

Improving the System: Meeting the Challenge

Improving patient flow for electives

A Toolkit for
District Health Boards

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MANATŪ HAUORA

Foreword

I am pleased that representatives from district health boards (DHBs) and the Ministry of Health have been able to produce this toolkit and make it widely available. This toolkit contains ten strategies that when implemented will improve quality, increase access and reduce waiting times for elective patients. It is relevant to all DHB staff that can envisage the need for improvements and change within their organisation.

During the last year, we have seen some welcome improvements in waiting times. There are examples of great practice and new models of care that provide sustainable solutions to the challenges we are facing. One of those challenges is getting widespread adoption of improvements and sharing innovations between DHBs.

This toolkit will act as a mechanism to disseminate improvements. The information in the document and on the toolkit website provides resources so that DHB teams can readily access information on high-impact improvement strategies. It will also assist teams to customise the strategies to their own situations.

The strategies and case studies presented in the toolkit have been developed and delivered by local clinical teams. Improvements included are evidence based, highly replicable and have resulted in measurable improvements for patients.

We hope that the strategies and case studies presented in this toolkit raise awareness of what is being achieved and provide inspiration to consider new ways of working.

Kevin Woods
Director-General of Health

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Introduction

‘Systematic, collective, mission driven, scientifically guided, evidence based, leadership activated, participative change works’ (Don Berwick, President and Chief Executive Officer, Institute for Healthcare Improvement 1998).

This toolkit provides evidence-based current information on a range of strategies that will significantly help district health boards (DHBs) reduce waiting times for access to elective services (commonly known as electives). The processes outlined here are practical and achievable.

Services should aim to be patient focused and evidence based. ‘Patient–focused’ care responds to patient priorities and expectations, shares management of care with the patient and optimises health outcomes. ‘Evidence-based practice’ (EBP) involves the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients. It means integrating individual clinical expertise with the best available external clinical evidence from systematic research.¹

Evidence-based practice reduces the gap between ‘best practice’ and ‘common practice’, resulting in improved patient outcomes.

There is no one solution to reducing waiting times. A systematic, multi-pronged approach to the management of capacity and demand is necessary, underpinned by sound service improvement methodologies.

In addition, careful management of acute and emergency presentations will significantly benefit scheduling and delivery of electives.

The Working Group

Valuable contributions to this toolkit have been made by DHB staff directly involved in managing and coordinating electives, working in collaboration with the Electives team of the National Health Board. Members of the working group include:

- Professor Andrew Hill, Head of School, South Auckland Clinical School, Counties Manukau DHB
- Dr Helen Frith, Clinical Head, Department of Anaesthesia, Counties Manukau DHB
- Greg Vandergoot, Surgery and Elective Services Manager, Lakes DHB
- Maree Jackson, Manager, Elective Services/ACC, Southern DHB
- Kaye Hudson, Operations Manager, Surgical Services, Capital & Coast DHB

¹ Sacket DL, Rosenberg WMC, Gray JAM, Richardson WS. 1996. Evidence based medicine: what it is and what it isn't. *British Medical Journal* 312 (13 January 71–72).

- Kath Cordiner, Elective Services Coordinator, Tairāwhiti DHB
- Dr Peter Bramley, Service Director, Medical Surgical Services Directorate, Nelson Marlborough DHB
- Jan Denman, Clinical Nurse Manager, Outpatients and Patient Scheduling, Waikato DHB
- Dr Martyn Fisher, General Practitioner Liaison, Canterbury DHB
- Dr Paul Keys, General Practitioner Liaison, South Canterbury DHB.

Key areas for improvement

This toolkit highlights ten strategies for improvement. Each strategy includes evidence, case studies and references to relevant models to improve service delivery and reduce waiting times.

Some strategies may appear to overlap; for example, the sections on service coordination and integrated care pathways are essentially about streamlining the patient journey, reducing variation, anticipating patient care needs and working collaboratively with key stakeholders. The sections on improving access by redesigning processes and using alternative providers may also seem to overlap.

We acknowledge this, but note that there are differences in the approaches as presented, and that different models will be appropriate in different settings.

Case studies

Each strategy of the toolkit includes two case studies that provide different perspectives on each topic. The case studies provide valuable insight into a particular model, covering benefits and barriers. The case studies have been written by managers, nurses and doctors. They are valuable examples of a range of very successful initiatives that have occurred around the country. Each case study includes contact details, for those interested in finding out more.

Four particular themes sum up the elements of improvement presented in the toolkit as follows.

1. Whole-of-system thinking

Electives are not delivered in isolation; a focus on one element of a service or one step in the pathway will lead to missed opportunities for change and ultimately prove unsustainable. System-wide thinking has been an important aspect in the recent growth of integrated care pathways (ICPs) and models to manage workflow between acute and electives.

When planning service improvements, ‘the system’ should be viewed as the whole context of the service, spanning primary and community through secondary and tertiary aspects of care.

2. Working smarter with the team

Working smarter with the team means getting the best use out of valuable human resources: ensuring the work is done by the person most suitable to do it; ensuring people are working at the top of their scope; and working together. This not only enhances quality of care, but also builds capability for the future. Working smarter includes improvements such as more nurse-led and primary care managed services.

3. Improving the surgical experience for patients

Management of processes in and around operating theatres is pivotal to improving elective surgical throughput. There is a large volume of literature on peri-operative processes and some great stories of improvements recently implemented within DHBs. A patient-centred approach looks at the service through the eyes of the patient; patients need us to provide care as a complete journey; not through isolated episodes.

4. A culture that supports service improvement

A supportive culture is integral to continuous innovation and improvement. This encompasses effective leadership and a focus on information sharing, collaboration and open thinking.

Why a toolkit? Why now?

District health boards have recently made great progress in increasing access and improving timeliness, but there is still significant variation across the country and across departments within DHBs.

A strong desire to improve patient access, reduce unnecessary waiting times and increase elective delivery, within the context of the current financial environment, requires that DHBs review how they deliver elective care.

To illustrate the need to continuously seek improvement, imagine one of your relatives needs an elective procedure or specialist advice. Are you confident that your relative will get the service they need in a timely manner from any department in your DHB? Will they experience smooth transitions to needed services elsewhere in the same or a different DHB? This is the litmus test; we want the answer to be a resounding yes.

This leads to a further question; how can we deliver more high-quality services with the resources we have?

This toolkit will support DHBs to improve timeliness, reduce variations in care, and build capability for future elective need. An aging population, increasing demand for surgical services and a financially constrained environment provide the imperative for moving forward. This toolkit is here to help.

Accessing the toolkit

The toolkit is designed to be a web-based resource, it can be found on the Health Improvement and Innovation Resource Centre website: www.hiirc.org.nz/

The electronic version includes additional resources that will support improved elective delivery.

Strategy 1: Improving elective delivery through clinicians and management working together

‘Culture trumps strategy, every time’ (Nilofer Merchant 2010).

Introduction

The literature reflects the changes in direction in health care over the last 10 years which have seen clinician disengagement and the rise of ‘managerialism’ give way to their active reengagement as equal partners with different skill sets and perspectives.

The Institute for Healthcare Improvement (IHI) developed the model of the ‘triple aim’ as a strategy to improve the United States health care system. It had three concurrent goals: better care for individuals, better health for populations and lower per-capita costs.

The Health Quality and Safety Commission, in partnership with the National Health Board (NHB), has agreed on a ‘New Zealand Triple Aim’, which is the simultaneous implementation of:

- improved quality, safety and experience of care
- improved health and equity for all populations
- best value from public health system resources.

This has been accepted by all relevant agencies – the Ministry of Health (including the NHB), the National Health IT Board, the National Health Committee, Health Workforce New Zealand, DHBs, Health Benefits Ltd and PHARMAC – as the overarching goal for improvement in health services.

Partnerships between clinicians and management are an essential part of achieving the New Zealand Triple Aim.

The National Health Service (NHS) Institute for Innovation and Improvement is tasked with leading large-scale and rapid transformation of the NHS in the face of huge fiscal constraint within a short timeframe. The principle that cost and quality improvement must be addressed simultaneously is fundamental to its plan to meet the challenge.

The Institute recognises the importance of clinical engagement, and has supported it by helping to develop the Medical Leadership Competency Framework (MLCF).

The MLCF is built on the concept of shared leadership, where leadership is not restricted to people who hold designated leadership roles, and where there is a shared sense of responsibility for the success of the organisation and its services.

Acts of leadership can come from anyone in the organisation, as appropriate at different times and are focused on the achievements of the group rather than of an individual. Therefore shared leadership actively supports effective teamwork.

Evidence shows that shared leadership can increase risk-taking, innovation and commitment which should result in improved care for the patient and an organisation that is responsive, flexible and successful (NHS Institute for Innovation and Improvement and Academy of Medical Royal Colleges 2009: 6).

The United States and United Kingdom approaches are just as relevant in New Zealand; which is also faced with a need for financial constraint (as well as the impacts on the system of the Canterbury earthquake) and a need to improve access to treatment for New Zealanders.

The report *In Good Hands: Transforming Clinical Governance in New Zealand* (Ministerial Task Group on Clinical Leadership, 2009) describes the case for clinical leadership in terms of clinical governance:

Healthcare that has competent, diffuse, transformational, shared leadership is safe, effective, resource efficient and economical.

Definition of the strategy

Clinicians on the 'front line' work with health managers toward a shared outcome to improve patient care. This occurs at all levels across the organisation.

'Clinician' is a generic term covering doctors, nurses and allied health professionals. The literature on the topic is vast. A selection is captured in the references. Emphasis has been given to recent articles and samples from the United States, the United Kingdom, Australia and New Zealand.

Benefits

The benefits of the strategy are:

- better patient care
- increased job satisfaction among clinicians and managers
- improved value for money

Critical success factors

- Clinically meaningful improvement projects in which clinicians are invited to lead change, working alongside managers, with the focus on achieving best care for patients.
- Clinicians having access to all the relevant data, and being invited to create solutions.
- Robust dialogue to develop plans that meet competing requirements.
- Joint responsibility for costs and outcomes (opportunities to re-invest gains can be incentives).
- Time invested in planning with all stakeholders from the outset.
- Senior management (including chief financial officers) and board support, with aligned policies.
- Trust, respect and greater mutual understanding of the factors that drive clinical quality and costs (this can emerge from focusing on the aspects outlined above and seeing results).

Risks

- Clinical leaders may be seen as going over to the ‘dark side’ and may lose their colleagues’ confidence.
- When projects are stopped or held up clinicians may lose faith, creating cynicism, which can block future improvement projects.
- Changes may fail to deliver if the authority to carry them through is not available to the team.
- Lack of sharing of information about benchmarking, costs and outcomes at all stages may result in a loss of focus on the goal, an inability to demonstrate the benefits, and wastage.

Mitigation of risks

- Engagement of coal-face clinicians in redesign.
- Delegating budgetary authority to clinicians to implement redesign.
- Identifying baseline data and expected outcomes from the start and reviewing them regularly.
- Carrying out plan/do/study/act cycles of concepts and evaluation.
- Identifying and communicating visible progress.
- Effective project management.
- Celebration of achievements.

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Case study 1: ‘Patients come first’: philosophy drives service design (Counties Manukau DHB)

The Surgical Department undertook a redesign of working arrangements, patient access and Elective Services Patient Flow Indicator (ESPI) compliance. This was undertaken with the belief that patients should receive care which benefits them, while recognising the traditional way of working simply could not meet this goal. To achieve a sustainable service that worked well for patients, clinicians and managers, required rethinking the service model and defining a core philosophy.

Principles

- Start by adopting the rule ‘patients come first’: what’s best for the patient is rarely bad for the surgeon (or the bottom line).
- Maintaining excellence in general surgical training attracts keen registrars who want to work and learn.
- Continually ask ‘what can we do to provide patients with procedures that will benefit them?’ Scoring tools should not be used to deny access, but to facilitate it.
- Surgeons need to get involved in the business of the department: ‘It’s better to be around the table than squashed under it.’
- Don’t lie if something’s gone wrong – the department should support openness, to encourage a culture of safety.
- Private work must not interfere with public commitment.

Actions

- Link training and service provision: acute cases deserve consultant attention too; registrars need training in the full range of acute as well as elective general surgery, and experience to develop their skills.
- Rethink the old ownership model: the hand-over from the admitting surgeon and staff to the next team is far more important for continuity of care than who does the operation.

- Rethink the roster. Consider adapting your model to one in which it's not essential for a patient to stay with the team who admitted them. Think of modules of work types as equivalents: this can reduce unnecessary delays.
- Pre-empt the data outcomes: inform managers when a change of practice is likely to impact on elective data (for example, acutely operating on gall bladder presentations reduces admissions for further episodes of ill health, but also alters the acute and elective data for this procedure, for example on length of stay).
- Value general surgeons. Train registrars to be generalists, imbuing them with the same ethos: 'patients first'. There are substantial benefits in a well-resourced department of generalists who are able to manage a range of acute and elective general surgery presentations.
- Do not underestimate the value of full-time public senior medical officers (SMOs).

Mobilising the team

Create a sense of 'us': we're all in this together, going in to bat for patient care. The department increases its credibility when it does what it says it believes in. Other team members, such as nursing staff and anaesthetists, will get on board with the philosophy if they see that it is lived.

In surgical outpatient clinics, elective patient bookings are not compromised by urgent referrals and vice versa. With a shared philosophy, nursing and administrative staff are often willing to work to achieve a shared philosophy. Anaesthetists will play their part with crisp theatre management, and running full day lists. Patient and management requirements can be accommodated simultaneously. It all builds collegiality and trust.

Why us? Why now?

The old system was not sustainable for surgeons or patients. Yet this continuing search for fresh thinking, and tweaking to make further improvements, honours the surgeons who went before.

Junior staff members are encouraged to participate in department management while working as part of the team. This allows them to find ways to cut waste and learn that health professionals are required to do more than their technical surgical work. Working alongside management should be expected.

Evidence of value: outcome measures

As a measure of success, Ministry of Health targets have been surpassed, training is enhanced and patients are happy. No Health and Disability Commission complaint has been upheld for many years since a finding triggered the case for change.

For further information, contact:

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Counties Manukau DHB

Email: andrew.connolly@middlemore.co.nz

Case study 2: Improving patient flow: from gynaecology services to whole-of-system (Canterbury DHB)

Introduction

This is a summary of a case study that tells the story of specialists, general practitioners (GPs) and managers working together to redesign a publicly funded health service. The outcomes of the redesign included:

- a seamless and predicted patient journey
- reduced outpatient attendances (both First Specialist Assessments (FSAs) and Follow-Ups (FUs))
- 95 percent of FSAs going on to have hospital treatment
- improved relationships between GPs, SMOs and gynaecology services
- an upskilled primary health sector
- the creation of models of engagement and redesign processes able to be replicated across many other services.

The full case study, containing further details of how the transformation activities were supported and delivered, is available through www.hiirc.org.nz/

The service in 2007

In the three years to 2007/08, the Christchurch Hospital gynaecology service had been working hard to reduce wait times for diagnosis and treatment planning, by reducing its FSA/FU ratio while maintaining department capacity. This was moderately successful: FUs dropped from 3509 to 3058, and FSAs rose from 1660 to 2065.

However, as capacity for FSAs increased, so did demand. The waiting time problems of three years earlier were not solved by the increase in capacity. The improvements simply opened the lid on an artificially suppressed demand of unknown size, and average wait times for FSAs were barely dented. The potential for harm, from patients' health status declining or malignancies going undiagnosed while patients were on long waiting lists, remained a significant risk.

Additionally, with the assistance of a part-time General Practitioner Liaison (GPL) role, the department had put considerable effort into creating referral criteria and guidelines for general practice. The goal was to improve consistency in the management of common conditions, reduce unnecessary referrals and speed up the triage process by ensuring GPs provided appropriate information in referral letters. The guidelines were distributed electronically and on CD. Unfortunately their adoption in general practice was low; this had been the experience with other specialty guidelines distributed by other departments over preceding years.

Demographic forecasting shows that, if health services in Canterbury are not redesigned, by 2020 we will need twice the current hospital buildings and twice the existing health workforce. This will not be affordable without an equivalent doubling of New Zealand's gross domestic product; nor will it be possible based on the current profile of the health workforce in an international context.

This forecasting had significant implications for the gynaecology service. It was evident in 2007 that the challenges of excessive wait times, hidden demand, lack of clarity between primary care and secondary care, and patient safety concerns would only be exacerbated by 2020 without system redesign.

These facts were presented in 2007 to all major health organisations and clinician groups in Canterbury through a carefully designed communications programme led by senior and influential clinicians and management labelled 'Vision 2020 – and the Burning Platform'. The message about the need for change has been reiterated in years since, has permeated most health organisations in Canterbury, and is a motivating factor in the high levels of clinical engagement in service redesign across the sector.

Figure 1: Gynaecology consults, 2005–2007

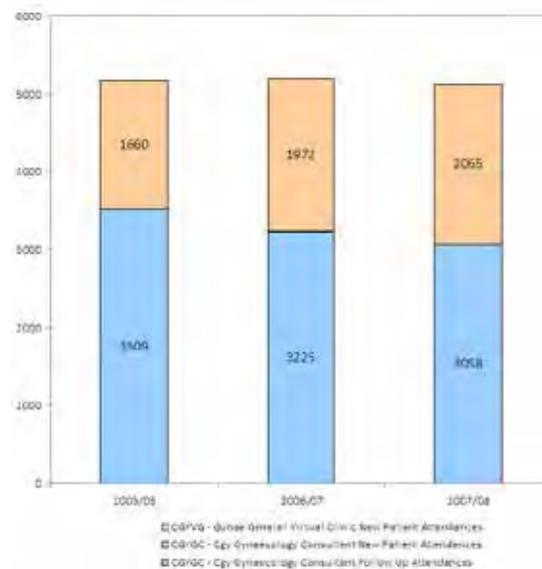


Figure 2: Christchurch Hospital's vision for 2020



The response to Vision 2020: the Canterbury Initiative

The Canterbury Initiative brings together specialists and GPs to jointly identify and solve clinical service issues. Whether the solution requires clinician upskilling, a shift in funding, altered access to investigations or new support services, the Canterbury Initiative team works with the relevant parties and with the strong support of the DHB planning and funding department to implement the changes.

Figure 3: Characteristics of the Canterbury Initiative

- **Clinical leadership** – hospital clinicians, general practitioners and other clinicians working together with managers and funders,
- Applying **generic processes** which encourage clinicians to work together to identify and address challenges,
- Building **credibility** through delivery of results within short timeframes,
- Working with a **sense of urgency** to deliver change,
- Applying a **whole of system** approach, to ensure that incremental change is consistent with the Canterbury DHB vision,
- When appropriate, delivering solutions through **existing** structures,
- Closely involving Planning and Funding to ensure **funding flows support clinical solutions**,
- **Evaluating results longitudinally** against an outcomes framework consistent with the District Annual Plan,
- **Supporting change** with quality communication and education,
- Actively **supporting and promoting** the initiative across the entire Canterbury health system.

The Canterbury Initiative team helped the gynaecology department take their recent innovations to the next level (as detailed below) through:

- supporting broader levels of engagement between health professionals
- publishing the gynaecology guidelines on the HealthPathways website (www.canterburyinitiative.org.nz/HealthPathways.aspx), making them much easier for GPs to access and use
- upskilling GPs in management of gynaecological conditions
- funding general practices to perform some gynaecological investigations and procedures
- improving general practice access to pelvic ultrasound
- shifting the funding focus of the gynaecology department from ‘hospital-based transactions’ towards ‘whole-of-system service’.

Gynaecology services in 2011

Whole-of-system perspective and primary-secondary clinical engagement

The gynaecology department recognised that rearranging hospital practices would only have a minimal impact on overall service levels unless all parts of the service, inside and outside the hospital, were addressed as a whole.

With assistance from the Canterbury Initiative, the department has been able to achieve much higher levels of engagement through clinical workgroups, education and upskilling sessions.

In contrast to the limited engagement previously available through the part-time GP Liaison alone, the Canterbury Initiative has been able to provide funding for groups of GPs to participate in workgroups along with SMOs, and professional facilitation and administrative support. This wider engagement has contributed hugely to GPs' acceptance and feeling of ownership of the service redesign process.

Agreements between primary and secondary care clinicians arising from the recent engagement have led to high levels of adoption of clinical management and referral pathways, shifts in where and how services are provided to patients, and targeted funding to support the changes.

