Elective Services Productivity and Workforce Programme: Pre-Admission Assessment Process Redesign

June 2012 Evaluation Report
Hawke’s Bay DHB

To: Tony Crane
Senior Project Manager
National Health Board

August 2012

Legal Entity Number: - 436487
Contract Number: - 336063/00

Prepared by
Ian Elson – Project Manager
<table>
<thead>
<tr>
<th>Contents</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Background</td>
<td>3</td>
</tr>
<tr>
<td>2. Project Team</td>
<td>4</td>
</tr>
<tr>
<td>3. Processes Used to Implement Project</td>
<td>4</td>
</tr>
<tr>
<td>• Project methodology</td>
<td></td>
</tr>
<tr>
<td>• Improvement methodology</td>
<td></td>
</tr>
<tr>
<td>4. What Changes Were Implemented</td>
<td>5</td>
</tr>
<tr>
<td>5. What Gains Were Achieved</td>
<td>6</td>
</tr>
<tr>
<td>6. Value for Money</td>
<td>8</td>
</tr>
<tr>
<td>7. Lessons Learned</td>
<td>8</td>
</tr>
<tr>
<td>8. Impact of the Programme for Patients and Staff</td>
<td>9</td>
</tr>
<tr>
<td>9. Unintended Consequences</td>
<td>10</td>
</tr>
<tr>
<td>10. Conclusions and Next Steps</td>
<td>11</td>
</tr>
</tbody>
</table>
1. Background

The Pre-Admission Process Redesign Project commenced in July 2010 due to recognition that opportunities existed to improve the process and an organisational requirement to increase theatre utilisation and elective surgical throughput. The limitations identified through mapping of the existing process aligned closely with the stated purpose of the project with an emphasis on safety, quality, efficiency and patient-centred care.

This project is one of a series of continuous quality improvement initiatives being undertaken by Elective and Surgical Services at Hawke’s Bay DHB to position the service to achieve improvements in theatre outputs and outcomes. HBDHB received funding through the MOH to complete the Pre-admissions project.

Process Improvements Initiated: -

End to end mapping of the existing pre-admission process identified a process characterised by inefficiency created by duplication, waiting and reworking that was not focused upon the patient experience. Key stakeholders mapped a revised process that has been continuously developed and refined throughout the life of the project resulting or contributing to the following improvements.

- Development of theatre reporting – theatre dashboard daily reporting/weekly reporting against health targets/monthly consolidated progress results.
- Development of Pre-Admission specific reporting – Day of Surgery cancellations by specialty, cancellations prior to Day of Surgery and Anaesthetic Clinic utilisation.
- Redesign of clinical processes including removing the surgical house surgeons from routine pre-surgical assessment, establishing criteria-based patient testing largely undertaken by community labs & radiology and creating appropriate pathways for complex and non-complex patients.
- Redesign of clerical process throughout the pre & perioperative process including: patient involvement in booking of appointments and booking theatre sessions 4 weeks in advance to allow a more controlled and systematic approach to pre-admission processes.
- Redesign of documentation and IT systems utilised in pre-assessment process including: Referral to Waiting List Form, Patient Health Questionnaire, Patient Letters and transition from paper copy to electronic anaesthetic pre-admission sheet.
- Six week annual leave notification in Surgical Services for Senior Medical Officers (SMOs)
- Improved theatre utilisation through ensuring patients are ready, willing and able by the time they are booked for surgery.
- Focus on reduction of DNA's on the day of surgery. As an unintended consequence of the pre-admission process the DNA policy is in the final stages of review.
- Day Surgery Unit Review – the project helped to inform the review of the service resulting in the development of a dedicated team of nursing staff committed to the pre-admission process. The project identified cost and quality gains to this approach. The outcome of the review, as it applies to pre-admission is in the final stages of implementation. The theatre leadership structure is now better able to support the pre-admission process.
2. Project Team

Executive Leader: Warrick Frater, COO

Project Sponsor: Katherine Johnson

Project Manager/s: Julie Ball (retired Dec 2011)
Ian Elson (from Jan 2012)

