

**MIDLAND REGION NON-SURGICAL CANCER  
TREATMENT SERVICE**

**PROJECT PROGRESS REPORT 2005  
&  
IMPLEMENTATION PLAN 2005-2010**

**November 2005**

**November 2005**

***Acknowledgements***

The Midland Region Non-Surgical Cancer Treatment Service Implementation Project Steering Group would like to thank staff from the participating DHBs who have provided support, knowledge and assistance.

## **EXECUTIVE SUMMARY**

The Midland DHB CEOs Group determined that the Non-Surgical Cancer Treatment Plan for the Midland Region (Barber, 2004) would form the framework for the development of adult medical oncology, radiation oncology and haematology services. The plan will guide service delivery and development between the years 2005 and 2010. The plan expounds a standard of evidence based best practice, however health resources are scarce and limited. The plan provides an opportunity to prioritise the different strategic initiatives and allocation of resources.

In December 2004 the Midland Region Non-Surgical Cancer Treatment Implementation Project was established to scope requirements and implications, focus on activities related to operational planning and the implementation of the Non-Surgical Cancer Treatment Service Plan for the Midland Region.

The project has been guided by a Steering Group comprising representatives from Waikato, Bay of Plenty and Lakes DHBs. Membership of the Steering Group included clinicians actively involved in the provision of non-surgical cancer treatment services and other treatment services, managers of cancer services and medical services, managers of planning and funding, and heads of hospitals and health services. The project was required to develop a Midland Region Non-Surgical Implementation to guide service delivery and development between the years 2005 and 2010.

The purpose of this plan is:

- To summarise progress made during the project. The majority of the recommendations are work in progress. The Steering Group produced a set of supplementary papers that should be referred to for detailed information on the work undertaken during the implementation project. Work undertaken during the implementation project has informed the set of actions for the next phase of implementation as set out in the Implementation Plan.
- To present the 5 year implementation plan
- To detail the 2005 / 06 implementation action plan.

Summary of the progress made during the implementation project:

- Prioritised the twenty five recommendations made in the Non-Surgical Cancer Treatment Service Plan for the Midland Region
- Recommended a Clinical Director Regional Cancer Services be appointed as soon as possible
- Successfully advocated for strengthening clinical leadership in cancer services at Bay of Plenty and Lakes DHBs
- Developed a network framework for the commencement of the Midland Region Non-Surgical Cancer Treatment Service Operations Network
- Profiled non-surgical cancer services and relevant clinical support services provided at all hospitals across the Midland Region.
- Developed a role delineation model for non-surgical cancer services for the Midland Region
- Reviewed the haematology and oncology purchase units utilised by the participating DHBs to ensure consistent application across the region

- Completed an audit of patients referred from Breast Screen Midland for treatment at Waikato Hospital to ensure appropriate revenue streams accessed
- Developed tools to assist DHBs with process mapping of the patient's cancer journey based on the NHS Cancer Services Collaborative methodology
- On approval of Midland DHB CEO group appointed project manager 0.5 fte for six months to commence patient mapping and parallel processes project
- Organised a Midland Region workshop to map the journey of a patient with early stage breast cancer
- Submitted requests for proposals (RFP) to the Ministry of Health for support to develop a Midland Region Cancer Control Network including appointment of a regional clinical director and extension of the patient mapping project until 30 June 2006
- Financial assessment.

The Implementation Plan aligns with The New Zealand Cancer Control Strategy Action Plan 2005 – 2010. The Implementation Plan has a five-year timeframe for implementation. As previously mentioned most of the recommendations are work in progress. The Steering Group recommend that there is an annual review of progress against the plan and an annual action plan is developed.

Key priorities during the next phase of implementation include:

Timeframe	Workstream	Key Theme and Major Actions
<b>Over the next 12 months</b>		
	Leadership	Establish the Midland Region Non-Surgical Cancer Treatment Service Operations Network Appointment of the Regional Clinical Director
	Patient Focus	Mapping of the patient's cancer journey and parallel processes for major tumour groups
	Workforce	Prepare analysis and business case for new positions
	Equipment	Prepare analysis and business case for new equipment
<b>Within the next 12 – 24 months</b>		
	Equipment	Linear accelerator programme for replacement and capacity review
	Workforce	Non-Surgical Cancer Services Nursing Workforce Plan Haematology Service and Workforce Plan
<b>Within the next 24 – 36 months</b>		
	Workforce	Radiation Oncology Workforce Plan Medical Oncologists Workforce Plan

A Midland Region Non-Surgical Cancer Treatment Service Operations Network has been established to provide leadership, expert advice and monitor progress with the overall responsibility for roll out of the Implementation Plan. The Operations Network will refine options to assist in the future allocation of resources.

The Non-Surgical Cancer Treatment Service Plan presents a gold standard of evidence based best practice, however, health resources are scarce and limited. The financial assessment provided in the Implementation Plan provides an ongoing opportunity to prioritise the different options and allocation of scarce resources.

## TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>3</b>
<b>PART ONE - INTRODUCTION.....</b>	<b>6</b>
<i>Structure of the Plan .....</i>	<i>7</i>
<i>Prioritisation of Recommendations .....</i>	<i>7</i>
<i>Other Approaches Utilised.....</i>	<i>7</i>
<b>PART TWO – PROJECT PROGRESS.....</b>	<b>9</b>
<i>Patient Focus.....</i>	<i>11</i>
<i>Integrated Care.....</i>	<i>12</i>
<i>Role Delineation.....</i>	<i>13</i>
<i>Leadership .....</i>	<i>16</i>
<i>Contracts .....</i>	<i>18</i>
<i>Information Systems.....</i>	<i>20</i>
<i>Equipment .....</i>	<i>21</i>
<i>Workforce.....</i>	<i>22</i>
<i>Financial Assessment.....</i>	<i>26</i>
<b>PART THREE – IMPLEMENTATION PLAN 2005 - 2010 .....</b>	<b>27</b>
<i>Patient Focus.....</i>	<i>27</i>
<i>Integrated Care.....</i>	<i>28</i>
<i>Role Delineation.....</i>	<i>29</i>
<i>Leadership .....</i>	<i>30</i>
<i>Contracts .....</i>	<i>31</i>
<i>Information Systems.....</i>	<i>33</i>
<i>Equipment .....</i>	<i>34</i>
<i>Workforce.....</i>	<i>35</i>
<b>PART FOUR – 2005 / 06 ACTION PLAN.....</b>	<b>40</b>
<i>Risks and Mitigation's.....</i>	<i>44</i>
<b>APPENDIX A – ASSESSMENT OF ADDITIONAL FUNDING REQUIRED FOR IMPLEMENTATION .....</b>	<b>45</b>

## PART ONE - INTRODUCTION

The Midland DHBs CEO Group determined that the Non-Surgical Cancer Treatment Service Plan for the Midland Region (Barber, 2004) would form the framework for the development of adult medical oncology, radiation oncology and haematology services for the Midland Region. In December 2004 a project was established to scope requirements and implications of the recommendations made in the regional service plan, focus on activities related to operational planning and commence implementation of the plan.

This plan builds on the achievements and findings of the Midland Region Non-Surgical Cancer Treatment Implementation Project.

This plan and should be read and considered in conjunction with:

- Improving Non-Surgical Cancer Treatment Services in New Zealand (2001)
- The New Zealand Cancer Control Strategy (2003)
- The Non-Surgical Cancer Treatment Plan for the Midland Region (2004)
- The New Zealand Cancer Control Strategy Action Plan (2005)

A Steering Group comprising representatives from the participating DHBs (Waikato, Bay of Plenty and Lakes DHBs) guided the project. The main points in the terms of reference of the Steering Group were to:

- Take a proactive leadership approach to the Non-Surgical Cancer Treatment Service Plan for the Midland Region
- Ensure well-informed decisions are made to achieve successful outcomes
- Support and advise the DHBs about issues, activities and priorities related to the implementation of the regional service plan
- To develop a five-year Midland Region Non-Surgical Cancer Treatment Services Implementation Plan.

The Midland DHBs committed resource in the form of project managers for an initial six months. It was recognised at the outset that the implementation of the recommendations made in the Non-Surgical Cancer Treatment Service Plan for the Midland Region would take longer than duration of the implementation project.

The Non-Surgical Cancer Treatment Service Plan for the Midland Region made twenty-five recommendations for the Regional Cancer Centre to strengthen the hub and spoke approach and to enable the service to meet the increasing needs of cancer services for the Midland population. A regional approach to planning non-surgical cancer treatment services is required to ensure a networked and co-ordinated cancer service. For patients it will mean improved integration and co-ordination across the continuum of care.

The majority of the recommendations are work in progress. The Steering Group produced a set of supplementary papers that should be referred too for detailed information on the work undertaken during the implementation project. This Implementation Plan outlines the progress made during the implementation project, presents the five year implementation plan and identifies key actions for 2005/06 implementation phase.

## ***Structure of the Plan***

The plan contains the following sections:

- Part One – The introduction provides an overview of the project methodology approaches that were used in the implementation project.
- Part Two – The progress report provides a summary of the advancement made during the project that has informed the development of the Implementation Plan 2005 – 2010. Included in this section is an assessment of the resource (staff and capital equipment) and financial implications of the recommendations from the Non-Surgical Cancer Treatment Service Plan for the Midland Region (2004).
- Part Three – Midland Region Non-Surgical Cancer Treatment Services Implementation Plan 2005 – 2010.
- Part Four – Midland Region Non-Surgical Cancer Treatment Services Implementation Plan Action Plan 2005-06, including risks and mitigation's.

The project was complex and detailed. It is not possible to include all of the detail in this plan, therefore further information can be found in Midland Region Non-Surgical Cancer Treatment Service Implementation Project Supplementary Papers. The supplementary papers contain in-depth information on work undertaken or developed on the recommendations during the implementation project and useful websites and resources.

## ***Prioritisation of Recommendations***

One of the first tasks involved prioritising the twenty-five recommendations made in the Non-Surgical Cancer Treatment Service Plan for the Midland Region using a decision-making grid (refer supplementary papers section A).

The criteria for prioritisation was based on:

- How amenable the recommendation was to implementation from the perspective of feasibility, capacity and capability
- The impact of the recommendation on improving function/wellbeing, reducing prevalence, reducing avoidable morbidity, reducing premature death rates and effectiveness of local provider sector.

