Case Study – Improving Patient Flow

From Gynaecology Services to Whole-of-System

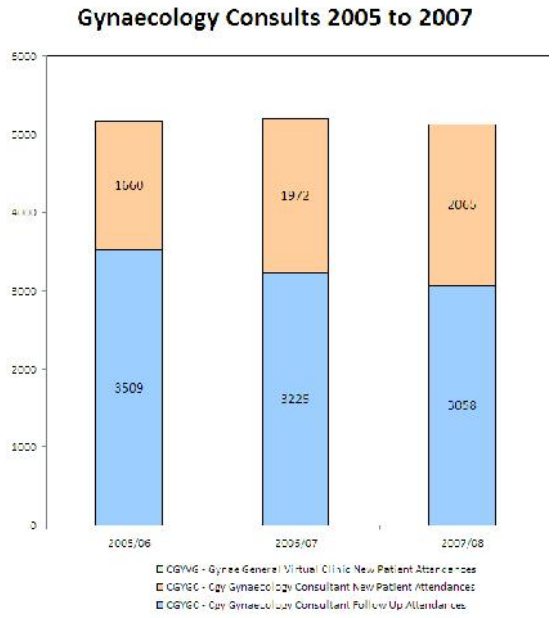
Introduction

This case study tells the story of specialists, general practitioners, and managers working together to redesign a publicly funded health service. The outcomes of the redesign include:

- A seamless and predicted patient journey.
- Reduced outpatient attendances (both First Specialist Assessments "FSAs" and Follow-Ups "FUs").
- The rate of FSAs going on to have hospital treatment reaching 95%.
- Improved relationships between GPs, SMOs and the Gynaecology Services.
- An up-skilled primary health sector.
- Models of engagement and redesign processes that are being replicated across many other services.

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 holding department capacity constant. This was moderately successful as annual follow-up attendances dropped from 3,509 to 3,058 and first assessment attendances rose from 1,660 to 2,065.



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

Additionally, the department had, with the assistance of a GP working part-time in the department (GP Liaison role), 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 appropriate information was provided in the GPs referral letters. The guidelines were distributed electronically and on CD but, unfortunately, adoption of the guidelines in general practice was low as had been the experience with other specialty guidelines distributed by other departments over preceding years.

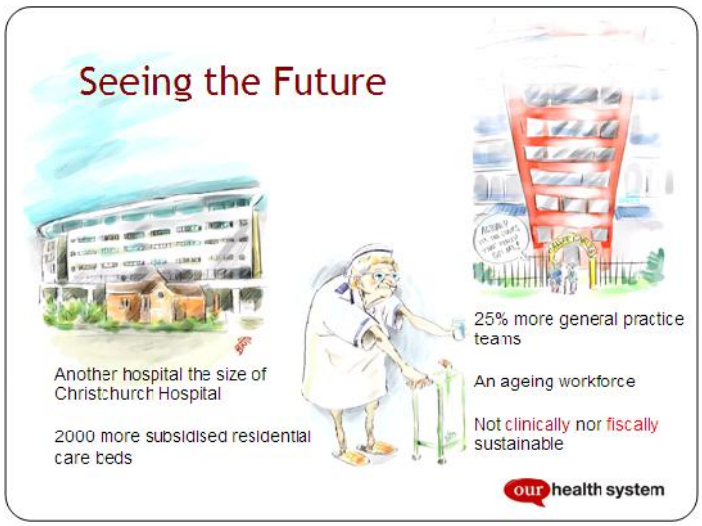
Consequently, the referrals being received by the department were often made in ignorance of what the department would or wouldn't see, and with great variability in the quality of the information provided on the referral.

The Christchurch Hospital Gynaecology service had made great strides in service improvement by the end of 2007, but it had also reached the point where it was struggling to get the broad clinical engagement it needed to make further improvements.

The Service in 2020 without redesign

Demographic forecasting shows that, if health services in Canterbury are not redesigned, by 2020 we will need twice the current hospital infrastructure of buildings and twice the existing health workforce. This will not be affordable without an equivalent doubling of New Zealand's GDP, 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. The challenges observed in 2007 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 unless there was 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. It was described as "Vision 2020 – and the Burning Platform".

The messages about 2020 and the need for change have been maintained over the following years, have permeated most health organisations in Canterbury, and are a motivating factor in the high levels of clinical engagement in service redesign across the sector.

Service redesign across the primary / secondary interface

The Canterbury Initiative (www.canterburyinitiative.org.nz) is the name given to the health service redesign activities focussed on the primary / secondary interface. The Canterbury Initiative works with specialty services that have bought-into Vision 2020 and the concept of the Burning Platform. The Gynaecology service at Christchurch Womens' Hospital was already led by innovative clinicians and management, and was keen to be part of the Canterbury Initiative activities, to help them get over the hurdles they'd encountered at the end of 2007.

The Canterbury Initiative brings together specialists and GPs to jointly identify and solve clinical service issues. If the solutions require clinician up-skilling, a shift in funding, altered access to investigations, or new support services, then the Canterbury Initiative team works with the relevant parties, and with the strong support of the CDHB Planning & Funding department, to get the changes implemented.

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.

View or download the full **Vision Document** here...

The Canterbury Initiative team helped the Gynaecology Department take their recent innovations to the next level (see detailed explanation over page) through:

- Supporting broader levels of engagement between health professionals than had been possible in the past.
- Putting the gynaecology guidelines into the HealthPathways website making them much easier for general practitioner to access and use.
- Up-skilling general practitioners in management of gynaecological conditions.
- Funding general practice to perform some gynaecological investigations and procedures.
- Improving general practice access to pelvic ultrasound.
- Changing the funding of the Gynaecology Department away from a "hospital-based transactions" focus, and towards a "whole-of-system service" focus.