GP liaison

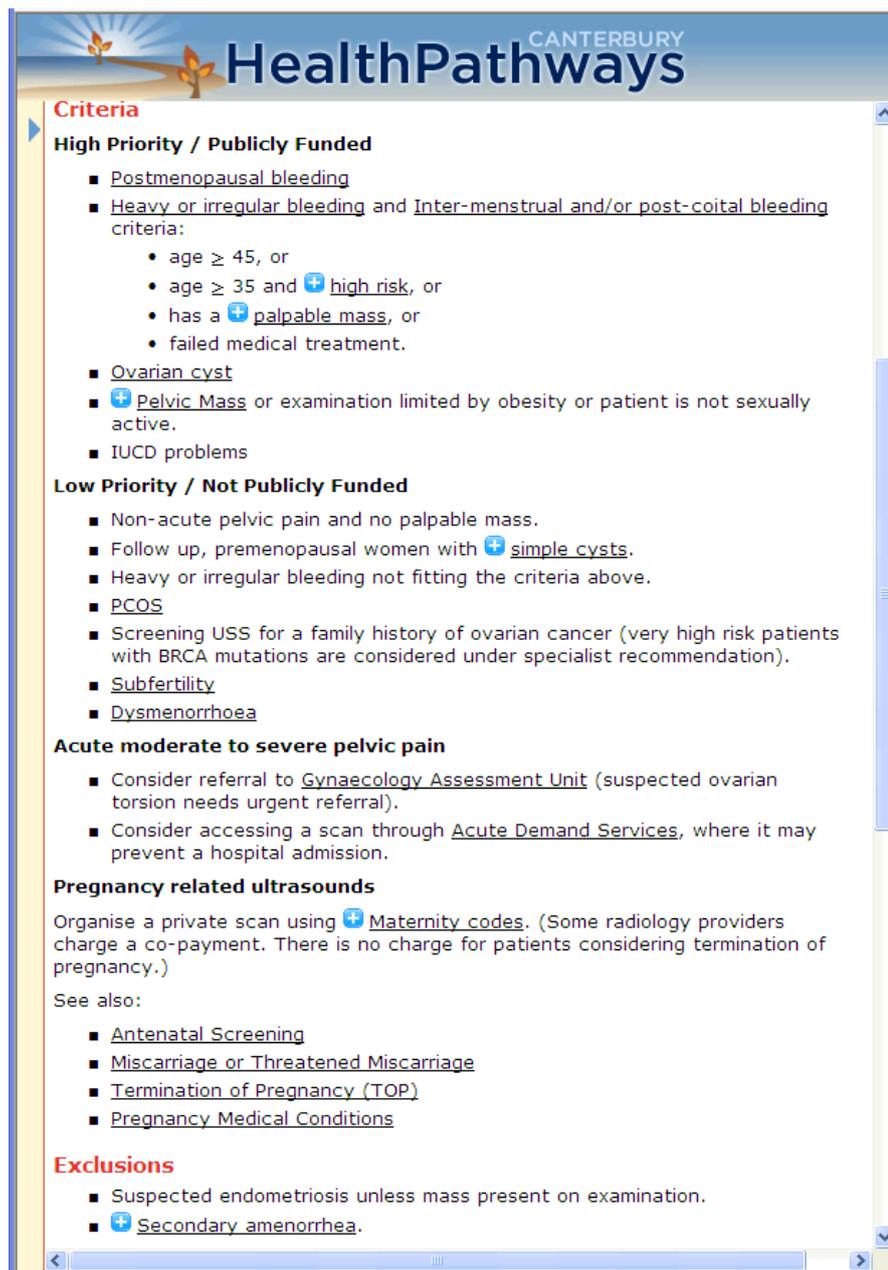
The GPL role is a continued and essential part of the service. The GPL functions in the 2011/12 year include:

- assisting hospital specialists with triage of referrals
- identifying gaps and issues in the overall gynaecology service
- organising education and up-skilling sessions for GPs
- overseeing updates to referral forms, guidelines and HealthPathways.

Figure 4: A whole-of-system perspective for Christchurch Hospital



Figure 5: Canterbury DHB criteria for pelvic ultrasound



Direct GP access to diagnostics

Improving direct GP access to diagnostics was an early outcome of the whole-of-system approach, encouraging effective engagement between primary and secondary care clinicians. For example, access to pelvic ultrasound had been very limited in the past, and so it had been difficult for GPs to make informed management or referral decisions.

The first attempt to open up GP access to pelvic ultrasound was undermined by the absence of GP engagement in the referral criteria, and consequently budgets blew out very quickly.

The radiology companies providing the service were asked to ration access to fit the budget.

Through the latter part of 2008 and early 2009 radiology companies received around 200 pelvic ultrasound requests per week. They declined half, often without providing robust information on how the decision was made, and with considerable delay between the dates of request and decline.

By early 2009 the clinical working group had developed access criteria, consulted on them extensively with general practice, and published them on the Health Pathways website. From this point on, referrals were triaged by the GPL, rather than the radiology companies. GPLs sent reasons for any declines, referencing the pathways, back to GPs. General Practitioners quickly responded to the improved process. Referrals dropped to under 100 per week, and acceptance rates climbed from below 50 percent to over 90 percent.

Service funding

In the past, funding contracts were designed to influence change in clinical behaviour. However, in Canterbury, funding arrangements now follow and support changes in clinical behaviour that have first been agreed by the clinical workgroups, involving both primary and secondary clinicians taking a ‘whole-of-system’ approach.

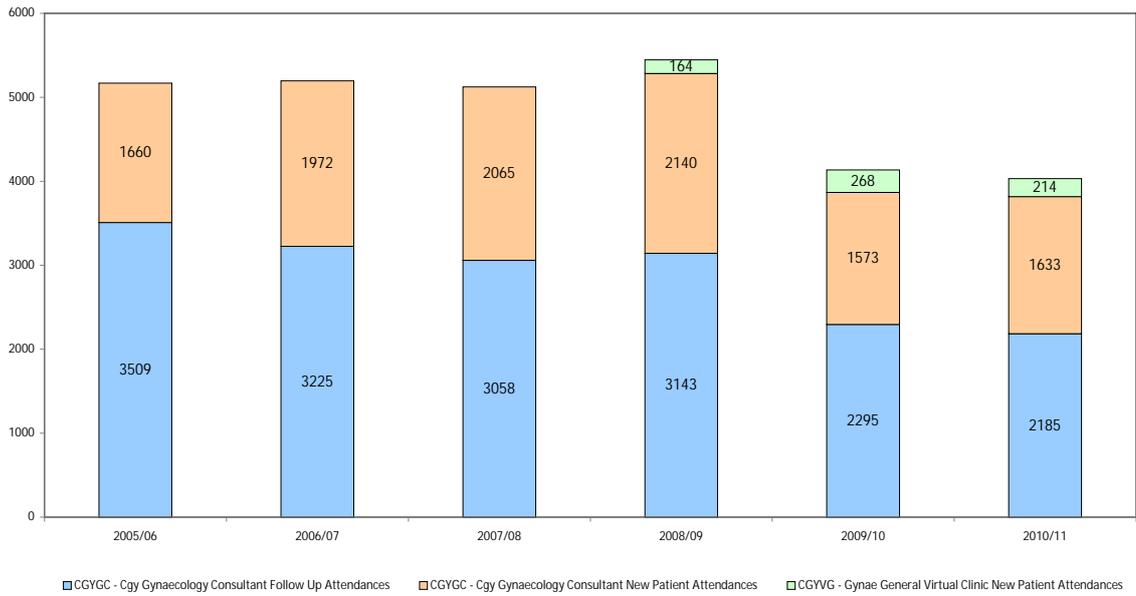
This case study is a single demonstration of a model of health service improvement that is being applied on a much wider scale across many conditions, health services and organisations within Canterbury DHB.

In 2011, in comparison with 2007, the price–volume schedule and ‘purchase units’ related to historical ways of delivering services are no longer used to determine annual budgets in gynaecology services. Instead, annual budgets are based on what the department needs to meet commitments made through clinical work streams and agreements with the funder. These commitments may cover non-contact FSAs, GP support, up skilling, services appropriate to particular skills and resources, and core treatment activity.

Example: outcomes – heavy or irregular menses

The graph below demonstrates a dramatic drop in the number of gynaecology outpatient consults due to alternate management of heavy or irregular menses.

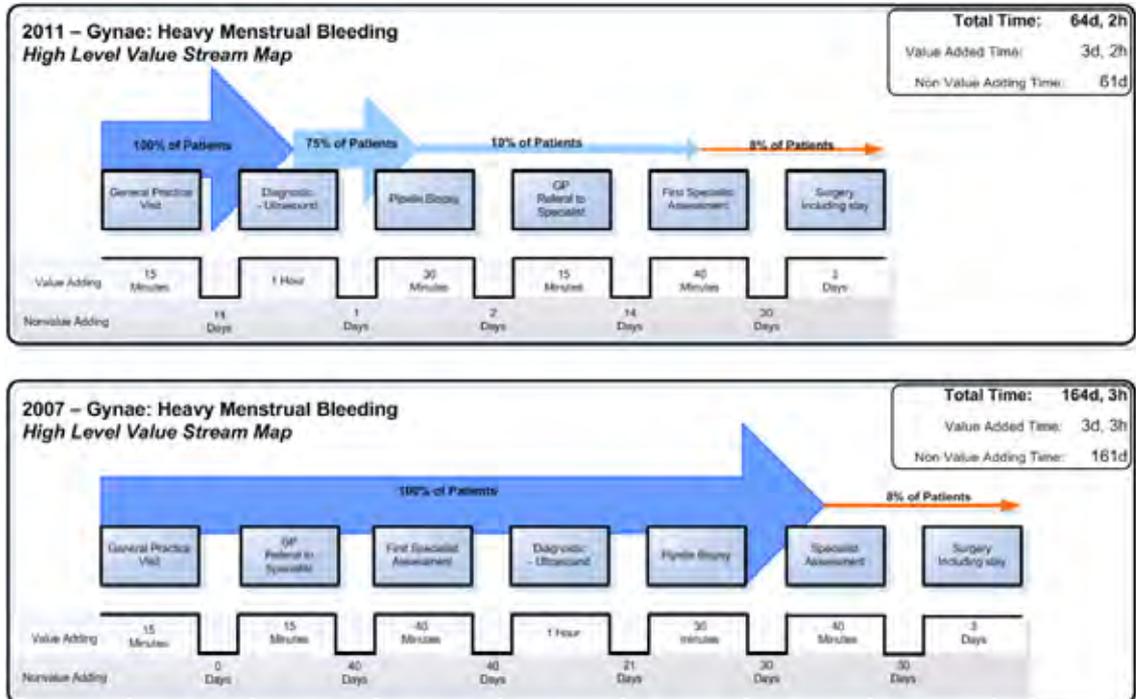
Figure 6: Gynaecology consults, 2005–2011



Additionally, the conversion rate of referrals to FSAs has been steadily increasing, from an average in 2006/7 of 65 percent towards an average in 2010/11 of 80 percent.

Value-stream mapping the patient flow demonstrates a dramatic reduction in days to treatment, from 164 days in 2007 down to just 64 days in 2010, as shown below.

Figure 7: Value-stream mapping



For further information, refer to the Canterbury Initiative's website, www.canterburyinitiative.org.nz. The site includes a video interview with Dr Clare Healy, GP Liaison Gynaecology 2006/09, talking about the GP liaison role and service redesign activities (www.canterburyinitiative.org.nz/videos/clarehealy.mp4) and a video interview with specialist Ben Sharp about the impact of HealthPathways on the gynaecology service (www.canterburyinitiative.org.nz/videos/bensharp.mp4).

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Strategy 2: Improving access to specialist advice through redesigning processes

‘Every system is perfectly designed to achieve the results it achieves’ (Don Berwick 1996).

Introduction

Referral to specialist advice is a crucial point in a patient’s elective journey. A delay or failure to refer when a referral is indicated could compromise patient care; conversely, unnecessary referrals are costly and can impact on the care of others. Delays in responding to referrals can increase demand for primary care and potentially emergency services. Service providers can improve clinical outcomes and patient experience and reduce inequalities in patient care by following best practice recommendations (Leng 2011).

Definition of the strategy

Redesign of pathways to improve access to specialist advice involves cutting out unnecessary steps, moving diagnostics nearer the front of the pathway, and reducing barriers to access.

The approach involves using specialists to support primary care to manage patients in the community, and encouraging primary/secondary integration action in developing care plans for patients, through:

- referral management and access protocols
- treatment management advice
- discharge and follow-up management.

Specific strategies

1. Foster communication between primary and secondary clinicians to enhance referral management by increasing two-way communication between clinicians. Many of the specific actions listed here are examples of this.
2. Develop Integrated Care Pathways (ICPs) to reduce variation in practice and improve quality of care (see the **Integrated Care Pathways** section of this toolkit).
3. Develop evidence-based referral guidance.

4. Ensure direct access to treatment pathways for patients with conditions that are agreed to be common, predictable and of low complexity.
5. Ensure direct access to diagnostic procedures to avoid unnecessary use of First Specialist Assessment (FSA) merely to access diagnostics.
6. Review the ratio of FSA to follow-up appointments, and align protocols with best practice. Provide resources for GPs and patients to support consistent follow-up.
7. Adopt processes that support GP access to advice such as:
 - **A dedicated on-call specialist for telephone advice:** This saves GPs time and eliminates their reluctance to interrupt a busy colleague; additionally, specialist advice provided over the telephone can obviate the need for patient attendance at the outpatient department (OPD) or admission.
 - **'Hot' clinics for on-the-day assessment and advice:** Such clinics are similar to (and may include) dedicated phone advice, but provide face-to-face assessment, thus contributing towards improved OPD waiting times and targeted admissions.
 - **Email or fax advice for semi-urgent conditions:** Provision of advice through these channels saves primary and secondary care clinician time, while providing a written record for audit.
 - **Specialists in the community:** Specialist may consult or participate in case presentations within general practices. Over time this raises the level of expertise of the primary care team.
 - **Information technology solutions:** Consider the use of telemedicine / technology to increase access to FSAs and reduce travel time for patients. E systems provide tools to support these approaches but are prerequisites for improvements
 - **Non-contact First Specialist Assessment (NcFSA):** Non-contact FSAs allow district health boards (DHBs) greater flexibility in the purchase and measurement of the delivery of specialist advice for a patient on referral. They result in a written plan of care for the patient and provision of that plan and other necessary advice to the referrer without the patient physically having to attend. NcFSA have been shown to reduce waiting times. They have been particularly useful in services where there is a high degree of reliance on diagnostic results to inform clinical management.

Further information on NcFSAs can be found in the resources section of the electronic Toolkit on the HIIRC website, or on the Ministry of Health's Nationwide Service Framework Library website: www.nsfl.health.govt.nz

Benefits of this strategy

- Reduced avoidable hospital admissions.
- Reduced waiting times from referral to diagnosis, assessment and/or treatment.
- Improved access to specialist advice and earlier commencement of specialist care.
- Patients receiving care closer to home.
- Improved job satisfaction among primary and secondary care clinicians.
- More productive use of SMO time.
- Reduced 'did not attend' (DNA) rates.

Critical success factors

- Mind-set: stakeholders who are willing to provide secondary support for primary care, have a can-do attitude and are prepared to question the 'traditional pathway'.
- Collaboration in development of primary/secondary links and patient pathways.
- Evaluation: being able to ask and answer questions such as 'what difference has been made?' and 'Is the change an improvement?'

Risks

- Medico-legal concerns are often raised about potential risks involved in new processes. Doctors and patients need to be assured they will be safe.
- Past funding arrangements may have created disincentives to change.
- Changed counting of FSAs might appear to have reduced service.

Mitigation of risks

- Good written documentation of clinical contacts supports a safer environment.
- Focusing on clinical quality and safety rather than costs or resources.
- Flexible internal funding arrangements that are patient-focused.
- Effective capture of FSA activity data and reasons for referral.

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Case study 3: Patient-focused bookings – making the most of our capacity (Hutt Valley DHB)

Background

It is common for DHBs to receive more referrals than their resources can handle. It is always a juggling act to match demand with capacity and maintain acceptable waiting times.

We wanted to improve access to services for patients. The main issues were as follows.

- Waiting times for FSAs in some services were too long.
- ‘Did not attend’ (DNA) rates were high and therefore valuable appointment slots were wasted
- Administration staff were spending a lot of time on ‘re-work’ when patients rescheduled appointments or doctors took leave when clinics were already booked.

Following two senior managers' visit to the United Kingdom National Health Service (NHS), an alternative model of booking appointments was suggested. The proposal was to let patient's choose their own appointment time, to introduce Patient Focused Booking (PFB). This would be done by sending patients a letter inviting them to contact us to arrange a convenient time to be seen that suited both the patient and the DHB. This proposal was discussed with the clinical nurse manager of general outpatient services, who agreed to trial PFB in some services.

A paper-based administration system was designed; an administration staff member agreed to 'run' the system; and clinicians were consulted. Base-line data was collected on DNAs, cancellation rates and administration 'rework'. Then the system was rolled out speciality by speciality. An evaluation was completed after each speciality implementation to assist in the roll-out planned for the next service.

Two critical requirements were that appointments not be booked more than six weeks ahead, and that senior doctors be required to give six weeks' notice of leave.

Motivation

At the time, there was not an urgent need for change from an organisational point of view. The focus was on providing a better service for our patients and empowering them to make choices. In retrospect, however, if we had not changed the process, we may have had serious problems now.

Benefits and outcomes

We have rolled out PFB in all general outpatient specialities. The benefits we have observed include the following.

- DNA rates reduced from 13–15 percent to 7–8 percent over a three-month period, and have been maintained at this level.
- Cancellations have reduced.
- 'Rework' for administration staff is significantly lower.
- According to a survey, patient satisfaction is very high.

The future

We have called our PFB system 'U Book'. Over the last couple of months we have developed an electronic system to manage it, which has resulted in greatly reduced administration time. (Previously it took 15 clicks on the computer to send out one invite letter; now it takes five clicks to send out as many as we want – it is very visual, user-friendly and auditable.) We are currently in the process of developing an online booking system so that patients can have the choice of booking their own appointments. It is expected this will be up and running in 2012.

Critical success factors

- The main reason for the change was to make improvements from a patient perspective.
- We engaged administration staff in the change processes and listened to their ideas.
- We involved clinicians in the process.
- Those involved were prepared to ‘give it a go’, even though the system was not going to be perfect at first.
- We took a speciality-by-speciality approach.
- We used past champions to sell the new system to the next speciality.

What has changed since ‘U Book’ was implemented?

- With their agreement, the activities of outpatient reception staff have been re-organised:
 - Reception staff confirm patient attendance and record the outcome of the appointment in our patient management system; they also make all urgent and follow-up appointments.
 - Booking office clerks load all paper and electronic referrals, into the hospital patient management system, manage PFB letters, staff telephones and make appointments.
 - There has been a significant increase in the flexibility of multi-skilled clerical staff to move between departments and areas of work.
- There has been no need to increase administration full-time equivalents (FTEs) to handle increased phone calls (in excess of 100 calls per day) and scanning paper referrals.
- Patient safety has improved, because everything is auditable and traceable.
- Staff satisfaction and willingness to share ideas has increased.
- Waiting times for FSA in two specialities have reduced, with no increase in clinical staff.

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Case study 4: Non-contact first specialist assessments: the MidCentral DHB experience

What was the situation?

I arrived in New Zealand in January 2007 and inherited an outpatient neurology department that was troubled by wait times exceeding the Ministry of Health limit of six months. A large number of patients had been waiting in excess of 12 months, and some up to 24 months, and those who had waited less than six months had little prospect of being seen any time soon.

Which specific change model did you implement, and why?

It became apparent that with the resources in place not all patients referred to neurology were able to be seen within the required timeframe (if at all) and a decision had to be made as to how to cope with this situation. For obvious reasons, I decided that it was most important to ensure that those patients with serious conditions who stood to benefit from urgent interventions would be seen most promptly. Others still required face-to-face assessments, especially if their diagnosis was uncertain. A fairly large number of patients had minor/non-disabling problems or carried firm diagnoses and simply needed some management advice, without a full specialist assessment.

I could not justify prioritising these last patients' face-to-face assessments at the expense of the former group, but placing them at the bottom of the list would have resulted in them waiting for six months or being simply referred back to their GP without any specialist input at all.

We started to write extensive letters and care plans to the GP within a week or two of referral. This eventually expanded to, in some instances, arranging a diagnostic work-up without ever actually seeing the patient.

Because this practice was not time/cost-neutral, I requested that the DHB create a purchase unit for what we called 'virtual' clinics. We counted these 'virtual' clinic patients for two and a half years before we managed to secure funding, but in the end a 'non-contact FSA' purchase unit was established, and we now receive funding to manage about 20–30 percent of our referrals in this fashion.

What have been the benefits?

- All patients referred receive a specialist opinion. Some patients may miss out on face-to-face assessments, but an audit has not revealed any significant clinical risk associated with non-contact FSAs.
- Our wait times are completely under control, meeting all required targets and allowing us to see not only urgent but also many semi-urgent and some routine patients.

- GPs have more responsibility, primarily managing patients, but have ready access to specialist back-up, resulting in a better primary/secondary interface, collegial trust and GP upskilling.
- The service has more options to control its processes and waiting times. Clinicians are more satisfied with the level of care they are providing, and we are less concerned about patients ‘falling through the cracks’.

What key learning/key messages have you come away with?

The key message as regards non-contact FSAs is that this model does not seek to reduce face-face consultations if that is best for the patient; it seeks to reduce the number of patients that never otherwise would receive any specialist opinion at all. In a perfect world without resource limitations we would have plenty of time to see all referred patients in a timely and stress free manner. With an ever aging population and a rise in healthcare costs, resources are likely going to lessen rather than increase, and it is important not only for managers, but also clinicians to accept this reality.

I would just add that it is important to ensure that provision is equitable across services. All services need to consider whether they need to see every patient in a traditional face to face appointment.

Keeping on top of one’s wait list through innovative measures is not always rewarded, and there is a risk (perceived or real) of further reduction in resource allocation if it is supposed that ‘all is well’. It is important that managers at all levels are aware of this, and avoid disincentivising the achievement of targets. We are all in this together, and should think not only about our own service and our own patients, but about the health sector as a whole.

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Strategy 3: Improving access to specialist advice through the use of alternative providers

‘Waste is any expenditure of time, money, or other resources that doesn’t add value’ (Black and Miller 2008).

