benchmark should be established, problems in patient flow should be identified, and clinical intervention should be monitored. Fifty per cent would be a reasonable rate for patients mobilised with 12–18 hours, but aspire to 95%).
- Number of postoperative deep vein thromboses and pulmonary embolism. (This rate will indicate which aspects of care require further review and discussion to prevent future clinical incidents).
- Data from submitted accident and incident reports. (This data should be regularly sorted according to specific areas of the service. MDTs should look for any trends and lessons that the service can learn from, e.g. drug errors).
- Time between first mobilisation and discharge. (An internal benchmark should be established, problems in patient flow should be identified, and clinical intervention should be monitored).
Patients are discharged using a criteria-based process.

GP referral

Triage

OPD

Process prior to admission

Admission

Procedure

Recovery

Rehabilitation

Discharge and follow up

‘Criteria-based discharge has allowed our nursing staff to be absolutely clear about what patients have to do before they go home, and has got rid of the fear of discharging Mr X’s patients without his say so.’

Senior house officer

Why is it important?

• Patients have clear expectations of a successful hospital stay.
• Staff effort is focused on the patient’s attainment of specific goals.
• High levels of patient satisfaction are delivered.
• Developing a criteria-based discharge process helps to create an effective MDT.
• Delays to discharge are avoided.
What needs to be in place to make it work?

• The MDT needs to be effective, empowered and representative, and should be fully involved in the decision to change the service.
• An agreed set of criteria for safe discharge needs to be established, allowing designated staff to authorise discharge.
• The pre-admission process needs to ensure that:
  • discharge planning is taking place
  • patients have clear expectations of progress through postoperative rehabilitation
  • patients are provided with an expected discharge date
  • social care, equipment and transport needs are all assessed and planned for prior to admission.
• Documented plans for postoperative rehabilitation need to be made, empowering ward staff to make decisions about patients’ progress.
• There needs to be strong clinical and managerial leadership on the ward, supported by the consultant team.
• Systems need to be in place to ensure that there are no non-medical delays to discharge.
• There needs to be regular and meaningful communication with intermediate care teams to ensure that the necessary domestic support is in place on the agreed discharge date.
What are the benefits?

To patient experience:
- Patients are able to identify what their personal goal should be in order to be discharged on time.
- Patients are encouraged to retain their independence.
- Clinical procedures are robust, and therefore readmissions are reduced.
- Patients have more confidence that they are ready to go home on discharge because they have been involved in the discharge process.
- Patients are able to make plans with relatives/friends about their discharge.
- Getting patients home sooner reduces the risks of hospital-acquired infections.

To staff experience:
- Staff feel supported in their decisions by the rest of the MDT.
- Nurses and physiotherapists have the opportunity to expand their skill base.

To quality of care:
- A robust pathway is created, driven by setting shared and agreed principles, outcomes and criteria.
- Variation in the management of length of stay and discharge is reduced.
- The patient’s involvement in their own progress and goal attainment encourages independence. Patients feel that they have greater control over what might feel like a stressful experience.
- Running necessary clinical investigations (such as International Normalised Ratio (INR) tests to highlight any potential risk of thrombosis) prior to discharge will minimise readmissions.
- If staff are motivated, there will be a positive impact on recruitment, retention, sickness and absence. This will reduce staffing pressures, resulting in less variation in clinical care.
To service delivery:

• Variation in the length of a patient’s stay is reduced.
• Staff uncertainty over discharge processes and responsibilities is eliminated.
• Variation in clinical practice such as pain management and early mobilisation is minimised, resulting in greater efficiency, reduced length of stay and improved clinical outcomes for patients.
• The intermediate care team is able to plan demand for discharge.
• Service planning for the efficient utilisation of beds, theatres, staff and equipment is improved.
• Patients with a clear understanding of the requirements for discharge are more likely to participate actively in their recovery and progress.
• Patients avoid having to wait for a ward round before being discharged, as clinical decisions for discharge are no longer dependent on a consultant. A designated nurse or other clinician is able to discharge patients using agreed discharge criteria.
• There are no unnecessary delays after the patient has been declared medically fit. There could be a reduction in readmission rates due to less variation in how discharges are managed.

