

# **MIDLAND REGION**

CANCER CONTROL PROJECT

## **Patient Mapping Project**



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Kim Holt seconded as project manager (part-time) to undertake mapping of patient journey for lung cancer.

## EXECUTIVE SUMMARY

This is a final report to the Ministry of Health to satisfy the agreement between the Ministry of Health and the participating Midland DHBs (Waikato, Bay of Plenty and Lakes) related to the patient mapping project. The patient mapping project was supported by the Ministry of Health via the Cancer Control Implementation Fund for the period 1 January - 30 June 2006.

This report provides a progress report to update the Midland DHBs on what has been achieved with the patient mapping project to date.

The Midland Region Non-Surgical Cancer Treatment Service Implementation Plan (cited in Midland DHBs, 2005) recommended that process mapping of the patient's cancer journey should be undertaken for the major tumour groups of breast, lung, colorectal and prostate cancer and high-volume malignant haematological conditions.

The patient pathways have been developed using a process mapping methodology utilised by the Cancer Services Collaborative Improvement Partnership, a National Health Service (NHS) programme to make improvements in the way cancer services are delivered to patients. Process mapping involves looking in detail at all the separate steps in a patient's journey from referral and through assessment, treatment and discharge.

The patient mapping work links with regional and national strategies including:

- Non-Surgical Cancer Treatment Service Plan for the Midland Region (Barber, 2004)
- The New Zealand Cancer Control Strategy Action Plan 2005 – 2010 (Ministry of Health, 2005)
- Midland Region Non-Surgical Cancer Treatment Service Plan Progress Report 2005 and Implementation Plan 2005 and 2010 (Midland DHBs, 2005)

The patient mapping project has been jointly funded by Waikato, Bay of Plenty and Lakes DHBs with some additional support from the Ministry of Health Cancer Control Implementation Fund. The one-off support from Cancer Control Implementation Fund covered the patient mapping work for the 6-month period 1 January – 30 June 2006.

The patient mapping project commenced in July 2005 with the mapping of early stage breast cancer. The project involves Waikato, Bay of Plenty and Lakes DHBs.

The objectives of the patient mapping project are:

- To obtain a clear description of the current patient journey for each of the major tumour groups
- To identify issues, variations, service gaps and opportunities for improving services.

A summary of the progress to-date is that:

- 13 patient mapping reports have been produced for breast, lung, colorectal and prostate cancer. Each tumour group map has been customised for each of the participating DHBs in order to reflect local circumstances. Some of the reports are work in progress
- Over 130 staff from the participating DHBs and other health services have contributed to this area of work
- Data gathering and analysis processes are underway including epidemiology information and output data which is being used to derive actual waiting times between key stages in the cancer journey
- Patients perspectives have been obtained:
  - Compliments and complaints data from each of the participating DHBs have been analysed
  - 48 breast cancer patients from across the region have shared their stories about the cancer journey via focus groups and patient interviews. 10 of the women were Māori
  - 18 lung cancer patients completed a written survey to determine their satisfaction with the service provided to them.

The major themes emerging are that there are:

- Variations in pathways across the region for each tumour group
- Demand and capacity issues
- Lack of psychosocial support for patients and family / whānau
- Risk of breakdown in communication
  - Many patient steps, usually over a long period of time (e.g. around 70 major steps in the breast pathway)
  - There are several handovers between services (e.g. approximately 9 handovers in the breast pathway)
- Lack of care co-ordination across the total continuum

The challenges have been keeping staff involved throughout the subsequent rounds of consultation. The data is incomplete, it requires complex processing and it is expected to take some time to come up with reliable information. The mapping describes the current patient journey it does not identify gaps. An understanding of the issues has been obtained from staff based on their knowledge and direct experience.

The patient mapping project has raised the awareness of the complexity of the patient's cancer journey. This has resulted in increased knowledge by staff of the whole journey and provided an opportunity to establish relationships with staff from across the Midland region that are key stakeholders in providing care and other services to cancer patients.

Information gathered from the patient mapping work has provided further evidence to support the implementation of the following early stage initiatives:

- Funding of breast care co-ordinators (Waikato and Bay of Plenty DHBs) and generic care co-ordinator (Lakes DHB)
- Initiatives to reduce waiting time for breast surgery (Waikato DHB)
- Initiatives to reduce inequalities of accessing breast screening services (Midland region)

The patent mapping work is expected to be ongoing. Key priorities during the next phase of the patient mapping project include:

- Continue mapping of the patient's journey for lung, colorectal and prostate cancer. Commence mapping malignant haematological conditions, ovarian cancer and high risk genetic assessment service
- Complete analytical work including analysis of data, the patient journey, issues and gaps. Determine actual wait times between key stages in the journey
- Organise regional workshops with tumour specific care teams to discuss mapping reports and other information obtained through analytical processes
- Prioritise recommendation for improvement and develop an action plan
- Adopt a continuous quality improvement approach to implementing changes using best practice tools
- Investigate opportunities to involve Māori expertise to assess cultural appropriateness of cancer services and to reduce inequities.

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## SECTION ONE - INTRODUCTION

The Midland Region Patient Mapping Project commenced in July 2005. The Midland Region Non-Surgical Cancer Treatment Service Implementation Plan (cited as Midland DHBs, 2005)<sup>1</sup> recommended that process mapping of the patient's cancer journey should be undertaken for high-volume tumour groups - breast, lung, colorectal and prostate cancer and for the malignant haematological conditions - leukaemia, lymphoma and myeloma. With seven pathways to develop the process was expected to take some time to complete.

The objectives of the patient mapping project are:

- To obtain a clear description of the current patient journey for each of the major tumour groups
- To identify issues, variations, service gaps and opportunities for improving services.

An episode of care for a cancer patient is a complex series of interactions. It involves many people, and extends across a number of clinical departments, services and organisations. A single worker generally does not know all the processes/people involved in the whole patient journey. Because the journey crosses boundaries and organisations there is a clear potential for the breakdown in the process of care. Before we can begin to consider improvements to the way we deliver cancer services we need to first connect up the patient journey to obtain a better understanding of the whole care continuum.

The patient pathways have been developed using a process mapping methodology utilised by the Cancer Services Collaborative Improvement Partnership, a National Health Service (NHS) programme to make improvements in the way cancer services are delivered to patients.

Process mapping involves looking in detail at all the separate steps in a patient's journey from referral and through assessment, treatment and discharge. Information about the journey is collected through focussing on what happens to the patient and the accompanying flow of information (known as the parallel processes). Parallel processes include communication processes, administrative or paperwork processes and diagnostic processes.

The structure of the report is:

**Section one:** provides the background to implementing patient mapping project, how the project links to national and regional cancer control strategies and discusses the funding of the patient mapping project.

**Section two:** describes the stages in the cancer journey, how the Midland region patient mapping project is being supported and conducted, documents the projects achievements to the 30<sup>th</sup> June 2006 and highlights the challenges and benefits related to this area of work.

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<sup>1</sup> A project steering group was established to scope and implement the Non-Surgical Cancer Treatment Service Plan for the Midland Region (2004). The group comprised representatives from Waikato, Bay of Plenty and Lakes DHBs.

**Section three:** describes how patients have been involved in the patient mapping project and discusses issues and feedback from the patient's perspective.

**Section four:** sets out the improvements to services that are in progress, discusses key themes that are emerging from this area of work and next steps.

The report appendices include:

*Appendices 1-4*

- A high level summary of findings to date for each pathway:
  - early stage breast cancer
  - lung cancer
  - colorectal cancer
  - prostate cancer

*Appendix 5*

- A view of just the patient processes for the breast cancer pathway:
  - a screening detected patient and
  - a symptomatic patient

*Appendix 6*

- Detailed view of early stage breast cancer pathway:
  - Waikato DHB
  - Bay of Plenty DHB (2 versions, for Tauranga Hospital and for Whakatane Hospital)
  - Lakes DHB.

This view includes patient processes together with parallel processes (administration, referral and diagnostic).

Detailed pathways for lung, colorectal and prostate will be available on completion.

## ***National and Regional Strategies***

The patient mapping project links with regional and national strategies.

DHBs and the Ministry of Health are implementing national initiatives signalled in the New Zealand Cancer Control Strategy Action Plan 2005-2010 (Ministry of Health, 2005) which outlines a number of actions to ensure patient-centred and integrated care for those patients with cancer, in Goal 3, including studies of patient care pathways.



**Goal 3, Objective 3: Ensure patient-centred and integrated care for those with cancer, their family and whanau.**

Outcomes/Result	Specific Action	Key Stakeholders	Milestones/measures/planning
55. A co-ordinated and seamless cancer journey for the patient	Pilot studies to map and analyse current cancer patients' journey and clinical pathway across different regions and patient sub-groups to identify gaps and implement areas for improvement. UK tool kit a useful guide	DHBs, regional cancer networks, NGOs, cancer	Pilot studies commenced Phase 1 <sup>2</sup>

(Source NZ Cancer Control Strategy Action Plan p57)

Recommendation one of the Non-Surgical Cancer Treatment Service Plan for the Midland Region (Barber, 2004) states “that a review of care co-ordination be undertaken across the DHBs and options be identified for improving links with community services and provider arm services (surgery, radiation therapy and medical oncology)”.

The Midland Region Non-Surgical Cancer Treatment Service Implementation Plan (Midland DHBs, 2005) rated the review of care co-ordination as a high priority and intended that the process mapping of the patient's journey be implemented immediately for all major cancers: breast, lung, colorectal, prostate, leukaemia, lymphoma and myeloma.

### ***Project Funding***

The Midland Region Cancer Control Patient Mapping Project has been jointly funded by Waikato, Bay of Plenty and Lakes DHBs with additional funding support from the Ministry of Health. The participating DHBs resourced seed funding for this project to cover 6-month period 1 July - 31 December 2005.

A further 6-month extension to the patient mapping project for the period 1 January – 30 June 2006 was made possible through one-off Cancer Control Implementation Funding from the Ministry of Health. In October 2005 the Ministry of Health requested proposals for projects that would contribute to implementing the New Zealand Cancer Control Action Plan 2005 – 2010. The Ministry of Health agreed to fund 23 one-off projects through the 2005/2006 Cancer Control Implementation Fund. The projects focus on mapping patient care pathways, the establishment of regional cancer networks and promoting the development of multidisciplinary teams. Five of the national projects involve an aspect of mapping the patient's cancer journey.

The Ministry of Health approved two Midland DHB projects – the Midland Region Cancer Control Patient Mapping Project (this project) together with the Midland Region Cancer Control Network Project (which is reported separately).

<sup>2</sup> The timeframe for implementation of phase 1 actions is within 2005-2007.

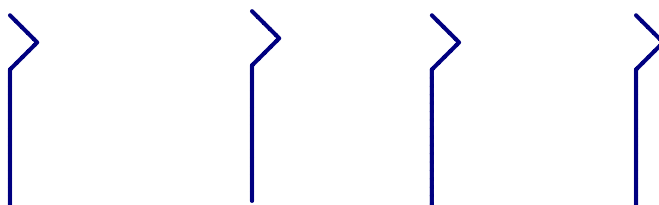
The Ministry of Health requires the Midland DHBs to submit reports on the projects and to present at a national seminar on findings in November 2006.