Clinical Leads: Andrew Husband - ENT Surgeon (Resigned from HBDHB in March 2012)
Surgical Heads of Departments (from April 2012)
Hugh Rorrison – Anaesthetist
Carol Shellard – RN Pre-Admission Team

Information Analyst: Pieter Albertyn (Resigned from DHB July 2012)
Tamsin Renwick (from August 2012)

Project Interdependencies:
- TPOT
- CapPlan implementation
- Productive Wards - Releasing Time to Care
- IT Referral Management/COPS

3. Processes Used to Implement the Project

Project Methodology

HBDHB project management framework is based on PRINCE2 methodology. This process ensures the effective functioning of all key roles within the Project and provides Quality Assurance through the Project Management Office.

The project management framework has provided a mechanism to ensure that the project has continued towards full implement and achievement of stated purposes despite the time delays and significant changes in project personnel.

PDSA Cycles

This programme has adopted the use of PDSA (Plan, Do, Study Act) cycles as one of its principle methodologies. The use of PDSA cycles allows us to try ideas, study them and act upon the results we see. This is evident in the introduction of briefings within theatres.

The use of PDSA cycles allows us to ensure any changes we put in place are producing the results we seek but also they allow us to ensure the changes are sustainable and move us to a continuously improving environment.

Improvement methodology

Through the regular reporting schedule the project has developed mechanisms to capture and report progress against baseline data for the KPI's detailed in the service schedule. In the last report we presented the following KPI baseline and progress reports.
for the selected pilot specialties. The mechanisms are now established to capture this data for all subsequent specialties. Importantly this capture and reporting of data will continue to demonstrate the impact of change and the sustainability of the benefits.

4. What Changes Were Implemented

The project has effectively redesigned the end-end pre-admission process for elective surgical patients. The changes implemented include:

Booking Process Redesign

The revised booking processes for ENT have now been adopted by Maxillo-Facial, Dental and Ophthalmology services. The remaining surgical services have been primed for the changes and will change over 2nd half of 2012.

- Revision of documentation for referral to waiting list completed by specialist at FSA and revision of Patient Health Questionnaire to provide sufficient information to enable pre-admission staff to book patient onto appropriate pre-admission pathway on the basis of them being complex or non-complex.
- Development of processes within ECA to allow tracking of patient through entire process.
- Ensuring bookers are booking lists 4 weeks in advance to allow all pre-admission processes to be scheduled within the desired timeframes. This supports patients being ‘ready, willing and able’ to undergo surgery as scheduled and prevents patients being scheduled on to theatre lists with scans, blood test etc. still outstanding.
- Transitioning of the pre-operative assessment form from paper-based to electronic format. This ensures necessary information is able to be shared and added to throughout the process until the anaesthetist reviews the patient and finalises the form.
- The Did Not Attend Policy has been revised in draft (undergoing organisation-wide consultation) to reflect the changes occurring within this process. This organisational policy identifies clearly the organisation’s actions and responsibilities in terms of patient notification, clinician notification and follow-up if patients DNA.

Clinical Process Redesign

The product delivery team in this area have:

- Process mapped the patient’s pre operative journey for the complex & non complex patients.
- Developed new processes for ensuring appropriate ordering of bloods and x-rays to an agreed schedule with patients getting these completed in the community prior to anaesthetic appointment.
- Any patient determined to require a cardiac echo before being considered fit for theatre can get this done in a timely manner. There are now dedicated slots available on a weekly basis for prompt testing.
- To best utilise clinician resources House Surgeons have been routinely removed from the pre-admission assessment process. There has been good engagement with the House Surgeons to identified the impact of removing House Surgeons from the process and ensured all key functions are still completed prior to day of surgery.
• Revised the scheduling and operation of the anaesthetist’s clinics to ensure anaesthetic resources are utilised more efficiently.

Resource Utilisation

• In recognition of the need to expand the nursing contribution to managing the new process and clinically assessing the patients, there is now an identified and dedicated team of nurses committed to the pre-admission assessment process.

• House Surgeon time has been released from routine pre-admission assessments. The Intern Supervisors and Surgical Heads of Department are aware of the changes to the House Surgeon work-flows and are working to ensure the time released is re-allocated to appropriate clinical and learning activities.