Based on these considerations recommendations were categorised according to levels of priority. The Steering Group recommended the resulting prioritisation of the recommendations be used to guide the work efforts during the implementation project.

## ***Other Approaches Utilised***

Other approaches used during the implementation project and to inform the set of key actions outlined in the Implementation Plan included:

- Consultation with stakeholders through meetings and site visits
- Review of relevant literature.





## PART TWO – PROJECT PROGRESS

The Non-Surgical Cancer Treatment Service Plan for the Midland Region (2004) identified twenty-five recommendations. In preparation for development of the Midland Region Non-Surgical Cancer Treatment Services Implementation Plan the recommendations were categorised into eight work streams. Table 1 links the recommendations from the Non-Surgical Cancer Treatment Service Plan for the Midland Region to the workstreams. Following Table 1 is a summary of projects workstream progress to date.

**Table 1: Workstream and Summary Recommendations of the Non-Surgical Cancer Treatment Service Plan for the Midland Region**

No	Workstream	Midland Region Non-Surgical Cancer Treatment Plan Summary Recommendations
1	Patient Focus	1. Care co-ordination to ensure patients are supported through the treatment systems. 2. Care co-ordinators facilitate the delivery of culturally appropriate services by linking Maori providers. 3. Access to high-risk assessment services for patients with genetic dispositions
2	Integrated Care	4a. Formalise and extend multidisciplinary approach to care to all DHB outreach sites 4b. Options for telemedicine links to outreach sites
3	Role Delineation	5. To strengthen the hub and spoke approach to services, DHBs consider options in relation to site of service delivery. A role delineation for each level of cancer service be defined
4	Leadership	14. A Regional Cancer Control Group be established 15. Adhoc Regional cancer treatment working parties be established 16. Chief Medical Advisors should consider the issue of no owner/champion of cancer services at Bay of Plenty and Lakes DHBs 17. Essential to ensure there is clinical leadership of cancer services across the region
5	Contracts	20. Provider arm contracts should utilise haematology, oncology and radiation therapy purchase units for planning and monitoring

		<p>21. Development of separate purchase units for radiation oncology and medical oncology for inpatient DRGs and outpatient services (FSA and FUs)</p> <p>22. DHBs should negotiate with Waikato DHB appropriate changes to contract to ensure appropriate access to services</p> <p>23. Haematologists work with staff and GP liaison to review waiting lists and determine options for managing referrals and discharging patients to primary care</p> <p>25. A regular audit of patients receiving treatment through Breast Screen Aotearoa is undertaken to ensure accurate information is maintained and appropriate funding</p>
6	Information Systems	<p>19. Currently no system to collate clinical and / or contract data across DHBs. As a minimum DHBs participate in national working party</p> <p>24. Access to clinical trials for all cancer patients should be improved</p>
7	Equipment	<p>18a. Planning for 5<sup>th</sup> linear accelerator should be undertaken to allow installation for the 2007-08 year.</p> <p>18b. Consideration for 5th machine to be based at Tauranga Hospital as a satellite service managed from Regional Cancer Centre – depending on the outcome of the Australian National Radiotherapy Single Machine Unit (SMU) Trial</p>
8	Workforce	<p>6.Requirement for 5.7 fte haematologists to provide sustainable service with minimal increase to 6 FTE by 2011. Option for 1 haematologist based in Bay of Plenty noted.</p> <p>7. Requirement for 5.9 fte medical oncologists in 2006 increasing to 7.6 fte by 2011 (note need to be full time employees as there is no private service). The option by 2006 for 2 fte medical oncologists to be based in the Bay of Plenty and 1fte based at Lakes region is noted</p> <p>8.Review of radiation oncology staff be undertaken based on the proposed fte levels for 2006 7 fte radiation oncologists, 32 fte radiation therapists and 8 fte medical physicists</p> <p>9. Review the number of chemotherapy nurses and number of chemotherapy chairs based on predictions in the plan</p> <p>10. Care co-ordinators should be appointed to each patient receiving two or more treatment modalities, at a ratio of one co-ordinator to 100 cancer patients as per predicted numbers in the plan</p> <p>11. Review the current and future need for multidisciplinary co-ordinators at each DHB</p> <p>12. Review the staffing links between hospitals and DHBs including the option for the appointment of a regional oncology liaison nurse.</p>

## ***Patient Focus***

Key themes discussed are: -

- Co-ordination of patient care
- Culturally appropriate services
- High risk assessment services for patients with genetic predispositions

A critical recommendation of the plan identified that care co-ordination is needed to ensure patients are supported throughout the continuum of care and that care co-ordination needs to be delivered consistently across the region and across all tumour groups. Internationally patient focussed care co-ordination is regarded as a key strategy for improving the quality of cancer services. This is reflected as a phase one priority in the NZ Cancer Control Strategy Action Plan 2005 – 2010 (Goal 3, objective 3, outcome / results 55). It is recommended 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 oncology, haematology) for the Midland region. The process mapping of the patient's journey will identify gaps and links in care co-ordination.

A key achievement of the project to date is the development of an agreed framework, methodology and guidelines for the patient mapping process and a model for service improvement for the Midland Region (refer supplementary papers, section B). The methodology and guidelines developed are based on the National Health Service (NHS) Cancer Services Collaborative methodology. The Cancer Services Collaborative is a NHS-funded programme to make improvements in the way cancer services are delivered to the patient. In essence the Cancer Services Collaborative applies lessons learned about process re-engineering to the context of cancer care.

The New Zealand Cancer Control Action Plan recommends there will be DHBs that will be pilot sites for mapping of the patient journey. These sites will identify areas for improvement and learning will be shared and applied nationally. The Ministry has indicated that there is new 'one off' funding in 2005-06 to support this initiative. Based on the assumption of national pilots, the Midland DHB CEO's endorsed the concept of patient mapping with seed funding of a 0.5 fte project manager until the end of 2005 and / or submission of an application for national funding for the project. The patient mapping and parallel process project covers Bay of Plenty, Lakes and Waikato DHBs. Much of this work will provide intelligence for other recommendations in the Plan such as culturally appropriate services and integrated care through multidisciplinary teams. The Midland DHBs through the network (discussed under leadership section) have submitted a project proposal to be a national pilot site for mapping the patient journey. Mapping of the patient journey will be undertaken for the high volume tumour groups:

- Early stage breast cancer (commenced)
- Lung cancer (commenced)
- Colorectal (planned)
- Prostate cancer
- Leukaemia (acute and chronic)
- Lymphoma
- Myeloma

## *Integrated Care*

Key themes discussed are: -

- Multidisciplinary team approach
- Telemedicine links

The Non-Surgical Cancer Treatment Services Plan for the Midland Region considered that multidisciplinary approach to care was not formalised for all services and across all DHBs in the Midland region. The plan identified the need for staff from outreach centres to link with multi specialist meetings at Waikato Hospital.

This recommendation aligns with the New Zealand Cancer Control Strategy Action Plan recommended goals (outcome 47, pages 52 – 53). The NZ Cancer Control Action Plan requires the following actions in relation to multidisciplinary care:

- Cancer services to have documented procedures for the development and operation of a multidisciplinary team approach to diagnosis and treatment
- DHBs and cancer service providers will involve Māori and Pacific expertise in multidisciplinary teams and networks wherever possible
- Cancer services ensure that regular multidisciplinary case conferences are established to determine management of treatment and appropriate records are kept of meetings
- Multidisciplinary and where necessary, inter-regional care be established for the management of: breast, rectal, head and neck, gynaecological cancers, bone and soft tissue sarcomas and all cancers requiring multi-modality treatment.

In the UK the establishment of the multidisciplinary teams (MDTs) working for cancer has probably been the single most outstanding success of the cancer service initiatives over the last ten years (refer supplementary paper, section C). Well over 80% of cancer patients are having their diagnosis and treatment managed by a MDT. The team approach means that patient management plans are informed and delivered comprehensively. The NHS Modernisation Agency Multi Disciplinary Team Guide provided additional information on key factors for effective operation of MDTs.

The project completed a review of the status of Waikato Hospital MDTs against UK measures for generic MDTs. The review identified the following issues / gaps:

- Need for better co-ordination, time, place, patient list for review, diagnostic data
- Membership and attendance at MDTs – all service teams need to be represented
- Need for better information systems, clerical support and data collection to provide clinical monitoring performance.

The role delineation model (discussed in the next section) has made multidisciplinary care a requirement for all patients needing surgery for cancer.

The plan identified that telemedicine and / or teleconference was an optional approach for linking the MDT across outreach centres. A stocktake of existing telehealth capability was completed for each DHB.

## ***Role Delineation***

Role delineation is a process that determines the complexity of the clinical activity undertaken by services, a staff profile, equipment, facilities and other support services required to ensure the services are provided safely and are appropriately supported. A role delineation model is used to describe service profile and roles of hospitals in the Midland region. It is also used for guiding the planning and development of new services at the level necessary to ensure sustainability, high quality, safe and effective care.

Development of the role delineation model was a significant achievement for the project, and it is the understanding of the project members that the Midland region is the first to develop such a role delineation model in New Zealand. There was no national or international role delineation model that was applicable to the Midland region setting.

A stocktake of non-surgical cancer treatment services and supporting services was completed for each hospital throughout the participatory Midland DHBs. Using the New South Wales role delineation model as a guideline, a Midland Region non-surgical cancer treatment role delineation model was developed. The model is used to describe service profiles, role level for each of the hospital's providing non-surgical cancer treatment services in the Midland region. This provides a benchmark of the current level of services for each DHB hospital and provides a guideline for DHBs planning future service development.

The main determinants of the role delineation model is the availability of:

- Different types of services (chemotherapy administration, clinics provided on-site, radiation therapy)
- Diagnostic equipment (CT scan, MRI, ultrasound and nuclear medicine)
- Professional staff (specialised skills and competencies and leadership)
- Facilities (for chemotherapy administration, day procedures and consulting space).

In overseas model's cancer surgery and population base also feature as determinants of service complexity. Incorporating cancer surgery determinants could be factored in the future. Population base has not been included as a determinant of service complexity. However, reference to population size and predicted number of cancer cases was included to ensure consistency across the region in terms of service levels and that the level is adequate to meet the needs of the catchment population.