The same support and processes have since been applied to many other services with the result that by the end of 2011:

- 93 specialists, 131 general practitioners, and 15 nurses have been engaged in health service redesign activities.
- There are now 350 clinical pathways operating in Canterbury covering over forty specialties.
- 2500 Canterbury clinicians perform 70,000 pages reads of HealthPathways per month.
- There have been significant changes in the way healthcare is delivered in Canterbury.
- The momentum of change is accelerating rather than slowing.
- Six other district health boards are now implementing similar change programmes and are using Canterbury's HealthPathways as the start-point for localisation to their context.

Gynaecology services in 2011

Whole-of-System perspective, and primary-secondary clinical engagement

The Gynaecology department at Christchurch hospital recognised that re-arranging what was done in the hospital 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 get much higher levels of engagement through clinical workgroups, education, and up-skilling sessions.

By comparison to the limited engagement previously available only through the part-time GP Liaison, 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. The wider engagement has contributed to a huge difference to the acceptance and feeling of ownership by GPs of the service redesign process.

Agreements between primary and secondary care clinicians arising from these forms of 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 in service.

GP Liaison

The GP Liaison (GPL) role is a continued and essential part of the service. Functions being performed in the 2011/12 year include:

- Assisting hospital specialists with triage of referrals.
- Identifying gaps and issues in the overall gynaecology service.
- Organising education / upskilling sessions for general practitioners
- Overseeing updates to referral forms, guidelines, and HealthPathways

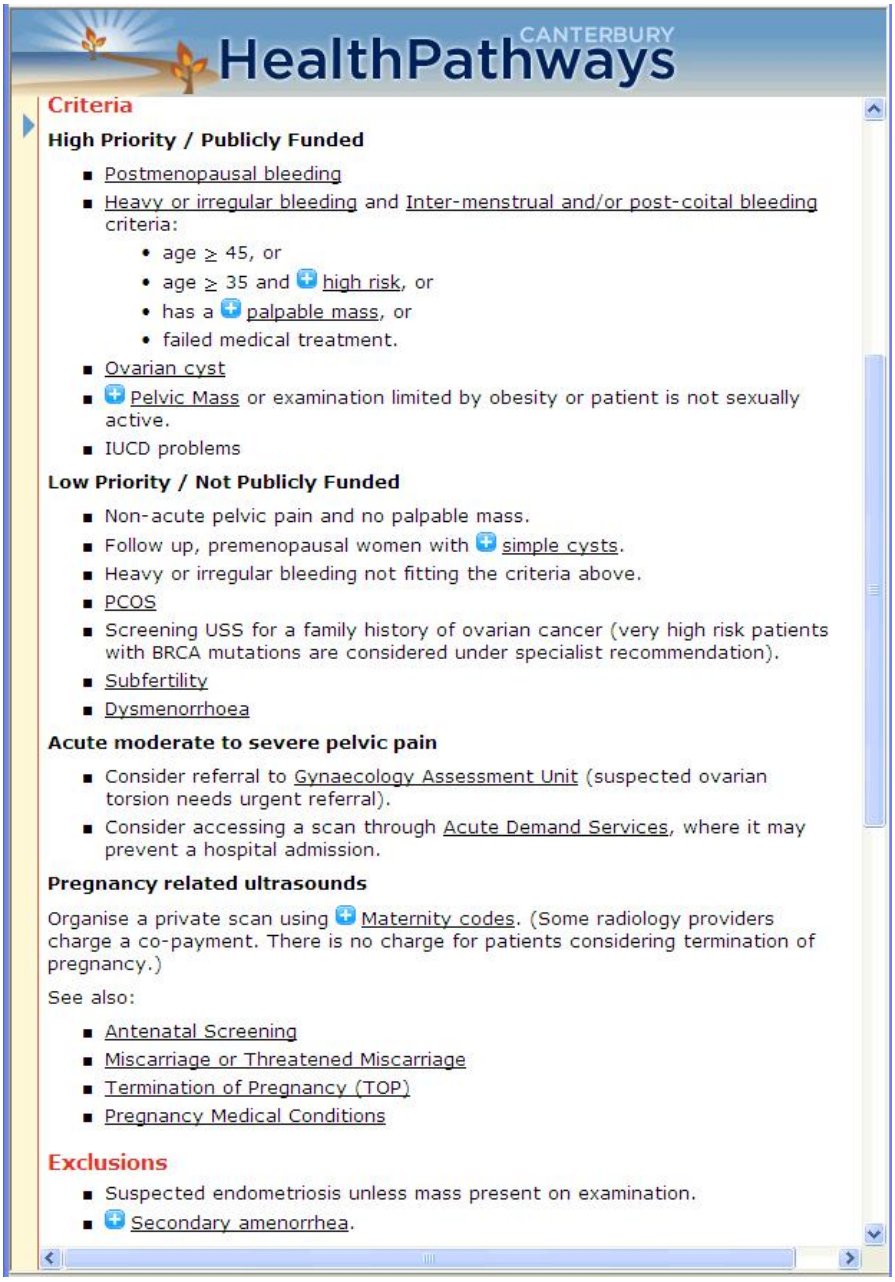
Click the picture above to watch the video interview with Dr Healy, GPL Gynaecology 2006/09, talking about the GPL role and the service redesign activities

Direct GP access to diagnostics

Improving direct GP access to diagnostics was an early outcome of the whole-of-system approach and effective engagement between primary & secondary care clinicians. For

example, access to pelvic ultrasound was initially very limited and so it was difficult for GPs to make informed management or referral decisions.

The first attempt to open-up GP access to pelvic ultrasound was undermined through 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 with the budget. Through the latter part of 2008 and early 2009 there were around 200 pelvic ultrasound requests per week of which over half were being declined, often without robust information on which to make an informed prioritisation and/or decline decision, and often with considerable delay between the dates of request and decline.



By early 2009 the access criteria were developed by the clinical working group, consulted on extensively with general practice, and put on HealthPathways. The referrals were triaged by the GPL, rather than the radiology companies, using the criteria in the pathways. Any declines were sent back with reasons referencing the pathways. General practitioners quickly responded to the improved information and rigor of the triage process, and referrals dropped to under 100 per week and acceptance rates went from below 50% to over 90%.