To finance:

• There are no unnecessary delays after the patient has been declared medically fit, so existing resources can be utilised to focus on other clinical activity in the same service.
• The service consistently provides optimal care, reducing the number of untoward accidents and incidents and thus minimising any litigation costs.
• Over time, as the system becomes self-sufficient, there is reduced input on the ward from occupational therapists and discharge coordinators. (Note that any changes of this nature must be negotiated carefully with the MDT: any saved resources may need to be reinvested in the same service but in a different form to complement the service’s continual development.)
• Clinical staff are able to concentrate their efforts on clinical practice, rather than administrative activity: clinical productivity and efficiency are maximised.
Pharmacy, pathology and radiological processes are coordinated to support the patient’s planned discharge date, eg International Normalised Ratio (INR) test results are returned by mid-morning and discharge medication is ordered two days after the operation.

Time and space away from the ward area are made available for regular MDT meetings.

Examples of criteria for discharge used in well performing services include:

- Independence in washing, dressing and mobility.
- Safe negotiation of stairs if necessary.
- A clean wound.
- Eating and drinking.
- Postoperative x-ray performed.

Links with the intermediate care team ensure that postoperative support is booked before admission, not when the patient is fit for discharge.

Occupational therapists are involved in discharge planning.

Expected discharge dates are given to patients at the same time as dates for surgery.

Hip and knee patient education classes detail to patients the expected postoperative progress up to (and the criteria required for) discharge.

Formal therapy services are available seven days a week.

National guidelines for pre-admission: www.pre-op.org.


No Delays Achiever. The NHS Institute has created a free online tool that will help all NHS organisations to achieve the 18 week patient pathway. The No Delays Achiever, available from November 2006, will integrate nationally uploaded data with appropriate service improvement actions and tools for more information. (www.institute.nhs.uk/PriorityProgrammes/NoDelays/Introducing+the+No+Delays+ Achiever.htm).

What are the barriers to achieving criteria based discharge?

- There may not be an MDT (or an effectively functioning one) to agree on the criteria for discharge. Where this is the case, work should be undertaken to build an effective MDT as this is central to this characteristic.
- MDT members may in principle be in agreement on the concept of criteria-based discharge, but may be in disagreement on the actual detail. Full consensus is not needed in order to implement criteria-based discharge, but a majority is. Those who disagree need to have a clear understanding of how the process will function.
- It may take time for staff to gain the knowledge and skills needed to manage the discharge process efficiently alongside caring for patients.

Measures for improvement

- Percentage of patients discharged using the criteria-based process. (The target should be 95%).
- Volume of bottlenecks within the discharge process.
- Number of readmissions. (Data should be collected to help trusts to understand the reasons for readmissions. This will require support from both the information team and other specialties, eg emergency medicine).
- 40% or more of patients are discharged within four days of their procedure; this is facilitated by criteria-based discharge.
The decision to change your service.

- GP referral
- Triage
- OPD
- Process prior to admission
- Admission
- Procedure
- Recovery
- Rehabilitation
- Discharge and follow up

Why is it important?

- The development and ownership of shared goals is encouraged.
- A successful MDT is built.
- Evidence-based management and clinical practice are used.
- Lasting and sustainable service transformation takes place.
- The resulting service is patient-centred and designed to suit today’s environment.
‘When we got back from the collaborative, it was clear to the team that we had to rethink how we were providing the orthopaedic service.’

Ward sister in an NHS trust in the north of England

**Why do you want to change?**

There are numerous reasons for wanting to change a service. However, it was apparent from our observations that the main drivers for change fell into two clear categories:

- internal drivers that create or lead to an event or pressure
- external drivers that create or lead to an event or pressure.

We found that successful performance and sustainable change was achieved by organisations that were able to agree successfully on one or more ‘aspirations’ for their primary hip and knee replacement service.
How can you make it work?

Engagement
Getting the engagement and support of the right people is essential if you want to change your service. The first step is to identify who will need to be involved. This will be different for each service, but we suggest the following list as a start:

- Trust board: the chief executive and directors.
- Staff working within the service - physiotherapists, nurses (ward, pre-assessment and theatre), surgeons and anaesthetists.
- Staff within the trust who have contact with the service - porters, radiologists, theatre staff and pharmacy staff.
- People who are not within the trust, but who have contact with the service - social services, GPs, commissioners and the local medical council.
- Patients, carers and relatives.