The participating Midland DHBs have agreed to fund a further extension of the patient mapping project from unallocated cancer funding until the end of December 2006. The Midland Cancer Control Network Report recommends the establishment of a Midland Cancer Control Network and is looking to the Ministry of Health to provide assistance with identifying a sustainable funding pathway to support the regional network infrastructure and associated work programme. It is planned that the patient mapping work will continue under the Midland Cancer Network's work programme.

## SECTION TWO - THE CANCER PATHWAY

Cancer care is delivered in a variety of settings and involves a range of services including screening, diagnosis, treatment, rehabilitation and palliative and end-of-life care. Cancer treatment includes surgical and non-surgical (medical oncology and radiation therapy) treatment services and supporting clinical services (e.g. pharmacy, laboratory, radiology).

The stages in the cancer journey that the Midland Cancer Control Patient Mapping Project has focussed on are referral, assessment, treatment and follow-up.



The predominant model of cancer health care across the Midland region is one of sequential referral. Patients are referred from the general practitioner or private medical specialist to a public hospital medical specialist (usually a surgeon) and then to other specialists as required.

The patient mapping project has focussed on services provided to cancer patients by public hospital and health services.

### ***Patient Mapping Methodology***

This area of work commenced with a half-day workshop to map the journey of a patient with early stage breast cancer. Twenty-eight attended the workshop from the participating Midland DHBs. The staff who attended comprised medical, nursing, allied health, administration and management. The staff represented the services involved in providing care to breast cancer patients including screening, surgery and non-surgical cancer treatment services.

The outcome of the workshop was a high level view of the patient's breast cancer journey. There were lots of information gaps and face to face interviews had to be arranged with individuals and small groups of staff to complete the mapping of the early stage breast cancer journey.

The project identified that a large workshop was not the best forum for undertaking the process mapping of the patient's cancer journey and for gathering information. It is difficult getting a representative of all staff groups who are involved in any part of the patient's cancer journey together at the same time. It is hard to get good mapping across the care continuum with such a large group and wide range of people and to capture variations in service provision across the participating DHBs. It was also considered that a workshop was not the most efficient use of staff time.

As a consequence the preferred process mapping approach now involves one to one or small group (up to 8 people) meetings at individual DHB level.

The steps in the process can be summarised as:

- Identify staff groups that are involved in any part of the patient journey
- Arrange meetings with representative(s) of the staff group and other key staff
- Interview staff (usually one to one or small group meetings)
- Draft pathways - document processes in flowchart format using VISIO program
- Consult - the resulting record of the patient journey is circulated for review and adaptation by staff who contributed to its development
- Finalise pathway.

The process is iterative. A number of versions of the pathways (2-3) are circulated to staff to review and adapt until the flowchart accurately represents what happens in the current care process. The resulting flowchart is a very detailed view of patient journey together with parallel (administrative and other) processes.

The maps of the patient journey have been adapted to fit with local circumstances for each of the participating DHBs. The Waikato DHB version of the pathway for a particular tumour group is developed first and then it has been used in discussions with staff from Bay of Plenty and Lakes DHBs to come up with customised versions for those DHBs.

The patient mapping work for each tumour group has been developed as a separate project. The time required to map the processes depends on the complexity of the care pathway. Some parts of the pathway can be utilised in pathways for other tumour groups with/without further adaptation.

The tumour pathways are presented as flowcharts produced using VISIO software, a business and technical drawing and diagramming program.

## Resources

A project manager was appointed to undertake this area of work and to ensure that the momentum with mapping the cancer patient's journey was maintained.

Period	FTE	Funding
1 July – 31 December 2005	0.5	Participating Midland DHBs
1 January – 30 June 2006	1.0	Ministry of Health Cancer Control Implementation Fund
1 July – 31 December 2006	1.0	Participating Midland DHBs

Other costs to the participating DHBs have included:

- Transport and other expenses associated with the focus groups (e.g. biscuits for morning and afternoon teas and petrol vouchers for participants)
- Training of project manager in VISIO
- Anticipated printing of reports and pathways for key stakeholders

It needs to be acknowledged that a significant number of staff from the participating DHBs have contributed their time and knowledge of the part they play in the patient's cancer journey. Their participation has been invaluable and has allowed us to gain an understanding not only of the whole patient journey but also of issues based on their direct experience.

## Progress to Date

Thirteen patient mapping reports have been produced for the major tumour groups across the participating Midland DHBs.

Tumour Stream	Waikato DHB		Bay of Plenty DHB		Lakes DHB	
	<i>Waikato Hospital</i>	<i>T Hospitals</i>	<i>Tauranga Hospital</i>	<i>Whakatane Hospital</i>	<i>Rotorua Hospital</i>	<i>Taupo Hospital</i>
<b>BREAST</b>	✓		✓	✓	✓	
<b>LUNG</b>	✓		✓		✓	
<b>COLORECTAL</b>	✓(2)*		✓(2)*		✓	
<b>PROSTATE</b>	✓		✓			

\* There are 2 colorectal cancer pathways for Waikato and Bay of Plenty DHBs to depict the major referral routes through surgery and gastroenterology.

The reports are at various stages of completion. The early stage breast cancer pathways have been completed. The pathways for lung and colorectal cancer are nearing completion. Work on prostate cancer pathways is in the early stage of development at this time.

It is estimated that over 130 staff from the participating DHBs and other health services have contributed to the patient mapping project.

Staff Interviewed	Waikato DHB		Bay of Plenty DHB		Lakes DHB	
	<i>Waikato Hospital</i>	<i>T Hospitals<sup>3</sup></i>	<i>Tauranga Hospital</i>	<i>Whakatane Hospital</i>	<i>Rotorua Hospital</i>	<i>Taupo Hospital</i>
<b>MEDICAL</b>	20	1	6	2	4	
<b>NURSING</b>	16	3	5	3	7	
<b>ALLIED HEALTH</b>	5		2	1	6	
<b>ADMINISTRATION</b>	17	3	5		2	
<b>MANAGEMENT</b>	6	1	4		5	
<b>OTHER</b>	5				3	
<b>Total by hospital/DHB</b>	69	8	22	6	27	

For Waikato DHB, information for patient mapping was gathered through meetings with individual staff members or small groups of staff (2-8). For Bay of Plenty and Lakes DHBs, information was gathered mainly through meetings with small groups of staff.

In total there have been 8 mapping meetings held at Tauranga and Rotorua hospitals and also there was one visit to Thames Hospital to meet with staff.

See the attached summary reports for breast, lung, colorectal and prostate cancer patient pathways (refer appendices 1- 4).

## **Challenges and Benefits**

The patient mapping work is proven to be both labour and time intensive. Overall the project has been received positively by staff. There have been difficulties engaging a small number of staff, as they could not see the value of this work and how it would really contribute to aspects of care or a particular service. It has been difficult to maintain momentum at times as feedback from staff tends to fizzle out over of time. The establishment of the Regional Clinical Director has assisted in providing leadership to medical disciplines and other health professionals on the value of contributing to the patient mapping project.

For some of the tumour groups there is a risk that the map of the patient's journey may be based on the perspective of a single representative of the particular staff group (e.g. a single clinician).

The mapping describes the current patient journey, it does not necessarily identify gaps. An understanding of issues has been gained from patients, clinicians and other staff contributing their views based on knowledge and direct experiences. Further work is required to confirm that the issues are in fact real, to identify gaps and solutions to improve services.

Data gathering and analysis processes are underway including epidemiology information and output data. There are large gaps in the data and complex processing

<sup>3</sup> Thames, Tokoroa, Te Kuiti and Taumaranui Hospitals

involving a significant amount of manual manipulation is required to mesh data from the three participating DHBs. For some of the DHBs the project team is reliant on using data which is drawn from costing systems. This means there are multiple data elements relating to one episode of care.

The project team intends to measure waiting times against current national standards (where these are available) and/or internationally recognised waiting times targets. The Midland Region Non-surgical Cancer Treatment Service Operations Network has endorsed adopting the National Institute for Health and Clinical Guidelines (NICE) standards until such time as national standards are available. There is a need to apply actual wait times between some of the major stages in the cancer journey. While theoretically this work is possible the reality is that the pathway to treatment is not stable, people start their journey at different stages across the continuum of care and they can also have multiple treatments (e.g. surgery) which mean misinformation and misinterpretation of data is possible. As a consequence it is expected to take some time to come up with reliable wait time information for each tumour group.

This area of work has also uncovered that the participating DHBs' Health Needs Assessments for cancer do not align.

The project has worked under the umbrella of the Midland Region Non-Surgical Cancer Treatment Operations Network. It has been recognised that the representation of this forum does not cover the whole continuum. It has been recommended that patient mapping work be part of the proposed Midland region cancer network programme.

The patient mapping project has raised awareness of the complexity of the patient's cancer journey. It has provided an opportunity to establish relationships with clinicians and other staff from participating DHBs who continue to be key stakeholders in providing care to cancer patients across the Midland region. It has provided an opportunity for local staff to meet and work together to identify the actual flow or sequence of events that patient's experience. It has resulted in improved team awareness of the whole cancer journey.

The pathways are unique to the delivery of cancer and other related services by hospital and health services across the participating Midland DHBs and as a result may not be applicable to other DHBs.

### **SECTION THREE - INVOLVING PATIENTS IN THE PROJECT**

Evidence from the literature indicates that consumer participation in health care at an individual, service and system level makes a significant contribution to improving individual and population health outcomes (Victoria Department of Human, Services 2005).

Several approaches have been used to involve patients, at an individual level, in the patient mapping project. These included:

- Analysis of DHB compliments and complaints data related to cancer services (regional perspective)
- Focus groups and patient interviews with breast cancer patients (regional perspective)
- A patient satisfaction survey involving lung cancer patients (Waikato DHB initiative only).

### ***Compliments and Complaints***

An analysis was undertaken of compliments, complaints and patient satisfaction survey data related to Breast Care Centre (Waikato DHB only), Oncology and Haematology services (participating DHBs) and Cancer Lodge (Waikato DHB only) received from April 2004 to September 2005.

Most comments were positive and acknowledged:

- High level of care provided
- Compassion shown to patients by staff
- Willingness of staff.

Negative comments related to:

- Lack of car parking facilities
- Waiting times for appointments
- Long times patients had to wait to see doctors during clinic attendances
- Communication.

### ***Breast Cancer Focus Groups and Patient Interviews***

Focus groups and interviews were held with breast cancer patients across the participating DHBs. In total 48 women participated, 27 via focus groups held at Rotorua, Tauranga and Whakatane and 21 via individual interviews with women from Waikato DHB district and Māori women from Lakes DHB district. A total of ten Māori women participated in the focus groups or interviews.

It is acknowledged the women essentially self-referred and that their views may not be representative of all early stage breast cancer patients.

High-level feedback on the findings of the patient interviews and focus groups has been provided to the people instrumental in arranging them, with an understanding, that the feedback could be passed on to the women who participated.