A six-level model has been developed. Services are stratified into one of six categories. Table 2 below demonstrates the complexity of non-surgical cancer treatment services provided at the hospitals in the Midland Region based on the role delineation model.

**Table 2: Role Delineation Model Summary of Non-Surgical Cancer Treatment Services provided at Hospitals in the Midland Region**

<b>Service Level</b>	<b>Complexity of non-surgical cancer treatment services provided</b>	<b>Bay of Plenty DHB</b>	<b>Lakes DHB</b>	<b>Waikato DHB</b>
Level one	Management of acute conditions and complications			Tokoroa Hospital Te Kuiti Hospital Taumarunui Hospital
Level two	As for level one plus: Chemotherapy administration		Taupo Hospital	
Level three	As for level two plus: Clinics Multidisciplinary management	Tauranga Hospital Whakatane Hospital	Rotorua Hospital	
Level four	As for level two plus: Medical oncology & haematology services Radiation oncology clinics Oncology pharmacy service Multidisciplinary management Supervision of lower-level services within DHB			
Level five	As for level two plus: Medical oncology & haematology services Radiation oncology clinics Oncology pharmacy service Multidisciplinary management Training Clinical trials			Regional Cancer Centre (Waikato Hospital)
Level six	As for level five plus: Paediatric cancer services Specialist Surgical Services Complex haematological support (including sophisticated diagnostic facilities)	Accessed through Auckland DHB	Accessed through Auckland DHB	Accessed through Auckland DHB

There is currently no hospital in the Midland region providing a level four service. However, Tauranga Hospital could move to this level at some stage in the future. For Bay of Plenty DHB it would mean having medical oncologists and haematologists on-site with a supporting infrastructure. With some less acute and less complex cases being treated at Tauranga Hospital the implications for the Regional Cancer Centre need to be considered.

There are implementation implications of the role delineation model (refer supplementary papers, section D). These implementation implications are consistent

with outcome / results required in the New Zealand Cancer Control Action Plan 2005 – 2010.

Key themes of the implications include:

- Chemotherapy administration and support
- Staff not working in isolation
- Multidisciplinary team approach
- Strengthening clinical leadership
- Medical support for outreach cancer patients

The model has tightened requirements related to administration of chemotherapy. For hospitals where chemotherapy is administered there must be at least two experienced chemotherapy nurses present when administering chemotherapy for verification purposes. Each hospital should have an additional experienced chemotherapy nurse (3<sup>rd</sup> nurse) to provide cover for leave and minimise risk should a nurse resign.

Support for chemotherapy nurses must be provided on-site from a designated medical officer with adequate knowledge in cytotoxic medical treatment. The additional expectations that would be placed on medical officers are considered to be within their scope of practice. The medical officers would be supported by protocols, agreed pathways of care and consultant support from the Regional Cancer Centre.

The model does not support specialists working in isolation. For DHBs it is preferred that there be a minimum of two resident medical oncology, radiation and haematology specialists. The model is consistent with recommendations of the Australian Medical Workforce Advisory Committee, Sustainable Specialist Services: A Compendium of Requirements, AMWAC Report 1998. However it has been agreed that transitional solutions be explored when a hospital is transitioning from level three to a level four service. Also specialists must be well supported and must have strong links with the Regional Cancer Centre.

The model demonstrates a multidisciplinary approach to the management of care. As a consequence multidisciplinary management of non-surgical cancer patients is expected to be provided in relation to level three services and above. This means level three plus hospitals must provide multidisciplinary team approach to patients' diagnosis and treatment. For clinicians from outreach centres it will mean participation in multi-specialist meetings. It will also require cross-communications across the region, which could be facilitated through telephone conferences.

Where a hospital acts as a host for a visiting specialist (medical oncologist, radiation oncologist or haematologist) it is expected that there will be appropriately skilled medical officers resident in the area to support the visiting specialists. The resident medical officer should have dedicated time for dealing with cancer patients and be available as required to spend time with the visiting specialist when they are on-site. The resident medical officer must be willing to care and support patients once the visiting specialist leaves town.

The model supports strengthening the clinical leadership for the non-surgical cancer treatment services across the Midland region. Bay of Plenty DHB has assigned a local cancer champion portfolio and Lakes DHB is in the process.

The level of non-surgical cancer treatment services available varies across the Midland region and the models supports development of consistency of standards and approach. The financial impacts and availability of staff resources need to be considered as progress is made towards implementation of the recommendations. The role delineation model supports lower level services being provided away from the Regional cancer centre where clinically and technologically appropriate. The model supports the provision of non-surgical cancer treatment services in accordance with agreed protocols, guidelines and pathways of care (once these are developed).

### ***Leadership***

Key themes discussed are: -

- Establishment of Midland Region cancer control network and non-surgical cancer treatment service operations network
- Local cancer champions at both Bay of Plenty and Lakes DHBs
- Appointment of Regional Clinical Director

The NHS defines managed clinical networks as 'linked groups of health professionals and organisations from primary, secondary and tertiary care, working in a co-ordinated manner, unconstrained by existing professional and health board boundaries, to ensure equitable provision of high quality clinically effective services.' One of the main attractions of the network is its flexibility with numerous organisations and different geographical areas.

In November 2005 the Midland DHB CEOs endorsed the concepts of developing a regional cancer control and treatment network and to advance multidisciplinary teams working together.

The Midland region cancer control network focuses on the total continuum of cancer (prevention, screening and early detection, diagnosis and treatment, rehabilitation and support, palliative care, research) and establishment of the network will be a key focus area for 2006-07. The Midland DHB CEOs endorsed a RFP being submitted to the Ministry of Health to establish the network and resolve network difficulties. The RFP was submitted 28 October and the Ministry will advise DHBs of the selection decision in November / December 2005. One of the difficulties will be to resolve the Taranaki and Tairāwhiti network alignment issues. The national Principal Advisor, Cancer Control has agreed to assist with this process. A project team will be established January 2006 to commence developing the framework and implementation of the Midland regional cancer control network. The Ministry of Health as indicated sustainable funding will be made available to support the development of regional cancer control networks throughout New Zealand.

The regional cancer control network will:

- Ensure formal recognition of cancer control activities
- Facilitate the co-ordination of services across health providers in the primary, secondary and tertiary levels
- Enable regular forums of bringing the various providers and consumer organisations people together



- Ensure effective co-operation
- Aim for integration of services where appropriate
- Plan and co-ordinate services in line with clearly defined national standards of treatment
- Be a forum to identify and address issues.

The current non-surgical cancer treatment services implementation project steering group will become the Midland region non-surgical cancer treatment services operations network with the addition of the Chief Operating Officer from Lakes DHB and clinical champion from Bay of Plenty DHB.

The objectives of the non-surgical cancer treatment operations network is:

- To deliver on the agreed recommendations of the:
  - Midland Region Non-Surgical Cancer Treatment Service Plan (2004) and
  - Midland Region Non-Surgical Cancer Treatment Service Implementation Plan 2005 - 2010

Which aims to achieve the strategies and goals of:

- Improving Non-Surgical Cancer Treatment Services in New Zealand (2001)
- The New Zealand Cancer Control Strategy (2003)
- The New Zealand Cancer Control Strategy Action Plan 2005 – 2010 (2005)
- Development of an annual Midland region non-surgical cancer treatment services action plan to include planning priorities which reduce inequities, service quality improvement, workforce development, education and training
- To monitor and evaluate service provision including reporting of data to inform and shape future service development
- To improve patient outcomes across the non-surgical cancer treatment service continuum of care
- To ensure that a detailed business plan is developed for implementation of agreed annual recommendations that scopes resource requirements and implications of implementation
- To ensure that all activities and interventions planned throughout the Midland region meet acceptable standards of best practice and clinical efficacy. To ensure that accountability and responsibility for outcomes are defined for each initiative.

Local cancer champion roles have been established at both Lakes and Bay of Plenty DHBs.

The steering group views the appointment of a Clinical Director for the Midland region as critical. It was identified that this was a new service initiative for the Midland region and was not part of the current service provision. Waikato DHB allocates approximately 0.2 fte for Clinical Director cancer services. It is proposed that an additional 0.2 fte Clinical Director be appointed to support Bay of Plenty and Lakes DHBs. An issue that requires ongoing work to resolve is identifying and agreeing a methodology to fund regional positions as part of the network. Often these regional positions do not align with the current contracting framework in terms of purchase units. This will be considered in the establishment of the Midland region cancer control network in 2006-07.

The key functions of the Midland Region Clinical Director role (refer to position description supplementary papers, section E) are:

- To participate in the Midland region non-surgical cancer treatment operations network to provide learning opportunities, identification and solutions to issues
- To provide clinical leadership in a partnership model with service managers and lead clinicians from Bay of Plenty and Lakes DHBs for the strategic and operational development of cancer services across the continuum for the Midland region
- To ensure cancer services, including outreach services are delivered in accordance with adequate clinical standards of practice and within negotiated parameters
- To promote a multidisciplinary team approach to achieve the best possible outcomes for the patients, service and the DHBs
- To provide clinical leadership and communicate developments at a local, regional and national level.

### ***Contracts***

Key themes discussed are: -

- Consistent application of purchase units across the region
- Separate recording of radiation and medical oncology inpatient and outpatient events
- Regional approach to annual contract management
- Regional approach to monitoring and evaluation of contracts
- Focus on haematology waiting list
- Maximise revenue from Breast Screen Aotearoa

### ***Purchase Units***

A review of all contract purchase units utilised by each DHB was completed to ensure consistent application across the region (refer supplementary papers, section F). DHB action plans were implemented as required.

The key themes from the review were:

- Not all DHBs were utilising M30004 haematology chemotherapy. There is a price differential between haematology chemotherapy and oncology chemotherapy.
- To ensure a coding spilt between medical and radiation oncology for inpatient (Waikato DHB only) and outpatient purchase units.
- High cost cancer drugs purchase unit M50012 had changed in 2005-06 and now relates to Mabthera only.

The Midland DHBs have agreed to initiate a coding spilt for medical oncology and radiation oncology. A request was submitted with DHBNZ Pricing Group to consider the development of separate purchase units for medical oncology and radiation oncology services, specifically inpatient, first specialist attendance's and subsequent attendance's. A database has been developed to improve the process of collating information and reporting on medical oncology, radiation activity and waiting times for services to the Ministry of Health. It is likely to be superseded by the new client administration system for Waikato Hospital.