At this stage, you should also consider how your project relates to other initiatives, both local and national.

Resources
Before embarking on the project, you need to be sure that you are going to have the resources to succeed. These might include the following:

- Clinical lead(s) who will champion the shared aspirations for the service.
- A service improvement and/or clinical governance lead/project manager.
- A finance/business manager.
- An information analyst.
- Information management and technology officers.
- A human resources/organisational development manager.

You should also consider using a sustainability tool to identify any potential barriers to change, and any capability gaps within both the team and the service. If these are not identified at this stage and managed, the project could run into difficulty during implementation.
Once you have established agreement with and engagement from relevant staff members, you will need to understand the challenges that need to be addressed.

- Carry out a process mapping session with MDT members and representatives from your service, both clinical and managerial. Include representatives from your local primary care trust. This will help everyone to gain an insight into the entire pathway and its function.
- Collect data on what patients and staff think about current service provision. This will help you to understand what the actual problems are, compared with the perceived problems.
- Carry out an activity analysis by consultant (surgeon and anaesthetist) and ward in order to understand the current situation, and measure the progress of change and the attainment of goals.
Once you have a sound understanding of the problem, you will need to work with stakeholders to create a vision for the new service.

- Be clear about what the benefits of any proposed changes will be. This needs to be agreed by the whole team.
- Agree what you need to measure routinely in your service in order to enable effective performance management. Suggested measures for improvement are identified beneath each characteristic.

**Creating a vision**

**Implementation**

A project plan (with clearly defined timescales and roles for the team) needs to be developed. The service improvement or project manager should actively manage the team to ensure that the project is delivered on time and that the expected benefits are realised.

**Continuous improvement**

Implementation of the project is not the end. The team should agree key measures that can be used to manage the performance of the service, and these should be monitored on a regular basis to support continuous improvement.
What are the benefits?

To staff experience:
• Everyone understands the importance of each step in the patient’s journey and what needs to happen in order to maintain a smooth patient flow.
• There are regular opportunities for all staff to express their ideas about how the whole service or individual elements of it can be developed.
• Staff are able to access education and development opportunities that support the implementation of changes to and the continuous improvement of the service.

To quality of care:
• As a result of staff development, implementation of changes to and continuous improvement of the service are both ongoing.
• Clinical and service delivery guidance, policies and procedures (that are clear, owned and understood) support clinical and managerial activity.
• Encouraged by patient feedback, the performance of the service is regularly reviewed.

To finance:
• Improvement in clinical and managerial procedures can be achieved with little or no increase in investment.
What is available to help you achieve these benefits?

- No Delays Achiever. The NHS Institute has created a free online tool that will help all NHS organisations to achieve the 18 week patient pathway. The No Delays Achiever, available from November 2006, will integrate nationally uploaded data with appropriate service improvement actions and tools for more information. (www.institute.nhs.uk/PriorityProgrammes/NoDelays/Introducing+the+No+Delays+Achiever.htm).
- NHS Institute for Innovation and Improvement (2006), *Improvement Leaders’ Guides* (www.institute.nhs.uk/Products/ImprovementLeadersGuidesBoxSet.htm).
What are the potential barriers to achieving change?

- Resource limitations could cause a problem. Dedicated time to design, develop and implement any changes needs to be considered at an early stage. This is where support from your trust board will help.
- There may be a skills gap around any potential service changes for both managers and clinical leaders. These will need to be identified and resolved through education and development.
- The challenge of other competing priorities and pressures could delay the implementation of any proposed changes.
- As a team, you will need to ensure that your service is attractive to commissioners. What are their expectations of a hip and knee replacement service?
- Any conflicting aspirations and initiatives can prevent change. These should be identified and negotiated at an early stage.
- Data upon which you make decisions to change might be inadequate.
- Community services will need to be active partners in planning any redesigned processes as their current arrangements may not be designed to support patients being discharged earlier.
- Other services that are linked to the primary hip and knee service within the trust need to be actively consulted on any proposed changes. It is essential for the design of admission and discharge procedures to ensure that any other services involved will understand and support the change effectively.
We spent two years designing a pathway then had no idea how to convert it into reality. It wasn’t until the performance improvement team came on board that we were able to make real changes on the ground.”