Introduction

Strategies that improve access, reduce waiting times and improve the quality of elective care include expanding the range of healthcare providers who are able to develop and deliver clinical services in innovative ways. Ensuring our health workforce has the flexibility and resources to provide for the needs of upcoming generations requires innovative thinking.

Alternative providers can offer increased capacity across the primary and secondary interface, enhance professional competencies and improve the integration of the whole system.

Alternative healthcare providers to specialists can include but are not limited to general practitioners with special interests (GPwSI), physiotherapists, nurse practitioners (NP), and clinical nurse specialists (CNSs).

While the descriptions that follow include GPwSIs, advanced practice physiotherapists and NPs, it is recognised that CNSs are also essential members of health care teams, making valuable contributions to improving elective delivery. An example of the CNS role highlighted in this toolkit is the Elective Care Coordinator role at Waikato DHB (see the **Care Coordination and Case Management** section), which works in both primary and secondary care settings. In a range of elective specialties across the country, CNSs are running nurse-led clinics providing assessment, coordination and follow-up care.

General practitioners with special interests (GPwSI)

Definition

General practitioners with special interests supplement their important generalist role by delivering a service to meet the needs of a group of specified patients. They may deliver a clinical service beyond the normal scope of general practice, undertake advanced procedures or develop services. They work as partners in a managed service, not under direct supervision, and keep within their competencies. They do not offer a full consultant service.

Benefits

Such GPs effectively reduce waiting times and provide a convenient, community-based service, which means that patients receive the necessary care in the most appropriate location. Staff benefit from the opportunity to develop their specialist abilities and undertake a greater variety of work.

Evidence from the United Kingdom National Health Service (NHS) has shown that benefits include the following.

- The clinical management of patients by GPwSIs is similar to equivalent management in specialist clinics (for example, it involves similar investigations, prescriptions and interventions).
- Patients are more satisfied with some aspects of care by GPwSIs compared to care provided by specialists.
- Patients seen by GPwSIs may have fewer FUs and a lower DNA rate.
- GPwSI schemes provide an opportunity to expand the range of resources, skills and competencies available in primary care.
- Patients treated by GPwSIs in primary care can avoid entering secondary care services.

Within New Zealand the GPwSI role has been used extensively by the Accident Compensation Corporation (ACC) to assist in the management of orthopaedic trauma cases.

The Royal New Zealand College of General Practitioners (RNZCGP), in collaboration with Health Workforce New Zealand, are currently developing formal training processes for Fellows in 'Advanced Competency Modules', which will formalise the GPwSI role. Such roles are currently being developed at a demonstration site at Hutt Valley DHB in endoscopy, plastics, childhood obesity, otorhinolaryngology (ORL) and infectious diseases services.

In 2005, Counties Manukau DHB (CMDHB) established an ORL GPwSI service with five GPwSIs. The aims of the service are to:

- enable GPwSIs to diagnose basic ORL conditions in the primary care setting
- exclude serious pathology
- initiate non-surgical management of common ORL conditions
- plan care for patients requiring common surgical interventions, and directly refer them to the waiting list.

This service was evaluated in January 2012. The evaluation found that referrals and treatment by GPwSIs were appropriate, access for patients was improved, and waiting times had reduced. Patients found the primary care-based clinic significantly more convenient than secondary care-based clinics. The individual practitioners valued the

maintenance of their special interests; the role provided variety and interest in their professional lives.

Critical success factors

1. Before embarking on the development of GPwSI services, planners should consider priority areas within the health community. The benefits to individual practitioners must be balanced against the need to develop services in a strategic context.
2. This strategy should be seen as only one of a number of options available when designing a service review. The roles of nurses and allied health professionals also need to be considered.
3. In designing services, patient experience and public involvement are crucial: new services must reflect the needs of the local community; all stakeholders should be engaged.
4. Patients view their conditions in terms of the pathways they take to be treated. When designing services, planners should consider entire pathways. The most successful GPwSI services will be those where relationships between GPwSIs, local GPs and consultants in secondary care are strong and continually maintained.
5. The GPwSI primarily provides clinical services to patients. Additional roles include as trainer, educator and coach of health care professional colleagues in raising overall standards of care.

Further information

For further information see *Practitioners with special interests: A step by step guide to setting up a general practitioner with a special interest service (GPwSI)*, published by the NHS Modernisation Agency in 2003, and *Developing Practitioners with Special Interest Services: Managing the Risks*, written by Dr Katherine Birch and published by the NHS Modernisation Agency in 2004. See also information published by the National Primary and Care Trust Development Programme at www.natpact.nhs.uk/special_interests

Advanced practice physiotherapists

Introduction

Internationally, various authors (Aiken 2009, Blackburn 2009) have described the role of the advanced practice physiotherapist (APP). These practitioners have additional skills: they are able to screen patients pre- and post-operatively, triage patients for surgery, prescribe conservative management and monitor patients on an ongoing basis.

In New Zealand, a few DHBs have established orthopaedic clinics run by senior physiotherapists. Their activities include assessment and treatment of patients with conditions which may require surgery or for which surgery is not an option. The

Physiotherapy Board is currently exploring the feasibility of developing 'specialist' and 'extended scope of practice' physiotherapy roles.

Benefits

- Introduction of the role has been shown to reduce waiting times for patients from referral to consultation and from consultation to surgery, decrease the number of patients seen by orthopaedic surgeons and effectively prioritise those who are seen by such surgeons.
- An APP can successfully manage those who do not require a surgical consultation and offer conservative management options to those who may require surgery, thus enhancing their care options (Aiken 2009).
- An APP can effectively manage post-operative arthroplasty care, freeing up orthopaedic surgeons to see new patients and increase their availability for operating times.
- The treatment provided by APP has been found to be highly effective (and cost effective) and to correlate well with high patient satisfaction.
- Introduction of such roles has produced positive results in the United Kingdom in the delivery of both primary and secondary musculoskeletal services.

Critical success factors

- Involvement of experienced, appropriately trained physiotherapists.
- A healthy working relationship between physiotherapists and orthopaedic consultants.
- Effective communication processes for all stakeholders (that is, patients, health care providers, management and administration staff).
- Engagement from the beginning with all key stakeholders.
- Appropriate administrative clinical and evaluative protocols.
- Appropriate funding for implementation, evaluation and monitoring of impact of the change, including process and outcome measures.
- Effective change management processes.
- The benefit of APPs effectively decreasing waiting times will only be realised if additional surgical operating theatre resources are provided to enable surgeons to undertake more surgical responsibilities.

Further information

Physiotherapy-run orthopaedic clinics have been established in the following DHBs:

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For further information on the role of physiotherapist, contact: Physiotherapy New Zealand, www.physiotherapy.org.nz

For further information on the possible development of the 'extended scope' and 'specialist' physiotherapist roles, contact: The Physiotherapy Board of New Zealand, www.physioboard.org.nz

References

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Blackburn MS, Cowan SM, Cary B, et al. 2009. Physiotherapy-led triage clinic for low back pain. *Australian Health Review* 33(4): November.

Nurse practitioners

Introduction

The nurse practitioner (NP) is a relatively new scope of practice, launched in New Zealand in May 2001. Currently there are over 100 NPs in New Zealand, practicing in a range of clinical settings including primary and secondary care.

NPs exist in over 40 countries, including Australia, Ireland, England, the United States and Canada. The Nursing Council of New Zealand, under the Health Practitioners Competence Assurance Act 2003, registers NPs in New Zealand. The registration process is rigorous and transparent.

Nurse practitioners increasingly work in a broad range of clinical specialties. The NP role has been shown to have a positive impact on elective delivery in urology, cardiac care and ophthalmology.

Definition

Nurse practitioners are expert nurses who work within a specific area of practice incorporating advanced knowledge and skills. They practise both independently and in collaboration with other health care professionals, to promote health; prevent disease; and diagnose, assess and manage health needs, including through differential diagnoses, ordering, conducting and interpreting diagnostic and laboratory tests, and

administering therapies for the management of potential or actual health needs. They work in partnership with individuals, families, whānau and communities across a range of settings. Nurse practitioners may choose to prescribe medicines within their specific area of practice. Nurse practitioners also demonstrate leadership as consultants, educators, managers and researchers, and actively participate in professional activities and in local and national policy development (Nursing Council of New Zealand 2011).

Benefits of the NP role within the elective pathway

- Patients are able to be referred directly to NPs working within their specific area of practice. NPs can provide FSAs, FUs and ongoing management of patient needs.
- Effective use of the NP role reduces waiting time from referral to consultation for patients who meet referral criteria.
- Nurse practitioner assessment or procedural clinics can improve patient access to specialised clinical services (for example, nurse-led cystoscopy clinics, FSA lower urinary tract symptom assessment clinics and FSA trial removal of catheter clinics).
- The NP contributes specific skills, knowledge and competencies that complement other members of the health care team; this can improve management of patient flow across the DHB.
- Nurse practitioners with advanced training offer assessments and interventions (for example colposcopy and cystoscopy) to specific populations, enabling senior medical officers to see a greater number of new patients and perform more operations. Audits have indicated that such services provided by NPs are safe, cost-effective and comparable in quality to those offered by medical colleagues.
- The NP contributes to the professional development and culture of the multidisciplinary team by providing training, support and mentoring.
- Patient satisfaction with NP care is consistently rated very highly.
- Nurse practitioners who have successfully completed an approved prescribing component of a clinically-focused master's programme are able to prescribe medications.

Critical success factors

- Like all health practitioners, NPs are required to work within their scopes of practice, as part of a team of health care providers.
- Nurse practitioners need to establish effective strategies for clinical practice review and clinical supervision with appropriate senior colleagues.
- Establishment of effective communication processes and systems for all stake holders, including effective referral criteria and processes.
- Similar to other roles, adequate non-contact time in nurse practitioners' practice is required to allow them to develop and evaluate services in response to population requirements. Funding needs to be available to support continued professional development.

- In order for the full benefits of NP services on ESPI compliance to be recognised, adequate resources (for example, clinical space, equipment and clerical support) need to be provided in the specialist team.

Further information

For further information about the NP role, see:

- NPs at Health Workforce New Zealand:
www.nursepractitioner.org.nz/Site/Future_Workforce/Nursing-Midwifery/Nursing-Projects/Nurse-Practitioners/default.aspx
- Nurse Practitioners New Zealand:
www.nurse.org.nz/npnz-nurse-practitioners-nz.html
- District Health Boards New Zealand: www.dhbnz.org.nz

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Case study 5: Using the nurse practitioner role to improve access to urology services (Hawke's Bay DHB)

Introduction

Urology nurse practitioner (NP) Trish White holds three outpatient clinics each week in Hastings at Hawkes Bay Hospital as well as at the Napier Health Centre. Trish also provides case management care for complex urology patients in the community and receives direct referrals from GPs, to prevent admissions to the emergency department.

Recently she was seconded to work as a lecturer at Eastern Institute of Technology, Taradale, for the advanced practicum postgraduate paper preparing other nurse practitioner candidates for registration.

Background

The urology NP role was implemented at Hawke's Bay District Health Board (HBDHB) in 2005 following a successful application to the Ministry of Health Elective Services Initiatives Fund for a six-month trial project.

The project's key performance indicator was to reduce Elective Services Patient Flow Indicator Two: that is, the number of patients waiting longer than six months for a First Specialist Assessment (FSA) in the urology service. So successful was the trial it reduced the number of patients waiting by 87 percent. This success has meant the DHB has committed to continued funding of the urology NP role.

Outcomes

The DHB's urology service recognises the importance of improving access to elective surgery as a national target and as an indicator of patient safety and satisfaction. In 2011 Trish, together with the urologist she mainly works with, delivered 52 percent of urology outpatient FSAs and Follow Up (FU) appointments (excluding cystoscopy and urodynamic procedures).

Patients seen by the urology NP include those with prostate disorders, lower urinary tract symptoms, voiding disorders, incontinence, recurrent urinary tract infections, elevated prostate-specific antigen levels, oncology surveillance requirements, prostate cancer and catheter-related problems. This means patients who are more acutely ill can be referred directly to the urologist, providing those patients who require specialist-level assessment and care more quickly.

Of the 140 FSA patients seen by the NP between 1 September 2010 and 31 August 2011, 67 percent were able to be assessed and managed without requiring an appointment with the urologist, freeing up the specialists time and allowing specialists to focus on higher-acuity patients. Most of the patients referred on to the urologist by the NP required surgery. The urologist was able to review those patients with the aid of the NP assessment fully documented which also speeded up the process for the patients.

Benefits

The urology service has streamlined its processes, is now treating more patients, has decreased waiting times and improved access to urology services. Patients receive the right care from the most appropriate health professional.

The NP service is growing; there has been a 36 percent increase in the number of FSA patients managed in 2011 compared with 2010 data. The Hawkes Bay NP Urology service has received national recognition by the Ministry of Health when it was showcased in the publication *Targeting More Elective Options: Improved Access to Elective Surgery* (2011).

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Case study 6: The General Practitioner with Special Interest (GPwSI) Service (Southern DHB)

The orthopaedic GPwSI service at Southern DHB has been operating for approximately five years. The service was established in collaboration with the General Practitioner Liaison (GPL), Southern DHB and ACC, in response to prolonged waiting times and constrained access to orthopaedic specialist advice in the Otago district. A service to increase access to skin lesion/minor surgery was also established approximately four years ago.

Seven GPwSIs within the Otago region have been trained to provide general surgery through contracts with Southern DHB, and four GPwSIs provide orthopaedic FSAs in a contract with ACC. The GPwSI service is supported by secondary clinicians, and ongoing training is made available for both orthopaedic assessments and minor surgery. Patient satisfaction with both the orthopaedic and minor surgery service has been consistently rated very high.

The orthopaedic GPwSI service

The orthopaedic GPwSI service accepts only ACC cases. Over the last five years more than 1000 cases per year have been referred to the service. Most accident-related orthopaedic patients in Otago are managed by GPwSIs.

GPwSIs are able to access all diagnostic facilities available to secondary care clinicians. Clinical training for the GPwSIs is provided by the orthopaedic consultants at Dunedin Hospital. Patients are seen by GPwSIs a maximum of three times; thereafter they are either referred to a secondary care clinician or returned to their GP for ongoing management. Less than 50 percent of the orthopaedic patients managed by GPwSIs are referred on to orthopaedic surgeons.

Under the GPwSI service, patients are diagnosed and a treatment plan is delivered. Most referrals to GPwSIs are given an appointment within two weeks, and a plan of care is confirmed within three to four weeks. Patients referred to GPwSIs receive high-quality, timely, efficient and effective care. The service is currently under review, with a view to expansion. Other GPs have also shown interest in training to become GPwSIs.

Minor surgery

The skin lesion GPwSI service in Otago has been running for approximately four years, and has seven trained GPwSI practitioners. The service receives referrals from primary care, mostly for suspected skin cancers, and is contracted by Southern DHB to perform 350 procedures each year.

The service was initiated in response to prolonged waiting times and limited access for primary care referrals to skin lesion assessment and excision. Patients were not receiving timely treatment, and secondary care clinicians were being flooded with referrals for relatively straightforward procedures.

Under the GPwSI service, patients can still be referred to secondary care clinicians when required; however, because of referrer knowledge of the service, and the level of expertise and experience GPwSIs have developed, 99 percent of referrals are managed by GPwSIs. Surgical skills training for the minor surgery service is provided by ear nose and throat (ENT) and plastic surgeons at Southern DHB.

Ongoing support and satisfaction with the service among patients, the DHB, GPwSIs, and primary and secondary clinicians, including dermatologists, ENT specialists and general and plastic surgeons, has meant the service has become an integral component of elective delivery in the Otago region.

Approximately 350 minor procedures are performed each year through the GPwSI service; there is potential for this number to be increased. The Southern Primary Health Organisation has allocated funding for a further 100 procedures to be performed in 2011/12.

Benefits of the GPwSI service

- Reduced waiting times for treatment: the average waiting time from referral to treatment for minor surgery was 12.3 days in 2010/11.
- Increased capacity, quality and range of services delivered in primary care and reduction of unnecessary referrals to secondary care.
- A quality, timely service provided at no cost to patients close to their home.
- Improved integration and communication between primary and secondary.
- A valuable opportunity for GPs to develop new clinical competencies and undertake a greater variety of clinical activities.
- Reduced waiting times for patients and reduced administration for the service, and a higher conversion ratio from referral to surgery with referrals from the GPwSI service.

Key learning

- Before developing services that are appropriate for specific community needs, DHBs considering establishing GPwSI services should undertake a comprehensive assessment of current patient flows, capacity, demand and community health need.
- Establishing quality services requires the synchronisation of technical, administrative and clinical expertise in both primary and secondary care. Delivering services in the right place at the right time by the right people to the right patient will result in improved quality of care for patients, improved staff satisfaction and a more cost-effective and efficient service.
- Clinical prioritisation based on patient need and ability to benefit relative to other patients referred, is a fundamental requirement of all publicly funded elective services. District health boards need to develop access criteria linked to available capacity, which ensure services are provided to patients with the greatest need.
- In order to maintain clinical competencies and sustainable service delivery, GPwSIs need to work with a minimum number of 50 referrals per year and preferably 100.

Table 1: GPwSI skin lesion audit 2008–2011 results

	2008/2009	2009/2010	2010/2011
Number audited	361	363	350
Waiting times from date of referral to surgery performed	14 days	11.4 days	12.3 days
Quality of surgery (incomplete excision)	4.8%	2.9%	1.0%
Complication rate (dehiscence, infection)	8%	6.2%	2.6%
Malignant pathology	52%	55%	55.0%
Patients not needing surgery	8.5%	2.7%	4.6%
Patients transferred to tertiary care	7.2%	3.4%	2.1%

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Strategy 4: Improving elective productivity and quality through improved theatre scheduling and management

‘It’s not satisfactory to say “it feels better”, “I think it’s better”, “it seems better”, establish factual data and measures’ (National Health Service. 2008 Delivering tomorrow’s improvement agenda for the NHS).

Introduction

The operating theatre is an integral component of the elective journey. They are usually the largest revenue generator, but also the largest cost centre for an organisation. The extent to which operating theatres are managed efficiently and effectively is a key issue in the overall use of hospital resources. Managers and clinicians face the challenges of meeting targets for elective surgery productivity, reducing waits for treatment and reducing cancellations, in an era of tight fiscal constraint.

Increasing demand for surgical services caused by an ageing population with more complex comorbidities must also feature in future planning. Access to elective surgical lists is often impacted by demand for acute surgery, resource limitation (for example staff or specific equipment) or bed block. Effective planning and management will improve services for patients, ensure optimum use of theatre capacity and resources, maximise operating theatre performance and avoid cancelled operations.

There is increasing utilisation of new methodologies to study and improve operating theatre scheduling and management. Initiatives such as the NHS’s Productive Operating Theatre (TPOT), ‘Lean’, or ‘Six Sigma’ methodologies can play a part in reducing cost, increasing productivity, teamwork and improving quality. Capacity planning, process control and modelling software borrowed from the disciplines of process and operations management can help streamline systems. In addition, the World Health Organisation Surgical Safety Checklist is another tool that can help DHBs improve safety and team working in the operating theatre environment.

Definition of the strategy

Efficient operating theatres are crucial to high-quality care. To meet and sustain targets, theatres must continuously find areas for improvement and invest in the right people and systems.

Benefits

- Improved patient experience.
- Improved staff satisfaction, engagement and morale.
- Cost-effective use of resources.

Critical success factors

1 Patient preparation

Patients who are well prepared for surgery and have realistic expectations of the process are more likely to attend for surgery, undergo less unnecessary testing, stay for a shorter length of time and are less likely to cancel on the day of surgery.

Pre-assessment can identify and resolve medical issues prior to surgery. Complex case management can provide support for patients with multiple medical comorbidities or issues relating to their surgical episode.

Patients appreciate pre-assessment, as it allows them to discuss their care and take part in preparation, education, consent and discharge planning procedures.

Efficiency in day-of-surgery preparation and transportation can be improved by admitting all patients to a pre-operative preparation area. This can be integrated with the immediate pre-operative assessment and day-case recovery areas adjacent to theatres, to efficiently use space and skilled staff.

2 Theatre scheduling

Surgeons, anaesthetists, managers and administrators must all be involved in decisions about the development and maintenance of the theatre schedule. In addition to improving communication with all parts of the team and reducing administrative burden, a number of strategies have been shown to produce sustainable optimal use of operating theatres, including:

- increased use of all-day lists
- booking according to surgeon time and anaesthetic type
- smoothing the schedule to manage ward and ICU bed availability
- scheduling acute theatre during the working day
- pooling lists within specialities
- coordinating surgeon and anaesthetist leave
- creating stable theatre teams
- developing a cyclical master schedule
- realistically scheduling meetings, and professional and other commitments.

3 Theatre lists

Operating theatre users contribute to efficient theatre utilisation through effective communication of theatre lists.

The information provided on a theatre list should:

- be accurate (reflecting correct patient details and detailing all procedures to be performed for each case)
- be clear and easy to understand (and free from abbreviations, as this may cause confusion)
- specify any equipment, prosthesis or specialised staff required
- specify any relevant patient factors that would affect scheduling (for example alerts, allergies, infections and body mass index (BMI)); eliciting such information should be routine
- specify the surgeon's estimate of procedural time required, including anaesthetic time (data should be collected later, and estimated time replaced with statistical data); the surgeon should indicate variance from routine.

Templates should be used to standardise the content and format of theatre lists for both elective and non-scheduled (for example acute, trauma, or return-to-theatre) surgery.

4 Theatre list management

It is important that all lists not only begin and end at times agreed, but also that they provide opportunities for staff to take appropriate breaks. The advantages of this include the following.