It was identified that regional effort should be directed at ensuring that contract volumes are more closely aligned with services actually delivered rather than perpetuating planning based on historical activity. Prediction of service requirements should reflect expected growth in demand due to increase in cancer incidence and increase in prevalence due to increased survival. Contract planning needs to consider any changes to current treatment practices and capacity of the service to deliver cancer treatment services. The purpose of rectifying the situation is to ensure revenue is adequate to cover the costs of providing the service, there is appropriate access to services and to assist with future planning of services and infrastructure necessary to support service delivery.

#### *Haematology Waiting List*

The central haematology waiting list for the Midland region is based at Waikato. An issue identified was the number of referrals added exceeding the number of referrals seen and removed. Some initiatives to reduce demand for services have been implemented. In April 2005 primary care haematology guidelines were launched to assist GPs with the management of patients with haemachromatosis, chronic lymphatic leukaemia and monoclonal gammopathy. The guidelines have been rolled out in the Waikato DHB district. An audit of the waiting list was completed to ensure that there were not patients outside of the primary care guidelines criteria. The guidelines will be reviewed and assessed for further rollout to the Midland region.

It was identified that a haematologist vacancy was a contributing factor to the increase in waiting time for haematology services. Waikato plans to recruit to the vacant haematologist position in December 2005.

Haematology service contract volumes across the region increased by 12% during 2004-05 despite under resourcing of haematologists. The number of visiting specialist outreach clinics (2 per month) to Tauranga Hospital has been identified as inadequate. The majority of FSAs are being undertaken at Waikato Hospital. The steering group recommended that development of a haematology service plan for the Midland region should not be initiated until after the new haematologist commences in December 2005.

#### *Breast Screen*

The Ministry of Health pays Health Waikato under a separate arrangement for breast cancer treatment services provided to women who are referred to the hospital from a Breast Screen Aotearoa (BSA) provider such as Breast Screen Midland. Payment for treatment services is at an agreed purchase unit prices (price volume schedule). The hospital is required to invoice the Ministry of Health each month for breast cancer treatment services provided in the preceding month.

Concern was raised about whether or not Waikato Hospital was accessing the correct revenue stream. An audit of BSA invoicing processes was completed. The audit identified that all treatments that were coded as purchaser 15 (BSA referrals) were correctly being invoiced to the Ministry of Health for payments under the contract for treatment services for national breast screening programme.

## ***Information Systems***

Key themes discussed are: -

- System to collate clinical and contract data
- Improve access to clinical trials

The New Zealand Cancer Control Strategy (2003) identified that a key impediment to control cancer is the lack of a centralised, complete and easily accessible source of cancer data on staging, treatment and outcomes. Work has commenced at a national level to provide recommendations on how to improve the use, efficiency and scope of national data collection and reporting in New Zealand.

Currently there is no system to collate clinical and / or contract data across the Midland DHBs. There is no ability to monitor performance or recurrence rates across treatment modalities. The regional cancer centre at Waikato Hospital does not have a clinical database. Breast Screen providers capture clinical information about the patients it has diagnosed and referred for treatment services. The system for collecting the information is manual.

The project captured information on IT/information system project initiatives that are being investigated or undertaken that have the potential to improve the information capability at both a service level and across the DHBs.

At a Midland region level identified projects include:

- Regional PACs solution (enhance processes associated with the transfer and archiving of images e.g. X-ray, MRI)
- Clinical inquiry tool (allow improved access to DHBs patient level information for regional cancer centre clinicians)
- Enhanced current electronic communication links
- Establish appropriate electronic meeting environments across the region

At a local DHB level project initiatives include:

- Waikato – Client Administration System, Clinical Workstation and new pharmacy system
- Bay of Plenty – teleradiology (store and forward images of X-rays, MRIs etc)
- Lakes – telepaed (video-conferencing service)

The Midland region non-surgical cancer treatment service should harness improved information capabilities provided as a consequence of national, regional and local information systems project initiatives. In addition the work on mapping of the patient journey and parallel processes will capture useful information on patient, processes and information flows. This knowledge can be used to identify gaps between information requirements specific to non-surgical cancer treatment services and capabilities of organisation / cross-DHB information systems.

It is recommended that there is improved access to clinical trials for all cancer patients within the Midland region. The main issue was clinical trial requirements prohibit involvement of patients from outreach centres at this point in time. This was related to:

- Trial investigators (clinicians) are based at the Regional cancer centre

- Clinicians are required to have face to face contact with patients
- Protocols require assessment and treatment to take place on the same day
- Only on-site pharmaceutical cancer treatment compounding service is based at Waikato Hospital. Hospital pharmacy manages supply and compounding of the trial medicines.

## *Equipment*

Key themes discussed are: -

- Installation of a fourth linear accelerator for the Midland region
- Planning for a fifth linear accelerator for 2007-08
- Review of the Australian National Radiotherapy Single Machine Unit (SMU) Trial.

The installation of the new fourth linear accelerator at the regional cancer centre is in progress. Completion of the linac bunker construction is expected to be completed at the end of January 2006. Installation and commissioning of the linear accelerator will commence January – March 2006.

It is not the intention of this plan to provide a full capital expenditure business case but to inform of work in progress. In addition to installation of the fourth linear accelerator Waikato is developing a capital expenditure five-year plan for cancer services. Information from this plan has been incorporated into planning for equipment and financial analysis. A summary of asset replacement and / or maintenance required to maintain a service delivery level of four linear accelerators for the Midland region requires the following capital investment in the near future:

- Replace the single energy linac – This machine is currently beyond its life expectancy (at present 17 years old) and will be 19 – 20 years old when replaced
- Upgrade the single energy linac room – This is required given the increased radiation emission from the new machine as mentioned above
- Replace the 2100cd linac – this machine will be 10 years old and at risk of increased breakdowns
- Replace the CT machine – purchased in 1998

Anticipated capital expenditure for replacement and / or maintenance is discussed later in financial assessment summary.

Once the fourth linear accelerator is fully operational there will be a review of capacity and planning will commence on future requirements such as the 5<sup>th</sup> linear accelerator. Consideration needs to be given to replacement of 600d single energy linac due to considerable risk, and consideration to a 2<sup>nd</sup> simulator (not included in capital plan or financial assessment) and necessary planning terminals before moving to a 5<sup>th</sup> linear accelerator. Planning will need to consider capacity, possible location option of a linac at Tauranga and outcomes of the Australian radiotherapy single machine unit trial.

### *Radiotherapy Single Machine Unit Trial*

The national radiotherapy single machine unit (SMU) trial was established as a joint initiative between the Commonwealth and the Victorian Department of Human Services following recommendation in the 1998 Review of Radiotherapy Services in Victoria, Australia. First results of changes that relate to access and utilisation of radiotherapy following the introduction of SMUs in rural Victoria was received by the project. SMUs located in Ballarat, Bendigo and Latrobe Valley is based on a hub and spoke model. SMUs do not provide radiotherapy sub-speciality treatment. Evaluation commenced in September 2003 and includes measurement of the impact of the SMUs on access to radiotherapy services and utilisation of radiotherapy treatment.

Key themes from the first results indicate:

- That SMUs improve access to and utilisation of radiotherapy for rural patients
- The number of radiotherapy courses delivered increased by 1%
- The number of courses delivered to residents of metropolitan areas decreased by 1%
- Utilisation decreased slightly in metropolitan Melbourne and increased in rural Victoria. The largest increases were observed in regions proximal to the SMUs
- Key finding was a redistribution of patients with rural residents receiving their radiotherapy locally rather than in Melbourne
- Further improvements in patient access and utilisation are anticipated.

The network will continue to monitor the ongoing Australian SMU trial results.

### *Workforce*

Key themes discussed are: -

- Employment of staff - haematologist, medical oncologists, radiation oncology staff, chemotherapy nurses and associated chairs, regional oncology liaison nurse, multi treatment modality care co-ordinators for major patient groupings (i.e. lung, breast, prostate, radiation)
- Formalise staff links between DHBs
- Development of Clinical Nurse Specialist and Nurse Practitioners

### *Haematologists*

The Non-Surgical Cancer Treatment Services Plan for the Midland Region (2004) noted that on the basis of a Midland region population catchment over 600,000 there was a requirement for 5.7 fte haematologists to provide a sustainable service with a minimal increase to 6 fte by 2011. It was also noted that it was reasonable to suggest a minimum of 5 fte for the region due to the tertiary and geographical nature of the region and lack of general physicians at outreach sites with an interest in oncology.

The Non-Surgical Cancer Treatment Services Plan for the Midland Region (2004) included information on international benchmarks (British and Australia) for clinical activity associated with haematology services. The project compared the current levels of haematology activity with the British Society for Haematology – recommendations for haematologists (2001).

Table 3 compares the level of clinical activity across the Midland region against the recommendations of the British Society for Haematology

	<b>British Society for Haematology (per FTE)</b>	<b>Midland Region (per FTE) Based on actual vols 2004-05</b>	<b>Variance</b>
New Patients (FSA)	250	179	-79
Follow-up Patients	1,500	1,593	93
Inpatients	250	350	100

Assumptions includes clinical activity includes both SMO and registrars. Average staffing levels for haematologists during 2004-05 was 3.1 fte.

Table 4 indicates Midland region future haematologist requirements on predicted volumes

	<b>Predicted contract Volumes</b>	<b>Levels of Clinical Activity</b>	
		<b>British Society for Haematology FTEs required</b>	<b>Midland Region FTEs required</b>
<b>2006 / 2007</b>			
FSA	681	2.7	3.8
Follow-up	6129	4	3.8
<b>2011 / 2012</b>			
FSA	765	3.1	4.2
Follow-up	6885	4.6	4.3

Assumptions: The 2004/05 actual volumes for haematology follow-ups exceeded the predicted volumes of the regional service plan for both 2006/07 and 2011/2012. The volumes in the plan had been based on the British Society of Haematology new to follow-up ratio of 1:6. The actual ratio for the Midland region is 1:9. The predicted contract volumes for follow-ups in table 4 have been recalculated based on the actual new to follow-up ratio for the Midland region.