The following is a summary of key issues and themes:

- Regional differences in service delivery and provision were emphasised
- Problems or issues with individual facilities
- Lack of continuity of care – different medical staff seen at each stage in the journey with different views and potentially conflicting advice
- Wait between surgery and oncology is excessive. Perception that the ‘squeaky wheel’ works in terms of shortening waiting times to see Oncologist

- Reduced access to both public and private surgical and diagnostic services around public holidays (Easter, Christmas and New Year)
- Women feel there is some urgency to get underway with treatment whereas medical staff consider that, for most women, there is the time to consider the possible treatment options
- Dissatisfaction with information provided (lack of information or understanding of the information provided)
- Personal and lonely journey no matter how much support is available
- A feeling of being 'cut adrift' once treatment had finished. This feeling was heightened for those patients who had an extended involvement with health and hospital services i.e. surgery followed by medical and/or radiation oncology
- Very positive feedback was received on the Cancer Lodge and the Medical Oncology and Radiation Therapy departments at Waikato Hospital
- Financial burden of cancer and its associated treatment (lost earnings and costs of travel and accessing services (private investigations, prescriptions etc).

Recommendations for areas requiring further work included:

- Review the oncology referral procedures and communications about waiting time to access oncology services
- Investigate the impact that public holidays have on timely access for diagnosis and treatment for those diagnosed with cancer
- Institute inter-service referral tracking to prevent excessive delays
- More in-depth mapping of information given to patients.

### ***Lung Cancer Patient Satisfaction Survey***

In September 2005 lung cancer patients were surveyed to determine their satisfaction with the service provided to them. A modified version of the customer satisfaction survey form developed by the Ministry of Health was used.

The survey was sent to 30 patients who were diagnosed with lung cancer between the period May 2005 to midway through July 2005. A total of 18 patients completed the survey (around a 60% response rate).

Overall satisfaction with the service and initiative of the Lung Cancer Co-ordinator was high.

Lung cancer patients expressed a preference to be given the news of their diagnosis/clinical condition in person rather than by telephone.

Other recommendations for service improvements included:

- Effort being directed at ensuring those suspected of having lung cancer are seen by a specialist within two weeks of referral by the GP
- Consideration is given to offering patients a choice of appointment time.



## **SECTION FOUR - IMPROVEMENTS IN PROGRESS**

The following improvements have been initiated since commencement of the project:

- Funding of Care Co-ordinators (all participating DHBs)
- Initiatives to reduce waiting times for breast surgery (Waikato DHB only)
- Reducing inequalities of accessing breast screening services (Midland region)

### ***Funding of Care Co-ordinators***

The Non-Surgical Cancer Treatment Service Plan for the Midland Region (Barber, 2004) identified the need for care co-ordinators for the major tumour groups. Information and feedback gathered through the patient mapping work and from the focus groups and interviews with breast cancer patient has provided further support for the need for this role.

Waikato DHB has recently funded 1.5 FTEs breast care co-ordinators and 0.5 FTE Midland lead screening nurse. Recruitment for these positions is in progress. Bay of Plenty DHB has employed a breast co-ordinator within its surgical service and has recently agreed to fund a generic cancer co-ordinator for its medical service. Lakes DHB recently funded 0.8 FTE generic cancer co-ordinator. The care co-ordinators, among other things, will support the patient through their journey and liaise with care providers (primary, secondary and tertiary services and with community providers).

### ***Initiatives to Reduce Waiting Times for Breast Surgery***

There were growing concerns around the waiting times for breast surgery at Waikato Hospital. The national standard for BreastScreen Aotearoa for wait time from diagnosis of cancer to surgery is four weeks. There are a number of factors contributing to this delay including an increase in cases as a result of age extension for breast screening, changes in clinical practice (sentinel node management), lack of theatre capacity, and lack of current breast surgeon capacity.

To meet this growing demand there is a need for Waikato Hospital to access additional theatre sessions. Given current theatre capacity is operating at a maximum, these sessions will need to be leased from the private sector. Agreement has been reached to lease additional surgical theatre sessions from the private sector. However surgeons do not have spare capacity to undertake additional surgery sessions at this stage. A regular process for monitoring and reporting against standards has been implemented.

### ***Reducing Inequalities of Accessing Breast Screening Services***

BreastScreen Midland has introduced two new programmes which are aimed at reducing inequalities of accessing breast screening services.

The first programme is a universal programme that fits all women. The second programme targets high-risk women and is aimed at improving access to breast screening services by ethnic groups and in particular Maori and Pacific Island women.

To meet the needs of both programmes workforce development has commenced on clarity of roles, competencies and skills required for each programme. The competencies and skills of the workforce have been reviewed and aligned to meet the needs of both programmes. Reducing inequalities of access to breast screening services has been added as accountability in position descriptions for relevant staff.

## ***Emerging Themes***

The major themes emerging are:

- Variations in pathways across the region for each tumour group
- Demand - capacity issues
- Lack of psychosocial support for patients and family / whānau
- Risk of breakdown in communication
  - Many patient steps, usually over a long period of time (e.g. approximately up to 70 major steps in the breast pathway)
  - There are several handovers between services (e.g. approximately 9 handovers in the breast pathway)
- Lack of care co-ordination across the total continuum

The process is:

- Time and resource intensive
- It should be sustainable with a continuous quality approach
- Patients perspectives are important
- The need to validate and communicate issues is important to staff
- Issues are often complex and not always easy to resolve
- Data analysis is difficult

## ***Next Steps***

The first phase of the patient mapping work has provided an opportunity to understand the current service. Further work is required to complete the mapping of the cancer journey including related parallel processes for the major tumour groups. The second phase of the project is to collect and validate data and identify issues and service gaps. The third phase will involve prioritising and implementing quality improvements based on findings and then reporting and monitoring on progress.

Mapping the patient journey and improving services to patients is complex and resource intensive. There is a need to recognise this process is continuous and that sustainable resources are required for this work in order to ensure that the needs of patients and the recommendations of the New Zealand Cancer Control Strategy Action Plan (Ministry of Health, 2005) are met.

## Continue Patient Mapping

Complete the pathways for the four major tumour groups:

- Breast
- Lung
- Colorectal
- Prostate

Commence patient mapping<sup>4</sup> of:

- Ovarian cancer
- High risk genetic assessment service

Commence patient mapping of major malignant haematological conditions:

- Leukaemia
- Lymphoma
- Myeloma

Improve documentation of the pathways by standardising shapes used to represent processes and ensuring consistent terminology is used across all flowcharts. Also investigate representing the patient mapping information in different formats – simple paper-based documents, electronic versions and sophisticated regional pathway packages. Distribute regional and local versions of the patient mapping reports to participating DHBs.

## Complete Analytical work

Complete analytical work including analysis of data and patient journey and issues and gap analysis. Determine actual waiting times between key stages in journey. Undertake a retrospective review of patient records to validate waiting time information derived from data. Compare actual waiting time information against national standards (e.g Breast Screen Aotearoa) and the National Institute for Health and Clinical Guideline (NICE Guidelines) standards.

Investigate further waiting times for breast cancer patients requiring diagnostic tests/treatment around public holidays to determine whether alternative strategies need to be implemented.

## Regional Tumour Stream Workshops

Organise regional workshops to bring together members of the tumour specific care teams to discuss patient mapping reports and the information obtained from analysing pathways, data, issues and gaps. The outcomes intended from the workshops include prioritising recommendations for improvements and developing an action plan.

A continuous quality improvement approach will be adopted in relation to any improvements made to cancer services and implementing changes to the patient pathways. This approach will involve the utilisation of best practice tools such as the

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<sup>4</sup> As recommended by the Midland Region Non-Surgical Cancer Treatment Operations Network (July 2006)

Ministry of Health's Quality Framework principles and dimensions, FOCUS<sup>5</sup>, PDSA cycle<sup>6</sup> and Midland DHBs' priority matrix for assigning priorities to multiple recommendations.

Further work is required around assessing cultural appropriateness of cancer services and reducing inequalities. The Health Equity Assessment Tool (HEAT) will be applied to all recommendations from the patient mapping work and any cancer treatment service initiatives. There is a need to investigate opportunities to involve Māori expertise in the patient mapping project.

### Sustainable Function of Improving Cancer Services

As previously indicated the Midland Region Cancer Control Network Report recommends the establishment of a regional cancer network for the Midland region and that patient mapping and a continuous quality improvement framework is implemented in the activity programme.

In summary, the value of the patient mapping work may not be fully recognised for some time. The pathways provide the foundation for continued work, they will facilitate and guide local practices and strengthen the provision of multidisciplinary care for cancer patients across the Midland Region. Improvement in the delivery of care will result from getting patients on the right pathway of care. The pathways will be continually reviewed and adapted until they provide optimum care.

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<sup>5</sup> FOCUS = Find, Organise, Clarify, Uncover, Start

<sup>6</sup> PDSA cycle = Plan, Do, Study, Act

## REFERENCES

Barber, J. (2004). *Non-Surgical Cancer Treatment Service Plan for the Midland Region*. Tauranga: Midland DHBs.

Midland DHBs. (2005). *Midland Region Non-Surgical Cancer Treatment Services Progress Report 2005, Implementation Plan 2005-2010*. Hamilton: Midland District Health Boards.

Ministry of Health. (2005). *New Zealand Cancer Control Strategy ACTION PLAN 2005 – 2010*. Wellington: Ministry of Health.

Victoria Department of Human Services. (2005). *Building Partnerships with Consumers to Improve Service Delivery Breast Services Enhancement Program Learning from the past – information the future*. Melbourne: Victoria government Australia.

## APPENDIX 1 – EARLY STAGE BREAST CANCER

There are four patient pathway reports for early stage breast cancer

Waikato DHB

Lakes DHB

Bay of Plenty DHB – 2 pathway reports for Tauranga Hospital and for Whakatane Hospital

CONTEXT

- Registrations

Total number of Breast Cancer Registrations by Midland DHB in 2000

Waikato DHB	174
Lakes DHB	36
Bay of Plenty DHB	102
Tairawhiti DHB	24
Taranaki DHB	86

(Source: NZHIS)

- Mortality Rate

National mortality rate and mortality rates by Midland DHBs for the period 1994 – 2000

National	26.7	per 100,000
Waikato DHB	26.2 – 27.1	per 100,000
Lakes DHB	27.2 - 28.4	per 100,000
Bay of Plenty DHB	27.2 - 28.4	per 100,000
Tairawhiti DHB	27.2 - 28.4	per 100,000
Taranaki DHB	22.4 – 26.1	per 100,000

The rates for Waikato, Lakes, Bay of Plenty and Tairawhiti DHBs are not significantly different to the national rate. However, the rate for Taranaki DHB is comparatively lower than the national rate.