- Anaesthetists will have time to visit patients pre-operatively before the agreed start of the operating list.
- Patients will be prepared for theatre in time.
- It will be easier to match staff to workload in theatres and recovery units.
- Staff can take meal breaks, reducing fatigue.
- Less overtime will be needed.
- A prompt start in the afternoon with less chance of overrun into the evening.

5 Turnover times and procedural delays

A major source of frustration and inefficiency in operating theatres is prolonged turnover times or procedural delays. There has been considerable research into the effect of delayed start times, which are most often caused by patient issues, but also because of surgeon lateness or a previous case or list has overrun. Concurrent activities outside of formal break time that delay the start of the next case, such as being on call, also potentially affect efficiency.

Turnover between cases can be improved by staff working to defined roles and activities during this period; however, these roles need not be exclusive. The surgeon being present before they are required, assisting with jobs other than surgery, has a positive effect on motivating the team and streamlining turnover times.

Procedural delays (for example delay in the availability of equipment, implants, staff or instruments) are most often due to incomplete or inaccurate communication. Short preoperative briefings using a standardised format have been shown to reduce unexpected delays and decrease the frequency of communication breakdowns.

The time that it takes to transfer patients, the time it takes to obtain extra equipment, or the time patients spend waiting at various points can be modelled by process-control software using real data. Systems can then be reconfigured (in terms of which operating lists are used when, and which theatres and staff are used for which functions, for example) to become more efficient.

6 Cancellling procedures

It is deeply distressing to a patient to have an operation postponed on the day of surgery. It is inconvenient for patients, their families, clinicians and staff, and economically wasteful both for the patient and DHBs. Late cancellations interrupt patient flow through operating theatres, and result in wasted resources. Many cancellations could be avoided through good pre-operative assessment, realistic scheduling of procedures, effective bed management and better communication between patient and hospital and between staff groups within the hospital.

Reducing cancelled operations should not be tackled in isolation, but should be seen in the context of the wider system, including elective and emergency admissions, bed occupancy levels and discharge planning. An audit process reviewing day-of-surgery cancellations, for example, may inform the wider context.

Risks

- Patient may not be treated within a clinically appropriate timeframe.
- Staff not engaged in the change process may feel alienated.
- The organisation may face a financial risk.
- Staff may be reluctant to let go of local custom and practice, and may be resistant to change.

Mitigation of risks

- Establish clinically appropriate timeframes based on patient priority. Use ratio of time waiting versus clinically appropriate time as part of scheduling decisions.
- Establish a communication strategy. Set up regular meetings to update staff and ensure their involvement. Arrange for key stakeholder champions to participate in the leadership for change.

- Improve management of patient flow. Maintain ESPI compliance. Monitor progress against agreed objectives.
- Seek specialist knowledge on change management and processes. Ensure regular monitoring and review of progress. Share success.

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Case study 7: Our Seven Year Journey – Surgical Services (Lakes DHB)

Surgical services improvement journey began approximately seven years ago, when clinical staff expressed their concern regarding theatre throughput and utilisation; in particular, the impact elective surgical cancellations were having on patients and those involved in providing their treatment.

At that time, our elective theatre utilisation was around 60 percent, hospital-driven cancellations were high and elective patients were being cancelled due to the demand for acute beds and an emergency department that was frequently at 'gridlock'. The impact of cancellations created unnecessary rework and patient complaints increased, as did frustration and dissatisfaction among staff.

Financially surgical services were in the red, and viewed by many as unsalvageable; there was no clear plan to return to a positive financial position. The team were continually 'fighting fires', leaving little time to focus on the issues at hand and identify a sustainable way forward. This reactive response had seen issues being 'mopped up' on a daily basis, which was time-consuming, inefficient and ineffective.

The service was non-compliant against ESPIs, and in time was required to report weekly to the Ministry of Health. This, similarly, consumed time that could have been better spent in developing a plan to resolve the issues. Recruitment was difficult in all areas for the service; staff were frustrated and increasingly disengaged.

What did we do?

We recognised there was no one single action that would resolve the issues, and that a project approach was required if the service was to fully implement the service improvement opportunities and solutions that would enable them to take a clear way forward.

A project team was established and a number of principles and goals agreed, as follows.

- Put the patient at the centre of our decision making.
- Any changes needed to be sustainable long term.
- Staff buy in and involvement was critical to success.
- Both short-term and long-term actions were required to achieve our goals, which were:

 Patient Experience – For Our Customers

 A Good Place to Work – For Our People

 Business Focus – For Our Stakeholders.

Seeing there was a compelling reason for change and the opportunities that existed, staff were keen to be involved and make the improvements.

Where to start?

Our key area of concern at that time was general surgery, where waiting lists were unmanageable and there was a high number of patients who had been waiting a long time.

The short to medium term

Our plan of action in the short to medium term was as follows.

- 1 We identified that we could not treat the backlog of surgical patients within our current funding stream or resources. With the support of our consultants and one-off additional funding from the DHB, we were able to work with our local private provider, and over a seven-month period treated a significant proportion of the long-wait patients at the same time as maintaining our planned production in-house.
- 2 We reviewed our access and treatment thresholds, and changed them to reflect what we could treat within the resources available and attain MOH compliance. While the consultants acknowledged and understood the need for change, they had difficulty having to 'decline' some patients' access to surgical treatment.
- 3 We agreed on and established pooling of elective patients for certain procedures, which proved an aid in improving waiting times for patients and waitlist management overall.
- 4 Outpatient referrals and patient wait times in general surgery were increasing, and we needed to find a way of dealing with the growing demand. We agreed on and revised the service access criteria, and established an FSA to FU ratio and business rules for managing clinics.
- 5 The minor operations waiting list was unmanageable and needed to be brought under control. Again, we reviewed our access criteria and coordinated additional locum senior registrar sessions, fortunately with the assistance of a plastics consultant and a GP. This saw 750 patients treated in one year and resulted in a waitlist that was manageable and sustainable.

With a challenging three years behind us and the above actions well under way, the service started to see a clear sense of direction; it had gained the enthusiasm and momentum to focus on a number of other initiatives.

The medium to long term

Our plan of action in the medium to long term was as follows.

- 1 Recognising the need for a platform and mechanism that could identify areas for improvement, we established a clinically led theatre management group (TMG) and an electronic reporting tool for theatre. This ‘dashboard’ reporting tool enabled the newly formed TMG to understand what was happening in theatre, and provided meaningful information to management, clinicians and theatre staff that would help identify areas for improvement. Information is made available to the specialty teams at a number of levels: overall, specialty and individual. It includes late starts, early finishes, over-run lists, turnaround times and day-of-surgery cancellations.
- 2 As part of the service improvement portfolio, we identified review of surgical specialty rosters and schedules as a priority. The aim of the review was to identify potential roster and schedule changes that would better align individual, specialty and service needs and enhance patient flow and efficiency.
- 3 We undertook a master theatre schedule review, and gave consultants the opportunity to review their individual rosters and schedules, and provide feedback and preferences on changes and ideas they would like to see implemented. This resulted in a revised schedule being established. Fulltime consultants were scheduled with full-day operating lists. Part-time consultants had the opportunity to operate fortnightly for a full day instead of a weekly half day. Processes were put in place that facilitated sharing of individual elective lists within and between specialists and flexing of individuals’ theatre and outpatient schedules to better respond to service need. We successfully implemented the revised master schedule late in 2010; it has been well received by all parties.
- 4 With the support of the general surgical department, we established a weekly scheduling meeting in early 2010, the purpose being to review and ‘pin down’ elective lists for the following three weeks; there had been frustration over numerous and often unnecessary short-notice requests to change lists. This was largely driven by the scheduling team, with the support of a lead surgeon. This has proved a valuable forum that facilitates discussion and, on occasion, debate of upcoming surgery or the flagging of any anticipated issues. It ensures lists and available resources are maximised. Although participation rates were initially slow, after a mere three months the meeting was consistently well attended by the general surgical department; it has resulted in a dramatic drop in the amount of rescheduling and rework.

Has all this work paid off, and did we achieve our goals? A resounding yes!

Achieved: Patient Experience – For Our Customers

Achieved: A Good Place to Work – For Our People

Achieved: Business Focus – For Our Stakeholders.

Where are we today?

- 1 By being prepared to focus on the hard issues and have courageous conversations, we are now in a position of having a general surgical waiting list that is manageable and sustainable. We are ESPI compliant and fully recruited, with staff turnover at an all-time low, and our volumes continue to be delivered.
- 2 Over the last year and a half we have noted a significant reduction in acute surgical presentations, which anecdotally suggests we have treated the historical backlog of patients, and provided more patients with surgical treatment during their acute episode, rather than as a delayed elective procedure. Both patient acute re-presentations and the number of patients referred electively, particularly for hernia and laparoscopic cholecystectomy, have dramatically reduced.
- 3 Our general surgery wait list is well under control, with approximately 130 patients waiting for surgical treatment at any one time. Patient wait times have significantly improved: the majority of patients receive treatment within four months. Our long-wait patients are at an all-time low, and we are on schedule to achieve the Ministry requirement of no patients waiting over six months.
- 4 We have over-delivered our volumes for the last three years, and maintained an outstanding achievement from the Ministry of Health for our elective throughput. The organisation has adopted a policy of 'no elective surgical cancellations due to no bed'. This financial year only one patient's operation has been cancelled for this reason!
- 5 Recruitment has improved: we have a waitlist of potential New Zealand graduates expressing interest in a post on completion of their training. We have also been successful in recruiting four New Zealand graduates in our anaesthetic department. With the aid of Ministry of Health initiative funding, in 2011 the service established nurse-led preoperative assessment clinics with a focus on preadmission assessment process redesign.
- 6 Our theatre utilisation has improved to a consistent average of 82–83 percent, and we are close to meeting the Ministry monitoring framework target of 85 percent. We have established a clinical governance framework, which is contributing towards improving patient care. The service's operational plan continues to reflect this ongoing work, tagging specific tasks and actions to specific positions.
- 7 Last but not least, we have a sense of pride in our achievements and the service we deliver to the patients in our community. Commitment, perseverance and a can-do attitude does achieve rewarding results. There is still plenty of work to do. We recognise that continuous improvement is ongoing, and we are confident we are on the right path.

Key messages

The key messages from our experience are as follows.

- Place the patient at the centre of your decision making.
- The service improvement process is about individual, service and organisational ownership of better care delivery.
- Leadership is key: have courage to challenge and change the status quo.
- Do not underestimate the value of staff engagement and buy-in.
- Engage and have faith in your staff – they have the knowledge and skills to deliver the answers.
- Success depends on a collaborative effort.
- Look for sustainable solutions.
- There are no quick fixes.
- Start small and aim high.
- Don't give up.
- Change is not a one-time effort.

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Case study 8: The productive operating theatre: building teams for safer care™

The Productive Operating Theatre (TPOT) is a comprehensive package of support designed to enable organisations to improve the patient experience and outcomes of care by pursuing three main goals.

- 1 Increase the safety and reliability of care.
- 2 Improve team performance and staff wellbeing.
- 3 Add value and improve efficiency.

The TPOT package provides a systematic way for frontline teams to transform the way they work and deliver significant improvements for both patients and staff; it's not a management tool. It was developed in the United Kingdom as part of 'The Productive Series', in a collaboration with the NHS Improvement Agency (now known as the NHS institute for Innovation and Improvement) alongside all levels of staff from pilot site hospitals and NHS Trusts.

The key to the success of the Productive Series is that improvements are driven by staff themselves: the package empowers them to ask difficult questions about practice and to make positive changes to the way they work.

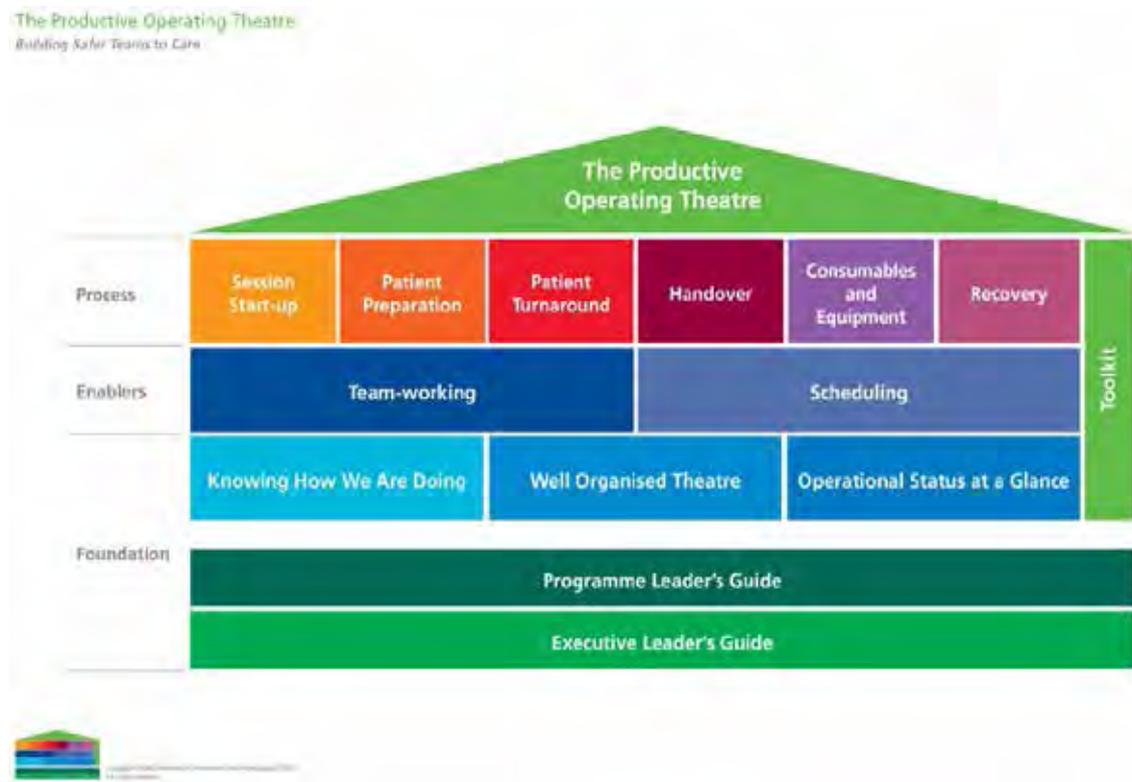
The process promotes a continuous improvement culture, leading to real savings in materials, reduced waste and vastly improved staff morale. The Productive Operating Theatre's three very specific goals form a protective triangle that is focused on the patient's experience and improved outcomes while patients are in a service's care.

The TPOT programme has been shown to:

- reduce errors and incidents of harm
- achieve gains in efficiency and productivity
- improve staff morale and teamwork
- most importantly, improve the quality of the patient's experience and outcomes.

The diagram below outlines the modular structure and components of the TPOT model.

Figure 8: The productive operating theatre



In New Zealand, TPOT is being implemented in eight DHBs, and is beginning in a further four DHBs. The 12 DHBs involved are Northland, Waitemata, Auckland, Bay of Plenty, Tairāwhiti, Taranaki, Whanganui, Hawke's Bay, Hutt Valley, Nelson Marlborough, South Canterbury and Southern.

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Strategy 5: Improving elective care through implementation of enhanced recovery after surgery programmes

‘The immediate challenge to improving the quality of surgical care is not discovering new knowledge, but rather how to integrate what we already know into practice’ (Urbach and Baxter 2005).

Introduction

Enhanced recovery after surgery (ERAS) programmes within elective surgery have gained momentum over the last decade, since the concept was first described and promoted by Danish Professor Henrik Kehlet (Basse et al 2000). The technique was originally described as a method for treating patients undergoing colorectal surgery with its principles centred on a multimodal rehabilitation programme to reduce post-operative pain and accelerate rehabilitation.

While the principles were originally developed for and integrated into colorectal surgical pathways, they have also been used in numerous operative procedures such as visceral, vascular and thoracic surgery, as well as orthopaedic, urological and gynaecological operations. Such programmes have been found to improve quality of patient care and patient outcomes, and reduce risks, costs and length of stay (Wainwright and Middleton 2010).

Definition of the strategy

Enhanced Recovery after Surgery programmes are also known as fast-track, rapid or accelerated surgery. Such programmes form a multi-modal approach to elective surgery that ensures patients are in the optimal condition for treatment, have the best possible care during their operation and experience optimal post-operative rehabilitation.

The approach is evidence-based and involves a selected number of individual interventions that, when implemented as a group, demonstrate a greater impact on outcomes than would be the case if they were implemented individually.

The underlying goal of ERAS is to enable patients to recover from surgery and leave hospital sooner, by minimising the stress responses on the body during surgery. The approach empowers the patient to be a partner in their own care, giving them greater choice through shared and informed decision making. The process starts at the point of referral, when clinicians assess the individual needs of patients prior to surgery, and continues as an enhanced recovery pathway is chosen, with the management of personalised patient care during and after surgery.

Development of ERAS programmes brings together two best practices, organisation of care and clinical management, while making sure that patients receive evidence-based care. It requires the collaboration of the whole multidisciplinary team, including primary and secondary care, service managers, surgeons, anaesthetists, nurses and allied health professionals, as well as the patient and their family.

Generic principles of ERAS

The generic principles of ERAS are:

1 Pre-operative care

- Thorough pre-operative interventions to optimise health and medical conditions.
- Management of patient expectations through preoperative education and counselling.
- Organisation of discharge arrangements.

2 Intra-operative care

- Atraumatic and minimally invasive surgical techniques.
- Shortened surgical times.
- Optimised anaesthesia – usually using regional anaesthetic techniques with light sedation.
- Promotion of normovolemia and normothermia and prevention of hypoxia.

3 Post-operative care

- Early physiotherapy intervention and promotion of ambulation.
- Regular and effective analgesia, avoiding opiates where possible.
- Rapid introduction of normal hydration and feeding.
- Promotion of a ‘wellness’ model of care –remove catheter drains and drips as soon as possible and promote independence with washing, dressing and socialisation.

4 Discharge

- The multidisciplinary team manages criteria-based discharge protocols.
- Patients receive clear instructions on how to progress rehabilitation independently.

Benefits

This approach has significant positive impact on three domains of quality.

1 Patient experience

The approach improves the patient experience first and foremost by optimising preoperative condition. This leads to reduced risks of complications, reduced length of stay and more effective rehabilitation. The process empowers patients to take control of their own care pathway. Involving patients in the preoperative process ensures they are fully informed and active partners in their care.

2 Clinical effectiveness

The approach makes use of new and different techniques in surgery-(for example, technology such as oesophageal Dopplers, surgical techniques such as laparoscopic surgery, minimally invasive surgery and avoiding the routine use of drains). This improves clinical effectiveness and promotes early detection of complications. Integration of primary and secondary care enables better teamwork and improved staff experience.

3 Efficient use of resources

The approach fosters the additional benefits of reducing length of stay, saving bed days (including, in some cases, intensive care and high-dependency unit beds), increasing capacity and providing longer term cost benefits. It therefore provides the potential to treat more patients with the same resources.

Critical success factors

- 1 **The patients must be in the best possible condition for surgery.** For example, clinicians must have identified co-morbidities, improved anaemia, addressed hypertension and stabilised diabetes. Ideally, the GP undertakes this process prior to referral or, at the latest, at pre-operative assessment. At this stage it is essential that the patient is well informed and understands all the treatment options, and has realistic expectations about the risks and benefits of surgery and the processes involved. It is on this basis, having had the time and support to consider options, that the patient can make an informed decision to proceed with surgery.

- 2 **The patient must have experienced the best possible management during and after his or her operation.** For example, pain, gut dysfunction and immobilisation should have been managed using the appropriate anaesthetic, fluids and pain relief and minimally invasive techniques.
- 3 **The patient must experience the best possible post-operative rehabilitation.** Rehabilitation services (for example, planned nutrition and early mobilisation after surgery) must be available seven days a week for 365 days a year, enabling early recovery and discharge from hospital, as well as a patient's return to their normal activities sooner.

Three critical areas of focus will help the practical management of ERAS programmes: staff training and development, streamlined processes and room layout and procedure-specific care plans.

1. To achieve staff training and development, services should:
 - provide training on the evidence around speeding up recovery post-surgery
 - introduce a culture in which patients are active in their recovery, while aiming to make life in the ward as normal as possible
 - adopt modern surgical techniques
 - adopt a consistent anaesthetic protocol
 - consistently implement and monitor the programme.
2. To streamline processes and room layout, services should:
 - plan or schedule work around what needs to happen to patients and when
 - focus on the physical environment of the ward and workspace. The goal is to have a logical, organised layout.
3. To implement procedure-specific care plans, services should ensure patients have their own care plans. In this way, patients will know what should happen to them each day. The plan should include things that the staff do, (such as remove catheters) and that the patient themselves do, (such as walk a certain distance). Patients then become active participants in managing their own care.

For further information, see:

- information on quality, innovation, productivity and prevention on the NHS's website 'Evidence in Health and Social Care': www.evidence.nhs.uk/qualityandproductivity
- the website of the ERAS society: www.erassociety.org
- the website of the Lean Enterprise Academy in the United Kingdom: www.leanuk.org

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Case study 9: Improving clinical outcomes for colorectal surgery patients (Counties Manukau DHB)

Introduction

The Enhanced Recovery after Surgery (ERAS) programme at Counties Manukau District Health Board (CMDHB) was developed in a multidisciplinary fashion, and received appropriate institutional approval for implementation. A consultant surgeon, a ward charge nurse and a colorectal nurse specialist visited an institution in Denmark with an established ERAS programme, and an equivalent programme tailored to the Manukau Surgical Centre was implemented in December 2005. A full-time ward doctor was then employed as a research fellow in enhanced recovery, to be responsible for the overall running of the programme as well as prospective auditing of safety and effectiveness.