Clinical director in orthopaedics

Measures for improvement

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reviewing the reference cost index figures</td>
<td>To show whether or not you are keeping the cost of the procedure above or below tariff.</td>
</tr>
<tr>
<td>Looking at complaints, accidents and incidents at the start of any change process</td>
<td>To establish an internal benchmark for your service, and reviewing these on a regular basis.</td>
</tr>
<tr>
<td>Establishing the service’s staff sickness, absence, recruitment and retention levels</td>
<td>These will be a good indication of how staff groups are feeling about the service. Your human resources team can help you to analyse these data.</td>
</tr>
<tr>
<td>Measuring the service’s achievements against milestones and goals</td>
<td>That are associated with all agreed changes.</td>
</tr>
<tr>
<td>Identifying the number of new patient referrals that did not need a surgical opinion</td>
<td></td>
</tr>
<tr>
<td>Reviewing how many hospital visits were made by patients before a diagnosis was made and a treatment plan was agreed</td>
<td></td>
</tr>
<tr>
<td>Monitoring progress against the measures for improvement described for each service characteristic set out in this document</td>
<td></td>
</tr>
</tbody>
</table>
Eighteen months ago, a primary hip and knee service in the north of England realised that its preoperative assessment service was fragmented, lacked leadership and training mechanisms, and was failing to meet national access targets.

Patients were reviewed on an ad hoc basis, resulting in high cancellation rates predominantly as a result of patients being medically unfit for their procedure. To compound matters further, poor working relations existed between surgeons and anaesthetists, preventing meaningful review and discussion and direction within the service.

Pressures to address some of these challenges initially came from within the trust, as performance across the hip and knee service continued to drop.

Initial steps were taken to identify a clinical lead for preoperative assessment, along with setting up a programme of training and development to support the role. Once someone had been appointed to the preoperative assessment coordinator post, the following changes were made possible:

- A baseline audit was undertaken to establish gaps in the pre-assessment process.
- Close working relationships were developed between clinicians and managers - essential for supporting any proposed changes.
- A training programme with protected time was developed for existing nursing staff, and supported by anaesthetists.

The audit identified a need for the following changes to be made:

- The development of a dedicated, centralised area specifically designed for undertaking tests associated with preoperative assessment.
- The establishment of daily fixed clinical sessions with anaesthetists to support the pre-assessment process.
- The allocation of more pre-assessment nurses.
- An increase in the number of patient attendances.
- The development of an ongoing training programme for pre-assessment staff.
- The establishment of administrative support for the coordinator.
- A re-audit of the pre-assessment process.

Overall, the need to undertake a formal review of the whole hip and knee pathway was recognised, not just the pre-assessment stage.

A one-day workshop kicked off these changes: representatives from different disciplines and support services were encouraged to attend.
Figure 8

The benefits of delivering high quality care

- Reduced extended admissions
- Reduced readmissions
- A reduction in healthcare-acquired infections (HAI)
- Improved competition and marketing

- Patients know what is expected of them
- Patients arrive with a sense of wellness
- Patients believe they still have a good outcome
- Staff with informed and motivated patients
- Staff share common goals with patients
- High patient expectation = patients do better
- Independent patients
- High satisfaction scores
- Rapid return of independence
- Very short period of immobility

- Reduced time spent readmitting
- Improved use of surgical teams
- Patients’ care doesn’t deteriorate
- 66% utilization of theatres
- Able to meet cancellation targets
- Productivity and performance are improved
- Ward focus is on postoperative care for patients
- Fewer complications such as DVT/PE
- Less variation due to complications or clinical variance

- Certainty of timing for admission
- Fewer complications
- Fewer extended admissions
- Patients can plan for their discharge
- Reduced LOS = reduced risk for HAI
- Focus is on patient’s rehabilitation not last-minute arrangements
- Patients and staff have a clear set of milestones to reach
- Staff are empowered to run the service

- Rapid recovery
- Patients are less anxious on admission regarding pain
- Patients expect a shorter LOS
- Patients perceive a high quality service
- Patients feel more in control of their own recovery
- Fewer complications and extended admissions
- Patients can plan for their discharge
- Reduced LOS = reduced risk for HAI