(Source: Atlas of Cancer Mortality in New Zealand 1994 -2000 p20)

	<ul style="list-style-type: none"><li>Projected number of cancer cases</li></ul> <p>The number of breast cancer cases expected in the Midland Region in 2006 and 2011</p> <table><tr><td></td><td><b>2006</b></td><td><b>2011</b></td></tr><tr><td>Bay of Plenty DHB</td><td>138</td><td>165</td></tr><tr><td>Lakes DHB</td><td>41</td><td>47</td></tr><tr><td>Waikato DHB</td><td>208</td><td>238</td></tr><tr><td>Tairāwhiti DHB</td><td>27</td><td>30</td></tr><tr><td>Taranaki DHB</td><td>72</td><td>80</td></tr></table> <p>(Source: Non-Surgical Cancer Treatment Service Plan for the Midland Region p26-28)</p> <ul style="list-style-type: none"><li>Māori and non-Māori cancer patterns and disparities</li></ul> <p>Māori women are a fifth more likely to be diagnosed with breast cancer but two-thirds more likely to die from breast cancer than non-Māori women. Māori women are more likely to be diagnosed at a later stage of disease spread and this contributed to a third of the survival disparity. Even among those diagnosed at localised or regional stages, significant disparities in survival were evident. (Source: Unequal Impact: Māori and non-Māori Cancer Statistics 1996-2001 p84)</p>		<b>2006</b>	<b>2011</b>	Bay of Plenty DHB	138	165	Lakes DHB	41	47	Waikato DHB	208	238	Tairāwhiti DHB	27	30	Taranaki DHB	72	80
	<b>2006</b>	<b>2011</b>																	
Bay of Plenty DHB	138	165																	
Lakes DHB	41	47																	
Waikato DHB	208	238																	
Tairāwhiti DHB	27	30																	
Taranaki DHB	72	80																	
SCREENING SERVICES	BreastScreen Aotearoa provides free imaging and assessment services for women aged 45 to 69 years. Mammography screening units are available in Hamilton, Tauranga, Mount Maunganui, Rotorua and Taupo. Assessment Centres are available in Hamilton, Tauranga and Rotorua. Mobile screening service visits a number of the smaller towns in the Midland region.																		
REFERRALS	Breast cancer patients are categorised as either screening detected or symptomatic patients. <i>Screening detected</i> <ul style="list-style-type: none"><li>are referred to the hospital service from BreastScreen Aotearoa providers.</li></ul> <i>Symptomatic</i> <ul style="list-style-type: none"><li>are referred by GPs or private medical specialists to a hospital service.</li></ul>																		
ASSESSMENT/DIAGNOSIS	<i>Screening detected</i> Attend assessment clinics operated by BreastScreen Midland <ul style="list-style-type: none"><li>Waikato DHB - Breast Care Centre, Waikato Hospital Campus</li><li>Bay Of Plenty DHB - Patients from Tauranga district are seen at Bay Radiology, Tauranga. Patients from Whakatane district are seen at Lakes Radiology, Rotorua.</li><li>Lakes DHB – Lakes Radiology, Rotorua</li></ul> <i>Symptomatic</i> <ul style="list-style-type: none"><li>Waikato DHB – patients are seen in diagnostic clinics at Breast Care Centre, Waikato Hospital Campus.</li></ul>																		

	<ul style="list-style-type: none"> <li>• Bay of Plenty DHB - patients from Tauranga district are seen in outpatient clinics at Tauranga Hospital. Patients from Whakatane district are seen in Breast Care Clinic at Whakatane Hospital.</li> <li>• Lakes DHB - patients are seen off-site in surgeon's private rooms or in outpatient clinics at Rotorua Hospital.</li> </ul>
<b>TREATMENT</b>	<p><i>Surgery</i></p> <p>Waikato DHB - Waikato Hospital. Some breast surgery is also carried out at Thames and Te Kuiti Hospitals (patients are fit, have palpable lesion or having a mastectomy)</p> <p>Bay of Plenty DHB - at both Tauranga Hospital and Whakatane Hospital</p> <p>Lakes DHB - Rotorua Hospital</p> <p><i>Medical Oncology</i></p> <ul style="list-style-type: none"> <li>• First Specialist Assessment - Waikato Hospital only</li> <li>• Chemotherapy <ul style="list-style-type: none"> <li>- Waikato DHB - Waikato Hospital and Thames Hospital</li> <li>- Bay of Plenty DHB - Tauranga Hospital and Whakatane Hospital</li> <li>- Lakes DHB - Rotorua Hospital and Taupo Hospital</li> </ul> </li> <li>• Follow-up - at all hospitals administering chemotherapy exception Taupo Hospital</li> </ul> <p><i>Radiation Treatment</i></p> <ul style="list-style-type: none"> <li>• First specialist Assessment - Waikato Hospital only</li> <li>• Treatment - Waikato Hospital only</li> <li>• Follow-up <ul style="list-style-type: none"> <li>- Waikato DHB - Waikato Hospital and Thames Hospital</li> <li>- Bay of Plenty DHB - Tauranga Hospital and Whakatane Hospital</li> <li>- Lakes DHB - Rotorua Hospital</li> </ul> </li> </ul>
<b>MODELS OF CARE</b>	<p>2 models of care - sequential referral (GP&gt;surgeon &gt; oncologist) and also multidisciplinary clinic where different clinical specialities present within one setting e.g. BreastScreen Midland Assessment Clinics.</p> <p><i>Screening Detected</i></p> <ul style="list-style-type: none"> <li>• Waikato DHB - multidisciplinary clinic (breast physician, surgeon, radiologist , nurse, MRTs)</li> <li>• Bay of Plenty DHB - multidisciplinary clinic (surgeon, radiologist , nurse, MRTs)</li> <li>• Lakes DHB - multidisciplinary clinic (surgeon, radiologist , nurse, MRTs)</li> </ul> <p><i>Symptomatic</i></p> <ul style="list-style-type: none"> <li>• Waikato DHB - multidisciplinary clinic (breast physician, surgeon, radiologist , nurse, MRTs)</li> <li>• Bay of Plenty DHB - For patients from Tauranga district the model of care is sequential referral. Patients from Whakatane district have a type of multidisciplinary clinic (disciplines include surgeon, nurse and social worker)</li> <li>• Lakes DHB - sequential referral</li> </ul>
<b>MULTIDISCIPLINARY</b>	<p>Clinical multidisciplinary meetings (MDTs) are required to be held at all BreastScreen Midland assessment sites. (Source: National Policy &amp; Quality Standards, Breast Screen Aotearoa p25)</p>



<b>TEAM REVIEW (MDTs)</b>	<p>Breast Screen Midland MDTs are held at: Breast Care Centre, Waikato Hospital Campus (weekly meeting); Bay Radiology, Tauranga (fortnightly meeting) and Lakes Radiology, Rotorua (fortnightly meeting).</p> <p>Breast Screen Midland MDTs discuss screening detected patients and also symptomatic patients</p> <p><i>Screening Detected</i></p> <ul style="list-style-type: none"> <li>• All patients with an abnormality are discussed</li> </ul> <p><i>Symptomatic</i></p> <ul style="list-style-type: none"> <li>• Waikato DHB - only if the patient has had an intervention (e.g. core biopsy)</li> <li>• Bay of Plenty DHB - If time permits symptomatic patients are now also discussed (change implemented August 2006) Whakatane district patients are discussed at Lakes Radiology MDT.</li> <li>• Lakes DHB - all symptomatic patients are discussed.</li> </ul> <p>Other Breast MDTs - Tauranga Hospital holds a Breast MDT on the alternative weeks to the Breast Screen Midland (Tauranga meeting). The Tauranga Hospital meeting involves surgeons, radiologists, pathology services and breast care nurses. The purpose of the Tauranga Hospital meeting is to discuss symptomatic patients.</p>
<b>KEY DISCIPLINES IN PROVIDING CARE</b>	<p><i>Waikato DHB</i></p> <ul style="list-style-type: none"> <li>• Breast surgeons</li> <li>• General surgeons with interest in breast surgery</li> <li>• Plastic surgeons</li> <li>• Breast physicians</li> <li>• Oncologists</li> <li>• Oncology nurses</li> </ul> <p><i>Bay of Plenty DHB</i></p> <ul style="list-style-type: none"> <li>• Breast surgeon (Tauranga Hospital)</li> <li>• General surgeons with interest in breast surgery</li> <li>• Breast Care Co-ordinator</li> <li>• Oncology nurses</li> <li>• Medical social worker with interest in breast cancer (Whakatane Hospital)</li> </ul> <p><i>Lakes DHB</i></p> <ul style="list-style-type: none"> <li>• General surgeons with interest in breast surgery</li> <li>• Oncology nurses</li> </ul> <p><i>BreastScreen Midland (Hamilton, Tauranga and Rotorua)</i></p> <ul style="list-style-type: none"> <li>• Radiologists</li> <li>• MRTs</li> <li>• Breast Nurse Specialists</li> </ul>

<b>KEY VARIATIONS</b>	<p><i>Midland Region</i></p> <ul style="list-style-type: none"> <li>• For screening detected patients, care until surgery is synchronised in multidisciplinary clinics and for patients this may mean fewer clinic attendances</li> <li>• More sophisticated investigations only available in Hamilton (e.g. stereotactic biopsies). Bay of Plenty and Lakes DHB patients need to travel to Hamilton to access this service and as a consequence it may mean diagnosis and treatment decisions are delayed.</li> <li>• More complex surgery is only available at Waikato Hospital (e.g. mastectomy with reconstruction and reconstruction post mastectomy) and as a consequence it may mean there are longer delays to access these services.</li> </ul> <p><i>Waikato DHB</i></p> <ul style="list-style-type: none"> <li>• Patients have access to additional assessments (e.g. mastectomy patients are offered a pre-surgery assessment by a plastic surgeon and patients who may have an axillary node dissection are seen by a physiotherapist at pre-assessment)</li> <li>• Oncologists on-site</li> <li>• Chemotherapy compounded on-site</li> <li>• Better access to medical oncologists for treatment reviews</li> </ul> <p><i>Bay of Plenty DHB</i></p> <p><i>Tauranga district</i></p> <ul style="list-style-type: none"> <li>• Patients are required to telephone the call centre to confirm attendance at clinics and for investigations and surgery</li> </ul> <p>- <i>Whakatane district</i></p> <ul style="list-style-type: none"> <li>• Screening detected patients have to travel to Rotorua for assessment</li> <li>• Medical social worker and nurse sit in on pre and post surgery clinics</li> <li>• Cross boundary patients (Murupara, Galatea and Manganui) may have surgery and chemotherapy at either Rotorua Hospital or Whakatane Hospital</li> <li>• Outpatient physiotherapist assessment prior to first specialist assessment for radiation oncology</li> <li>• Administration staff telephone patients to confirm attendance at visiting specialist clinics</li> </ul> <p><i>Lakes DHB:</i></p> <ul style="list-style-type: none"> <li>• First specialist assessment for surgery may take place off-site at surgeon's private rooms</li> </ul>
<b>ISSUES</b>	<p><i>Screening detected:</i></p> <ul style="list-style-type: none"> <li>• Additional clinic attendances for the patient if surgeon performing surgery is not the BreastScreen surgeon</li> </ul> <p><i>Symptomatic:</i></p> <ul style="list-style-type: none"> <li>• Imaging and diagnostic services are not streamlined. GPs required to refer for imaging then re-refer for clinical examination</li> <li>• Additional clinic attendances for patients requiring investigations e.g. biopsy</li> <li>• Multi-disciplinary clinics not available particularly in outlying areas</li> <li>• No standards for service provision</li> <li>• Demand and capacity issues with diagnostic clinics at the Breast Care Centre (Waikato Hospital). Only urgent cases are seen</li> </ul>