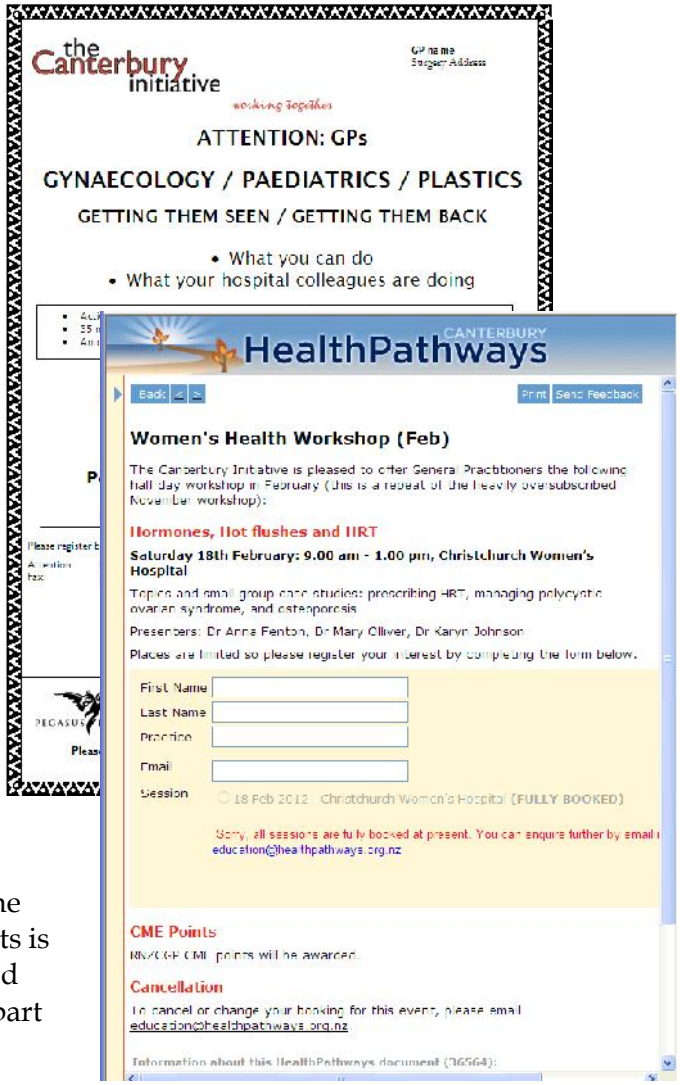
In 2011 all referrals are captured in Canterbury's electronic referral management system (ERMS). With ERMS all triaging is done online by a group of expert reviewers who have a range of workflow and messaging tools at their disposal for communicating directly with the referring GPs and the community diagnostic providers.

Education & up-skilling

Successful implementation of redesigned health services requires the engagement and buy-in of those whose clinical practice must change.

It also requires:

- Well presented information about when the changes take effect and the expectations on them as clinicians.
- Up-skilling training days and on-going professional support from the specialist to the general practitioners.



Starting in 2008 the Canterbury Initiative has organised regular evening education sessions for clinical workgroups to present the new clinical pathways and referral criteria to their GP colleagues. Many events attract 150 – 180 GPs. Most of the material presented and discussed is supported in the live HealthPathways website.

The picture (above, on right) is of a promotional flyer from 2009. In 2011/12 the promotion and booking of education events is conducted online. Many events are videoed and made available for review by GPs as part of HealthPathways.

Additionally, the Gynaecology service runs special training workshops, such as the one advertised above. Such workshops are often over-subscribed. The up-skilling and associated ongoing support from the specialists greatly enhances the ability of general practice to manage gynaecological conditions in primary care.

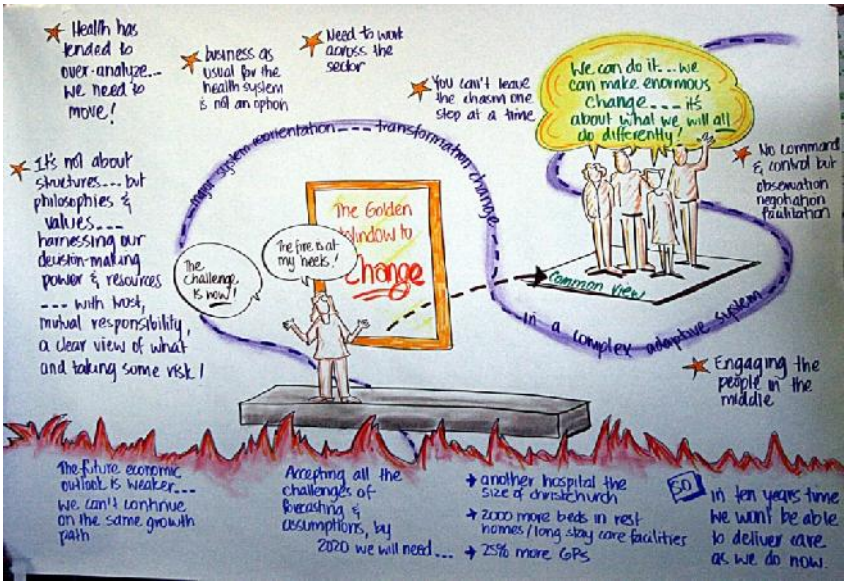
All education events attract CME points.

Planning & Funding

None of the above would be possible without a DHB board and leadership team that provides strategic vision and leadership that sets the context for whole-of-system redesign, and that also provides the funds to support both the redesign activities and the expanded primary care services. It is crucial to involving leaders that appreciate and understand the critical role of primary care in the redesign and delivery of future models of care.

Context:

This image (on right) is one of many produced as part of the ongoing Vision 2020 communications campaign.