- Rapid return of independence
- Very short period of immobility

- Maximum utilization of most expensive resources
- Avoids costs associated with cancellations
- Reliable demand and capacity and contract management
- Patients get procedure when they expect to have it
- Patients can get within 18 weeks of referral
- Allows focus on service rather than just access
- Maximizes utilization of most expensive resources
- Avoids costs associated with cancellations
- Reliable demand and capacity and contract management
- Patients spend three nights before surgery at home
- There are no late night admissions
- Planning of capacity and patient flows is improved
- Theatre lists can be planned in advance
- The service is simpler to deliver with fewer variations
- Greater income can be generated
- Increased certainty of income and flows
- Better utilization of beds
- Reduced bed base
- Improved throughput within existing bed base
- Can run wards at 85% bed capacity
- Reduced LOS = reduced costs
- Reduction in readmission rates
Benefits
Delivering quality care achieves a wide range of benefits for every sector of the NHS. Figure 8 illustrates that by delivering quality and value for primary hip and knee replacement patients, a number of common benefits can be realised. These benefits apply to the following four dimensions of NHS care:

• Patient and service outcomes.
• Efficient delivery of services.
• Valuing staff.
• Delivering value for money.

Conclusion
The contents of this report are based on the Delivering Quality and Value team’s observations of the practices of NHS organisations that are judged to be delivering high quality care and value for money. Although these observations have been tested thoroughly, it should be recognised that they may not be the only ways of delivering high quality care and value for money. But we believe that they will give valuable guidance and direction to those seeking this goal.

To improve services, organisations should follow this guidance and take the following simple steps:

• Understand how your organisation performs when compared against the key measures and benchmarks suggested.
• Generate a locally owned change programme for improvement.
• Integrate the local change management programme within health community integrated service improvement programmes (ISiPs) and local delivery plans (LDPs).
• An audit tool for measuring the effectiveness of patient expectation management.
• An aspiration mapping tool for the initiation of change process.

Further products will be produced to support implementation of this guidance and local improvement. In particular, the Delivering Quality and Value team expects to produce the following to support the primary hip and knee replacement pathway:

• Aide memoir for managers and clinical leaders containing key information on how to implement each characteristic.
• A DVD/video to support patient education and expectation-setting.
• Online templates for patient information sheets and a patient satisfaction survey relating to expectations.

We would value your contributions to our future work. If you would like to be involved, or have any comments, please contact the Delivering Quality and Value team at HRG@institute.nhs.uk.
Acknowledgements

We wish to thank everyone who has contributed their time to enable us to carry out this work, and in particular the frontline staff who took time out from their busy schedules to show us how they work and for all the information they shared. This includes the organisations we visited and their associated PCTs and local authorities.

The trusts we visited were:
- York Hospitals NHS Trust
- Tameside and Glossop Acute Services NHS Trust
- Northern Devon Healthcare NHS Trust
- South West London Elective Orthopaedic Centre
- Chapel Allerton Orthopaedic Centre – Leeds Teaching Hospitals NHS Trust
- New Albany Surgical Hospital (USA)

We would also like to thank the following for their contribution:
- Robert Jones and Agnes Hunt Orthopaedic and District Hospital NHS Trust
- Scottish Executive Health Department
- Airedale NHS Trust
- George Eliot Hospital NHS Trust
- Mid Staffordshire General Hospitals NHS Trust
- Oxford Radcliffe Hospitals NHS Trust
- British Orthopaedic Association
- Nottingham University Hospital NHS Trust
- St George’s Hospital NHS Trust
Further information

Published material


Further information

Continued


Appendix

An example of admission on the day

Surgical Pathway Improvement Programme ‘Admission on the day’ Leeds Teaching Hospitals NHS Trust
Communication and engagement document

Author: Surgical Pathway Improvement Programme
Department: Leeds Teaching Hospitals NHS Trust
Date: 31/07/2006

1. Background and purpose

The purpose of this document is to inform you of the work happening within the Trust to admit elective patients on the day of surgery and to gain your support and cooperation for some changes to current practice.

This document will be of interest to all surgeons, anaesthetists, matrons, outpatient nursing and administrative staff, preoperative nursing and administrative staff, business managers, assistant directors of operations and heads of CMTs.