	<p><i>Screening Services:</i></p> <ul style="list-style-type: none"> <li>• Demand and capacity issues due to age extension</li> <li>• Challenges in meeting performance targets for notification of results, recall to assessment and waiting times for surgery</li> <li>• Additional imaging not funded for screening patients (e.g. side loop staging, CT scan, chest X-ray)</li> </ul> <p><i>Surgery:</i></p> <ul style="list-style-type: none"> <li>• Increase volumes and increase case complexity</li> <li>• Waiting time for surgery increasing (in particular at Waikato Hospital)</li> <li>• Changes in clinical practice (increased sentinel node management)</li> <li>• Limited theatre capacity (Waikato Hospital)</li> <li>• Limited surgeon capacity (Waikato Hospital)</li> <li>• Rural people prefer local treatment but some peripheral hospitals have small breast workload</li> </ul> <p><i>Medical Oncology:</i></p> <ul style="list-style-type: none"> <li>• Waiting time to access services exceeds standard</li> <li>• Participation in clinical trials is not available to all women</li> <li>• DHBs are not able to provide non-subsidised pharmaceutical cancer treatments</li> </ul> <p><i>Radiation Therapy:</i></p> <ul style="list-style-type: none"> <li>• Treatment only available on-site at Waikato Hospital. There is a socio-economic impact women and family/whānau especially for patients from Bay of Plenty and Lakes DHBs</li> <li>• Waiting time to access service exceeds standard</li> </ul> <p><i>Nuclear Medicine and Radiology Imaging:</i></p> <ul style="list-style-type: none"> <li>• Increasing demands for hook wires and sentinel node biopsy</li> <li>• Limited staff and equipment</li> <li>• Time intensive procedures</li> <li>• Limited capacity because of need to fit in with surgeon's operating schedule</li> <li>• Patients are required to be transferred within campus (Waikato DHB) or off-site (Bay of Plenty and Lakes DHB)</li> </ul>
<b>KEY THEMES EMERGING</b>	<p>Demand and capacity issues across the care continuum</p> <p>Differences in pathways for screening detected and symptomatic patients</p> <p>Lack of psychosocial support</p> <p>Limited experience in the management of breast cancer patients among medical staff at outlying hospitals</p> <p>Better communications are required with patients and GPs</p>

## APPENDIX 2 – LUNG CANCER

There are three patient pathway reports for lung cancer (work in progress)

Waikato DHB

Bay of Plenty DHB

Lakes DHB

<b>CONTEXT</b>	<ul style="list-style-type: none"> <li>Registrations</li> </ul>			
	Total number of registrations for malignant neoplasm of trachea, bronchus and lung for the Midland DHBs for year 2000			
	<b>DHB</b>	<b>Total Population</b>	<b>Male</b>	<b>Female</b>
	Waikato	135	83	52
	Lakes	50	19	31
	Bay of Plenty	86	49	37
	Tairāwhiti	24	15	9
	Taranaki	37	26	11
	(Source: NZHIS)			
	<ul style="list-style-type: none"> <li>Mortality Rate (specific to lung cancer)</li> </ul>			
	National mortality rate and mortality rates by Midland DHBs for the period 1994 – 2000			
		<b>Total Population</b>	<b>Male</b>	<b>Female</b>
	National	30.2	per 100,000	42.3
	Waikato DHB	28.9 – 31.9	per 100,000	40.7- 43.2
	Lakes DHB	>35.1	per 100,000	>47.6
	Bay of Plenty DHB	28.9-31.9	per 100,000	36.9-40.6
	Tairāwhiti DHB	>35.1	per 100,000	>47.6
	Taranaki DHB	28.9-31.9	per 100,000	36.9-40.6

	<p>From a total population perspective, the rates for Waikato, Bay of Plenty and Taranaki DHBs are not significantly different to the national rate. However, the rates for Lakes and Tairawhiti DHBs are comparatively higher than the national rate for lung cancer in the total population.</p> <p>From a male population perspective, Lakes DHB has a comparatively higher rate than the national rate. The rate for the other DHBs is not significantly different to the national rate for lung cancer in the male population.</p> <p>The female population follows the same pattern as for the total population with Lakes and Tairawhiti DHBs having comparatively higher rates than the national rate for lung cancer in the female population. (Source: Atlas of Cancer Mortality in New Zealand 1994-2000 p20)</p> <ul style="list-style-type: none"><li>Projected number of cancer cases</li></ul> <p>The number of lung cancer cases expected in the Midland Region in 2006 and 2011</p> <table><tr><th>DHB</th><th>2006</th><th>2011</th></tr><tr><td>Bay of Plenty</td><td>95</td><td>103</td></tr><tr><td>Lakes</td><td>40</td><td>43</td></tr><tr><td>Waikato</td><td>136</td><td>144</td></tr><tr><td>Tairawhiti</td><td>17</td><td>18</td></tr><tr><td>Taranaki</td><td>48</td><td>50</td></tr></table> <p>(Source Non-Surgical Cancer Treatment Service Plan for the Midland Region p26-28)</p> <ul style="list-style-type: none"><li>Māori and non-Māori cancer patterns and disparities</li></ul> <p>Māori is at substantially higher risk of developing lung cancer, more likely to be diagnosed at a later stage, and has significantly lower survival chances after diagnosis than non-Māori. (Source: Unequal Impact: Māori and non-Māori Cancer Statistics 1996-2001 p144)</p>	DHB	2006	2011	Bay of Plenty	95	103	Lakes	40	43	Waikato	136	144	Tairawhiti	17	18	Taranaki	48	50
DHB	2006	2011																	
Bay of Plenty	95	103																	
Lakes	40	43																	
Waikato	136	144																	
Tairawhiti	17	18																	
Taranaki	48	50																	
REFERRALS	Referrals are received from general practitioners, other private medical specialists (external) and referrals from other DHB clinicians (internal).																		
ASSESSMENT/DIAGNOSIS	<p>Waikato DHB</p> <ul style="list-style-type: none"><li>Patients are assessed in the respiratory outpatient clinic by a respiratory physician</li><li>Visiting specialist clinics are held at Thames Hospital (monthly) and Tokoroa Hospital (monthly)</li></ul> <p>Bay of Plenty DHB</p> <ul style="list-style-type: none"><li>Patients from the Tauranga district are assessed in outpatient clinics at Tauranga Hospital by a physician with an interest in respiratory conditions</li><li>Patients from Whakatane district are assessed in outpatient clinics at Whakatane Hospital by general physicians</li></ul>																		

	<p><i>Lakes DHB</i></p> <ul style="list-style-type: none"> <li>• Patients are assessed in outpatient clinics at Rotorua Hospital by a physician with an interest in respiratory conditions.</li> </ul>
<b>TREATMENT</b>	<p><i>Surgery</i></p> <p>Waikato DHB - Lung cancer surgery for the Midland region is undertaken at Waikato Hospital by cardiac surgery team</p> <p>Bay of Plenty DHB - refer patients to cardiac surgery team at Waikato Hospital</p> <p>Lakes DHB - refer patients to either Waikato Hospital or Auckland City Hospital</p> <p>Tairāwhiti DHB - refer some patients to Waikato Hospital for surgery</p> <p><i>Medical Oncology</i></p> <ul style="list-style-type: none"> <li>• First Specialist Assessment - Waikato Hospital only</li> <li>• Chemotherapy <ul style="list-style-type: none"> <li>- Waikato DHB - Waikato Hospital and Thames Hospital</li> <li>- Bay of Plenty DHB - Tauranga Hospital and Whakatane Hospital</li> <li>- Lakes DHB - Rotorua Hospital and Taupo Hospital</li> </ul> </li> <li>• Follow-up - clinics are held at all hospitals administering chemotherapy except for Taupo Hospital</li> </ul> <p><i>Radiation Treatment</i></p> <ul style="list-style-type: none"> <li>• First Specialist Assessment - Waikato Hospital only</li> <li>• Treatment - Waikato Hospital only</li> <li>• Follow-up <ul style="list-style-type: none"> <li>- Waikato DHB - Waikato Hospital and Thames Hospital</li> <li>- Bay of Plenty DHB - Tauranga Hospital and Whakatane Hospital</li> <li>- Lakes DHB - Rotorua Hospital</li> </ul> </li> </ul>
<b>MODELS OF CARE</b>	Predominant model of care is sequential referral - GP>physician >cardiac surgeon>oncologist
<b>MULTIDISCIPLINARY TEAM REVIEW (MDTs)</b>	Chest Conference (a clinical multidisciplinary meeting) is held weekly at Waikato Hospital. Not all lung cancer patients are referred to this meeting. It is likely that patients from Waikato, Bay of Plenty or Lakes DHBs who undergo surgery or non-surgical cancer treatment at Waikato Hospital will be discussed at the Chest Conference at some stage during their journey. Patients from Tairāwhiti and Taranaki DHBs are sometimes referred to the Chest Conference for advice only. Treatment for this group of patients is usually provided by other DHBs.
<b>KEY DISCIPLINES IN PROVIDING CARE</b>	<p><i>Waikato DHB</i></p> <ul style="list-style-type: none"> <li>• Respiratory physicians</li> <li>• Cardiac surgeons</li> <li>• Oncologists (medical and radiation)</li> <li>• Oncology nurses</li> <li>• Lung Cancer Co-ordinators</li> </ul> <p><i>Bay of Plenty DHB</i></p> <ul style="list-style-type: none"> <li>• Physician with interest in respiratory conditions (Tauranga Hospital)</li> <li>• General Physicians (Whakatane Hospital)</li> </ul>