The Australian Medical Workforce Advisory Committee (AMWAC) Report for the Specialist Medical and Haematological Oncology Workforce in Australia recommend that there should be 1.6 fte medical and haematological oncologists per 100,000 population. The AMWAC report combines the subspecialties of medical oncology and clinical haematology. When split according to subspecialty this means 1.02 (1 – 1.1) fte medical oncologist per 100,000 population and 0.58 (0.5 – 0.6) fte haematologists per 100,000 population.

Table 5 Midland Region haematologist requirements based on AMWAC recommendations.

	2006 / 2007	2011 / 2012
<b>Population</b>	644,000	665,800
0.5 fte / 100,000	3.2	3.3
0.6 fte / 100,000	3.9	4.0
0.7 fte / 100,000	4.6	4.7

Assumptions: 0.6 fte equates to 60% haematologists work time spent on malignant haematological conditions, 0.7 fte equates to 70%.

The Non-Surgical Cancer Treatment Services Plan for the Midland Region (2004) adjusted the figures in the table 5 because Waikato haematologists spend about 60 – 70% of their total work time on malignant haematological conditions. The regional plan recommends 5.7 fte required in 2004 with a minimum increase to 6 ftes by 2011 (based on AMWAC recommendations).

International benchmarks are useful as a guide to staffing levels appropriate to workload, however comparisons sometimes suffer because of variations in definitions of specialists, in style, scope of practice and health systems and interpretation. From preliminary analysis of levels of clinical activity and projected haematology outpatient clinic volumes for 2006/07 and 2011/12 it appears that the plan for the Midland region may have slightly overestimated the future workforce requirements for haematologists. Based on actual level of activity the Midland region requires 3.8 fte in 2006/07 and increasing to 4.3 fte in 2011/12.

There has been an increase in the provision of haematology services at all sites across the Midland region during 2004/05 despite the ability to supply services constrained due to under resourcing. Since February 2005 there has been a vacant position of 1 FTE haematologist at Waikato Hospital. Waikato has recruited to the vacancy and the replacement haematologist commences in December 2005. The project recommends that a service plan be developed for haematology services for the Midland region once the current vacancy is filled. The purpose of the developing a plan is to involve all haematologists, better understand the balance between laboratory and other clinical activities undertaken by haematologists and to determine the absolute numbers of haematologists and supporting resources required to respond appropriately to increasing demand.

As a consequence of staffing shortages there are delays in accessing haematology services across the Midland region. As at end of May 2005 there were 166 patients waiting for an FSA. Of the 166 people on the waiting list 40 have been waiting greater than six months. There are also some delays in accessing follow-up appointments at some outreach centres, in particular Tauranga Hospital. Progress to address waiting times was discussed in the contract section.

#### *Medical Oncologists*

The plan recommended a requirement for 5.9 fte medical oncologists in 2006 and increasing to 7.6 fte by 2011. Recruitment of a medical oncologist based at Bay of Plenty is on hold due to difficulty recruiting. The role delineation model requires



linkages to be developed to ensure that specialists do not work in isolation. The medical and radiation oncology contract volumes have been spilt and a review of the projections will be completed once we have adequate data to analyse. Information from patient mapping will also inform planning.

#### *Radiation Oncology Staff*

The plan recommends 2006 proposed fte levels of:

- 7 fte radiation oncologists (2005/06 current 7 ftes)
- 32 fte radiation therapists (2005/06 current 24 ftes)
- 8 fte medical physicists (2005/06 current 6 ftes)

The medical and radiation oncology contract volumes have been spilt and a review of the projections will be completed once we have adequate data to analyse. Information from patient mapping will inform planning. In addition, once the fourth linac is commissioned a review of capacity and future capital equipment and workforce will be reviewed.

#### *Nurses, Co-ordinators and Chemotherapy Chairs*

The role delineation model outlined the requirements of hospitals providing chemotherapy administration service. The project also identified the need for stronger links between chemotherapy nurses at outreach centres and the Regional cancer centre and reinforced the plan's requirement for a regional oncology liaison nurse.

The plan also recommended care co-ordinators are appointed for patient's receiving multiple modality treatments at a ratio of one co-ordinator to 100 cancer patients. The number of care co-ordinators has been included in the workforce plan. The plan proposed a review of current and future need for multidisciplinary co-ordinators at each DHB. The UK Cancer Services Collaborative MDT job description is due out later this year. Very preliminary work on Clinical Nurse Specialist and Nurse Practitioner roles for cancer services has occurred.

Further work is required for all aspects of workforce recommendations. This is further detailed in the implementation plan section.

## ***Financial Assessment***

The project completed a financial assessment (appendix A and supplementary papers, section J) of translation of the recommended workforce levels and equipment of the Non-Surgical Cancer Treatment Services Plan.

This assessment is work in progress. This assessment was a straight translation of the plan's recommendations to reflect the financial implications. If the recommendations made in the regional plan were adopted in the current form for the Midland Region DHBs it could mean an additional cost of \$17.5 million over the next five to seven years. The Non-Surgical Cancer Treatment Service Plan for the Midland Region (2004) presents a gold standard of evidence based practice. It is recognised that there is a limit in terms of additional resources that can be released to support non-surgical cancer treatment services. The Implementation Plan along with the financial assessment provides an ongoing opportunity to prioritise the different options and allocation of scarce resources. This financial assessment is work-in-progress, and the network will continue to prioritise the options and prepare business plans for approval as required.

Table 6: Summary of Midland Region Funding Assessment for Non-Surgical Cancer

	<b>2005/2006</b>	<b>2006/2007</b>	<b>2007/2008</b>	<b>2011/2012</b>
Workforce	\$38,000	\$3,159,000		\$4,470,000
Equipment		\$7,688,000	\$2,101,000	\$49,000
<b>Total</b>	<b>\$38,000</b>	<b>\$10,847,000</b>	<b>\$2,101,000</b>	<b>\$4,519,000</b>

Assumptions of financial assessment are as follows:

- Salaries are based on MECA contracts current in August 2005, using mid range salary steps
- Salary levels for clinicians includes personal allowances, CME, on call rates, superannuation
- Future funding associated with staff costs includes 4% annual increment for salary and annual step increases
- Future funding for equipment and related items includes 2.5% annual increment
- Financial assessment excludes the possible recommended 5<sup>th</sup> linac as recent preliminary review indicates this is not anticipated in the next five years.
- 2006-07 includes the anticipated upgrade of the 600c linac (which is at least 18 years old)
- Equipment costs of the fourth linac have not been included in the above table for 2005/06 because its commissioning was not specifically part of implementing the Non-Surgical Cancer Treatment Services Plan

Funding requirements for 2005/06 relate to the Midland Region Clinical Director 0.2 fte total \$38,000 p.a. As previously indicated the network has submitted an RFP to the Ministry of Health for this funding.

## PART THREE – IMPLEMENTATION PLAN 2005 - 2010

### *Patient Focus*

Five Year Objectives	Specific Tasks	Responsibility	Timeframe	Milestones / Measures
1. A review of care co-ordination is undertaken across the DHBs and options are identified for improving links with community services and provider arm services (surgery, radiation therapy and medical oncology)	<ul style="list-style-type: none"> <li>• Map the patient journey and parallel processes for major tumour groups</li> <li>• Analyse and review the patient maps, review the processes and practices of care delivery</li> <li>• Identify service gaps, issues and opportunities</li> <li>• Involve patients and carers in the mapping process (via focus groups)</li> <li>• Prioritise system and process improvements</li> <li>• Develop, test, implement and evaluate areas of improvement using the model for improvement</li> </ul>	<ul style="list-style-type: none"> <li>• Midland region non-surgical cancer treatment services operations network (MRNSCTS Op's Network)</li> </ul>	<ul style="list-style-type: none"> <li>• 2005 / 2006 for mapping patient journeys</li> <li>• 2006 – 2010</li> </ul>	<ul style="list-style-type: none"> <li>• Number of patient care pathways completed (target 6 by the end of July 2006)</li> <li>• Number of patient focus groups held (target 3 by end of June 2006)</li> <li>• Gaps / issues and opportunities identified for each care pathway</li> </ul>
2. Care co-ordinators facilitate the deliver of culturally appropriate services by linking with Māori providers	<ul style="list-style-type: none"> <li>• Involve Māori expertise in mapping the patient journey</li> <li>• Assess cultural appropriateness of cancer services</li> <li>• Apply the Health Equity Assessment Tool (HEAT) to policy and funding decisions</li> <li>• Encourage Māori led and mainstream workforce capability to respond more effectively to the needs of Māori</li> <li>• Investigate opportunities to support Māori providers involvement in cancer treatment service delivery</li> </ul>	<ul style="list-style-type: none"> <li>• MRNSCTS Op's Network</li> <li>• With assistance from DHBs Māori health units, Māori expertise and Māori providers</li> </ul>	<ul style="list-style-type: none"> <li>• 2005/06</li> <li>• 2006 - 2010</li> </ul>	<ul style="list-style-type: none"> <li>• Patient mapping gathers intelligence by end of June 2006</li> <li>• Strategies developed and implemented</li> </ul>

<b>Five Year Objectives</b>	<b>Specific Tasks</b>	<b>Responsibility</b>	<b>Timeframe</b>	<b>Milestones / Measures</b>
3. Investigate options to improve access to high-risk assessment service for patients with genetic predisposition to cancer	<ul style="list-style-type: none"> <li>Investigate opportunities to set up a clinical alliance with Auckland DHB</li> <li>To utilise skills/talents currently available at the Regional cancer centre</li> <li>Review regional demand / supply for high-risk assessment service</li> <li>Investigate and analyse options for improving access to high-risk assessment services across Midland DHBs</li> </ul>	<ul style="list-style-type: none"> <li>MRNSCTS Op's Network</li> </ul>	<ul style="list-style-type: none"> <li>2007 – 2010</li> </ul>	<ul style="list-style-type: none"> <li>Review completed</li> <li>Options considered and agreed actions implemented</li> </ul>