Goals of the campaign are to create an environment where clinicians:

- Are engaged in a long-term view of resource allocation and prioritization.
- Have no fear of loss of domain or resource.
- Focus on investing in outcomes rather than on spending savings.
- Maintain persistence, consistency, and keep the eye on the planning horizon.

To create that environment, DHB leadership has:

- Painted a clear vision of the future – its challenges and opportunities.
- Supported the vision with robust data, trend analysis, and openness about the challenges.
- Communicated and engaged as leaders of a 'whole system'.
- Engaged the clinicians in problem and opportunity identification.
- Provided training in leadership and problem solving to a critical mass of clinicians and managers (irrespective of employer).
- Repeated the steps above relentlessly.

Service funding:

In the past, funding contracts have been designed to influence change in clinical behaviour. However, in Canterbury, funding arrangements 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.

Specific gynaecology service funding differences in 2011, compared with 2007, are:

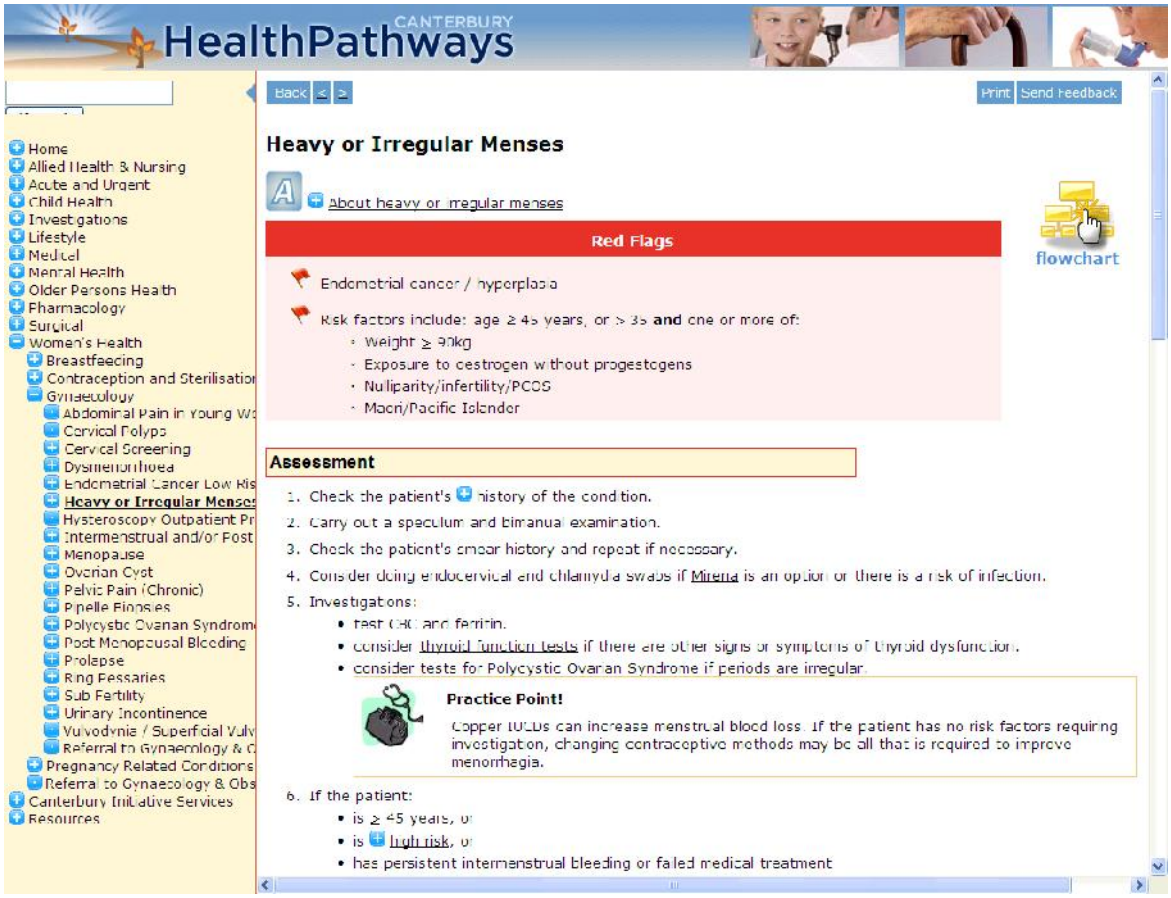
- The price – volume schedule, and 'purchase units' related to historical ways of delivering services, are no longer used to determine hospital department annual budgets. Instead, annual budgets are based on what the department needs to meet commitments arising from the clinical workstreams and agreements with the funder. These commitments may cover virtual FSAs, GP support, upskilling, services appropriate to best use of skills and resources, and core treatment activity.

- Increased community referred diagnostics.
- Increased GP payments for subsidised services.

HealthPathways

In 2007 the Gynaecology service developed referral guidelines that they then struggled to get GPs to use. This was largely because there weren't the tools available to make them easy to access or to keep them up-to-date.

In 2011 all the gynaecology pathways are on the HealthPathways website.

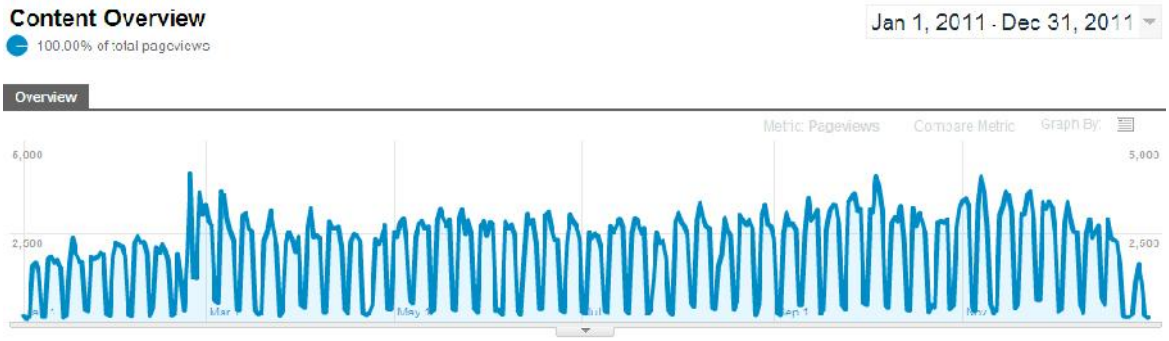


The website is used by 2500 Canterbury clinicians who, between them, make 70,000 page references per month. The 21 gynaecology pathways are amongst 350 pathways on the site.