• There will be increased anaesthetic clinic utilisation due to the process improvements.

Patient Benefits

• Both the number of visits for preadmission and the clinic waiting time will now be reduced for patients.

• Patient will have an increased commitment to the booking process as they will have input into scheduling of appointment times & dates.

• Patient testing will be reduced based on criteria based testing. They also receive the documentation to have radiology and laboratory testing done by community providers to prevent further hospital visits.

• Patients will not be given a surgery date until they are ready, willing and able to have surgery. i.e Nurse and/or Anaesthetist assessment for fitness for surgery

• Reduction in patients cancellation

• Increase in day of surgery admissions

5. What Gains Were Achieved?

The full realisation of the benefits of this project can not be reported yet due to significant delays against the proposed time frames. The organisation, the Elective & Surgical Services management and the project team remain firmly committed to the project and the project is now progressing well.

As previously described both this project and the wider programme of quality improvements initiatives with the Elective & Surgical Services has seen an emphasis placed upon accurate data capture and reporting. The KPIs for this project as defined in the Service Schedule are outlined below and now form a part of the regular theatre dataset.

a) Day of surgery cancellations by patient and by DHB

b) Measures of patient satisfaction.
c) Ownership dimensions (as defined and reported in the DHB’s quarterly non-financial reporting to the NHB, as part of the National Collections)
   
   i. Three (In-patient length of stay)
   
   ii. Seven (Day of Surgery Admission)

   d) Also reporting Cancellations Prior to Day of Surgery.

As reported in the earlier stage reports the only available measure of patient satisfaction is through the organisation’s complaints and compliments system. The other KPI’s are outlined below with the 2nd Quarter 2010/2011 being the baseline measure.

Table 1: Elective & Surgical Services Theatre Event Cancellations - ENT Speciality

<table>
<thead>
<tr>
<th>Q2 10/11</th>
<th>Q3 10/11</th>
<th>Q4 11/12</th>
<th>Q1 11/12</th>
<th>Q2 11/12</th>
<th>Q3 11/12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancellations - Day of Surgery</td>
<td>Cancellations - Prior to Surgery</td>
<td>Cancellations - Total</td>
<td>Patient Driven Cancellations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>60</td>
<td>40</td>
<td>20</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 2: Elective & Surgical Services Theatre Event Cancellations – All Specialties

<table>
<thead>
<tr>
<th>Q2 10/11</th>
<th>Q3 10/11</th>
<th>Q4 11/12</th>
<th>Q1 11/12</th>
<th>Q2 11/12</th>
<th>Q3 11/12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancellations - Day of Surgery</td>
<td>Cancellations - Prior to Surgery</td>
<td>Cancellations - Total</td>
<td>Patient Driven Cancellations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1200</td>
<td>1100</td>
<td>1000</td>
<td>900</td>
<td>800</td>
<td>700</td>
</tr>
</tbody>
</table>

Table 3: Measures of Customer Satisfaction

<table>
<thead>
<tr>
<th></th>
<th>3rd qtr 2010/11</th>
<th>4th qtr 2010/11</th>
<th>1st qtr 2011/12</th>
<th>2nd qtr 2011/12</th>
<th>3rd qtr 2011/12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complaints: (Related to cancellation and postponements)</td>
<td>6</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Compliments</td>
<td>11</td>
<td>12</td>
<td>18</td>
<td>15</td>
<td>15</td>
</tr>
</tbody>
</table>
Table 4: Ownership Dimensions:

<table>
<thead>
<tr>
<th></th>
<th>12 months to 30/12/10</th>
<th>12 months to 31/03/2011</th>
<th>12 months to 30/06/2011</th>
<th>12 months to 30/09/2011</th>
<th>12 months to 31/12/11</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The standardised ALOS for elective</strong></td>
<td><strong>4.01 days</strong></td>
<td><strong>4.08</strong></td>
<td><strong>3.90</strong></td>
<td><strong>3.96</strong></td>
<td><strong>3.96</strong></td>
</tr>
<tr>
<td>and arranged surgical patients</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Day of surgery admissions</strong></td>
<td><strong>88.2%</strong></td>
<td><strong>90.7%</strong></td>
<td><strong>93.4%</strong></td>
<td><strong>95.0%</strong></td>
<td><strong>95.0%</strong></td>
</tr>
</tbody>
</table>