	<ul style="list-style-type: none"> <li>• Oncology nurses</li> </ul> <p><i>Lakes DHB</i></p> <ul style="list-style-type: none"> <li>• Physicians with interest in respiratory conditions</li> <li>• Oncology nurses</li> </ul>
<b>KEY VARIATIONS</b>	<p><i>Waikato DHB</i></p> <ul style="list-style-type: none"> <li>• Chest Conference</li> <li>• Lung Cancer Co-ordinators on-site</li> <li>• If abnormality detected on X-Ray then Lung Cancer Co-ordinator is notified directly. Lung Cancer Co-ordinator will contact GP to ensure lung cancer patients are referred promptly for assessment</li> <li>• Oncologists on-site</li> <li>• Chemotherapy compounded on-site</li> <li>• Better access to medical oncologists for treatment reviews</li> </ul> <p><i>Bay of Plenty DHB</i></p> <ul style="list-style-type: none"> <li>- <i>Tauranga district</i> <ul style="list-style-type: none"> <li>• If treatment pathway is not clear-cut then patient is referred to Chest Conference for review. Referral is via Respiratory physicians at Waikato Hospital. Otherwise patients referred direct to cardiac surgery team or oncology services at Waikato Hospital.</li> <li>• Patients are required to telephone outpatient call centre to confirm attendance at outpatient clinics and for investigations</li> <li>• Post-surgery follow-up is undertaken by physician at Tauranga Hospital</li> <li>• Review by visiting medical oncologist later in treatment cycle (at Tauranga Hospital)</li> <li>• Side effects/problems managed by clinical staff on-site in consultation with support from oncology team at Waikato Hospital</li> </ul> </li> <li>- <i>Whakatane district</i> <p>May be referred direct to Waikato Hospital or may be referred in the first instance to physician at Tauranga Hospital</p> <ul style="list-style-type: none"> <li>• Patients have to travel to Tauranga Hospital for bronchoscopy and (+/-) assessment</li> <li>• Administration staff telephone patients to confirm whether the patient will be attending the visiting specialist clinics (with medical or radiation oncologists)</li> </ul> </li> </ul> <p><i>Lakes DHB</i></p> <ul style="list-style-type: none"> <li>• If treatment pathway is not clear-cut then patient is referred to Chest Conference for review. Referral is via Respiratory physicians at Waikato Hospital. Clear-cut patients are referred direct to cardiac surgery team or oncology services at Waikato Hospital as appropriate.</li> <li>• Post-surgery follow-up is undertaken at by consultant physician at Rotorua Hospital</li> <li>• Taupo patients are required to travel to Rotorua Hospital for assessment and investigations</li> </ul>
<b>ISSUES</b>	<p><i>Waikato DHB:</i></p> <ul style="list-style-type: none"> <li>• At the time of mapping the patient's lung cancer journey there were multiple entry points for referrals. This matter may no longer be an issue with the opening of the new Referral Co-ordination Centre at Waikato Hospital (opened August 2006)</li> </ul>

	<ul style="list-style-type: none"> <li>• Peripheral hospitals (Thames and Tokoroa Hospitals) holding referrals until visiting specialist on-site.</li> <li>• Inadequate information on referral letter</li> <li>• Time delay for X-ray (up to 10 days)</li> <li>• Previous imaging not always accessible by staff undertaking bronchoscopies</li> <li>• Imaging from bronchoscopy not able to be viewed on PAX</li> <li>• Inconsistencies around follow-up intervals</li> </ul> <p><i>Chest Conference</i></p> <ul style="list-style-type: none"> <li>• Inconsistencies around which lung cancer patients are discussed (regional issue)</li> <li>• Communication issues between medical staff at various facilities</li> </ul> <p><i>Medical Oncology:</i></p> <ul style="list-style-type: none"> <li>• Waiting times to access services exceed standards</li> <li>• Participation in clinical trials not available to all patients</li> <li>• DHBs not able to provide non-subsidised pharmaceutical cancer treatments</li> <li>• Waikato DHB patients are reviewed by oncologist after first treatment cycle whereas patients from Bay of Plenty and Lakes DHBs are not reviewed under later on in their treatment</li> <li>• Bay of Plenty and Lakes DHBs patients with side effects/problems are managed by clinical staff on-site in consultation with support from oncology team at Waikato Hospital</li> </ul> <p><i>Radiation Therapy:</i></p> <ul style="list-style-type: none"> <li>• Treatment only available on-site at Waikato Hospital. Socio-economic impact on women and family/whānau</li> <li>• Waiting times to access service exceeds standard</li> </ul>
<b>KEY THEMES EMERGING</b>	<p>Demand/capacity issues with investigations</p> <p>Communication issues between GP, physicians and hospitals</p> <p>Lack of psychosocial support</p>



## APPENDIX 3 – COLORECTAL CANCER

There are five patient pathway reports for Colorectal Cancer (work in progress)

Waikato DHB (2 pathways for surgical services and for gastroenterology services)

Lakes DHB (1 pathway)

Bay of Plenty DHB (2 pathways for surgical services and for gastroenterology services)

<b>CONTEXT</b>	<ul style="list-style-type: none"> <li>Registrations</li> </ul>			
	Total number of registrations for colorectal cancer for the Midland DHBs for year 2000			
	<b>DHB</b>	<b>Total Population</b>	<b>Male</b>	<b>Female</b>
	Waikato	167	93	74
	Lakes	42	16	26
	Bay of Plenty	129	72	57
	Tairāwhiti	23	12	11
	Taranaki	83	44	39
	(Source: NZHIS)			
	<ul style="list-style-type: none"> <li>Mortality Rate</li> </ul>			
	National mortality rate and mortality rates by Midland DHBs for the period 1994 – 2000			
		<b>Total Population</b>	<b>Male</b>	<b>Female</b>
	National	23.7	per 100,000	27.9
	Waikato DHB	23.0-24.9	per 100,000	29.7-33.2
	Lakes DHB	23.0-24.9	per 100,000	26.5-29.6
	Bay of Plenty DHB	<22.2	per 100,000	23.8-26.4
	Tairāwhiti DHB	25.0-28.2	per 100,000	<23.8
	Taranaki DHB	25.0-28.2	per 100,000	29.7-33.2
	The rates for all the Midland DHBs are not significantly different to the national rate for all population categories i.e. total, male and female.			
	(Source Atlas of Cancer Mortality in New Zealand 1994 -2000 p20)			

	<ul style="list-style-type: none"><li>Projected number of cancer cases</li></ul> <p>The number of colorectal cancer cases expected in the Midland Region in 2006 and 2011</p> <table><tr><td><b>DHB</b></td><td><b>2006</b></td><td><b>2011</b></td></tr><tr><td>Bay of Plenty</td><td>157</td><td>136</td></tr><tr><td>Lakes</td><td>66</td><td>75</td></tr><tr><td>Waikato</td><td>219</td><td>246</td></tr><tr><td>Tairāwhiti</td><td>28</td><td>30</td></tr><tr><td>Taranaki</td><td>80</td><td>88</td></tr></table> <p>(Source Non-Surgical Cancer Treatment Service Plan for the Midland Region p26-28)</p> <ul style="list-style-type: none"><li>Māori and non-Māori cancer patterns and disparities</li></ul> <p>Māori is less likely than non-Māori to be diagnosed with colon cancer or rectal cancer, but if diagnosed Māori is more likely to be at a more advanced stage of disease spread and more likely to die from the cancer even if diagnosed at early stages. (Source: Unequal Impact: Māori and non-Māori Cancer Statistics 1996-2001 p99 and 104)</p>	<b>DHB</b>	<b>2006</b>	<b>2011</b>	Bay of Plenty	157	136	Lakes	66	75	Waikato	219	246	Tairāwhiti	28	30	Taranaki	80	88
<b>DHB</b>	<b>2006</b>	<b>2011</b>																	
Bay of Plenty	157	136																	
Lakes	66	75																	
Waikato	219	246																	
Tairāwhiti	28	30																	
Taranaki	80	88																	
REFERRALS	Referrals are received from general practitioners, other private medical specialists (external) and from other DHB clinicians (internal). There are two entry points for patients with symptoms suggestive of colorectal cancer via surgical services or via gastroenterology services.																		
ASSESSMENT/DIAGNOSIS	<p>Waikato DHB</p> <ul style="list-style-type: none"><li>Patients are assessed by either a surgeon or gastroenterologist</li></ul> <p>Bay of Plenty DHB</p> <ul style="list-style-type: none"><li>Patients from the Tauranga district are assessed in outpatient clinics at Tauranga Hospital by either a surgeon or a gastroenterologist</li><li>Patients from Whakatane district are assessed in outpatient clinics at Whakatane Hospital by a surgeon</li><li>Endoscope procedures are undertaken at both Tauranga and Whakatane Hospitals</li></ul> <p>Lakes DHB</p> <ul style="list-style-type: none"><li>Patients are assessed by a surgeon or gastroenterologist in outpatient clinics at Rotorua Hospital</li><li>Endoscope procedures are undertaken at both Rotorua and Taupo Hospitals</li></ul>																		
TREATMENT	<p>Surgery</p> <ul style="list-style-type: none"><li>Waikato DHB - surgery is undertaken at Waikato Hospital</li><li>Bay of Plenty DHB - surgery is undertaken at both Tauranga and Whakatane Hospitals</li><li>Lakes DHB - surgery is undertaken at Rotorua Hospital</li></ul> <p>Medical Oncology</p> <ul style="list-style-type: none"><li>First Specialist Assessment - Waikato Hospital only</li><li>Chemotherapy</li></ul>																		

	<ul style="list-style-type: none"> <li>- Waikato DHB - Waikato Hospital and Thames Hospital</li> <li>- Bay of Plenty DHB - Tauranga Hospital and Whakatane Hospital</li> <li>- Lakes DHB - Rotorua Hospital and Taupo Hospital</li> <li>• Follow-up - provided at all hospitals administering chemotherapy except for Taupo Hospital</li> </ul> <p><i>Radiation Treatment</i></p> <ul style="list-style-type: none"> <li>• First Specialist Assessment - Waikato Hospital only</li> <li>• Treatment - Waikato Hospital only</li> <li>• Follow-up <ul style="list-style-type: none"> <li>- Waikato DHB - Waikato Hospital and Thames Hospital</li> <li>- Bay of Plenty DHB - Tauranga Hospital and Whakatane Hospital</li> <li>- Lakes DHB - Rotorua Hospital</li> </ul> </li> </ul>
<b>MODELS OF CARE</b>	Predominant model of care is sequential referral - GP>Surgeon>Oncologist>Surgeon or GP>Gastroenterologist>Surgeon>Oncologist>Surgeon>(+/-) Gastroenterologist
<b>MULTIDISCIPLINARY TEAM REVIEW (MDTs)</b>	<p>Not all colorectal cancer patients are reviewed by the MDTs</p> <p><i>Waikato DHB</i></p> <ul style="list-style-type: none"> <li>• Gastro Conference [Surgeons, Oncologists (medical and radiation) and Radiologist]. Fortnightly meeting</li> <li>• Fortnightly meeting to review pathology</li> </ul> <p><i>Bay of Plenty DHB</i></p> <ul style="list-style-type: none"> <li>• Weekly meeting. Attended by surgeons, gastroenterologists, radiologists, pathologist +/- visiting oncologist from Waikato Hospital</li> </ul> <p><i>Lakes DHB</i></p> <ul style="list-style-type: none"> <li>• Monthly meeting. Attended by surgeon, gastroenterologist, physicians, pathologist, radiologist +/- visiting oncologists from Waikato Hospital</li> <li>• Patients may be referred either pre or post surgery</li> </ul>
<b>KEY DISCIPLINES IN PROVIDING CARE</b>	<ul style="list-style-type: none"> <li>• Colorectal surgeons (Waikato, Tauranga and Rotorua Hospitals)</li> <li>• General surgeons undertake some surgery because workload is too high for colorectal surgeons to manage (Waikato, Tauranga and Rotorua Hospitals)</li> <li>• Gastroenterologists (Waikato, Tauranga and Rotorua Hospitals)</li> <li>• Stoma Therapists - hospital based (Waikato and Rotorua Hospital)</li> <li>• Stoma Therapists - community based (Bay of Plenty DHB)</li> <li>• Oncologists (medical and radiation) - Waikato Hospital only</li> <li>• Oncology nurses (Waikato, Thames, Tauranga, Whakatane, Rotorua and Taupo Hospitals)</li> </ul>
<b>KEY VARIATIONS</b>	<p><i>Waikato DHB</i></p> <ul style="list-style-type: none"> <li>• Surgical approach - open and laparoscopic</li> <li>• Some patients proceed to colonoscopy before attending first specialist assessment</li> </ul>