### *Integrated Care*

<b>Five Year Objectives</b>	<b>Specific Tasks</b>	<b>Responsibility</b>	<b>Timeframe</b>	<b>Milestones / Measures</b>
4a. Formalise and extend multidisciplinary approach to care to all DHBs outreach sites	<ul style="list-style-type: none"> <li>Incorporate findings of multidisciplinary approach to care from patient mapping to guide future development of multi-specialist meetings (MSM)</li> <li>Prepare paper to initiate review of MSMs for Clinical Board</li> <li>Facilitate participation of outreach clinicians in Chest and Gynaecology MSMs</li> <li>Investigate establishing a Gastro MSM</li> <li>Ensure capability for cross-site communications on MSMs involving clinicians from outreach centres (i.e. via telephone conference call)</li> <li>Extend membership of MSMs to include care co-ordinators (once they have been appointed)</li> </ul>	<ul style="list-style-type: none"> <li>MRNSCTS Op's Network</li> </ul>	<ul style="list-style-type: none"> <li>2006 – 2010</li> </ul>	<ul style="list-style-type: none"> <li>Operating guidelines / policies for MSMs agreed and implemented</li> <li>Number of new regional MSMs held</li> <li>Number of clinicians from outreach centres participating in MSMs</li> <li>Number of care co-ordinators participating in MSMs</li> </ul>

Five Year Objectives	Specific Tasks	Responsibility	Timeframe	Milestones / Measures
4b. Options for telemedicine links to outreach sites	<ul style="list-style-type: none"> <li>Investigate the use of telehealth to assist the delivery of services to outreach centres and strengthen linkages between Regional cancer centre and outreach centres</li> <li>Investigate the options of delivering telehealth initiatives across the Midland region (technological requirements)</li> <li>Following investigation of options explore telehealth service models with a view to implementing pilot projects. Identify clinician champions for telehealth across DHBs</li> <li>Establish cross-DHB policies, protocols and guidelines for telehealth services</li> </ul>	<ul style="list-style-type: none"> <li>MRNSCTS Op's Network</li> <li>With support from the Midland region CIO forum</li> </ul>	<ul style="list-style-type: none"> <li>2007 - 2010</li> </ul>	<ul style="list-style-type: none"> <li>Investigations completed</li> <li>Regional pilot project involving telehealth developed and implemented</li> <li>Local clinician champions for telehealth appointed</li> </ul>

### *Role Delineation*

Five Year Objectives	Specific Tasks	Responsibility	Timeframe	Milestones / Measures
5. Role delineation model for non-surgical cancer treatment services in the Midland region be defined and adopted	<ul style="list-style-type: none"> <li>Audit of chemotherapy administration services being provided at smaller hospitals (Taumarunui, Thames, Taupo, Whakatane Hospitals)</li> <li>Investigate options for outreach centres to have increased resident medical staff involved in care and support of cancer patients</li> </ul>	<ul style="list-style-type: none"> <li>MRNSCTS Op's Network</li> </ul>	<ul style="list-style-type: none"> <li>2006/07</li> </ul>	<ul style="list-style-type: none"> <li>Audit completed</li> <li>Gaps and issues identified and appropriate action plan</li> <li>Options identified and implications</li> </ul>

## ***Leadership***

<b>Five Year Objectives</b>	<b>Specific Tasks</b>	<b>Responsibility</b>	<b>Timeframe</b>	<b>Milestones / Measures</b>
14. A Regional cancer control group should be established to provide learning opportunities and identification of issues	<ul style="list-style-type: none"> <li>• Scope requirements and framework to develop a Midland Region Cancer Control Network (MRCC Network)</li> <li>• Implementation of Midland Region Cancer Control Network</li> <li>• Identify and resolve network alignment issues with Taranaki and Tairāwhiti</li> </ul>	<ul style="list-style-type: none"> <li>• Midland DHB CEO forum</li> <li>• MRCC Network supported by Principal Advisor</li> </ul>	<ul style="list-style-type: none"> <li>• 2005/06</li> <li>• 2006/07</li> </ul>	<ul style="list-style-type: none"> <li>• Framework developed and agreed. Resources identified and with supporting revenue</li> <li>• Midland Region Cancer Control Network established</li> </ul>
15. Adhoc regional cancer treatment working parties should be established when the Midland DHBs do not feel the national working parties are meeting the needs of the region or there is a need to implement a national recommendation locally	<ul style="list-style-type: none"> <li>• Establish the Midland Region Non-Surgical Cancer Treatment Services Operation Network</li> </ul>	<ul style="list-style-type: none"> <li>• Midland DHB CEO forum</li> </ul>	<ul style="list-style-type: none"> <li>• 2005/06</li> </ul>	<ul style="list-style-type: none"> <li>• Network established by November 2005</li> </ul>

<b>Five Year Objectives</b>	<b>Specific Tasks</b>	<b>Responsibility</b>	<b>Timeframe</b>	<b>Milestones / Measures</b>
16. Chief Medical Advisors should consider the issue of no 'owner/champion' of cancer services at both BOP and Lakes DHBs and make recommendations	<ul style="list-style-type: none"> <li>Local cancer champions to participate in MRNSCT Ops Network</li> <li>Local cancer champions to work with Regional Network and Regional Clinical Director to resolve and local issues that arise</li> </ul>	<ul style="list-style-type: none"> <li>BOP and Lakes DHBs</li> </ul>	<ul style="list-style-type: none"> <li>2005/06</li> </ul>	<ul style="list-style-type: none"> <li>BOP clinical champion identified by 30/6/06</li> <li>Lakes clinical champion identified by 30/6/06</li> </ul>
17. A regional director or co-ordinator of cancer services is appointed with responsibility for development of cancer services	<ul style="list-style-type: none"> <li>Develop position description for Regional Clinical Director (Regional CD)</li> <li>Appoint to position on approval of funds</li> </ul>	<ul style="list-style-type: none"> <li>MRNSCTS Ops Network</li> </ul>	<ul style="list-style-type: none"> <li>2005/05</li> </ul>	<ul style="list-style-type: none"> <li>Position description developed by 30/6/06</li> <li>Regional CD appointed asap</li> </ul>

### ***Contracts***

<b>Five Year Objectives</b>	<b>Specific Tasks</b>	<b>Responsibility</b>	<b>Timeframe</b>	<b>Milestones / Measures</b>
20. Provider arm contracts to utilise the available haematology, oncology and radiation therapy purchase units to enable monitoring and ease planning for services	<ul style="list-style-type: none"> <li>DHBs utilise both haematology chemotherapy and oncology chemotherapy purchase units</li> <li>Agree reporting framework on haematology and oncology activity by DHBs and establish regular reporting processes</li> </ul>	<ul style="list-style-type: none"> <li>MRNSCTS Ops Network</li> </ul>	<ul style="list-style-type: none"> <li>2005/06</li> </ul>	<ul style="list-style-type: none"> <li>Midland region contract reporting framework developed and implemented</li> </ul>

<b>Five Year Objectives</b>	<b>Specific Tasks</b>	<b>Responsibility</b>	<b>Timeframe</b>	<b>Milestones / Measures</b>
21. Development of separate purchase units for radiation oncology and medical oncology for inpatient DRGs and outpatient services (FSA & FUs)	<ul style="list-style-type: none"> <li>DHBs implement coding split between medical and radiation oncology purchase units</li> <li>Include coding split in regional reporting</li> </ul>	<ul style="list-style-type: none"> <li>MRNSCTS Ops Network</li> </ul>	<ul style="list-style-type: none"> <li>2005/06</li> </ul>	<ul style="list-style-type: none"> <li>Coding split</li> <li>Midland region contract reporting framework developed and implemented</li> </ul>
22. DHBs should negotiate with Waikato DHB appropriate changes to contract to ensure appropriate access to service	<ul style="list-style-type: none"> <li>DHBs to discuss adjustments to contract volumes with planning and funding</li> <li>Establish regional collaborative contract planning process</li> </ul>	<ul style="list-style-type: none"> <li>MRNSCTS Ops Network</li> </ul>	<ul style="list-style-type: none"> <li>2005/06</li> </ul>	<ul style="list-style-type: none"> <li>Midland region contract planning process framework developed and implemented</li> </ul>
23. Haematologists work with appropriate staff and the DHB GP Liaison to review listings and determine options for managing referrals and discharging patients back to primary care	<ul style="list-style-type: none"> <li>Develop a haematology service plan for the region</li> <li>Map the patient journey of patients with leukaemia, lymphoma and myeloma</li> <li>Establish monthly contract reporting and monitoring of FSAs and FUs for haematology services</li> <li>Investigate waiting list management strategies with haematologists and GPs</li> <li>Investigate options to increase capacity through redesigning and extending roles (MOSS' and Clinical Nurse Specialists)</li> </ul>	<ul style="list-style-type: none"> <li>Midland DHB CEO group</li> <li>MRNSCT Ops Network</li> </ul>	<ul style="list-style-type: none"> <li>2006 - 2010</li> </ul>	<ul style="list-style-type: none"> <li>Service plan completed</li> <li>Patient pathways completed</li> <li>Regional haematology contract reporting and monitoring</li> </ul>



Five Year Objectives	Specific Tasks	Responsibility	Timeframe	Milestones / Measures
25. A regular audit of patient receiving treatment through Breast Screen Aotearoa is undertaken to ensure accurate information is maintained and appropriate funding streams are assessed	<ul style="list-style-type: none"> <li>Audit of patient referred by Breast Screen Aotearoa (BSA) to treatment</li> </ul>	<ul style="list-style-type: none"> <li>MRNSCT Ops Network</li> </ul>	<ul style="list-style-type: none"> <li>2005/06</li> </ul>	<ul style="list-style-type: none"> <li>Audit completed by 30/6/06</li> </ul>

### *Information Systems*

Five Year Objectives	Specific Tasks	Responsibility	Timeframe	Milestones / Measures
19. Develop system to collate clinical and / or contract data across the DHBs	<ul style="list-style-type: none"> <li>Stocktake of DHB data systems that exist for the management of cancer patients / services</li> <li>Monitor outcomes of the national cancer management dataset project currently in progress</li> <li>Capture information on patient, process and information flows from mapping project</li> <li>Investigate gaps in information requirements not met by national, regional and local IT project initiatives</li> </ul>	<ul style="list-style-type: none"> <li>MRNSCT Ops Network</li> </ul>	<ul style="list-style-type: none"> <li>2007/08 - 2010</li> </ul>	<ul style="list-style-type: none"> <li>Stocktake completed 30/6/06 and informs planning</li> <li>Outcomes from national project implemented</li> </ul>
24. Access to clinical trials for all cancer patients should be improved	<ul style="list-style-type: none"> <li>Investigate options to expand access to clinical trials to include patients from outreach centres</li> </ul>	<ul style="list-style-type: none"> <li>MRNSCT Ops Network</li> </ul>	<ul style="list-style-type: none"> <li>2008/09 - 2010</li> </ul>	<ul style="list-style-type: none"> <li>Options considered and agreed actions implemented</li> </ul>