HealthPathways has been a important tool for revealing and bedding-in the redesign agreements between primary & secondary care clinicians, and with Planning & Funding.

It has become the "primary source of the truth" for many primary and secondary care clinicians on most matters associated with common condition management and referral in the local Canterbury health system context.

The graph below for the 365 days from Jan – Dec 2011 demonstrates the high use of the site during the working day, with the 52 troughs representing the weekends. The spike in February is associated with the days following the Christchurch earthquake and the high reliance clinicians placed on the emergency information being posted on the site.



In 2011 the Christchurch Hospital Gynaecology Department reports greatly improved referrals (appropriateness and completeness), in line with the guidance in HealthPathways. Where referrals are inconsistent with the guidance in HealthPathways the triaging specialists contact the referrer, often by phone, and always with a supporting letter. The discussions and the letter are made in the context of the HealthPathways, but subject to the uniqueness of the individual patient circumstance.

Click the picture above to watch the video interview with specialist Ben Sharp about the impact of HealthPathways on the gynaecology service

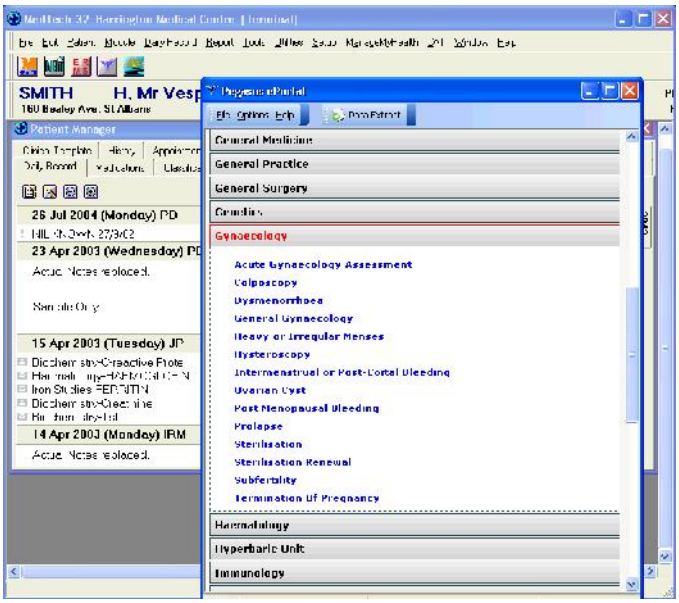
The hospital departments also use HealthPathways to:

- Assist in the training of registrars and orientation of new SMOs.
- Ensure triaging teams are applying access crtieria consistently.

The Canterbury District Health Board is now sharing the information in HealthPathways with six other health boards in a collaborative partnership to continue to develop a common core set of pathways, but with a localisation layer to reflect the unique circumstances of each DHB.

eReferral

The Electronic Request (referral) Management System (ERMS) was launched in Canterbury in 2010. It has had progressive adoption by general practices such that 113 out 130 practices were using it by the end of 2011. ERMS integrates with the main patient management system (PMS) used by general practices in Canterbury, and makes generating a referral quick and efficient. It contains referral forms for most specialty services, including 13 condition specific forms for gynaecology services.



Between 3000 – 4000 referrals are being made through ERMS each month.

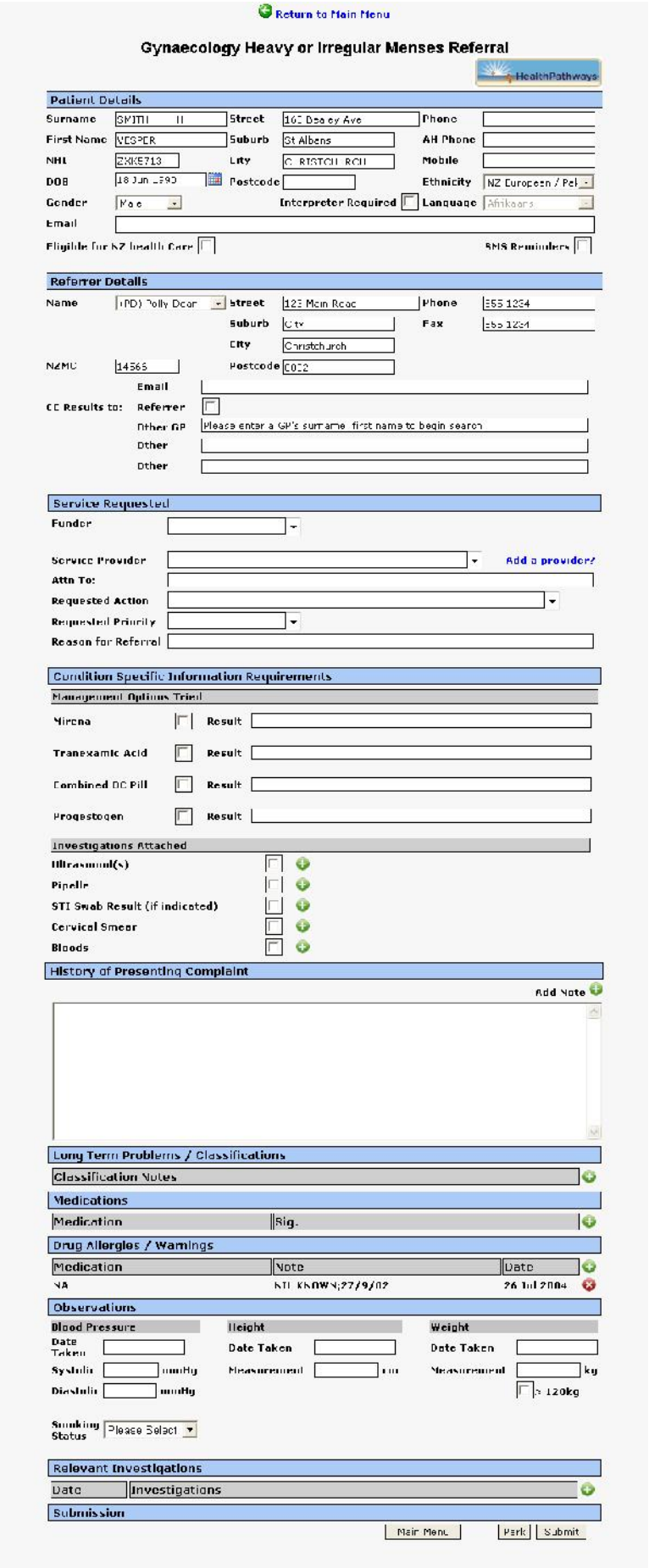
Each referral form contains a HealthPathways icon in the top-right. When the GP clicks the icon the relevant page from HealthPathways will open with information related to the condition – in this case Heavy or Irregular Menses.