	<ul style="list-style-type: none"> <li>• Stoma therapist endeavours to see all patients before surgery</li> <li>• Stoma therapist, CNL surgical ward or surgeon site the stoma</li> <li>• Stoma reversal may be delayed beyond ideal time frame of 3 months due to shortage of theatre space and surgeon workload</li> </ul> <p><i>Bay of Plenty DHB (Tauranga Hospital)</i></p> <ul style="list-style-type: none"> <li>• Surgical approach - mainly open</li> <li>• Surgeon carries out sigmoidoscope on most patients. If indicative of colorectal cancer then the surgeon will fast track patient through further work-up.</li> <li>• Patients are required to phone outpatient call centre to confirm attendance at clinics or for investigations</li> <li>• 70% of referrals to gastroenterology service proceed direct to colonoscopy</li> <li>• Stoma therapist based in community. Visits patients in their homes. Involvement begins post surgery</li> <li>• Nurses on surgical ward site stomas</li> </ul> <p><i>Lakes DHB</i></p> <ul style="list-style-type: none"> <li>• Surgical approach - open</li> <li>• Stoma therapist (Rotorua Hospital) sees patients either at hospital or in their homes</li> <li>• Stoma therapist sites stoma. Involvement with patients begins during pre-operative workup</li> </ul>
<b>ISSUES</b>	<ul style="list-style-type: none"> <li>• Waiting time for assessment and colonoscopies exceed standards due to high workload and limited staff and facilities</li> <li>• Increasing burden of patients being followed up or under surveillance</li> <li>• Inconsistencies between surgeons and gastroenterologist in terms of monitoring with colonoscopy</li> </ul> <p><i>Bay of Plenty DHB</i></p> <ul style="list-style-type: none"> <li>• No 24/7 endoscope service</li> </ul> <p><i>Medical Oncology:</i></p> <ul style="list-style-type: none"> <li>• Waiting times to access services exceed standards</li> <li>• Participation in clinical trials not open to all patients</li> <li>• DHBs not able to provide non-subsidised pharmaceutical cancer treatments</li> </ul> <p><i>Radiation Therapy:</i></p> <ul style="list-style-type: none"> <li>• Treatment only available on-site at Waikato Hospital. Socio-economic impact on patients and family/whānau</li> <li>• Waiting times to access service exceed standards</li> </ul>
<b>KEY THEMES EMERGING</b>	<p>Demand and capacity issues</p> <p>Surveillance - workload increasing</p> <p>Inconsistencies between surgeons and gastroenterologists in terms of colonoscopy monitoring</p> <p>Lack of psychosocial support</p>

## APPENDIX 4 – PROSTATE CANCER

There are two patient pathway reports for Prostate Cancer (work in progress)

Waikato DHB

Bay of Plenty and Lakes DHBs

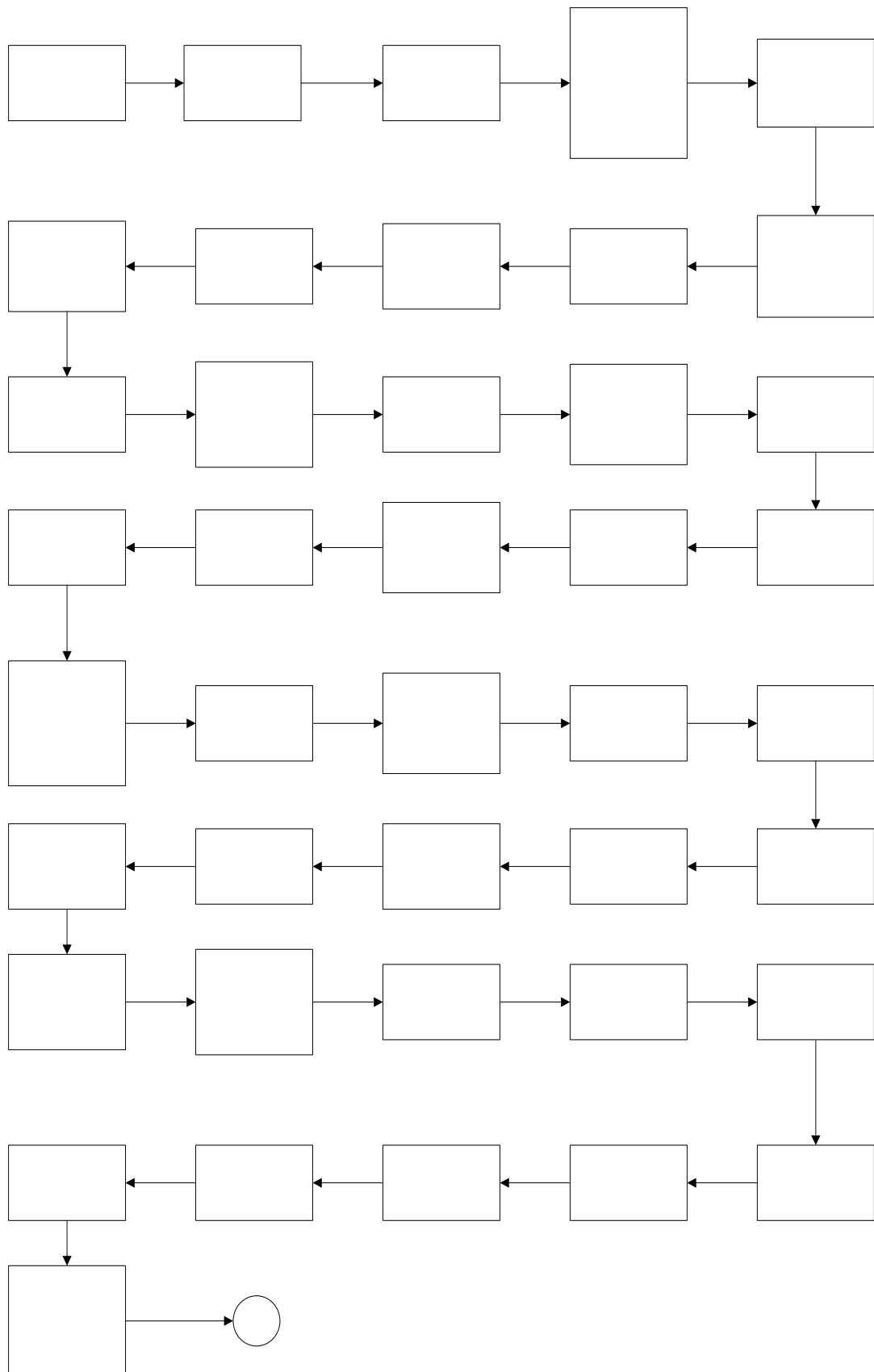
Urology services for the Midland region are provided by private companies under contract to the participating DHBs. Urology Services Ltd holds the contract for urology services to the Waikato district and oversees urology services for Taranaki DHB. Venturo Ltd holds the contract for urology services for both Bay of Plenty and Lakes districts.