### *Equipment*

<b>Five Year Objectives</b>	<b>Specific Tasks</b>	<b>Responsibility</b>	<b>Timeframe</b>	<b>Milestones / Measures</b>
18a. Planning for fifth linear accelerator should be undertaken to allow for installation for the 2007/08	<ul style="list-style-type: none"> <li>Following installation of 4<sup>th</sup> linac review of capacity and workforce completed</li> <li>Waikato to confirm its 5 year anticipated capital expenditure plan</li> </ul>	<ul style="list-style-type: none"> <li>MRNSCT Ops Network</li> </ul>	<ul style="list-style-type: none"> <li>2007/08</li> </ul>	<ul style="list-style-type: none"> <li>Review completed to inform planning of 5<sup>th</sup> linac</li> <li>5 year capital expenditure plan confirmed by 2006</li> </ul>
18b. Australian National Radiotherapy Single Machine Unit (SMU) Trial results used to inform long term planning	<ul style="list-style-type: none"> <li>Regular follow-up with Victorian Department of Human Services about ongoing results of SMU trial</li> <li>Obtain report of the Australian SMU trial once it is published</li> <li>Arrange telephone conference with Victorian Department of Human Services after reviewing report</li> <li>Investigate and analyse policy options regarding establishing a satellite service in Midland region</li> </ul>	<ul style="list-style-type: none"> <li>MRNSCT Ops Network</li> </ul>	<ul style="list-style-type: none"> <li>2006/07 - 2010</li> </ul>	<ul style="list-style-type: none"> <li>Report obtained</li> <li>Teleconference held</li> <li>Options regarding satellite service considered and agreed action plan</li> </ul>

## Workforce

Five Year Objectives	Specific Tasks	Responsibility	Timeframe	Milestones / Measures
6. Require 5.7 fte haematologists to provide current service, with a minimal increase to 6 fte by 2011	<ul style="list-style-type: none"> <li>Develop a Midland region haematology service plan, incorporate findings from patient mapping project</li> <li>Develop workforce plan for haematologists and associated support staff</li> <li>Review workforce projections and prepare business cases as appropriate</li> </ul>	<ul style="list-style-type: none"> <li>MRNSCT Ops Network</li> <li>Haematology Service</li> </ul>	<ul style="list-style-type: none"> <li>2006/07 – 2010</li> </ul>	<ul style="list-style-type: none"> <li>Service plan, including workforce plan completed, implemented and evaluated</li> </ul>
7. Require 5.9 fte medical oncologists in 2006, increasing to 7.6 fte by 2011	<ul style="list-style-type: none"> <li>Review projections once confirmed workload / contract volumes splits on medical and radiation oncology</li> <li>Incorporate findings from patient mapping project and parallel processes into workforce planning</li> <li>Implement workforce plan through submission of business cases as appropriate</li> </ul>	<ul style="list-style-type: none"> <li>MRNSCT Ops Network</li> <li>Haematology Service</li> </ul>	<ul style="list-style-type: none"> <li>2007/08 - 2010</li> </ul>	<ul style="list-style-type: none"> <li>Workforce plan completed, implemented and evaluated</li> </ul>
8. Review of radiation oncology staffing based on the proposed FTE levels for 2006 of 7 fte radiation oncologists, 32 fte radiation therapists and 8 fte medical physicists	<ul style="list-style-type: none"> <li>Feed in information about anticipated capital expenditure and findings of review of capacity and workforce planning</li> <li>Review projections and develop workforce plan</li> </ul>	<ul style="list-style-type: none"> <li>MRNSCT Ops Network</li> </ul>	<ul style="list-style-type: none"> <li>2007/08 - 2010</li> </ul>	<ul style="list-style-type: none"> <li>Workforce plan completed, implemented and evaluated</li> </ul>

<b>Five Year Objectives</b>	<b>Specific Tasks</b>	<b>Responsibility</b>	<b>Timeframe</b>	<b>Milestones / Measures</b>
9. Review the number of chemotherapy nurses and number of chemotherapy chairs based on predictions in the plan	<ul style="list-style-type: none"> <li>• Incorporate findings from patient mapping project and parallel processes into planning</li> <li>• Develop a Midland region nursing workforce plan</li> <li>• Confirm roles, responsibilities and competencies of chemotherapy nurses</li> <li>• Review programme and processes for certifying chemotherapy nurses</li> <li>• Review projections and future need for chemotherapy nurses and chairs</li> </ul>	<ul style="list-style-type: none"> <li>• MRNSCT Ops Network</li> </ul>	<ul style="list-style-type: none"> <li>• 2006/07 - 2010</li> </ul>	<ul style="list-style-type: none"> <li>• Roles, responsibilities and competencies of chemotherapy nurse agreed</li> <li>• Workforce plan developed</li> <li>• Certification process agreed and implemented</li> <li>• Review of chemotherapy nurses / chairs complete, implemented and evaluated</li> </ul>
10. Care co-ordinators be appointed to each patient receiving two or more treatment modalities, ratio 1 co-ordinator to 100 patients	<ul style="list-style-type: none"> <li>• Incorporate findings from patient mapping project and parallel processes into planning</li> <li>• Investigate models of care co-ordinators (treatment modality or major tumour groups)</li> <li>• Develop a Midland region nursing workforce plan</li> <li>• Confirm roles, responsibilities and competencies of care co-ordinators. Facilitate care co-ordinators into MSMs</li> <li>• Review projections and prepare business cases as appropriate</li> </ul>	<ul style="list-style-type: none"> <li>• MRNSCT Ops Network</li> </ul>	<ul style="list-style-type: none"> <li>• 2006/07 - 2010</li> </ul>	<ul style="list-style-type: none"> <li>• Model defined and agreed</li> <li>• Roles, responsibilities and competencies of care co-ordinators agreed</li> <li>• Workforce plan developed, implemented and evaluated</li> </ul>

<b>Five Year Objectives</b>	<b>Specific Tasks</b>	<b>Responsibility</b>	<b>Timeframe</b>	<b>Milestones / Measures</b>
11. Review the need for multidisciplinary co-ordinators at each DHB	<ul style="list-style-type: none"> <li>Investigate administration and other support required for MSMs as part of the MSM review</li> <li>Investigate linkages between multidisciplinary co-ordinators and care co-ordinators</li> <li>Define roles, responsibilities and competencies for multidisciplinary co-ordinators. Review projections</li> </ul>	<ul style="list-style-type: none"> <li>MRNSCT Ops Network</li> </ul>	<ul style="list-style-type: none"> <li>2006/07 - 2010</li> </ul>	<ul style="list-style-type: none"> <li>Model defined and agreed</li> <li>Roles, responsibilities and competencies of multidisciplinary co-ordinators agreed</li> <li>Workforce plan developed</li> </ul>
12. Review staffing links between DHBs hospitals including the option for the appointment of a regional oncology liaison nurse	<ul style="list-style-type: none"> <li>Develop a Midland region nursing workforce plan</li> <li>Agree roles, responsibilities and competencies of a regional oncology liaison nurse</li> </ul>	<ul style="list-style-type: none"> <li>MRNSCT Ops Network</li> </ul>	<ul style="list-style-type: none"> <li>2006/07</li> </ul>	<ul style="list-style-type: none"> <li>Roles, responsibilities and competencies of regional oncology liaison nurse agreed</li> <li>Workforce plan developed</li> </ul>
13. BOP and Lakes DHBs should consider the appointment of a Clinical Nurse Specialist or a Nurse Practitioner to provide leadership role for cancer services and staff in the region	<ul style="list-style-type: none"> <li>Develop a Midland region nursing workforce plan</li> <li>Agree roles, responsibilities and competencies of a Clinical Nurse Specialist and / or a Nurse Practitioner</li> </ul>	<ul style="list-style-type: none"> <li>MRNSCT Ops Network</li> </ul>	<ul style="list-style-type: none"> <li>2006/07 - 2010</li> </ul>	<ul style="list-style-type: none"> <li>Workforce plan developed</li> <li>Roles, responsibilities and competencies of CNS and / or NP agreed, positions established and evaluated</li> </ul>

### Summary Overview of Implementation Plan for five-year period 2005 - 2010

Time Period	Workstream	Key Activity or Theme	Recommendation No.
2005/2006			
	Patient Focus	<ul style="list-style-type: none"> <li>Mapping of the patient's cancer journeys</li> <li>Initiate assessment of cultural appropriateness of cancer services</li> </ul>	1 2
	Leadership	<ul style="list-style-type: none"> <li>Establishment of Midland Region Non-Surgical Cancer Treatment Service Operations Network</li> <li>Appoint Regional Clinical Director</li> <li>Appoint Local Cancer Champions</li> </ul>	14,15 17 16
	Contracts	<ul style="list-style-type: none"> <li>Contract reporting and monitoring framework for non-surgical cancer treatment services</li> <li>Haematology Waiting List</li> </ul>	20,21,22,25 23
	Role Delineation	<ul style="list-style-type: none"> <li>Facilitate greater involvement from on-site staff at outreach centres in care of cancer patients</li> </ul>	5
	Workforce	<ul style="list-style-type: none"> <li>Prepare analysis and business case for new positions</li> </ul>	10, 12
	Equipment	<ul style="list-style-type: none"> <li>Follow-up on Australian National Radiotherapy Single Machine Unit Trial</li> <li>Prepare analysis and business case for new equipment</li> </ul>	18b 18a
2006/2007			
	Integrated Care	<ul style="list-style-type: none"> <li>Review Multi Specialist Meetings</li> </ul>	4a, 11
	Equipment	<ul style="list-style-type: none"> <li>Confirm capital expenditure and complete capacity review</li> </ul>	18a
	Patient Focus	<ul style="list-style-type: none"> <li>High-risk assessment service</li> </ul>	4
	Contracts	<ul style="list-style-type: none"> <li>Haematology Waiting List</li> <li>Regional Service Plan for Haematology Services</li> </ul>	23
	Workforce	<ul style="list-style-type: none"> <li>Haematologists</li> <li>Nursing Chemotherapy Nurses, Care Co-ordinators, Clinical Nurse Specialist/Nurse Practitioner and Regional Oncology Liaison Nurse</li> </ul>	6 9,10, 12, 13