All forms are based on a common structure for ease of use by the GPs, and ease of interpretation by the specialists.

In the middle of the form is the section for 'condition specific' information to be added. In the Heavy Menses example, much of the information can be added with a few simple clicks, and selection of the appropriate information from the patient record.

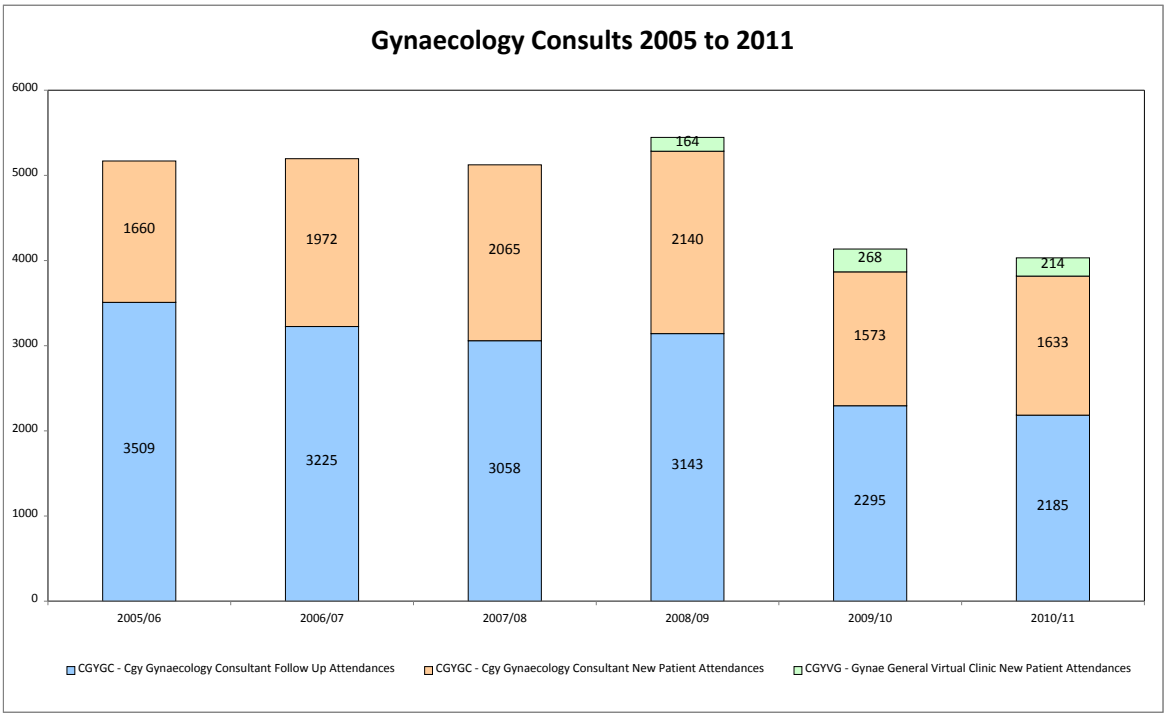
The referral is transmitted as structured data that can later be used for analysis, research, education, and planning purposes.

The electronic forms make the provision of relevant information a lot easier for the referrer and, in turn, triaging and diagnosis a lot more efficient for the specialist.