The Surgical Pathway Improvement Programme (SPIP) builds on our involvement in the national Theatre Project and on the Trust’s Theatre Strategy, established in November 2003.

This improvement programme aims to make the most effective use of the capacity we currently have, and ensure that the care we give is of a consistently high quality, that patients have a uniformly good experience and that staff and trainees have support to do their jobs.

We know that a high proportion of Leeds Teaching Hospitals NHS Trust (LTHT) patients currently undergoing procedures identified by the NHS Modernisation Agency as potential ‘day cases’ are still being treated as inpatients. In Leeds, our preoperative lengths of stay are longer than in other, comparable teaching hospitals. Benchmarking data indicate that we waste in excess of 20,000 bed days every year by bringing patients in for too long before surgery and keeping patients in hospital overnight for procedures that could be done as day cases. This contributes to the constant feeling throughout the system that there are not enough available beds for our patients. The lack of confidence that a bed will be available encourages people to bring patients in early to secure a bed in time, and this in turn ensures that there are indeed no beds available.

For these reasons, the current focus of the Surgical Pathway Improvement Programme is to ensure that we put in place the infrastructure to ensure that it is clinically safe and appropriate to admit most patients on the day of surgery, and that beds will be available for both planned and acute admissions.

The following is needed in order to enable this to happen:

• Effective preoperative assessment for 100% of patients, with daily sessional support from consultant anaesthetists.
• Robust scheduling of theatres, beds (including critical care beds) and patient transport.
• ‘On the day’ admissions areas where patients can be seen, checked and consented prior to theatre. This will be supported by effective patient administrative processes, so that notes, x-rays and test results will be available.
• Getting each process ‘right first time’.
2. Progress

2.1 Preoperative assessment

A standard clinical model has been agreed by a working group that includes anaesthetists, preoperative assessment nurses and day surgery leads. (The membership of this group is listed later in this appendix.)

All patients will be seen and preoperatively assessed in a consistent and auditable way prior to planned surgery. This will confirm their fitness for anaesthesia and surgery, and will start the process of ensuring that they can give informed consent for the procedure. All patients will initially be seen by qualified nursing staff, who will assess patients using protocols agreed with anaesthetic colleagues.

It is agreed that anaesthetic consultants will have sessions allocated in their job plans to attend the centralised preoperative assessment clinics. Initially, there will be one session each day (from Monday to Friday) on each main site. This will be revised if needed, depending on experience from the first phase.

From September 2006, anaesthetists will provide support to the LGI service, which already has appropriate space in ward 41. It is estimated that SJUH will commence in October 2006, when space will be available to bring teams together. The current capacity to preoperatively assess patients in Wharfedale Hospital and CHOC will be retained.

The consultant anaesthetist will:

- provide immediate advice to preoperative assessment nursing staff to support decision making
- see patients who have complex medical conditions or who are defined as being 'higher risk'
- organise referrals as appropriate to a sub-specialty anaesthetist or directly to the anaesthetist who will manage individual patients.

The final decision regarding fitness for anaesthesia will remain the professional responsibility of the anaesthetist who administers the anaesthetic in theatre.
2.2 Adding patients to the waiting list

National guidance suggests that patients should only be added to inpatient and day case waiting lists when they are fit to undergo the procedure, consented and available to attend (part of the seven key principles of waiting list management).

To comply with this, from 4 September 2006, the decision to add patients to a waiting list or to proceed to surgery at LGI is made after the preoperative assessment - and not in the surgical outpatient clinic. (Note that this will initially only apply to those adult surgical services which use the pre-assessment service on ward 41.)

The surgeon will still need to complete a booking form; it has been amended slightly to reflect the new process. Surgeons can agree a provisional date for surgery, but it cannot be confirmed until the preoperative assessment is complete and the availability of the theatre session is confirmed.

With our improved preoperative assessment service, patients can have their preoperative assessment immediately following their surgical outpatient appointment. If it is not convenient for some patients to stay and undergo their preoperative assessment at this time, appointments will be offered to allow patients to return within a short period.

Patients with an anticipated surgery date more than five weeks away will be re-assessed between three and five weeks prior to their expected surgery date. A significant amount of this work is likely to be able to be done over the telephone. Any further tests required closer to the surgery date can also be organised at this point.