After a difficult period we are currently making good progress. It is important to note the pace of change/improvement is largely governed by the department’s workload and the availability of key clinical staff to undertake project related work. An important factor we have taken into account when implementing this project has been to maintain our productivity levels as our primary goal is to provide safe and efficient access to surgical services to patients in the Hawke’s Bay region. Below you will see the data that supports our implementation pace.

**Continuation of Project beyond June 2012**

The end of June 2012 should have seen the end of the programme from a Ministry of Health perspective. Whilst the project is not completed, Hawke’s Bay DHB is committed to continuing this programme of work. As we continue to see the benefits realised we developed a revised project plan up to the end of December 2012 and comprehensive evaluation in early 2013.

**6. Value for Money**

It is a little too soon to claim whether this project has represented value for money and ultimately not all of the outcomes from this project will be amenable to such measures. The project attracted funding from the Ministry of Health from January 2011. The funding allowed us to resource the time for DHB staff to be committed to the project. Due to our constrained financial environment and greater demand for healthcare services it is very likely that the effort and attention given to improving pre-admission assessment processes would not have occurred to this extent. The funding allowed backfill for project resources such as the clinical leads and the opportunity where possible for staff to attend workshops and training events related to the revised process. There has been an enormous amount of time and energy from the key clinical staff, management, project staff, clerical/administration staff and IT specialist to get the project to this point. The staff remain committed to the successful full implementation of this project to ensure that the value of this project is fully realised. Undertaking a rigorous, detailed and inclusive approach to the creation of the revised process and the implications of this for patients and staff, has created a foundation for sustained change and service improvement.

**7. Lessons Learned**

In constantly busy and changing environments it is difficult to believe that there is ever a good time to undertake major structural, service or practice change. It should therefore
be expected that the timing of the project has not been ideal. At a time when the perioperative environment is under sustained pressure to deliver against targets, this Project was just one of a series of concurrent initiatives being undertaken. The Day of Surgery Unit was also in the midst of leadership change following restructuring. However this has also demonstrated the importance of viewing quality improvement as a continual process as although hindering the rate of progress of the project the other initiatives have contributed to the process improvements in ways such as supporting data capture and reporting across the perioperative environment and providing new and motivated leadership in the area.

The value and the time saved by networking with other centres that have already undertaken such work can not be under-estimated. It clearly demonstrated the importance of being open to seeking advice and being willing to share your own knowledge and experiences with others.

All clinicians believe they subscribe to patient centred care but it is evident that planning a process around the patient requires a change in how everyone works. To implement such changes across clinical groups has required a great amount of time, energy and some compromises. Despite working within acute, dynamic environments, change is still a challenge to most. The building of a new theatre and a changing model of care created a strong and obvious impetus for reviewing the pre-admission assessment process which has assisted in overcoming this.

Following a difficult project it is encouraging to see staff members step up and demonstrate leadership. However the loss of key project personnel – particularly a motivated senior doctor - during the life of a project creates a loss of momentum.

### 8. Impact of the Programme

The impact of this project will not be realised until all surgical specialties have the new process incorporated into their ‘business as usual’ but already some benefits are evident. The revised process will deliver against the stated purposes of:

- Improving patient safety through a systematic approach to perioperative assessment that identifies quantifies and appropriately manages risk.

Most importantly we have improved the safety and quality of care for our patients by improving how we track patients through the pre-assessment process and have created a better clinical and electronic environment for information sharing. Supported by the information provided by the patient in their revised Health Questionnaire and by the specialist on the revised Waiting List Referral Form at the FSA, the patient’s clinical information will be reviewed to determine their pre-operative pathway.

The need for tests is established by criteria unless otherwise requested by the clinician. Clinical practices agreed by a surgical specialty will direct pre-admission clinical protocols eg. protocol for stopping or continuing anticoagulants in ophthalmology patients is under development. All results are available in sufficient time to allow the primary team or the anaesthetists to review and initiate any required actions.