To successfully implement an ERAS programme, time must be allocated to agree on and standardise a local pathway that involves the whole health community, with primary and secondary care, surgeons, anaesthetists, nurses and allied health professionals, including appropriate managers.

Why this specific improvement model was implemented

Enhanced recovery after surgery programmes have been shown to improve clinical outcomes and reduce in-patient length of stay. There has been limited evidence on the cost benefits of ERAS in colorectal surgery. In addition to the expected clinical benefits, an integral component of this programme was to evaluate whether costs saved by reduced use of post-operative resources would offset the financial burden of setting up and maintaining the programme.

All elective colonic resections in patients older than 15 were included in the programme. Exclusion criteria were: patients requiring a stoma, an American Society of Anaesthesiologists score greater than IV, significant cognitive impairment, inability to communicate in English and lack of patient consent.

Benefits

There was a significant reduction in total hospital stay, intravenous fluid use and duration of epidural use among patients in the ERAS programme. Additionally, patients involved experienced significantly fewer post-operative complications.

Implementation of ERAS cost approximately \$102,000, but this was more than offset by costs saved in reduced use of post-operative resources: there was an overall cost saving of approximately \$6900 per patient. The majority of the saving was made in halving the total post-operative length of stay and reducing post-operative complication costs.

Our experience has demonstrated that implementing an ERAS programme is cost-effective in the medium term.

Overcoming the barriers

The literature shows that adherence rates to ERAS protocols can be low in the post-operative phase, and colorectal practice can differ greatly from the current available evidence. Key factors to the success of the Counties Manukau ERAS programme have been:

- including all members involved in patient welfare as part of the 'ERAS team' (including pre-admission staff, nurses, physiotherapists, social workers, occupational therapists, surgeons and anaesthetists). All members of the team should be familiarised with the principles of ERAS, and a unified primary aim of optimal patient care should be developed
- setting concrete expectations with patients from the outset through patient education. Pre-admission discharge planning and goal setting should be part of the strategy to meet milestones in the recovery period
- communicating the safety of ERAS protocols, as evidenced by the best available research. Surgeons have been slow to embrace ERAS due to:
 - a perceived increased risk of readmissions
 - a perception that patients may not wish to have a short hospital stay
 - a concern that many wards do not have the resources to implement the ERAS protocol, and the burden of recovery may simply be transferred to outpatient and community services.

However, the available evidence shows that multimodal care should be accepted as the current standard of care in colorectal surgery.

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Case study 10: Orthopaedic enhanced recovery (Royal Bournemouth Hospital)

This case study was put together for the National Health Board of New Zealand by Robert Middleton, consultant orthopaedic surgeon at the Royal Bournemouth Hospital and Tom Wainwright, service improvement specialist at the Centre of Postgraduate Medical Research and Education, Bournemouth University. Robert and Tom have first-hand experience of successfully implementing Enhanced Recovery after Surgery (ERAS) pathways. The results of their work have been published and presented internationally. They are passionate about the potential of enhanced recovery to improve outcomes for patients, and now work with other organisations to help implement enhanced recovery pathways.

This improvement story details the outstanding results achieved by the Royal Bournemouth Hospital following the decision to redesign their hip and knee replacement service and introduce an enhanced recovery pathway. The orthopaedic team committed to instigate and adopt improved working practices so that they could deliver an exemplary service to patients in an efficient, sustainable and cost-effective manner. The team introduced an entirely patient-centred pathway, alongside a clear aspiration to deliver high-quality care and achieve high levels of patient satisfaction by using the best available research evidence.

By introducing ERAS, the orthopaedic department at the Royal Bournemouth Hospital reduced length of stay by 50 percent, reduced complications and re-admissions, and improved both patient and staff satisfaction (Wainwright and Middleton 2010a and 2010b, Vingerhoeds et al 2010).

Robert Middleton, orthopaedic surgeon, explains: ‘The adoption of enhanced recovery pathways in hospitals across New Zealand is hugely exciting. It is an approach that puts the patient firmly at the heart of what we do, helps to improve clinical outcomes, and will at the same time provide great benefits to the health service as a whole’.

Why is this relevant to orthopaedics in New Zealand?

Prior to the changes, the Orthopaedic Department at the Royal Bournemouth Hospital was already one of the highest-volume joint replacement centres in the United Kingdom, due to a combination of factors, including the demographics of the local area, year-on-year growth in demand due to an aging population, and the good reputation of the service. The Department was required to reduce waiting times in accordance with the Government's '18-week Target', and faced the challenge of providing an efficient service in the face of financial constraints imposed by the 'Payment by Results Tariff' (Flory 2010).

The hospital therefore faced challenges that are extremely analogous to those currently faced by hospitals in New Zealand and by healthcare organisations worldwide. Explicitly, the challenge is to address increasing demand for orthopaedic services and a need to speed up access to treatment, but to do so with fewer resources, while at the same time continually improving the quality of clinical outcomes and patient experience of care.

Critical success factors

The steps described in the generic principles of ERAS are very much patient- and clinically focused; however, it is also widely recognised that the real improvements to care that ERAS pathways provide are due to the increased organisation and reliability of the care that is delivered. Tom Wainwright confirms this, explaining:

The key component to a successful pathway is that the pathway and associated processes are managed. Each step in an enhanced recovery pathway is essential. The successful units have highly organised processes and standardised methods. This ensures that every patient receives the full pathway every time.

It therefore seems that, for ERAS to work, health care managers will need to be as equally engaged as clinicians.

Robert Middleton confirms the equal role service managers and clinicians have in the ERAS process, observing that 'the best results are seen when a manager and a surgeon are working together to lead and empower a whole orthopaedic team'. Within the established research evidence it has also been noted that improvements are most likely to succeed if the patient pathway is highly structured and standardised, and the multi-disciplinary team is involved in the development and production of the pathway.

The role managers may play in implementing ERAS will vary depending on their seniority and location. Input is vital at an executive and board level to provide a strategic and organisational drive. The manager's role at this level is as a sponsor and champion to promote the approach to clinicians and service managers. The ability of board-level management to influence internal and external stakeholders and to give formal backing to the pathway changes is important. Robert Middleton records his observations after working with a number of hospitals to help them implement ERAS:

The trusts that made the quickest and best progress all had engagement by the chief executive, or at least a board level manager. It is a key factor to success that senior managers are involved at the very start of the project. Their support is essential to overcome the organisational and departmental barriers and blockages which often occur when introducing change.

At the ward and operational levels, hands-on leadership is also crucial. Tom Wainwright describes his experience at Bournemouth:

I quickly realised that enhanced recovery would help deliver all the local and national priorities associated with quality, patient safety, and patient experience at the same time as producing huge efficiencies with regard to capacity and ward costs. It was a win-win situation. I therefore worked hard to influence other managers and departments outside of my control to help ensure the smooth introduction and seamless running of the pathway across the hospital.

Managers may have to provide initial budgetary support for up-front costs to support changing the pathway, but this should not prevent the introduction of ERAS: there is plenty of evidence available to support a robust business case for the approach.

The potential for enhanced recovery is huge, but introducing change within health care is challenging. Robert Middleton advises:

Enhanced recovery must be promoted at every opportunity. All healthcare professionals need to know what enhanced recovery entails, the benefits it can bring, and its potential to improve patient care. This will encourage them to work in partnership with each other and successfully implement enhanced recovery.

Tom Wainwright adds:

I found that talking about cost efficiencies, savings, and productivities to clinical staff left them cold. However, when we talked about enhanced recovery and improving patient care, everyone becomes enthused and passionate. Enhanced recovery can be a brilliant method of improving patient care and meeting the productivity and efficiency targets that we are all facing.

Results

Between August 2007 and March 2009, more than 2500 patients followed the new pathway. The average length of stay fell from 7.8 days to 4.1 days, and there was no increase in the rate of complications or readmissions.

Figure 9: Length of stay for knee reduction procedures at Royal Bournemouth Hospital, positive cumulative sum, 2007–2008

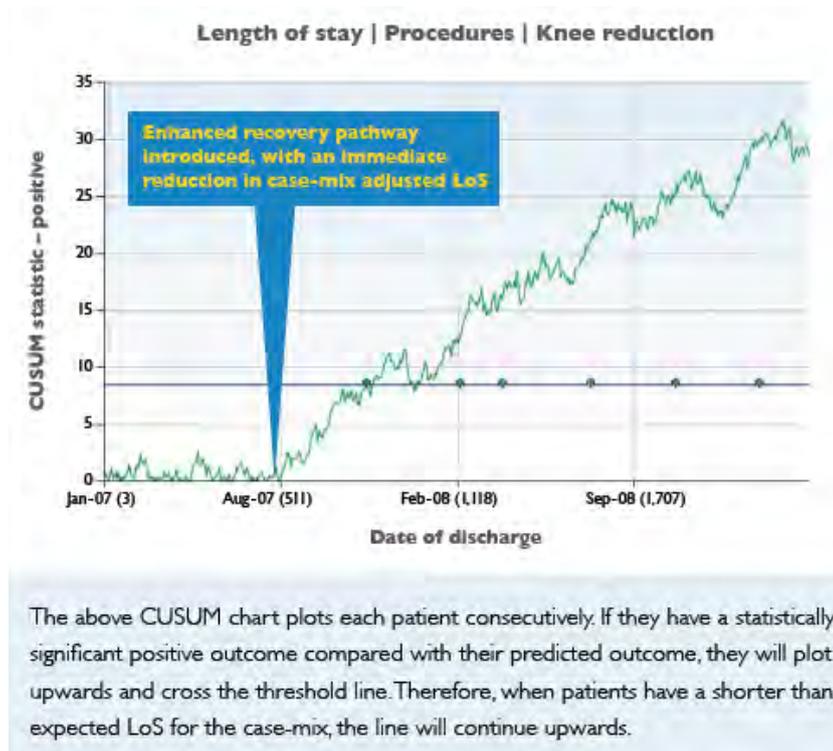
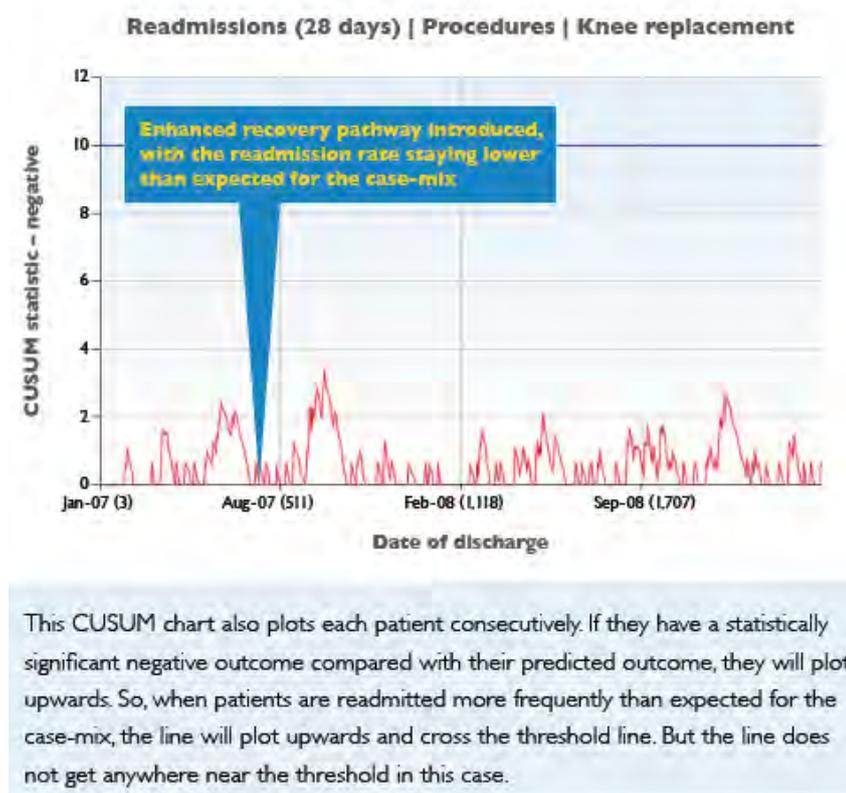


Figure 10: Readmissions for knee replacement



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Strategy 6: Improving elective care through the use of integrated care pathways

‘To enhance the quality of care by improving patient outcomes, promoting patient safety, increasing patient satisfaction and optimising the use of resources’ (European Pathway Association 2005).

Introduction

Integrated care pathways (ICP) provide a multidisciplinary outline of anticipated care, delivered within an appropriate timeframe, to help a patient with a specific condition or set of symptoms move progressively through a clinical experience to positive outcomes. The development of ICPs involves forward planning of each step of the patient journey. Everyone, including the patient, should know what to expect and when to expect it. Planning ahead increases the chance that each patient receives the right care, in the right place, at the right time. Integrated care pathways are important because they reduce unnecessary variations in patient care and outcomes. They support the development of care partnerships, and empower patients and their carers (Panella 2003).

Many of the delays patients experience arise from variability in processes, rather than high volumes (Bevan 2007). Much variation is caused by the way services are organised and provided. Integrated care pathways have been found to reduce variation, and in turn reduce costs, waste and mortality. Evidence suggests that successful ICPs can improve patient satisfaction and health outcomes, reduce length of stay (Berger 2003), promote appropriate targeting of resources (Sweeney 2002) and reduce demand on both primary care and outpatient services appointments (Julian 2007). When designing and introducing ICPs, it is important to incorporate them into organisational strategies and select pathways that provide opportunities for improvement (Middleton et al 2001).

Integrated care pathways aim to have:

The right people,

- in the right order,
- in the right place,
- doing the right thing,
- in the right time,
- with the right outcomes,
- all with attention to the patient experience (Davis 2005).

Definition

The National Pathways Association states that ICPs determine locally agreed, multidisciplinary practice based on guidelines and evidence, where available, for a specific patient/user group. The pathway forms all or part of the clinical record, documents the care given and facilitates the evaluation of outcomes for continuous quality improvement (De Luc 2001).

Integrated care pathways have three inter-related but distinct aspects. They involve:

- 1 *the development process*, which involves critically reviewing the care/treatment provided and identifying how it might be improved
- 2 *the application or use of the care pathway* with the patient/user once it has been designed and implemented. This concentrates on the use of the care pathway to deliver care which is based on the latest/best evidence
- 3 *on-going review of the care pathway*, which involves monitoring of variations and critical analysis of the care pathway by the team that have developed and continues to use it. This aspect reinforces a culture of reflective practice, learning from experience and continuous improvement.

Benefits derived from the process of development of ICPs include:

- 1 improved communication between primary and secondary care clinicians, leading to enhanced integration of care
- 2 highlighting of bottlenecks and unnecessary duplication
- 3 streamlining and synchronisation of the patient/user pathway
- 4 encouragement of multidisciplinary and multi-agency team development
- 5 consensus, which ensures consistency in practice
- 6 clarification of roles and responsibilities within the team
- 7 identification and agreement on standards or practice guidelines
- 8 review of patient/user information and education
- 9 It ensures the development of care from a patient/user perspective.

Benefits derived from the use of ICPs include:

- 1 an outline for the anticipated course of treatment
- 2 integration of the latest evidence-based practice and guidelines
- 3 organisation of the clinical documentation and information collected, which assists in retrospective review
- 4 development of multidisciplinary clinical documentation
- 5 provision of an aid to the day-to-day management of individual patients/users
- 6 improved communication between staff, patients and users of the pathway.
- 7 identification of areas for further research

- 8 the ability to continually review and refine the ICP
- 9 explicit standards, which help to reduce unnecessary variations in patient care and outcomes
- 10 potentially reduced litigation, as the system encourages logical and sequential recording of events which have been planned according to agreed best practice.

Critical success factors

- 1 ICPs are included as part of an organisational quality programme.
- 2 Collaboration exists between professional groups, with a strong medical lead.
- 3 Appropriate pathways are chosen; ICPs are based on available evidence/best practice and include goals and outcomes.
- 4 Project facilitators have appropriate skills, and the expectations of staff are clearly managed.
- 5 Variations from the ICP are collected and analysed.
- 6 Integrated care pathways are owned by clinical staff and completed by all staff involved.

Choosing an appropriate ICP

When selecting an appropriate pathway to develop an ICP, the following criteria may be helpful:

- how common the particular condition is
- whether the condition is high risk, or part of a problem area with opportunities for improvement
- the preference of staff who will be involved (to ensure their commitment).

Risks

- ICPs can be perceived as restricting clinical freedom.
- ICPs may be seen as inflexible and not a true reflection of individualised patient care.
- Staff may perceive increased documentation requirements.

Mitigation strategies

- Restriction of clinical freedom only applies to the extent that the reasons for not following agreed best practice need to be explicitly qualified. Fears of having 'cookbook' medicine being imposed on clinicians have been found not to materialise: ICPs don't limit therapeutic decision making but introduce structured guidance.

- Deviation from the routine pathway should be seen as a positive reflecting patient individuality; guidelines are not rigid; they are guidelines not tramlines. In the case of patients with multiple pathologies, the patient care pathway can be modified using supplementary sheets, or managed using free-text documentation.
- Using ICPs in fact entails less time spent writing. A pragmatic approach is required when patients are undergoing similar procedures. In the day surgery context, in place of multiple procedure-specific ICPs, staff should adopt a generic day surgery ICP with applicable specific procedure sections (Fisher 2004).
- Integrated care pathways should be developed in collaboration with the multidisciplinary team, including primary and secondary care clinicians, taking account of the structures and cultures within an organisation that support or hinder development of a pathway.
- Dissemination of early results on improved quality of care will increase acceptance of ICPs among staff, and can initiate a sustainable positive cycle, rewarding staff for their contribution and increasing their motivation to collaborate.

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Case study 11: Improving patient access and understanding of cardiac coronary angiography (Nelson Marlborough DHB)

This service improvement initiative was partly motivated by listening to our patients in the pre-admission clinic. They described their protracted progression from seeing their GP about their history of chest discomfort, through tests and visits to the hospital before treatment could be recommended. They commonly reported time lags and ‘unexplained’ waiting. We were also concerned that our elective waiting list for angiography was slipping behind Ministry of Health guidelines.

The problems were discussed at the Cardiology Quality Group (chaired by the medical director, and attended by representatives from the whole multidisciplinary team). We discussed how we might streamline and improve the patient journey. A special meeting of the whole service was called, and together, we identified bottlenecks. Specific groups were tasked with finding solutions.

We are a relatively small group of 45, and our medical director has a strong, transformational leadership style. Goals are always transparent, and communication within the service very open. We all wanted patients to receive the best care possible in a timely manner, and for them to understand each step of the way. We also felt it was essential to include the whole family on this journey.

The problems we were addressing included:

- delayed access: GPs referrals were coming to a group of consultants; sometimes these weren’t collected on the day they arrived, and individual doctors were undertaking follow-up in different timeframes
- consultants seeing patients and sending them for exercise tests, electrocardiograms and blood tests; sometimes these tests took place over several trips to the hospital
- patients relying on letters (or often merely appointment cards) to tell them the next step of their pathway; patients on the angiography waiting list would, at some point, receive a preadmission clinic card

- In the previous system the patient's GP was able to find out the patient priority (urgent, semi-urgent, or routine) but timeframes varied a lot so patients did not have a good idea of the timeframe
- much of the nurses' time in the pre-admission clinic being spent describing the procedure involved; such interviews were often time-consuming.

We foresaw certain likely outcomes:

- the demographics pointed to the waiting list growing
- the Ministry of Health waiting time targets were going to be reduced in the future, so a more efficient system of processing patients was necessary. The current financial climate required a cost-neutral solution.

The 'plan of attack'

We undertook a service-wide review of the whole patient journey. The goal was to identify where the bottlenecks were, and to improve and speed up each step of the journey.

Strategies

A dedicated fax machine received all GP referrals on a cardiology referral form, which included GP referral guidelines.

All referrals were assessed by a cardiologist and assigned in a timely manner to either the nurse-led chest pain clinic, for outpatient consultant assessment, or to technician-led echocardiography. At these clinics, patients would be given a comprehensive pack on care of their heart, an informative DVD on cardiac angiography, an explanation of the timeframe for their care, a frequently-asked questions sheet, a card giving contact details for the cardiac liaison team to answer any questions that might arise, and a Heart Foundation leaflet titled *Managing your Angina*.

At the pre-admission clinic, patients are often accompanied by their partners (this is modelled by the patient in the informative DVD, who is accompanied by their partner). Having watched the DVD at home, patients were able to ask pertinent questions, and the nurse could fully assess the patient using a dedicated pre-admission document.

On arrival in the hospital, in specified areas nurses undertake a patient's care according to a purpose-built clinical pathway. The pathway ensures continuity of care, improved quality and a robust, well-understood audit system.

Benefits

Benefits for patients have included:

- increased satisfaction
- consistent provision of care, from first visit to discharge
- a transparent system that provides written and verbal information at appropriate times in the journey
- less waiting, and therefore less stress
- increased safety.

Benefits for staff have included:

- better understanding of and compliance with clinical care guidelines, through transparency of information and a clear passage through the process
- increased job satisfaction and a sense of control.

Benefits for the service as a whole have included:

- more patients are seen in improved timeframes
- achievement of Ministry of Health wait time expectations
- better knowledge of factors that affect wait list times.