Following this re-assessment, patients will be able to agree or confirm their date for surgery, and all elements required for their hospital stay can be scheduled. This will be recorded and supported by a patient admin team based in the preoperative service, and not by individual consultants or secretaries.
2.3 ‘On the day’ admissions

Patients assessed as fit to come in on the day of surgery will come to an admissions area as close as possible to the theatre. Surgeons and anaesthetists will be able to see patients and confirm consent in a calm and private environment.

Administrative staff will ensure that all relevant notes and diagnostic test results are available. Patient transport providers have indicated that they can meet the requirements to bring patients into the Trust at the times we require for morning theatre, and also to provide transport home later in the evening.

Ward staff will be able to concentrate on the continuing care of current inpatients and on the timely discharge of patients to home or to the discharge lounge, and will ensure that there is the capacity to receive patients from theatres.

2.4 Making beds available

Analysis of our excess length of stay (low day case rates, high preoperative length of stay and delayed discharges) indicates that we already have more than enough bed capacity to deliver our activity. Objective analysis indicates that the difficulties we experience are due to our processes rather than the numbers of physical beds.

We could undertake our current activity with fewer beds if all of the measures described above were in place. We could do this while still improving clinical care and the patient experience, and reduce the current frustrations felt by many staff.

Costs released by having fewer wasted bed days will ensure that these improvements are sustainable, that they help to meet our very challenging financial targets and that they demonstrate in a competitive environment that we are efficient providers of healthcare.

2.5 Next steps

From September 2006, patients who are added to waiting lists for surgery at the LGI are expected to be admitted into hospital on the day of surgery.

Patients at SJUH are expected to be admitted on the day of surgery from October 2006 onwards.
<table>
<thead>
<tr>
<th>Focus area</th>
<th>Main tasks</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>Engagement of all stakeholders.</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Day surgery</td>
<td>Management of all patients undergoing procedures in LTHT day case ‘basket’ to be day case.</td>
<td>Immediate</td>
</tr>
<tr>
<td>Transport</td>
<td>Confirm requirements to provider and ensure that service provision is adequate.</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Preoperative assessment</td>
<td>Co-locate services. Ensure that the nursing and administrative workforce is identified.</td>
<td>LGI: by September 2006 SJUH: by October 2006</td>
</tr>
<tr>
<td>Admission areas</td>
<td>Confirm locations.</td>
<td>LGI: by September 2006 SJUH: by October 2006</td>
</tr>
<tr>
<td>Admit on the day</td>
<td></td>
<td>LGI: by September 2006 SJUH: by October 2006</td>
</tr>
</tbody>
</table>

Corporate and CMT review of beds.
To be completed by October 2006.
3. Membership of the preoperative assessment workstream

Andy Wilson, Consultant Anaesthetist (LGI Lead)
Hamish McLure, Consultant Anaesthetist (SJUH Lead)
Emer McAteer, Deputy Medical Director
Sarah Bailor, Service Improvement Facilitator
Diane Palmer, Deputy Chief Nurse
Donna Laird, Matron (Surgery)
Helen Hayden, Senior Sister
Michelle Malster, Sister
David Beevers, Preoperative Assessment
Balbir Bhogal, Associate Director, Patient Pathway Administration

The working group of preoperative assessment nurses provided advice on current practice, nursing processes, protocols, skills and training.

4. Membership of the Surgical Pathways Improvement Programme

Nik Patten, Director, Planning and Performance Improvement
Gordon Cooney, Director, Performance Improvement
Gavin Boyle, Director, Operations
Emer McAteer, Deputy Medical Director
Jonathan Freeman, Clinical Lead, Day Surgery
Hamish McLure, Clinical Director, Anaesthesia (SJUH)
Giles Toogood, Clinical Lead, Day Surgery
Annette Stakes, Clinical Director, Theatres
Balbir Bhogal, Assistant Director, Informatics
Dawn Marshall, Deputy Chief Nurse
Donna Laird, Matron, General Surgery (LGI)
Juliette Cosgrove, Matron, General Surgery (SJUH)
Brian Godfrey, Head of CMT, Radiology
Terri Saunderson, Acting Assistant Director, Operations, Theatres and Anaesthetics
Craig Brigg, Assistant Director, Operations and General Surgery
Helen Christodoulides, Project Manager