CONTEXT	<ul style="list-style-type: none"> <li>Registrations Total number of registrations for prostate cancer for the Midland DHBs for year 2000</li> </ul> <table> <tr> <td>Waikato DHB</td><td>202</td></tr> <tr> <td>Lakes DHB</td><td>35</td></tr> <tr> <td>Bay of Plenty DHB</td><td>78</td></tr> <tr> <td>Tairāwhiti DHB</td><td>29</td></tr> <tr> <td>Taranaki DHB</td><td>81</td></tr> </table> <p>(Source: NZHIS)</p> <ul style="list-style-type: none"> <li>Mortality Rate National mortality rate by Midland DHBs for the period 1994 – 2000</li> </ul> <table> <tr> <th></th><th>Total Population</th></tr> <tr> <td>National</td><td>25.3 per 100,000</td></tr> <tr> <td>Waikato DHB</td><td>26.2-27.7 per 100,000</td></tr> <tr> <td>Lakes DHB</td><td>&gt;27.7 per 100,000</td></tr> <tr> <td>Bay of Plenty DHB</td><td>24.6-26.1 per 100,000</td></tr> <tr> <td>Tairāwhiti DHB</td><td>&gt;27.7 per 100,000</td></tr> <tr> <td>Taranaki DHB</td><td>26.2-27.7 per 100,000</td></tr> </table> <p>The rates for Waikato, Bay of Plenty, Tairāwhiti and Taranaki DHBs are not significantly different to the national rate. However, the rate for Lakes DHB is comparatively high when compared with the national rate.</p> <p>(Source: Atlas of Cancer Mortality in New Zealand 1994 -2000 p20)</p>	Waikato DHB	202	Lakes DHB	35	Bay of Plenty DHB	78	Tairāwhiti DHB	29	Taranaki DHB	81		Total Population	National	25.3 per 100,000	Waikato DHB	26.2-27.7 per 100,000	Lakes DHB	>27.7 per 100,000	Bay of Plenty DHB	24.6-26.1 per 100,000	Tairāwhiti DHB	>27.7 per 100,000	Taranaki DHB	26.2-27.7 per 100,000
Waikato DHB	202																								
Lakes DHB	35																								
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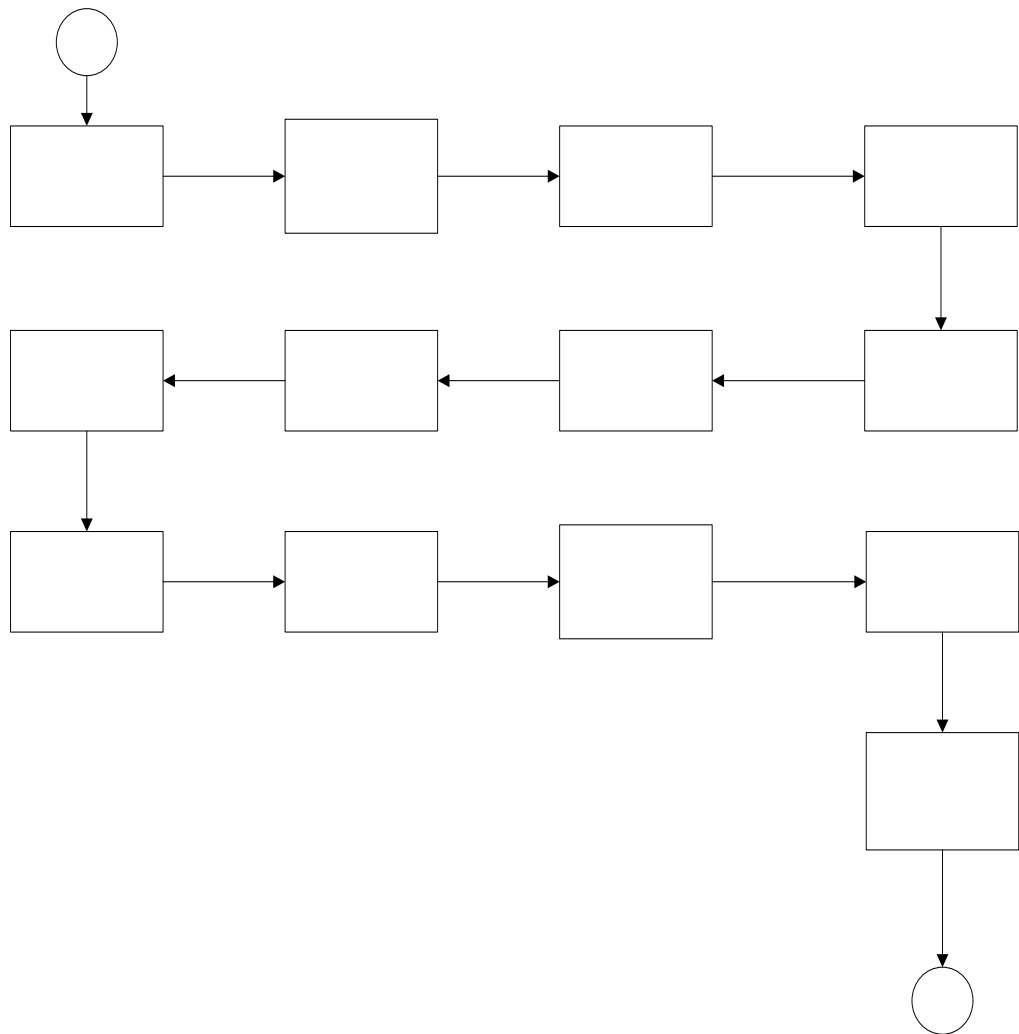
	<ul style="list-style-type: none"><li>Projected number of cancer cases</li></ul> <p>The number of prostate cancer cases expected in the Midland Region in 2006 and 2011</p> <table><tr><th>DHB</th><th>2006</th><th>2011</th></tr><tr><td>Bay of Plenty</td><td>115</td><td>154</td></tr><tr><td>Lakes</td><td>57</td><td>64</td></tr><tr><td>Waikato</td><td>160</td><td>208</td></tr><tr><td>Tairawhiti</td><td>20</td><td>25</td></tr><tr><td>Taranaki</td><td>57</td><td>74</td></tr></table> <p>(Source Non-Surgical Cancer Treatment Service Plan for the Midland Region p26-28)</p> <ul style="list-style-type: none"><li>Māori and non-Māori cancer patterns and disparities</li></ul> <p>Māori men are less likely to be diagnosed with prostate cancer than non-Māori men, but more likely to die from the cancer. Māori men are more likely to be diagnosed at an advanced stage of the disease, and once diagnosed were more likely to die from their cancer.</p> <p>(Source: Unequal Impact: Māori and non- Māori Cancer Statistics 1996-2001 p 188)</p>	DHB	2006	2011	Bay of Plenty	115	154	Lakes	57	64	Waikato	160	208	Tairawhiti	20	25	Taranaki	57	74
DHB	2006	2011																	
Bay of Plenty	115	154																	
Lakes	57	64																	
Waikato	160	208																	
Tairawhiti	20	25																	
Taranaki	57	74																	
REFERRALS	Referrals are received from general practitioners, private medical specialists (external) and referrals from DHB clinicians (internal).																		
ASSESSMENT/DIAGNOSIS	<p>Waikato DHB</p> <ul style="list-style-type: none"><li>Patients are assessed in outpatient clinics held on-site at Waikato Hospital</li><li>Outreach clinics are held at Tokoroa (every six weeks), Taumaranui (every 8 weeks), Thames (every 3-4 weeks) and Whangamata (every 8 weeks)</li><li>Biopsies are undertaken off-site at urologist’s private rooms in Hamilton</li></ul> <p>Bay of Plenty and Lakes DHB</p> <ul style="list-style-type: none"><li>Patients are assessed in clinics held at Venturo premises in Tauranga</li><li>Outreach clinics are held at Whakatane (monthly), Rotorua (2 per month) and Taupo (monthly)</li><li>Biopsies undertaken in Tauranga and Rotorua only</li></ul>																		
TREATMENT	<p>Surgery</p> <p>Waikato DHB - surgery is undertaken at Waikato Hospital</p> <p>Bay of Plenty DHB - surgery is undertaken at Tauranga Hospital</p> <p>Lakes DHB - surgery for patients from Lakes DHB is undertaken at Tauranga Hospital or Queen Elizabeth Hospital</p> <p>Radiation Treatment</p> <ul style="list-style-type: none"><li>First Specialist Assessment - Waikato Hospital only</li><li>Treatment - Waikato Hospital only</li></ul>																		

	<ul style="list-style-type: none"> <li>• Follow-up <ul style="list-style-type: none"> <li>- Waikato DHB - Waikato Hospital and Thames Hospital</li> <li>- Bay of Plenty DHB - Tauranga Hospital and Whakatane Hospital</li> <li>- Lakes DHB - Rotorua Hospital</li> </ul> </li> </ul>
<b>MODELS OF CARE</b>	Predominant model of care is sequential referral - GP>Urologist>Oncologist>Urologist
<b>MULTIDISCIPLINARY TEAM REVIEW (MDTs)</b>	<p><i>Waikato DHB</i></p> <ul style="list-style-type: none"> <li>• Histopathology meeting, every two weeks</li> <li>• Urology and oncology meeting, monthly</li> <li>• Radiology meeting, weekly</li> </ul> <p><i>Bay of Plenty and Lakes DHBs</i></p> <ul style="list-style-type: none"> <li>• Histopathology meeting, monthly</li> <li>• Radiology meeting, monthly</li> </ul>
<b>KEY DISCIPLINES IN PROVIDING CARE</b>	<ul style="list-style-type: none"> <li>• Urologists (Hamilton and Tauranga)</li> <li>• Urotherapist (Waikato Hospital only)</li> <li>• Continence Advisor - hospital based (Waikato and Lakes DHBs)</li> <li>• Continence Advisor - community based (Waikato and Bay of Plenty DHBs)</li> <li>• Specialist Urology Nurse (Venturo, Tauranga)</li> <li>• Oncologists (Waikato Hospital)</li> </ul>
<b>KEY VARIATIONS</b>	Work in progress
<b>ISSUES</b>	Work in progress
<b>KEY THEMES EMERGING</b>	Work in progress

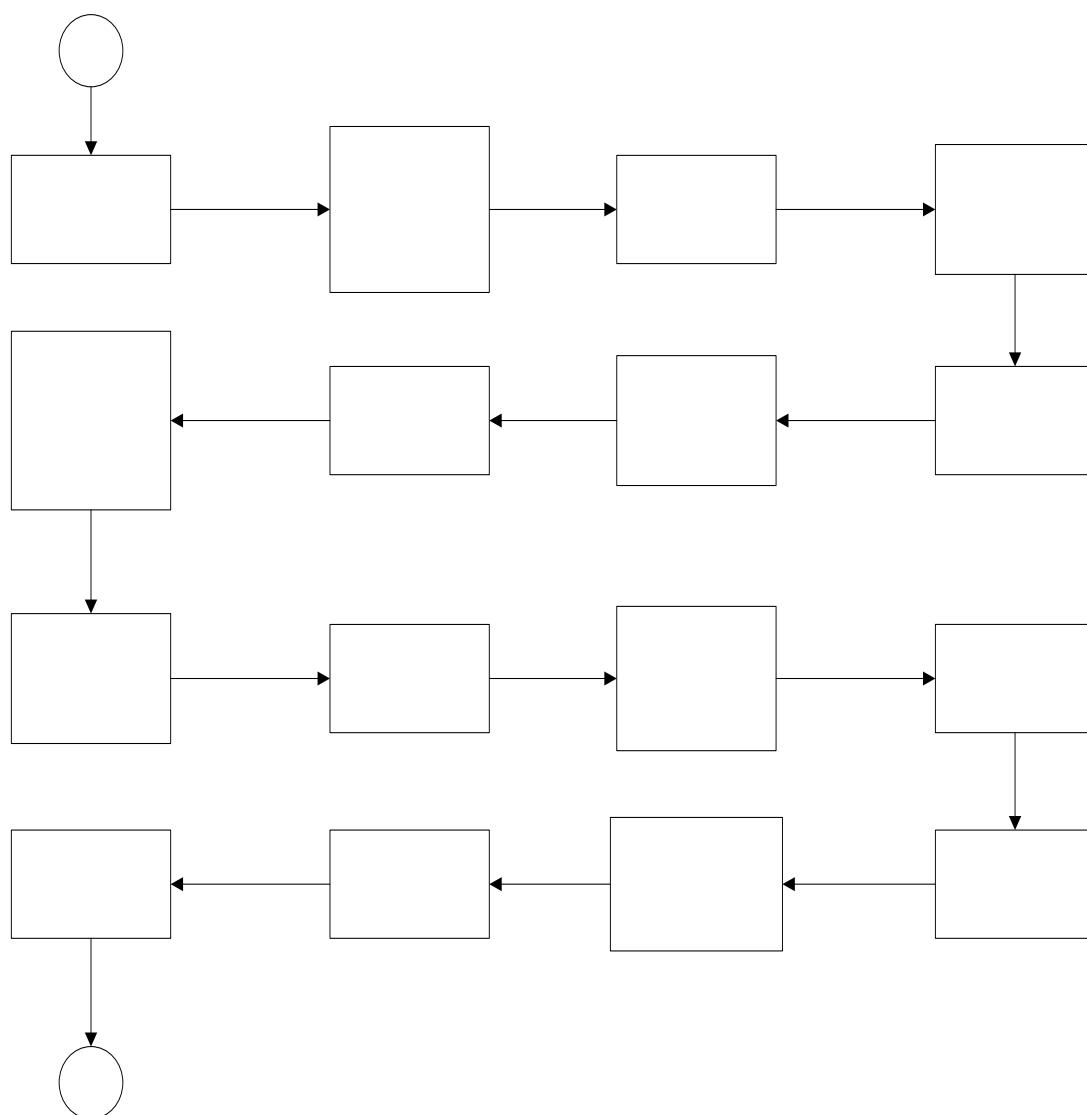
## APPENDIX 5 – BREAST CANCER PATIENT PATHWAY VIEW











## **APPENDIX 6 – DETAILED PATHWAYS FOR EARLY STAGE BREAST CANCER (Not Included)**

- Waikato DHB
- Bay of Plenty DHB (Tauranga Hospital)
- Bay of Plenty DHB (Whakatane Hospital)
- Lakes DHB

Hard copies of the Pathways are available on request, please contact Loryn Scanlan on [scanlanl@waikatodhb.govt.nz](mailto:scanlanl@waikatodhb.govt.nz)