Key learning

In conclusion, we learnt that if things aren't working, try another way: think laterally and brainstorm solutions. Clinical care pathways allow the patient journey to move seamlessly between departments: pre admission, the day-stay unit, the angiography suite, the intensive care unit, and the patient's home. It avoids unnecessary repetition, allows the patient to know what happens next, gives the patient confidence in the system and ensures consistency of care. This consistency improves the pace of procedures, and is therefore cost-effective for the service as a whole.

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Case study 12: Northland's Joint Camp Journey (Northland DHB)

Introduction

The orthopaedic consultant and clinical head of department returned from an international conference in 2008 with the idea of speeding up recovery from elective joint surgery. At the same time, the orthopaedic electives coordinator returned from a conference in America with a similar initiative enabling early discharge planning using a pre-surgery education clinic. While the ideas were supported by all, existing interdisciplinary processes could not support their implementation. The clinical nurse manager saw this as an opportunity to review the patient journey, in order to reduce delays to discharge, improve patient understanding of treatment and encourage participation by patients and their family/whānau. We needed to provide the client with appropriate 'one-stop shop' information, thereby reducing anxiety levels associated with pending surgery and achieving satisfactory and seamless discharge processes. What resulted was a review of the whole process, from referral by GP to discharge and rehabilitation.

In comparison with Health Roundtable data, we were a bit behind the eight-ball in terms of our discharge planning, average length of stay, management of complications and patient satisfaction.

The multidisciplinary team all had similar goals, but were often working in silos, with different priorities and ways of doing things. Patient involvement was ad hoc; there needed to be a stronger partnership, with effective multidisciplinary team input. We wanted to improve communication and better integrate our services.

Developing change

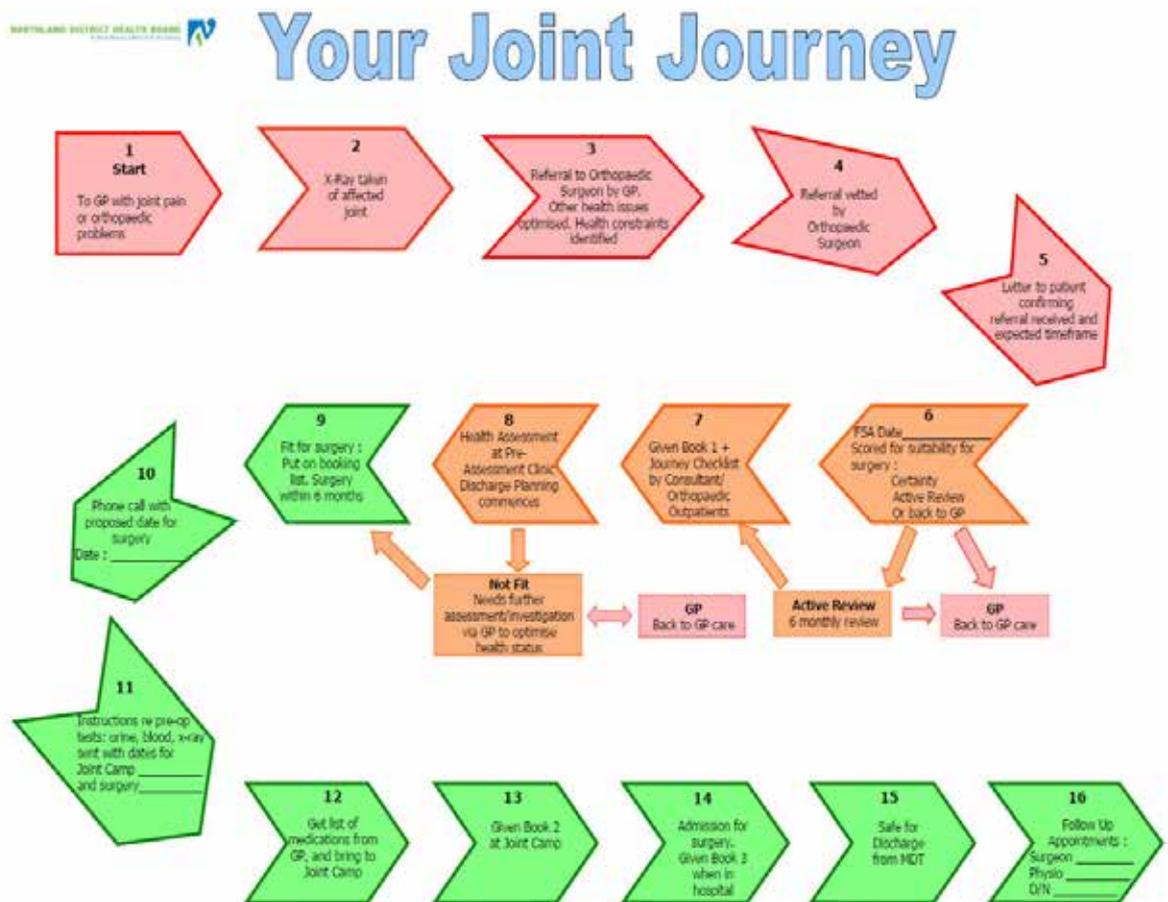
The whole service was invited to imagine what the journey could look like. Patients need to understand the process to be able to participate fully in their journey. Transparency and consistency were keys to developing a patient-focused package, which also enabled accountability. This process took some time, but eventually we had a vision for what we wanted to achieve. The important factors were communication with all the stakeholders and being able to drill down into the gaps in the existing journey to understand what was needed. It was also important to ensure we managed risk along the way, with a clear plan of action. We needed the whole team involved, singing from the same song sheet and to acknowledge the different skills each member brought to the project.

Motivation

There was some urgency to our project, as early discharge was currently being initiated on an ad hoc basis, and we knew we had to do this right. The goal of early, effective and safe discharge was achievable and a simple solution was needed. We could see improved outcomes and patient buy-in was critical. We wanted to provide an excellent service which was what the patient needed.

Key stakeholders, including management, granted us the scope to make this improvement in our service; they could also see the benefits of realistic key performance indicators and team commitment.

Figure 11: Vision for the patient journey at Northland DHBs orthopaedic service



Outcomes

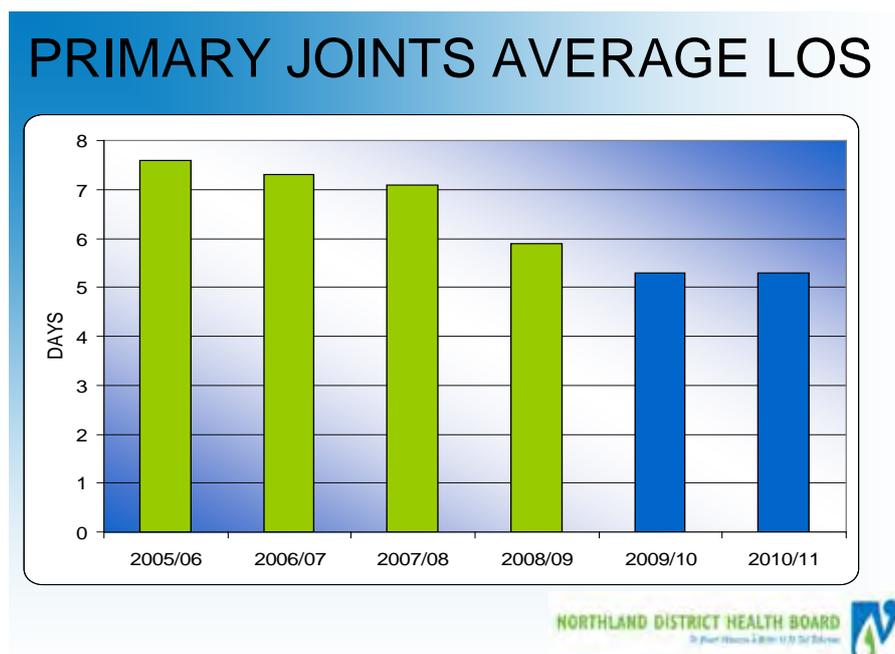
The Joint Camp, a 2.5-hour programme for patients undergoing joint replacement surgery, is presented weekly by nurses, social workers, physiotherapists, occupational therapists and takawaenga; it has been running successfully for almost three years. Patient attendance and satisfaction is almost 100 percent; our average length of stay has reduced; our readmission rates have stayed the same; and there are fewer cancellations on the day of surgery.

More importantly, patients are taking the lead in their health care, and the multidisciplinary team is working collaboratively towards the common goal, reducing barriers to discharge.

Some key lessons have involved improved communication and collaboration, alongside the development of a partnership for health. Greater knowledge has led to better understanding and better outcomes for patients.

There has been a marginal improvement of waiting times for surgery, and bed-day savings of approximately 300 days per year. Patients are very satisfied with the service provided, and some have developed lasting personal relationships with each other as they travel the joint journey. Feedback from patients makes staff want to do better still; everyone encourages each other to improve.

Figure 12: Average length of stay, primary joint surgery, Northland DHB 2005/06–2010/11



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Strategy 7: Improving elective care through preadmission programmes

‘The discharge process should start at the point of admission, if not earlier’ (NHS Modernisation Agency. 2004. 10 High impact changes for service improvement and delivery)

Introduction

Effective management of surgical throughput is vital if hospitals are to achieve effective patient flow through their treatment path. One important part in achieving that flow is pre-operative assessment.

Done well, such assessment:

- identifies and manages health conditions
- reduces cancellations
- reduces length of stay
- enhances patient confidence and collaboration
- optimises clinical staff skill mix and time.

Definition

Pre-admission or pre-operative assessment for surgery (whether for day surgery or elective inpatient treatment) ensures a patient is as fit as possible for surgery, understands the proposed operation and is ready to proceed.

Recent evidence indicates the benefit of nurse-led clinics, supported by senior anaesthetists as needed. This system streamlines time management for patients and clinical staff.

Models currently in place in New Zealand vary widely in level of detail: some target all patients for attendance at a pre-admission clinic; some triage patients as to whether they need to be seen or not, or run pre-admission clinics in parallel with FSAs, so patients experience a ‘one stop shop’; others run separate pre-admission clinics after the FSAs and shortly (three to four weeks) before surgery dates.

All of these models share common objectives:

- early identification of high risk patients
- improved patient safety through assessing and quantifying peri-operative risk
- planning of post-operative care prior to admission
- explanation and discussion that increases patient commitment to the pathway and allays their fear and anxiety
- focusing specialist resources where they are most needed.

Benefits

There is substantial evidence locally and internationally that redesigned pre-assessment processes offer substantial productivity gains in elective surgery, enhance patient experience, and provide valuable career growth opportunities for clinical staff. The following benefits have been widely documented (Rai and Pandit 2003, Charisma 2008, Gilmartin 2003, Ormrod 2003):

- reduction in late cancellation rates, through patients being better informed and prepared. Early identification of health issues such as anaemia and hypertension allows proactive management
- early identification of more complex requirements and the optimisation of patient's care pathways, decreasing mortality, complications and total length of stay
- smarter use of clinical time and resources through streaming well patients, targeting investigations and using multidisciplinary models of care
- more patient-centred care; effective preadmission is more flexible in meeting patients' needs, can reduce the number of attendances required and has been associated with increased patient satisfaction
- improved staff satisfaction, through expanding roles and introducing new ways of working
- a freeing-up of senior medical officer (SMO) and resident medical officer (RMO) resources; these roles have more time in outpatient clinics, on the wards or in theatre
- better admission and discharge planning, including increased day-of-surgery admission rates and reduced average lengths of stay.

Critical success factors

- Process redesign needs to be developed and led by clinical staff.
- Processes need to be standardised across the DHB, in order to remove duplication of services that use staff resources poorly and produce variance in preadmission practices between specialties.
- Good communication and teamwork within anaesthetic/surgical teams, inpatient and diagnostics departments, and primary care.

- Good communication with patients, through written material about the planned procedure and discharge, and the clear provision of information such as contact phone numbers and informed consent forms.
- Agreed protocols and training for staff.
- Standardised documentation.

Risks and mitigation

- To ensure that there is not too long a time interval between assessments and procedures, ensure planned contact with patients no more than six to eight weeks before predicted dates of surgery.
- Co-morbidities identified after surgical consultation may alter decisions to operate, or types of procedure to be performed. Develop pre-assessment procedures that provide the opportunity to elicit and manage this risk.

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Case study 13: Anaesthetic pre-assessment at CMDHB – an evolving process that works for us and our patients (Counties Manukau DHB)

This is the story of a constantly evolving service. Each stage has involved identifying a need for change, looking at solutions that are cost-effective and patient- and clinician-friendly, and planning and implementing solutions. We have come to realise that no one system will work forever, so we have adopted the attitude to change the system, or parts of it, when a need arises.

In South Auckland, we operate two hospitals 8 kilometres apart, treating a rapidly growing population with a high incidence of obesity, diabetes and their consequent morbidity. We provide anaesthesia services for about 15,000 acute and 15,000 elective procedures each year, which include all types of surgery except cardiac surgery, neurosurgery and specialised paediatrics. We also operate the National Burns Unit and provide for 8000 maternity patients per year.

In 2001, the Manukau site expanded from an outpatient clinic facility with four day-surgery theatres to an elective surgical hospital with 10 theatres and 78 inpatient beds, including a peri-operative care unit. This entailed a deliberate move to physically separate the majority of elective surgery from the rapidly expanding volume of acute surgery at Middlemore Hospital, encouraging more predictable elective surgery lists and fewer patient cancellations.

Anaesthetic pre-surgical assessment procedures, which were established and nurse-led in the stand-alone day-surgery unit, were based on triage through a patient questionnaire involving pre-determined criteria. Procedures needed to be enhanced to cope with larger patient volumes and for patients needing major surgery with several co-morbidities.

Our current pre-anaesthesia assessment for elective surgery involves the patient filling out a paper questionnaire at the surgical clinic when the decision for surgery is made. The surgical clinic nurse helps the patient and takes basic recordings. One of our four (three full-time equivalent) anaesthetic clinic nurses triages a patient. The nurses review the health questionnaire and electronic laboratory and clinical document records, and make phone calls to GPs and patients for additional information. Nurses then assign one of three categories: anaesthetist review, 'chart' review by an anaesthetist or no further review. This system results in only 15 percent of patients requiring a face-to-face appointment with an anaesthetist at our clinic, which is staffed by one anaesthetist all day and one registrar for half a day.

Around two years ago, it was apparent that a significant number of patients were waiting for 'anaesthetic clearance' for extended periods of time because of the difficulty in obtaining an echocardiogram through the cardiology clinic. Two anaesthetists subsequently trained with the cardiologists and ultrasound technicians, and now perform comprehensive echocardiograms on our elective surgical patients once a week.

This has dramatically reduced the waiting time for patients to achieve ‘fit for surgery’ and the time spent by nurses following up on cardiology referrals.

We also provide one high-risk obstetric ‘clinic’ per week. Initially, separate appointments were being made for women to attend the Anaesthetic Preadmission Clinic, but this was clearly not user-friendly for our patient population, as they frequently did not attend. Now patients, with increased anaesthetic risk according to agreed criteria, are booked to a high-risk antenatal clinic once a week and a specialist obstetric anaesthetist assesses them. This works well for patients, obstetricians and anaesthetists.

Our new anaesthetic preadmission processes are cost-effective and efficient, resulting in minimal cancellations on the day of surgery because of inadequate preoperative assessment, and 85–88 percent elective theatre utilisation. Patient clinical outcomes have also been very good, as evidenced by research into elderly patient anaesthesia and surgery outcome numbers, Enhanced Recovery after Surgery studies and recent audits of bilateral hip and knee and thyroidectomy surgery procedures at Manukau Surgery Centre.

During 2011, we identified a need to be able to move ‘fit for surgery’ patients through our system more quickly, to comply with Ministry of Health wait time criteria.

To address this, two pilots were conducted. The first involved an anaesthetic clinic nurse attending specialist orthopaedic clinics and triaging those patients placed on the surgical waiting list before they went home. The nurse was able to handle questions generated from the health questionnaire review immediately, without time-consuming phone calls to the patient or GP. Also, the patient could leave the clinic knowing either that they were ‘fit for surgery’ and on the waiting list (this applied to 40–50 patients per day across all surgical clinics) or that they required further evaluation. This same-day assessment improves communication between surgical and anaesthetic clinics, is patient-centred and more efficient, and allows for earlier surgical planning. The additional face-to-face contact the anaesthetic nurses have with patients increases the nurses’ ability to achieve ‘specialist nurse’ status (this has been difficult up until now), and therefore increases their job satisfaction. We are currently recruiting another anaesthetic nurse to carry out this same-day pre-assessment process, but have decided to relocate the process the short distance to our existing anaesthetic clinic (which was the second pilot), to maintain the functional team structure. The consultant anaesthetist will be on hand for clinical advice, and only one extra nurse will be required, instead of several.

Over the past two years, we have also been working on another improvement in our pre-admission process for patients – a comprehensive clinical information management system, which will collate all relevant patient information electronically, track a patient’s progress through the system from referral to discharge, provide clinical alerts and allow meaningful audit of processes and outcomes. It is difficult and time-consuming to obtain data to inform change at present, and we feel confident that investment in such a system will be cost-effective and lead to significant patient-focused improvements.

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Case study 14: Burwood Hospital's elective orthopaedic patient journey (Canterbury DHB)

Background

With the launch of the Orthopaedic Initiative in 2004, Burwood Hospital took the opportunity to review the current elective orthopaedic journey. Issues that would impact on the sustainability of the orthopaedic service had already been identified:

- 1 the Orthopaedic Initiative itself
- 2 the current standard of the facilities and the age of the current surgical block
- 3 workforce sustainability and competence.

We undertook a process-mapping exercise that uncovered further critical issues, in the areas of:

- referral management
- equity of access
- provision of patient-focused service
- a focus on quality to increase efficiency
- the need for a multidisciplinary team-driven model of care
- the need for a purpose-built facility
- workforce development.

Prior to a thorough systems improvement review, we identified the following objectives:

- to double the number of patients receiving hip and knee replacement surgery from 550 to 1100 per year
- to develop a streamlined patient-centred journey
- to design, build and commission a new facility within three years
- to find new ways of working to ensure a stable and sustainable workforce.

To achieve these objectives, the project team took a whole-system approach, which included a review of all processes, from GP referral letters through to patients' discharge back to GP care. All stakeholders, including patients, were a part of this review.

A review of the typical patient journey in 2004 identified dysfunctional and siloed processes that compromised both the patient experience and Canterbury DHB's ability to provide an efficient service. Issues included the following.

- On average, the journey was taking 2.5 years, involving 30–60 process steps.
- The patient was often promised surgery and then removed from the waiting list.
- There was no obvious standard plan of care in place, designed to address specific needs, such as walking aids or falls prevention referrals for patients with poor balance.
- There were no interventions available for patients with high BMIs.
- Patients were losing confidence in the system.

The four-year process review that followed included all levels of staff, as well as consumer groups.

Service changes

Referral management

We now have a single referral gateway, which ensures we only accept the patients we know we can treat within six months. All referrals now come through one point of entry. This has created transparency, equality and fairness, with a patient focus.

Equity of access

We introduced physiotherapy-led assessment with the introduction of a physiotherapy screening tool; patients are seen within four weeks of referral. The individual assessment enables the surgeon to prioritise patients more effectively at the FSA. This physiotherapist assessment takes a multifaceted approach, assessing both objective and subjective patient information. If required, referrals are made to a dietician for BMI management, mobility aids are issued and falls prevention and exercise management programmes are discussed. Patients with the greatest need are triaged accordingly.

Patient focus

Early dietetics intervention has been part of our journey since September 2007. This service can potentially review 300 patients per year in preparation for surgery. The service now uses a 'road map' for all joint replacement patients, which tracks the patient's journey from the time they present to their GP with joint pain or orthopaedic problems through to the time they go home. It also shows what happens if they 'fall off the pathway'; for example, if their surgery has been deferred or they are removed from the waiting list.

A recent patient comment illustrates the process: 'I saw a physiotherapist who gave me crutches and the dietician helped me reduce my weight. Now I am ready for surgery'.

Focus on quality to increase efficiency

Theatre utilisation is up by 40 percent.

During this last year, the second version of the CD 'X Changing Joints' has been produced. Every patient receiving joint replacement surgery receives a copy of this CD prior to surgery. The CD takes them through their planned journey, from preparation for surgery through to discharge.

Before a patient is placed on the list for surgery, they complete a health and wellbeing screening questionnaire. This identifies medical and social issues that may preclude them from surgery (for example, dental issues, hypertension, anaemia or cardiology).

A multidisciplinary team-driven model of care

We developed a two-tier approach to the patient preadmission process: nurse-led admission (NLA) and nurse-led anaesthetic supported preadmission (NLASP). We also implemented several other strategies to address staff issues and patient flow.

Nurses now admit 80 percent of elective patients having minor surgery who are under 75 and have no significant co-morbidities. Patients are seen by a nurse and an anaesthetist on the day of their surgery; there is no RMO involvement. This model of care is similar to that used in the private sector. Patient feedback has been exceptionally positive.

The NLASP is guided, supported and driven by nursing and anaesthetic staff, working in a cohesive and collegial manner. Resident medical officers are now rostered to pre-admission clinics for training purposes only and are no longer required for the pre-admission clinic, thus a reduction in RMO FTE has been achieved.

We developed a nursing competency-based training programme entailing annual audits to train nursing staff working in this field. This process has been personalised by the team and is used in conjunction with clinical pathways and relevant clinical materials.