- Enabling post-operative care to be planned for the patient prior to admission.
The identification of patient complexity and other factors affecting the patient's health status will occur through the new documentation at the start of the pre-admission process. This will determine the patient's pre-admission pathway and immediate post-op care planning. Whether the patient will be a day case or ward admission and requirement for post-operative ICU/HDU booking are two ways in which post operative care will be improved.

- Increasing patient commitment to the patient pathway.

The patient has influence over the scheduling of their appointments and surgery date. The patient will be able to get necessary blood tests and radiology done at community providers. The patients will no longer wait many hours waiting to see a house surgeon who is occupied with acute work. The DNA policy is supportive of the patient but also clear about removal from the process to improve access for all.

- Focussing clinician resource where it is most needed.

A major piece of this project has been focussed on removing the house surgeon from routine pre-admission work. The house surgeons were frustrated by the disruption created by the existing process and will now have greater opportunity to attend theatre and clinic with the specialists. Anaesthetists will now only see the patients that they have agreed are appropriate for an anaesthetic review.

The nurses undertaking pre-admission spent an enormous amount of time checking notes prior to appointments to check whether all the necessary tests were undertaken and available. The new process has reduced this workload through process improvement and allowed this tracking to be more easily undertaken at an earlier stage of the process.

The bookers work has been characterised by reworking due to the short-comings of the existing process. The reduction in late cancellation for any reason will significantly reduce this wasteful practice.

- Contributing towards improving elective surgery productivity

Patients will not be booked unless they are ready willing and able to undergone surgery. The scheduling of pre-assessment clinics will increase volumes and timeliness of patient throughput and there will be less late cancellations due to patients being unfit or under-prepared.

9. Intended and Unintended Consequences

Due to the amount of change occurring across the perioperative environment is difficult to ascribe most benefits to any particular work-stream. There is a general increase in engagement around all aspects of daily work, and a willingness to question and bring ideas forward that may otherwise not have had a platform for initial discussions. Some of the key clinical staff have also taken on significant responsibility and workloads to progress this project. So, in addition to the overall improvement in the organisation of the environment there are also staff with extensive knowledge of their process and greater expertise in change management. The commitment of nursing staff to this area of specialty will inevitably increase clinical specialisation and expertise.
The project has also forced a much closer working relationship and understanding between the clerical and clinical staff who are all vital components of the process. The house surgeons will still be required to interact with the pre-admission process but will be routinely removed from it. This is a significant improvement to their workflows and creates better clinical and educational opportunities for them.

To manage the process effectively requires managing DNAs effectively. This process has resulted in review of the policy which is in final draft at present.

10. Conclusion and Next Steps

In conclusion Hawke’s Bay District Health Board has been challenged by this project particularly around the loss of key personnel, limited clinical leadership, resistance to change from key clinical stakeholders and IT solutions not being able to meet the expectations of the clinicians. The project remains a priority and the key staff involved remain fully committed to finishing the implementation of the pilot specialties and transitioning all specialties onto the new process.

With dedicated pre-admission staff, improved clerical processes and nearly finalised clinical processes in place the project is now progressing well after a significant hiatus. The very significant barriers around IT, medical resistance and changing clerical process have all largely been overcome. There is also a renewed interested by some surgical departmental heads to proceed with the process as they can see benefits to their patients and their junior team members.

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Estimated Delivery Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stage 2</strong></td>
<td></td>
</tr>
<tr>
<td>Booking Process Redesign</td>
<td>Complete</td>
</tr>
<tr>
<td>Staff Training</td>
<td>Complete</td>
</tr>
<tr>
<td>Full Clinical Process Implementation into ENT, Maxillo-Facial, Ophthalmology &amp; Dental</td>
<td>September 2012</td>
</tr>
</tbody>
</table>

| **Stage 3** |                          |
| Integration of above specialties into 'business as usual'. Implementation across remaining specialties | October – December 2012 |

| **Stage 4** |                          |
| Comprehensive Evaluation | March 2013 |