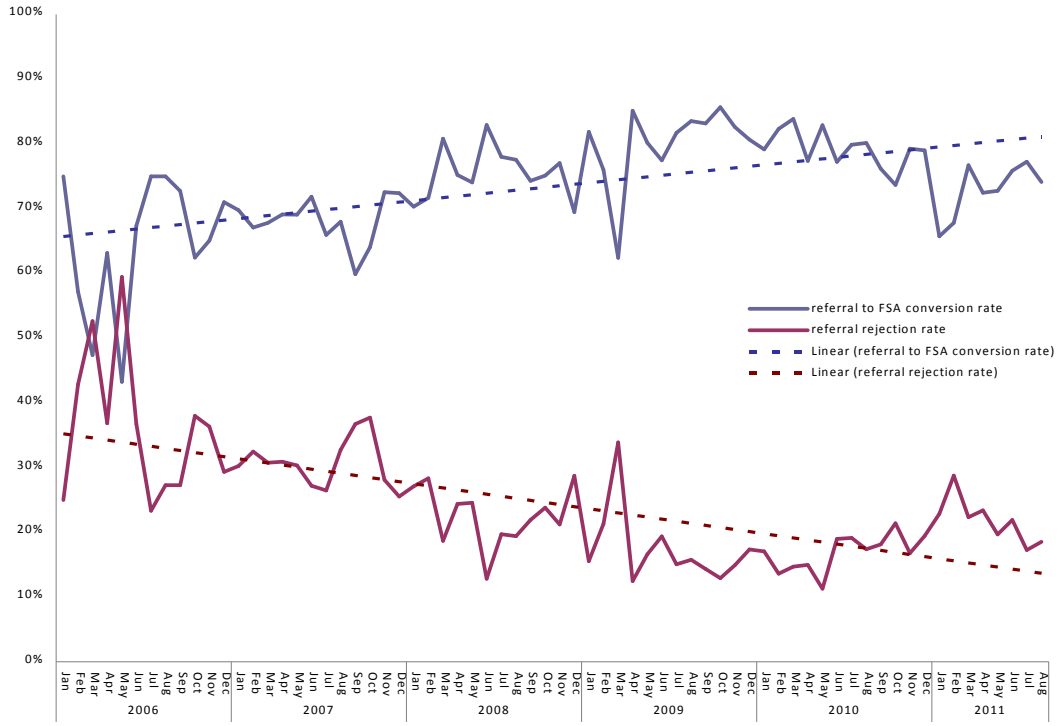


Outcomes – Heavy or Irregular Menses

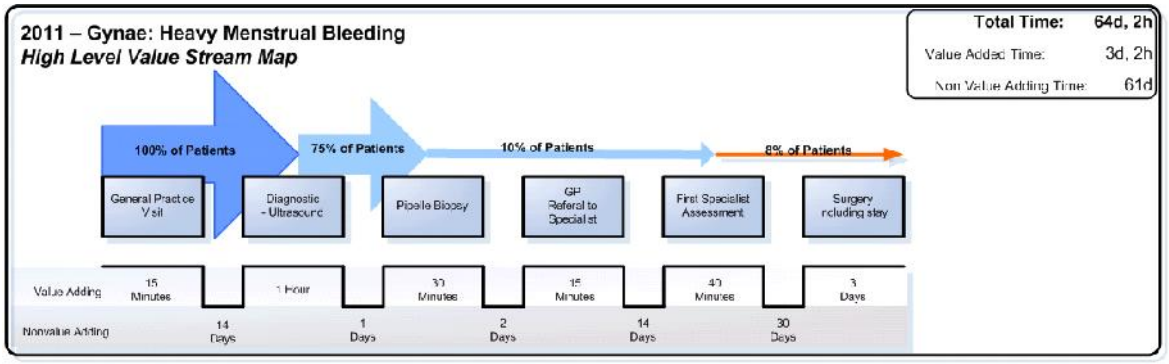
The graph below demonstrates a dramatic drop in the number of gynaecology outpatient consults now performed in the hospital.

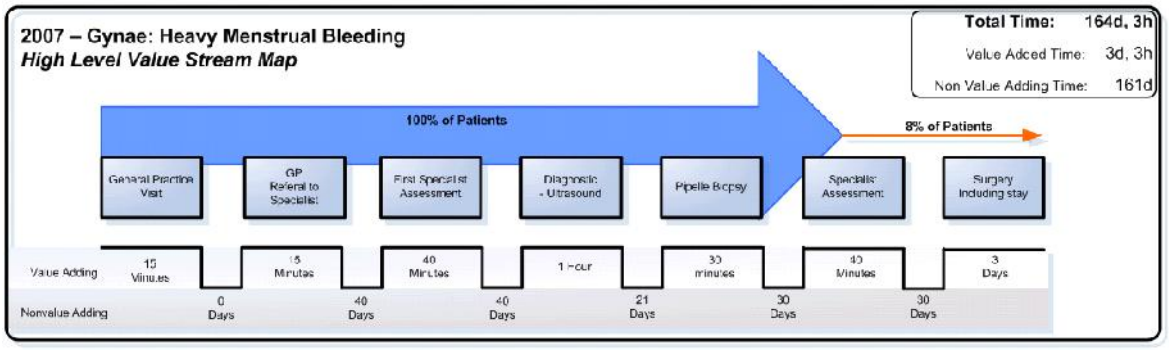


Additionally, the conversion rate of referrals to first specialist assessment has been steadily increasing from an average in 2006/7 of 65% towards and average in 2010/11 of 80%.



When the patient flow is value-stream mapped it demonstrates a dramatic reduction in days to treatment, from 164 days in 2007, down to just 64 days in 2010.





When extrapolated over all patients referred for Heavy or Irregular Menses, patients days from referral to treatment is 143,000 days fewer in 2010/11 than in 2006/7.

Clinical Outcomes

Clinical outcomes from the altered pathways are being monitored especially where the site of care has been changed. The Post-Menopausal Bleeding pathway has been examined as a research project which is awaiting presentation. GP Pipelle biopsies for post menopausal bleeding and for heavy menstrual bleeding are audited for quality and patient outcomes. Further research is underway on the accuracy of saline infusion ultrasounds and possible reduction in hysteroscopies. A quality improvement approach has been adopted to the results of these audits. No major patient safety issues have been identified but some processes can be streamlined.

Maintaining the momentum – 2012 & beyond

Vision 2020 has provided a strong motivation for continuous redesign of Canterbury's Health services from a whole-of-system perspective.

The 2011 February 22nd earthquake and subsequent aftershocks have severely damaged the physical infrastructure of the Canterbury health system and, rather than slow the momentum of change, has forced the acceleration of many initiatives.