In the last six months, 694 patients have gone through the process of NLASP; of these, 38 percent (264) were seen by an anaesthetist in a clinic prior to surgery.

The need for a purpose-built facility

The new facility has been up and running since 2007. It allows for flexibility and commitment to changes in models of care.

Workforce development

Nurse-led anaesthetic supported preadmission has proven to be very beneficial for both our patients and our service. This has been a first for Canterbury DHB; our team is now training other services within the DHB and indeed other DHBs in both the process of NLASP and the outcomes of our patient journey review.

Conclusion

The elective patient journey is truly a living process. On-going monitoring is a must, but we see the overall project as a success.

Nurse-led admissions account for 80 percent of elective orthopaedic patients on the day of surgery; RMOs now admit the remaining 20 percent.

The number of steps in the patient journey has been radically reduced. A peri-operative-wide nursing service has evolved; our nurses become familiar faces to patients throughout the journey.

Recently, our patients have said: 'Can't fault any aspect of my treatment'; 'Care and service all absolutely fabulous'; and 'I don't see any area where you can streamline your services better'.

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Strategy 8: Improving elective care through care coordination and case management

‘Knowing is not enough; we must apply. Willing is not enough; we must do’
(Goethe).

Introduction

In a high-performing health care system, all providers involved in caring for patients work together – sharing medical records, coordinating appointments and ensuring diagnostic results are available when needed. The patient is well informed, participating in decision making, and receiving instructions about next steps and the right people to contact with questions. The Institute of Medicine in 2001 designated care coordination as a critical element of patient safety and quality.

As people live longer, an increasing number are living with multiple chronic conditions, which comprise an escalating health care problem described as ‘the epidemic of the future’ (Lubkin and Larson 2002) The World Health Organisation estimates that, globally, 60 percent of all deaths are due to chronic conditions. Such conditions are incurable, enduring, often progressive and costly, and require long-term care and regular monitoring by health professionals. In addition, chronic conditions are associated with deterioration, reduced competence, increased needs, physical and emotional pain and increased dependence (Lubkin and Larsen 2002).

The impact of chronic conditions on both individuals and providers of health care is set to increase; chronic conditions add additional levels of complexity to elective care, and negatively influence length of stay, surgical outcomes, functional status, quality of life and the need for readmission (Grau and Kovner 1986, Williams and Botti 2002, Williams 2004).

In New Zealand it has been demonstrated that chronic conditions contribute the major share of inequalities in life expectancy for Māori, people with low incomes and Pacific peoples (Ajwani et al 2003).

Patients with multiple chronic conditions often require elective surgery. The ability to cater effectively to these patients has become an important aspect of modern health care.

There are several approaches to service coordination:

- coordinating aspects of care along a pathway so that wasteful delays are eliminated
- coordinating a patient's care through a complex set of care needs and settings (navigator role)
- coordinating members of a care team.

A service coordination or case management approach across the continuum of care is an effective way of meeting the needs of patients with multiple chronic conditions who also require elective care. This approach can be particularly useful for patients who are on complex health pathways (for example cancer or cardiac patients). Effective service coordination contributes to improved health outcomes and reduced waste.

A service coordination approach supports patients and their families to navigate their way through complex patient journeys, which can include multiple outpatient appointments in various settings for different services, multiple diagnostics, intra- and inter-hospital/DHB transfers, a range of peri-operative processes, and complex medication regimes and discharge/follow-up arrangements.

A case manager or care coordinator can minimise problems with missed appointments, miscommunication and misunderstandings, reduce variation in care, and ensure that patients are seen by the right person at the right time in the right place for the right reason.

Definition of the strategy

'Case management' or 'care coordination' refers to the process of planning, coordinating, managing and reviewing the care of an individual, the aim being 'to develop cost-effective and efficient ways of coordinating services in order to improve quality of life' (Hutt et al 2004).

Benefits

A review of the sources referenced in this section provides evidence of certain benefits associated with this strategy, including the following.

- Effective coordination of care has been found to contribute to increased day surgery rates, increased volumes, reduced cancellations and reduced lengths of stay, and a consequent reduction in costs.
- When integration between primary and secondary care improves, primary care providers can support their patients more appropriately, which can lead to reduced hospital admissions.
- When primary care providers manage patients more effectively, the need for ongoing secondary care follow-up is reduced, and hospital specialist resources are freed up.

- This strategy has been found to significantly improve patient's health outcomes and levels of satisfaction (Weinberg 2007). For patients, effective care coordination results in continuity of care; they are confident:
 - that providers have enough information about patients and their medical histories to make the right decisions about care (this is referred to as informational continuity)
 - that providers, single or multiple, have a consistent care management plan (management continuity)
 - that providers who know the patient will provide care in the future (relational continuity) (Haggerty et al 2003).

Critical success factors

- Care coordination needs to be proactive and patient-orientated, apply across disciplines, and be longitudinal rather than taking a short term disease focus.
- Effective communication among all health care providers, formal and informal, in primary, community and secondary care, is essential for coordinated continuity of care. Good models include clinical pathways, where feasible, to inform both providers and patients.
- Timely actionable relevant information, ie, shared clinical record.
- Adequate staff ratios and organisational support are critical.
- The approach requires teamwork, increased clinical knowledge and commitment to the systematic application of change processes.
- The approach must be based on comprehensive, evidence-based models of care designed to meet the needs of patients with complex health needs.

Risks and mitigation strategies

Service coordination may require the creation of new roles, or staff working in new ways. Such changes can be seen as too costly if viewed in isolation. Good data is required on the costs currently incurred by patients with chronic conditions and the impact of inadequate management of these patients on the health provider. The benefits of service coordination, such as earlier discharge and reduced post-operative complications, need to be quantified.

Service coordination can be seen as too difficult where certain tools, such as IT systems, are lacking. This argument needs to be weighed against the negative effects of inadequate information, waste of patient and provider time, and duplication of laboratory and radiological investigations and other diagnostic services, especially if medical records and other patient care is not shared.

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Case study 15: A model of service coordination and facilitation for the stranded patient through their elective journey (Waikato DHB)

‘It gave me a direct point of call if I had questions or concerns. It added a personal dimension so I felt like a person not a number’ (patient receiving elective care coordination).

Introduction

About 80 percent of elective patients complete their surgical journey in a timely manner; the other 20 percent tend to sit outside the ‘normal’ elective pathway. These are patients with multiple, complex health care needs or multiple chronic conditions, or mobility and social issues. Invariably, these patients have difficult, protracted peri-operative journeys.

In February 2011 Waikato DHB identified 385 patients who had been waiting longer than six months for treatment within the orthopaedic, general surgery and plastics services. Of these, a number had chronic conditions, and required a significant range of diagnostics, outpatient appointments and care coordination, both pre- and post-operatively.

A combination of factors, alongside organisational, clinical and service capacity issues that impact on elective delivery, mean that these patients often become stranded on a waitlist, and experience delays in receiving care.

To address this issue, Waikato Hospital is currently piloting an adapted service coordination model used in the Victorian Hospitals, Southern Health (Evans 2008), Royal Melbourne and The Alfred. The model includes patient selection criteria, assessment parameters, care planning, coordination and advocacy for patients for the whole of the elective pathway, from primary care referral through to discharge and follow-up six weeks post-discharge. Funding for this initiative was provided through the Ministry of Health.

The model was operationalised with the recruitment of three ‘clinical nurse specialists – complex care’. In Waikato this role is titled ‘elective care coordinator’ (ECC). The coordinators were appointed to the orthopaedic, plastics and general surgery services. The role of ECC includes coordination of services across primary, secondary and social care; advocacy; organisation; and facilitation to support patients receive effective and efficient patient-centred elective care.

A second component of the ECC role is to actively manage the list of patients waiting longer than six months for treatment. This is done by making regular phone contact with patients to help them prepare for their treatment. In partnership with the patient and their family, they develop a detailed care plan, so everyone is aware of the journey.

The coordinators facilitate transport and sometimes equipment, and ensure appointments are planned together to reduce the number of visits to the hospitals. The ECC triages patients' health questionnaires to ensure early identification of complex issues. They act as advocates for the patient by being the direct link with surgeons, and present the 'ready, fit and able' patient for a theatre date.

Background

The urgency for implementing this role was twofold.

Firstly, patients with extremely high-need chronic complex conditions were waiting longer than six months for elective care. Administration and booking staff were unable to help these patients, because they weren't ready for treatment. There was a need for care to be coordinated among health care providers, in collaboration with patients, their family/whānau and caregivers.

Secondly, Waikato DHB needed to honour the commitment it had given to these patients. The DHB had offered them treatment, and they needed to receive it. The previous approach to managing complex patients had been ineffectual; this relatively small but high-need group needed a new approach.

Outcomes

The outcomes we observed included:

- improved access to elective care for patients who have been waiting for prolonged periods of time
- improved collaboration between DHBs and primary, secondary and community care providers, including family and caregivers
- improved patient and staff satisfaction
- improved management of patients with chronic and complex health needs
- a reduction in day-of-surgery cancellations in all three services
- an improvement in day-of-surgery admissions in all three services
- no change in average length of stay; this is thought to be due to the complex nature of these patients
- better management of inpatient waiting lists: ECCs will not list patients until they are fit, ready and able for surgery.

Key learning

A critical success factor for patients who are embarking on a myriad of procedures and processes is to be provided with a key contact: someone who understands the system; listens to the patient; and coordinates, liaises and communicates with all parties, particularly the patient and their families.

The ECCs support patients and their families to navigate their way through what is often a frustrating and confusing system. They empower patients and their families. This role has been described variously as ‘the glue’, ‘boundary spanner’ care coordinator, care manager, conductor and angel!

This model’s ability to be sustainable and effective requires appropriate patient selection techniques, in order that only those patients who need this level of coordination, liaison and facilitation receive it. Careful assessment by appropriately trained nurses using a comprehensive assessment tool is essential.

The other critical success factor concerns relationships. The care coordinator must build strong relationships with many people across the continuum of care. This is more important for success than some of the clinical knowledge. This role is about the ability to enlist all stakeholders, including the patient, into the care planning. ‘It’s way more than being able to make appointments on same days’.

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Reference

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Case study 16; Waikato Regional Diabetes Service adult weight management programme (Waikato DHB)

This case study can be viewed via the online version of the toolkit on the HIIRC website; www.hiirc.org.nz

Strategy 9: Improving access to electives through direct access to treatment pathways

‘Improvement usually means doing something that we have never done before’
(Shigeo Shingo).

Definition

Direct access to treatment pathways (DATP) enable patients to ‘bypass’ conventional referral pathways. Primary care practitioners (such as GPs, optometrists or NPs) refer patients directly to an elective treatment list.

The service triages and prioritises patients alongside other patients referred via the conventional referral pathway, without compromising the priority of those patients.

First specialist assessments may be delivered in primary care according to agreed guidelines, may be delivered as a non-contact FSA, or may be avoided altogether.

Benefits

Based on the evidence available, it’s reasonable to assert that for a specific range of procedures DATP are safe and effective. The studies reviewed showed that these pathways:

- reduces waiting times by reducing the interval between referral and treatment
- reduces the number of hospital visits for patients
- are cost effective
- are acceptable to clinicians for specific procedures where explicit referral criteria have been developed
- in most cases, is acceptable to patients, even if they have not had a FSA prior to their procedure appointment.

Critical success factors

- Explicit referral criteria for conditions to which DATP may apply, with guidelines for referring practitioners.
- Provision of accurate and timely information to patients and GPs, so that both clinicians and patients are confident the correct advice has been conveyed.
- Effective communication between patients and primary and secondary care clinicians.

Risks

- Inaccurate diagnosis.
- Inappropriate referrals.
- Inadequate referral information from primary care.
- Provision of inadequate information to patients.
- As a consequence of the above, an increased risk of cancellations on the day of surgery.

Risk mitigation strategies

1 Inaccurate diagnosis

Develop education programmes for GPs to strengthen their diagnostic skills for conditions included in DATP programmes.

2 Inappropriate referrals or inadequate referral information from primary care

Incorporate the diverse skills, knowledge and expertise of the multidisciplinary team to agree specific conditions eligible for inclusion in DATP programmes and the processes needed to ensure the pathway is safe and effective, as follows.

- Develop explicit referral guidelines regarding patient suitability for surgery and anaesthesia.
- Include processes within the pathway for patients who are found to be unfit when they present for treatment (for example, covering the redirection of patients to outpatient clinics or back to their GP).
- Include advice for GPs where uncertainties exist about the suitability of patients for the DATP (for example, covering referral of patients via the traditional pathway).
- Consider using a dual-purpose questionnaire or referral form for some conditions. The completed questionnaire would enable GPs to know which patients are eligible to be referred through a DATP.

3 Provision of inadequate information to patients

- Develop written information leaflets for patients regarding the procedure, anaesthetic options, post-operative analgesia and day-stay processes (the majority of patients will be treated on a day-stay basis).
- Include departmental contact details in the patient information leaflet, so that patients can discuss their concerns directly with clinic staff.
- Include links/references to other information sources (for example, CD Roms, DVDs or websites) on the processes and procedures patients are booked for.
- Ask patients for feedback following their treatment to ascertain their views on the quality of information sent to them; waiting times; their assessment, treatment and post-operative care; and any suggestions they have for service improvement.

It is important to note that in the internet age, many patients are able to research their own conditions. Comprehensive information support from health providers can reduce the risk of patients relying on false or misleading information.

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Case study 17: Streamlining access to cataract surgery (Waikato DHB)

What was the problem?

At Waikato Hospital, under the traditional model of processing patients for cataract surgery, a GP or optometrist would refer a patient, and that patient would enter a waiting list for a FSA. In due course, often after a wait of 6–12 months, a consultant ophthalmologist would see the patient in our outpatient clinic. That ophthalmologist would usually confirm the need for surgery, and the patient would go forward to the waiting list itself.

We processed large numbers of patients through this system, and there were long waits for appointments and indeed for surgery. It was not unusual for patients to wait a period of years from the point of referral to the point of surgery. The six-month threshold for FSA had not been introduced, but the government was contracting for an increasing volume of cataract surgery. We were approaching a point where the pressure on our outpatient appointments made it difficult for us to 'pre-admit' enough patients to fill our lists.

What did we change?

We observed that, increasingly, referrals were coming from optometrists rather than GPs. This reflected a changing landscape of optometric practice: an increasing number of new graduates and indeed older practitioners now had therapeutic qualifications and were taking a greater interest in the medical aspects of their patients' status. Many of optometrist referrals were comprehensive, and contained enough information that it was quite clear what the problem was, and that cataract surgery was the answer. Often, assessing these patients in the clinic was a matter of rubber stamping.

We decided to accept the information on the optometry referral as valid and place patients directly onto our waiting list without the need for an FSA.

Firstly, we met and discussed the issue with interested parties: representatives of the optometric and GP community. We designed a referral form that elicited the level of information we required in order to make a valid judgement about the need for surgery or not.

Under the new system, an experienced ophthalmologist assessed all of those forms and made a decision as to whether a given patient could proceed directly to the waiting list, whether more information needed to be provided, or indeed whether that patient should be seen in the clinic. We secured non-contact FSA funding for this evaluation.

We still accepted referrals in the traditional way, but advised patients that there was an alternative pathway to the waiting list that didn't involve waiting for a traditional FSA appointment. Over a period of time, the GP community learned about the short cut of the FSA step, and would often refer their patients to their local optometrist, so that they could benefit from the reduced waiting time.

Benefits

An audit in 2008 showed that 450 patients had been processed through this system. This represents a gain of approximately one clinic a week of new patients. With current volumes, we estimate that two or three clinics a week of new patients are being processed in this way. This effectively frees up two or three clinics for patients with other conditions.

Furthermore, the introduction of non-contact FSAs shortens the time from point of referral through to point of surgery. This very much shortens patients' overall waiting time. In 2004, a Ministry of Health timeline table on public access for elective cataract surgery labelled Waikato Hospital as the worst in New Zealand, with a wait of 300 days from referral to the date of treatment. In 2008, we were judged the best DHB in New Zealand, with a wait of 60 days. This gain was entirely due to this initiative.

Key learning

The major step that had to be taken to enable the success of this process was a challenge to the traditional concept that ophthalmologists were the only ones that could judge whether a patient needed cataract surgery. At the core of this improvement is the wisdom of acceptance that another practitioner (namely an optometrist) has enough clinical judgement to decide whether cataract surgery is appropriate. At Waikato Hospital, we determined that we could do so, and hence this system was possible.

We have audited the success of the programme in terms of the numbers of patients who reach the preadmission clinic and then are declined due to unsuspected diagnoses or other issues, and have found that they are few and far between. In that respect, the system has worked for us.

Related comments

It is extremely important that the preadmission process works well. There must come a point where the surgeon himself assesses the patient, talks them through the pros and cons, advises them of the risks and forms a relationship that will carry the patient through any potential surgical difficulties. Therefore, an operating surgeon assesses all patients in a cold assessment prior to surgery. In that respect, the traditional values of pre-operative assessment have not been lost.

The success of this system is also dependent on a high standard of optometric clinical judgement and a strong collegial relationship between the optometric community and the hospital ophthalmologists. We are blessed in this regard, and this has made the gains noted above possible.

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Case study 18: The ORL GPwSI service (Counties Manukau DHB)

Introduction

In response to population growth and increasing demand for health services including electives, Counties Manukau DHB has implemented a deliberate strategy to improve access to elective surgery through increased investment, using benchmarking to the national intervention rate as a guide. Policies to promote expansion and provision of services locally where possible have also increased local provision. However, increased demand, particularly for ORL services, meant that new service configurations were required to address a large backlog of patients.

Research has shown that 50 percent of paediatric presentations in general practice are ORL-related (Donnelly 1995) and that, overall, ORL problems contribute to around 10 percent of GPs' total workload (Veitch 1992).

Background

Most common general ORL disorders do not require extensive experience to learn how to identify and treat such conditions. However, clinicians require specialised equipment, specific clinical skills and knowledge to be able to diagnose and manage many of the common conditions referred to secondary care. These skills can be acquired through an appropriate training programme.

In 2005 the ORL GPwSI programme was established in Counties Manukau DHB. The aim of the programme was to:

- 1 enable GPs to diagnose basic ORL conditions in the primary care setting
- 2 exclude serious pathology
- 3 initiate non-surgical management of common ORL conditions
- 4 plan the care of patients requiring common non-complex surgical interventions, and refer them to the wait list.

Six GPs participated in an intensive ORL training programme over a period of three to four months, with the aim of providing them with the skills to see patients with less complex secondary ORL conditions within their local communities.

The GPwSI model

All referrals to the ORL department are triaged by hospital specialists; some referrals are graded as appropriate to be seen by one of the five GPwSIs. These may include conditions such as tonsillitis, otitis media and rhinosinusitis. The GPwSIs are able to fast-track patients requiring some surgical procedures, such as insertion of grommets for otitis media with effusion and tonsillectomy for recurrent tonsillitis, direct to waiting lists, obviating the need for hospital-based FSAs.

For referrals managed by GPwSIs, generally there are three possible outcomes:

- 1 referral directly to a surgical wait list
- 2 referral to a Senior Medical Officer (SMO) for review
- 3 assessment, management and discharge of the patient back to the care of their GP.

All GPwSIs have access to hospital-based diagnostic services. The GPwSIs and secondary care clinicians hold regular peer review and continuing medical education sessions.

Reasons for the change

The GPwSI programme was established because of a backlog of ORL referrals and an increase in the number of lower-priority referrals being declined. Primary and secondary care clinicians and managers were aware of unmet need within their community, and there was a risk that constrained access would have a detrimental impact on children's global health status.

Outcomes

Since the ORL GPwSI service has been established, we have also instigated a primary care-based ORL service for low-complexity patients. Through an improvement in the interface between primary and secondary care, GPwSIs can see patients sooner, and patients are more satisfied and receive similar clinical outcomes as they would if seen in a specialist clinic.

An evaluation of the GPwSI service completed in January 2012 (Smart 2012) evaluated activity in the period July 2009 to June 2011. 1164 referrals were redirected to the GPwSI service. Three specific elements of the service were reviewed:

- 1 whether treatment was appropriate
- 2 whether treatment was sooner
- 3 whether treatment was more convenient for the patient when compared with patients seen in the specialist clinic.

The study's findings included the following.

- GPwSI treatment was appropriate, as measured by the subsequent clinical activity regarding referrals to the SMO, direct to the waiting list or back to the referring GP. Patient surveys have shown patient satisfaction with the clinical assessment by the GPwSIs.
- Median wait time for patients with a priority 3 (semi urgent: patients should be seen within eight weeks) was 37 days for patients seen in the GPwSI clinic, compared with 77 days for those seen in the Manukau Surgical Centre (MSC). This difference was statistically significant, so clearly patients were being seen 'sooner'.

- In terms of convenience of the appointment, patients seen in primary care based GPwSI clinics reported in a survey we conducted that they found the location more convenient than the MSC. In comparison, patients seen at the MSC were equivocal about whether they would rather be seen at that location or in a primary care based GPwSI clinic.

Overall, from the patients' perspective, the study found the GPwSI service provided a preferable and convenient option to being seen in the ORL Department, and that patients' perceived standard of care was comparable with that of ORL appointments.

Key learning

The key lessons we learnt included the following.

- Clinical champions in primary and secondary care need to drive the initiative.
- It was important to develop the model, including explicit referral processes, in collaboration with key stakeholders.
- Change and development of new services require time to be trialled and refined, and to become part of the business-as-usual landscape.

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References

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Strategy 10: Improving elective care through separating acute and elective surgery

‘Matching demand and capacity and improving the flow of patients through the system is an essential first step’ (NHS Modernisation Agency. 2004. 10 High impact changes for service improvement and delivery).

Introduction

Optimising elective productivity in a mixed acute and elective environment is challenging. Disruption to elective operating schedules can result from the reallocation of operating time to acute patients, or because of bed shortages arising in part from acute admissions.

Increases in both medical and surgical acute presentations due to population growth could affect the ability of DHBs to optimise elective delivery. Because targets for elective surgery are also increasing, there is a greater need than ever to consider how surgical resources can best be configured.

Separating elective from acute care through the use of dedicated beds, theatres and staff has been shown to create efficiencies, provide a better patient experience and enhance patient outcomes.

The model of separation must:

- be designed based on a detailed analysis of projected acute and elective demand
- be flexible enough to accommodate ebbs and flows in acute presentations
- be clinically led, to achieve the necessary change in surgical and hospital culture
- be supported by good processes along the peri-operative pathway
- include full clinical risk assessment.

Definition

Separating acute and elective surgery streams can broadly be done in two ways:

- geographic separation: this limits the scope of surgery undertaken in particular facilities and directs particular types of work to designated facilities
- creating separate streams for acute surgery patients and elective surgery patients within the same facility: this involves the setting aside of dedicated operating theatre time, beds and workforce for each activity.

Benefits

The separation of acute and elective surgical streams has recently been endorsed by the Royal Australasian College of Surgeons (RACS 2011):

If elective surgery waiting lists are to be reduced, the separation of surgical streams should be introduced wherever possible. The introduction of such arrangements can be achieved with minimal extra cost, while experience indicates that it leads to cost-saving efficiencies. Significantly, no Australian or New Zealand hospital that has made this change has ever opted to revert to previous arrangements.

The table below is taken from *The case for the separation of elective and emergency surgery* (RACS 2011), and describes the range of benefits that can be achieved. These benefits have been reported by a range of sources, such as Biant et al (2004), Haddock et al (2001), Lowthian et al (2011), Middtun and Martinussen (2005) and the Royal College of Surgeons of England (2007).

Table 2: Benefits of the separation of acute and elective surgery

	Patients	Surgeons	Governments
Enhanced patient outcomes	ü	ü	ü
More rapid assessment and better management of the acute surgical patient	ü	ü	ü
More timely care	ü	ü	ü
The more efficient throughput of patients	ü	ü	ü
Reduced elective surgery waiting lists, due in part to the more efficient use of operating theatres and in part to fewer hospital admissions	ü		ü
Reduced costs due to reduced hospital stays, reduced complication rates and fewer call backs of surgeons	ü		ü
A more predictable workload with safer and more predictable working hours for surgeons and other health professionals	ü	ü	ü
Ongoing peer review of surgeons' work	ü	ü	ü
Improved surgical training	ü	ü	ü

The greatest benefits to the patient are the reduction in hospital-initiated cancellations and improved timeliness of care. Cancellation of surgery creates great hardship for patients, who plan their working and family lives around proposed operation dates. Most such cancellations occur with less than 24 hours' notice (Nasr et al 2004).

Geographic separation in comparison with separation within a single facility

Geographic separation of elective and acute surgery can prevent the costly duplication of services and resources on multiple sites. A geographic separation can also help facilitate changes to the surgical and hospital culture to support the new model. However, appropriate access needs to be maintained to acute services, and geographic separation may only be practical in large metropolitan areas.

High-volume, non-complex elective cases are particularly suited to geographic separation of the two streams of work. For more complex electives, consideration will need to be given to post-operative arrangements for recovery, depending on the 'level' of elective surgery provided. Units providing complex elective surgery or surgery for patients with co-morbidities will require sufficient post-operative support appropriate to patient need. Selection processes for patients must be robust to match the level of care available.

Separation within a single facility can work well if clear protocols are in place to ensure one stream does not encroach upon the other. Such separation can happen through separate staff rostering, ring-fenced theatres, ring-fenced theatre time, or ring-fenced elective beds (Royal College of Surgeons of England 2007).

Within a single facility, the most critical element is enforcing the boundaries between the two streams (RACS 2011). These boundaries may be physical (such as dedicated operating theatres) or they might be temporal boundaries (ie, hours dedicated exclusively to elective or acute surgery).

Critical success factors

Patient safety must be at the forefront of any decision to separate services. Clinicians will need to be involved in the rigorous risk-assessment process for any proposals to alter the delivery of surgical services. Clinicians should take the lead in making the clinical case for service change.

A decision to separate acute and elective streams needs careful consideration. It is imperative that workload is measured and resources allocated accordingly. Surgical workload, including acute surgery, is largely predictable. Once workflows have been analysed and measured, appropriate resources can be identified and, if appropriate, a model for the separation of elective and acute surgery can be designed which matches measured need.

Separating acute and elective streams is not a universal solution for hospital productivity. Such restructuring needs to be supported by good processes along the peri-operative pathway, including patient preparation and streamlined clinical pathways. Hospitals that have successfully streamed acute and elective surgery have done so as a central feature of a wider set of reforms.

Processes to manage acute flows are critical enablers. Regardless of size, models need to include processes for prioritising acute operations and contingency planning for the ability to ‘flex’ acute resources to meet service pressures. Surgical assessment units and medical assessment planning units can improve triage and manage acute admissions (Perry et al 2010).

Separating acute and elective work streams may require a fundamental change in the way that clinicians and other staff work. Clinical engagement is essential to support a change in surgical and hospital culture. Particular concerns that have been expressed in the literature (Royal College of Surgeons of England 2007) include:

- the training requirements of surgeons
- the maintenance of surgical skills across both elective and acute streams
- clinician resistance to the removal of existing specialties or procedures from the facility in which they work
- clinician resistance to the idea of dividing their time between two or more facilities.

Risks and mitigation

There is a risk of duplication of some services where acute and elective work is streamed, especially if this occurs over separate sites. Economies of scale should be exploited, in the form of centralising ‘back office’ functions such as administration.

When separating services, often there are increased costs initially, which overtime may become cost neutral. These may include:

- expanding the specialist base (surgeons and anaesthetists)
- expanding support staff (such as nurses, theatre technicians and administrative staff)
- more surgical equipment
- setting up surgical assessment units (resources, facilities and equipment)
- setting up additional theatres so that services can be separated
- additional support services (such as radiology and pathology).

Possible downsides of separating acute and elective flows include: less elective and outpatient throughput, given some rostered surgeons will only have acute duties; idle theatres if there is not sufficient volume to require dedicated theatres. Thorough analysis of workload and resource requirements will identify the impact of these issues.

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Case study 19: General surgery acute surgeon of the week (Northland DHB)

Background

Surgeon of the week (SOTW) was first introduced on a trial basis from 4 October to 10 December 2010 to assess whether it would improve the management of acute surgical patients and address specific issues that were impacting on the timely and efficient delivery of electives and acute surgery.

Key issues at the time were:

- availability of acute theatre capacity, with patients waiting, but surgeons unavailable to operate as they were engaged in other elective work
- registrars being required to operate on acute patients, often with minimal supervision
- patients often waiting in the emergency department for long periods of time because registrars were otherwise engaged, and consultants were busy with elective cases
- consultants not routinely seeing new admissions until the day following admission

- ‘minor operations’ lists being run without an appropriate level of supervision. This was identified as a clinical risk that required immediate action
- a recent Nursing Council directive cautioning theatre nurses against being the assistant and scrub nurse at the same time, as it was believed to be outside the scope of practice for most nurses. Northland DHB had traditionally relied on nurses to provide this service.

Strategy

Our strategy was to redesign the general surgical roster to provide for one consultant per week to be exclusively assigned to on-call duty, acute surgery and any other activity related to the acute surgical patient journey.

The objectives of SOTW initiative were to prevent delays in the following areas:

- delivery of daytime acute surgery
- delivery of acute procedures
- emergency department patients waiting to be reviewed by a surgeon (enabling the surgical team to achieve the emergency department health target of patients being processed, discharged or admitted to wards within six hours).

In addition the initiative aimed to:

- ensure appropriate care and the completion of investigations in clinically appropriate timeframes
- reduce the length of hospital stays
- achieve cost savings associated with reduced length of stay
- minimise the need for after hour’s surgery
- minimise any loss of elective clinic time or surgery.

Action

Funding was allocated to General Surgery in December 2010 for an additional full time SMO (an increase to 7 SMO), 1.5 FTE additional Registrar position, (to 6.0 FTE Registrars).

Part of the plan for this additional resource was to incorporate a structured approach to implementing the SOTW initiative. Since the trial, alterations have been made by general surgery to create a more manageable work load for the rostered acute surgical team. Various lengths of being on call were trialled and as from March 2011 SOTW is now Surgeon of the Day (SOTD) being on call for two days at a time (Monday/Tuesday, Wednesday/Thursday and Friday/Saturday/Sunday).

A dedicated acute surgeon is rostered to manage acutes week to week. No individual surgeon is rostered on for more than three days in a week. Handovers are held 7.30 am each Monday, Wednesday and Friday. These typically involve both surgeons rounding acute patients on the ward with their Registrar teams. Occasionally handovers would be handled over the phone. This system improves continuity of patient care and patient safety. It further provides a collegial environment for surgeons to discuss difficult cases and their future management and will also serve as a teaching opportunity for registrars. Surgeon availability for clinic and theatre time is typically 30 minutes later than usual to accommodate the handover as well as rounding of their own ward patients.

Where we were and where we are

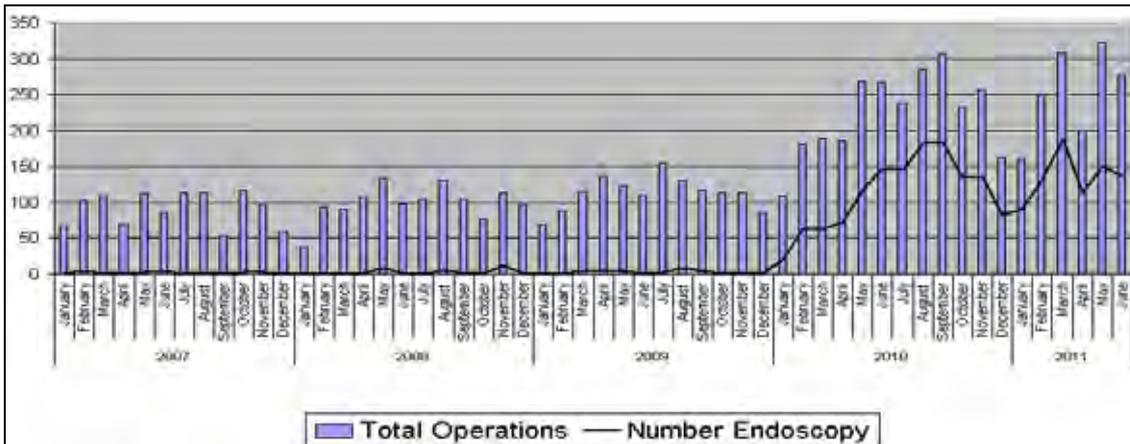
Elective surgery has increased over time in Whangarei and Kaitaia. Average elective general surgery procedures per month excluding endoscopy are shown below. While it was originally anticipated that there may be some loss of elective clinic or operating time, this has been managed by:

- the acute surgeon still undertaking some elective clinics or endoscopy lists as acute workload allows
- the rostered acute surgeon making up any lost general surgery elective list as the next elective list becomes available.

Table 3: General surgery elective operations in Northland DHB, January 2007 to June 2011

Year	Average monthly operations (excluding endoscopy)
2007	90
2008	95
2009	110
2010	110
2011	120

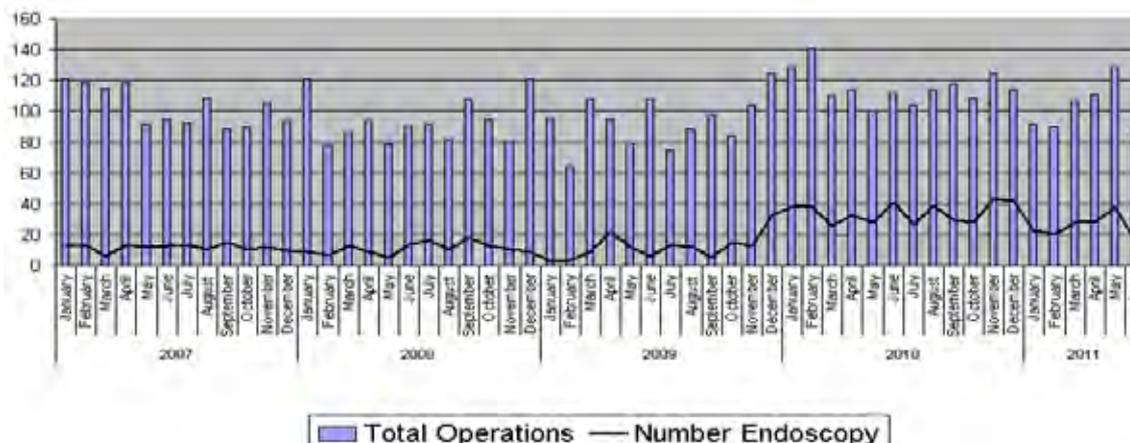
Figure 13: General surgery elective operations 2007–June 2011



Note the recoding of endoscopy into general surgery began in 2010 accounting for a large proportion of the increase.

There has been an average of approximately 100 acute operations per month in recent years. Month to month fluctuations have ranged from 85 to 125 since we implemented SOTW.

Figure 14: General surgery acute operations 2007–May 2011

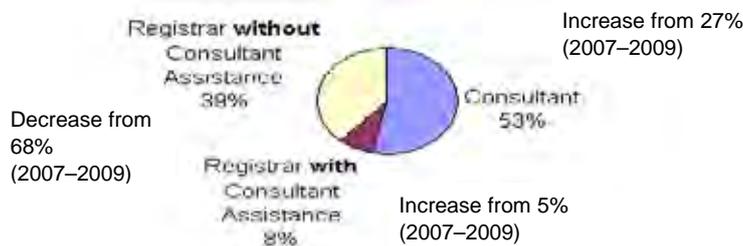


Note the increase is mainly attributed to a recoding of endoscopy into general surgery.

Performance against key indicators

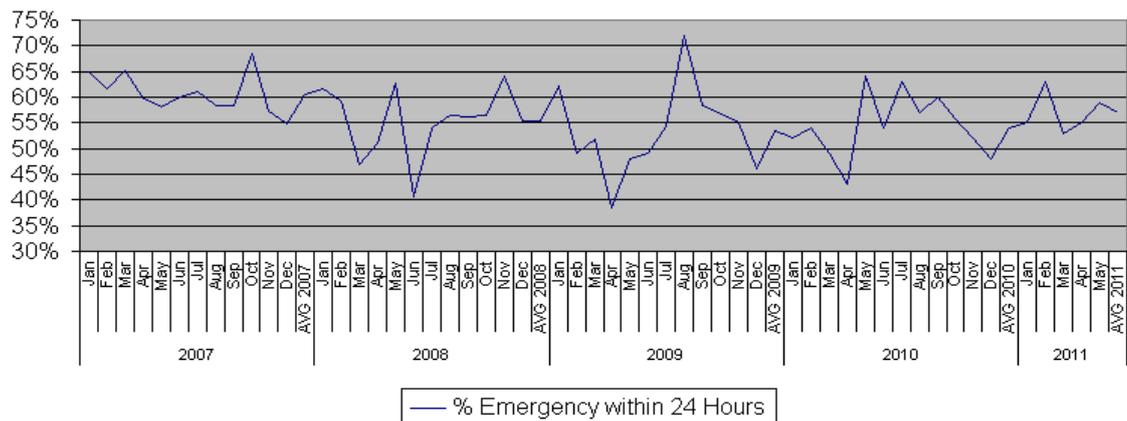
Consultant availability to perform acute surgery has increased.

Figure 15: Whangarei general surgery acute operations by surgeon type, January–May 2011



The percentage of acute patients having surgery within 24 hours has remained constant over the last 4½ years. In 2007 the figure was 60 percent; in 2008, 55 percent; in 2009, 54 percent; in 2010, 55 percent; and in 2011 to date (at time of writing), 57 percent.

Figure 16: Whangarei general surgery percentage of acute patients having surgery within 24 hours, 2007–May 2011 (average = 56%)



Further outcomes are as follows:

- Cholecystectomy patients are now treated as acute surgery patients, preventing further acute admissions.
- A consultant sees acute general surgical patients in the emergency department within four hours and the flow of patients through the emergency department and ward has improved, which has reduced elective cancellations due to beds not being available.
- A dedicated associate charge nurse manager (ACNM) ensures greater coordination of the acute operating theatre.

- The ACNM, the SOTD and the consultant anaesthetists for the theatre discuss patients awaiting acute surgery on a regular basis. This has improved scheduling of acute patients, and improved utilisation of spare elective capacity for acute patients within their own specialties.
- The introduction of this improvement initiative has resulted in a reduced volume of elective surgical cancellations due to acute interruptions.

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Case study 20: Expansion of the Manukau Surgical Centre (Counties Manukau DHB)

Introduction

The catchment of Counties Manukau DHB is one of the largest and fastest growing in the country. The population composition is diverse, and includes significant numbers of high-need patients. Counties Manukau DHB has avoidable hospitalisation rates and adult acute medical admission rates significantly higher than the national rate. The DHB faced acute admissions increasingly encroaching on its ability to undertake elective cases.

Prior to the development of the MSC, there was enormous clinician frustration with the almost daily occurrence of debating whether to cancel elective operations to manage the acute workload. The large number of elective cancellations was creating huge disruptions to elective patients and also impacting on staff morale. It was very demotivating for staff to come in every morning knowing that there was too much work to fit into the day.

Action

The decision was made to geographically separate acute and elective workflows. Geological advice at the time was that the Middlemore site was not stable enough for a new facility build, so the site of the existing Manukau SuperClinic (8 kilometres away) was chosen for additional development. This had the advantage of being far enough away from the Middlemore site to prevent variances in acute cases affecting the schedule, but there were also challenges presented by the significant physical separation.

The Manukau SuperClinic had been opened as a day-surgery unit in 1997, with four operating rooms and two procedure rooms. The original unit was day-stay only, which posed challenges to its efficient running. It was difficult to schedule the correct distribution of solely day-stay procedures to fully utilise the facility.

In October 2001 the MSC opened adjacent to the Clinic, with an additional six theatres and 40 inpatient beds. It operated as a five-day-a-week service initially, but soon expanded to full seven-day care.

In 2005 the second floor was opened, providing a further 38 beds, including a four-bed high-dependency unit (HDU). This was a turning point; the HDU allowed a greater range of surgery to be undertaken at the MSC, and provided the clinical back-up for surgery on patients with high-risk profiles. Since then, the case selection has expanded each year.

Today, the only real limitation is in not being able to take on planned cases that would require admission to intensive care. A further consideration is not wanting to duplicate expensive equipment over the two sites (for example, equipment for spinal surgery). Surgery performed at the MSC includes orthopaedic surgery (including joint replacement), general surgery, colorectal surgery, breast surgery (including breast reconstruction), gynaecological procedures, plastic surgery, ORL/ENT and ophthalmology.

Motivation

A major challenge involved in the geographic separation was the change required to clinician work patterns. There was a lot of resistance from surgical staff, who were potentially required to go to both sites on the same day. The need for change was recognised by all, but the benefits of the physical separation had to be articulated in a way that appealed on many different levels. The project team had to sell the advantages: certainty that the elective work would get done, the reassurance this provided to patients, and the practical benefits such as much easier parking on the Manukau site.

Visible clinical leadership was vital. The people who got involved were committed to making the change work. The vision was to achieve efficiencies from the public sector that were equivalent to those in the private sector. This had not been done before on this scale; this was sector leading, and exciting.

Outcomes

Following the 2005 additions, the proportion of elective discharges out of total surgical discharges has increased from 32 percent to 42 percent. Electives have grown at much greater rates than acutes: a 10 percent annualised growth, compared with 1 percent for acutes.

The flexibility of acute capacity at Middlemore continues to be a challenge, but improved processes now manage this. It is now only an estimated three or four days in the year that clinicians have to have the conversation about cancelling electives.

Table 4: Counties Manukau DHB surgical casemix funded discharges, 2005/06 to 2010/11

Admission type	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	Annualised growth 2005/06 to 2010/11
Acute and arranged	19,667	19,034	19,812	19,363	19,687	20,393	1%
Elective	9168	10,651	12,143	13,247	13,919	14,737	10%
Total	28,835	29,685	31,955	32,610	33,606	35,130	
Elective % of total	32%	36%	38%	41%	41%	42%	

Excludes dental, maternity and non-casemix funded services.
Data extracted from the National Minimum Dataset on 13 February 2012.

Critical success factors

- The logistics of moving big services to a new hospital are very difficult. The MSC started off delivering the most straightforward procedures, but was not making the best use of its facilities: a carefully planned expansion was required. As the services provided at the MSC have grown, new questions arise about the need for additional clinical support services; for example, there are not currently full blood bank services on site.
- There needs to be careful case selection, so that patients are matched to resources and support available at the facility.
- Clear communication with patients so they don't show up at the wrong facility.
- Splitting services over two sites required new staff and trainees to deliver a 24-hour presence.
- Teamwork was vital, to ensure that sessions at the MSC were not cancelled if a specialist was away on annual leave or otherwise unavailable. Each specialty is expected to arrange for sessions to be used.
- Good customer service and patient flow processes need to be in place to support the patient experience.

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