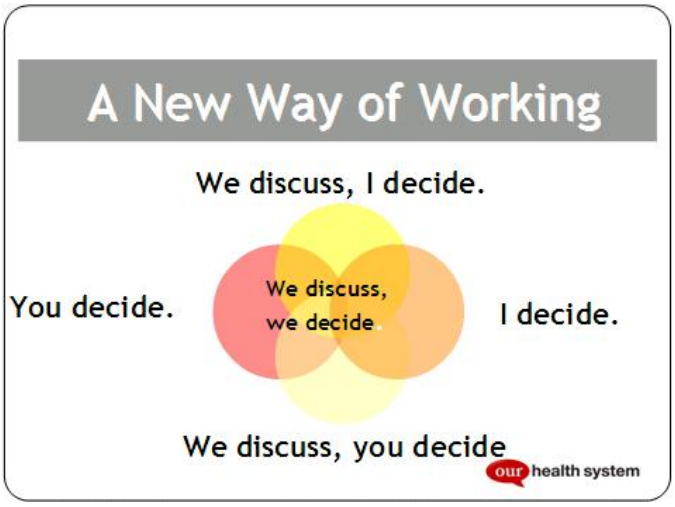
The psychological impact of the death and destruction arising from the earthquakes is forecast to include mood transitions in our communities from shock, to selfless giving, exhaustion and despair, to frustration and anger as the enormity of the recovery task ahead becomes clear and, then, a progressive return to normality and routine as rebuilding efforts get traction.

Many public health systems are based on highly centralised and low trust models of decision making. Before the earthquakes the Canterbury health system was working on a more delegated and higher trust model to enable the kinds of engagement and redesign activity described in this case study. Following the earthquakes it is important that the direction be maintained and the pace accelerated.

It is also important to recognise that the health system in Canterbury is part of a bigger South Island health system and, in turn, a national health system. Just as specialist services at Christchurch hospital can't solve the challenges of 2020 (and now the earthquakes) without the full involvement of their primary health colleagues, so too Canterbury will need the support of its South Island DHB counterparts, and the wider NZ health system, to turn the adversity of 2011 into opportunities for further innovation whilst maintaining high quality health services to the local population.

The model depicted in this diagram (on right) is being widely adopted within the Canterbury health system, within the South Island Alliance of DHBs, and in parts of the wider national health system.

The model can be operated at various levels. Where it applies between the DHB (as funder) and local hospital and primary care providers, the 'I' is the DHB and the 'You' is the providers.



The over-arching purpose of the model is to enable clinically led decision making on how care should be provided and services designed. It distinguishes between the decisions about allocation of resources to a population which are the role of the Government and/or its agencies, and decisions about how those resources are best used which more appropriately lie with the clinicians and should happen at the clinician-patient interface. Practically it requires clarity about the types of decisions that fall into each of the five segments:

1) *I decide*- recognizes that the funder, be it the District Health Board or, ultimately, the Government on behalf of the people, decides the outcomes required for a population with the funding available and the balancing of priorities.
2) *We discuss, I decide* – recognizes that wherever possible the funder will consult with the key stakeholders about outcomes and priorities for a population but the accountability for the final decision stays with the funder.
3) *We discuss, you decide* – recognizes that although the funder has a legitimate interest in how funds are applied within a priority area and can add value from the perspective of a "whole of system" view, but that the best people to make those decisions effectively are the people who deliver and receive the service. Thus we have a focus on service expectations not service specifications.

4) *You decide*-recognizes that the aim of the model overall is to move as much decision making away from centrally managed processes to the frontline as possible to maximize the efficiency through the use of a high trust approach. For example, within a general practice changing the mix of nurse clinics and GP consults to improve patient service and general practice efficiency.
5) *We discuss, we decide*- is the place where the alliance approach is really focused on joint accountability for decisions and joint management of risks, for example, jointly planning a new shared care service for patients with chronic conditions, with the DHB then shifting funds to enable it .

The model requires a high degree of trust between the parties involved. All the parties need to have shared in the vision of what is trying to be achieved and in the motivations for change.

It is not a model of abdication, rather, it relies on strong leadership, clear messages, and clear points of delegation.

While this case study has been premised on the clinical condition of Heavy or Irregular Menses, it is simply 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.

Provided we can be sensitive and appropriately responsive to the inevitable psychological phases of our communities post earthquake, we have every opportunity and need to accelerate the momentum of change demonstrated in this case study.

Appendix 1 – Over Page – The Health System Transformation Recipe

Attachment 1 – NIHI 2011 Assessment of Canterbury's HealthPathways and eReferral

The Health System Transformation Recipe

Key Ingredients	Process Steps
Receptive environment i.e.: ▪ Clinicians engaged in long-term view of resource allocation and prioritization ▪ No fear of loss of domain or resource ▪ Focus on investing in outcomes rather than on spending savings ▪ Persistence, consistency, and keeping the eye on the planning horizon	1. DHB leadership to paint a clear vision of the future – its challenges and opportunities 2. Support the vision with robust data, trend analysis, and openness about the challenges 3. Communicate and engage as leaders of a 'whole system' that includes primary care, secondary care, the disability sector, the community, and both public and privately funded service providers. 4. Engage the clinicians in problem and opportunity identification 5. Provide training in leadership and problem solving to a critical mass of clinicians and managers (irrespective of employer) 6. Repeat the steps above relentlessly
Demonstrable progress with a sense of urgency:	1. Pick low hanging fruit first. 2. Be prepared to over-resource to get the first wins on the board. 3. Communicate the changes and their impact through large group education sessions (CME points), newsletters, and personal visits. 4. Apply 'agile' style project techniques to ensure clinical workstreams deliver demonstrable outputs (i.e. service change) in short cycles. 5. Move on to the tougher projects after setting the precedent, and generating the enthusiasm and sense of possibility, from the early change projects.
Tools, to: ▪ Facilitate change ▪ Bed-in change ▪ Streamline processes for effectiveness and efficiency ▪ Measure, review, improve	1. Apply engagement & project methodologies (such as those applied by the Canterbury Initiative) to the workstreams 2. Support proposed solutions with funding shifts 3. Engage Streamliners to facilitate pathway development, and to produce, publish, and host the pathways 4. Utilise modern internet, and dot net, technologies to automate administrative workflows, capture data, and report. 5. Re-organise administrative services (taking a whole of system perspective) to support the new direction and leave old paradigms and boundaries behind.
Plus relentless iteration…	