Time Period	Workstream	Key Activity or Theme	Recommendation No.
2007/2008			
	Patient Focus	<ul style="list-style-type: none"> <li>High risk Assessment Service</li> <li>Ongoing work related to care pathways</li> </ul>	3 1
	Workforce	<ul style="list-style-type: none"> <li>Radiation Oncology Staff Radiation Oncologist, Medical Physicist and Radiation Therapists</li> <li>Medical Oncologists</li> </ul>	8 7
	Integrated Care	<ul style="list-style-type: none"> <li>Telehealth capability</li> </ul>	4b
	Information Systems	<ul style="list-style-type: none"> <li>Investigate gaps in information requirements</li> </ul>	19
2008/2009			
	Patient Focus	<ul style="list-style-type: none"> <li>Ongoing work related to care pathways</li> </ul>	1
	Information systems	<ul style="list-style-type: none"> <li>Access to clinical trials</li> </ul>	24
	Contracts	<ul style="list-style-type: none"> <li>Develop regional benchmarks of clinical activity</li> </ul>	20
2009/2010			
	Patient Focus	<ul style="list-style-type: none"> <li>Ongoing work related to care pathways</li> </ul>	1
	Evaluation	<ul style="list-style-type: none"> <li>Formal evaluation of Non-Surgical Cancer Treatment Services for the Midland Region</li> <li>Review and development of Plan - Non-Surgical Cancer Treatment Services for the Midland Region 2010 - 2015</li> </ul>	
2010/2011			
	Workforce	<ul style="list-style-type: none"> <li>Implement workforce plans</li> </ul>	6,7,8, 9,11, 13
	Patient Focus	<ul style="list-style-type: none"> <li>Ongoing work related to care pathways</li> </ul>	1

## PART FOUR – 2005 / 06 ACTION PLAN

Five Year Objectives	Annual Objective 2005 / 06	Annual Objective 2005 / 06 Performance Measures
To implement MRNSCT Plan recommendations	<ul style="list-style-type: none"> <li>MRNSCT implementation project established to scope and develop implementation plan</li> </ul>	<ul style="list-style-type: none"> <li>MRNSCT implementation plan developed by December 2005</li> </ul>
<b>Patient Focus</b>		
To map the patient journey and parallel processes for the major tumour groups	<ul style="list-style-type: none"> <li>Employ project manager 0.5 fte for six months</li> <li>To map the patient journey and parallel process, identify issues and gaps for: <ul style="list-style-type: none"> <li>early stage breast cancer</li> <li>lung cancer</li> <li>colorectal cancer</li> </ul> </li> <li>Submit RFP proposal the MoH for extension of patient mapping project until June 2006</li> <li>Extend patient mapping project if successful with MoH proposal</li> </ul>	<ul style="list-style-type: none"> <li>Project manager employed by August 05</li> <li>Mapping completed for early stage breast cancer by end of December 2005. Lung cancer completed by end of January 2006. Colorectal cancer commence in January 2006</li> <li>Proposal submitted by 28 October 2005</li> </ul>
<b>Role Delineation</b>		
Role delineation model defined and adopted	<ul style="list-style-type: none"> <li>Audit of chemotherapy administration services at Taumarunui and Taupo Hospitals</li> </ul>	<ul style="list-style-type: none"> <li>Audit completed and findings reported back to Network</li> </ul>



Five Year Objectives	Annual Objective 2005 / 06	Annual Objective 2005 / 06 Performance Measures
<b>Leadership</b>		
A regular regional cancer control group should be established	<ul style="list-style-type: none"> <li>• Project proposal / team agreed to scope framework for Regional Cancer Control Network (outside of MRNSCT network)</li> <li>• Submit RFP proposal the MoH for Midland regional cancer control project including funding for establishment of Regional Clinical Director until June 2006</li> </ul>	<ul style="list-style-type: none"> <li>• Project proposal signed off January 2006</li> <li>• Proposal submitted by 28 October 2005</li> <li>• Midland region cancer control network framework developed and resources defined by 30 June 2006</li> </ul>
Adhoc regional working parties should be established	<ul style="list-style-type: none"> <li>• Establish Midland region non-surgical cancer treatment services operations Network</li> </ul>	<ul style="list-style-type: none"> <li>• Network established November 2005</li> </ul>
Leadership at Bay of Plenty and Lakes DHBs	<ul style="list-style-type: none"> <li>• Local champion of cancer services identified at Lakes and Bay of Plenty DHBs</li> </ul>	<ul style="list-style-type: none"> <li>• Cancer champion identified at Bay of Plenty DHB by June 2006</li> <li>• Cancer Champion identified at Lakes DHB by June 2006</li> </ul>
A regional director or co-ordinator of cancer services is responsible for development of cancer services in the Midland region	<ul style="list-style-type: none"> <li>• Regional Clinical Director position description developed</li> <li>• Identify funding for position</li> <li>• Submit RFP proposal the MoH for Midland regional cancer control project including funding for establishment of Regional Clinical Director until June 2006</li> </ul>	<ul style="list-style-type: none"> <li>• Regional clinical director appointed by June 2006</li> <li>• Proposal submitted by 28 October 2005</li> </ul>

Five Year Objectives	Annual Objective 2005 / 06	Annual Objective 2005 / 06 Performance Measures
<b>Contracts</b>		
Provider arm contracts utilise available haematology, oncology and radiation therapy purchase units to enable monitoring and planning for services	<ul style="list-style-type: none"> <li>• DHBs utilise both haematology chemotherapy and oncology chemotherapy purchase units</li> <li>• DHBs implement coding spilt between medical and radiation oncology purchase units</li> <li>• DHBs to adjust contract volumes to more accurately reflect service delivery</li> <li>• Midland region contract monitoring report tool developed and implemented</li> <li>• Midland region annual contract planning process developed and implemented</li> </ul>	<ul style="list-style-type: none"> <li>• All purchase units identified</li> <li>• 2006/07 DHB contract volumes reflect predicted / planned volumes</li> <li>• Contract monitoring tool developed and implemented by January 2006</li> <li>• Network is aware of 2006/07 contract volumes</li> </ul>
Haematologists work with appropriate staff and DHB GP Liaison to review waiting lists and determine options for managing referrals and discharging patients back to primary care	<ul style="list-style-type: none"> <li>• Review progress of implementing primary care guidelines in the Waikato DHB and as appropriate rollout to the Midland region</li> <li>• Consider resourcing and support to develop haematology services plan</li> </ul>	<ul style="list-style-type: none"> <li>• Review of pilot completed by June 2006</li> </ul>
A regular audit of patients receiving treatment through Breast Screen Aotearoa is undertaken	<ul style="list-style-type: none"> <li>• Waikato audit carried out and action plan implemented as required</li> </ul>	<ul style="list-style-type: none"> <li>• Audit completed by June 2006</li> </ul>
<b>Information Systems</b>		
Develop and collate clinical and / or contract data across DHBs	<ul style="list-style-type: none"> <li>• Participation in national working party</li> </ul>	<ul style="list-style-type: none"> <li>• Network aware of national development</li> </ul>

Five Year Objectives	Annual Objective 2005 / 06	Annual Objective 2005 / 06 Performance Measures
<b>Equipment</b>		
Planning for 5 <sup>th</sup> Linear accelerator should be undertaken to allow for installation for 2007/08	<ul style="list-style-type: none"> <li>• Following installation of 4<sup>th</sup> linac a capacity review is completed to assist with planning</li> <li>• Waikato 5 year anticipated capital expenditure plan developed</li> </ul>	<ul style="list-style-type: none"> <li>• Preliminary capacity review completed</li> <li>• 5 year capital expenditure plan accepted</li> </ul>
Australian national radiotherapy single machine unit (SMU) trial results used to inform long term planning	<ul style="list-style-type: none"> <li>• Regular follow-up with Victorian Department of Human Services about ongoing results of SMU trial</li> </ul>	<ul style="list-style-type: none"> <li>• Copy of report obtained when published</li> </ul>
<b>Workforce</b>		
Review the number of chemotherapy nurses and number of chemotherapy chairs based on predictions in the plan	<ul style="list-style-type: none"> <li>• Confirm roles, responsibilities and competencies of chemotherapy nurses</li> <li>• Review programme and processes for certifying chemotherapy nurses</li> </ul>	<ul style="list-style-type: none"> <li>• Standardised approach adopted for chemotherapy nurses across the Midland region by 30 June 2006</li> </ul>

### *Risks and Mitigation's*

The following table sets out the risk assessment and mitigation strategies

Risk	Impact			Likelihood			Mitigation Strategy
	H	M	L	H	M	L	
<b>Loss of momentum</b>	√			√			<ul style="list-style-type: none"> <li>Regional agreement with appropriate resourcing from participating DHBs</li> <li>Midland Region Non-Surgical Cancer Treatment Service Operations Network</li> <li>Key priorities and timelines</li> </ul>
<b>Lack of executive engagement</b>	√				√		<ul style="list-style-type: none"> <li>Executive representation on Midland Regional Non-Surgical Cancer Treatment Service Operations Network. Regular reporting</li> <li>Seek to achieve win/win solutions</li> </ul>
<b>Lack of clinical engagement</b>	√				√		<ul style="list-style-type: none"> <li>Appointment of Regional Clinical Director</li> <li>Develop local cancer champions network</li> <li>Engage additional expertise (champions) as required</li> </ul>
<b>Lack of resources – continued debate on regional funding for initiatives</b>	√			√			<ul style="list-style-type: none"> <li>Identify required resourcing and potential sources</li> <li>Build business cases for regional sign off</li> </ul>
<b>Lack of infrastructure to support regional initiatives</b>	√			√			<ul style="list-style-type: none"> <li>Improved infrastructure to support regional initiatives</li> <li>Identify separate funding stream for new initiatives</li> </ul>
<b>Patient mapping work programme too ambitious/ innovation overload</b>	√				√		<ul style="list-style-type: none"> <li>Provide a watching brief and monitor</li> <li>Prioritisation process</li> <li>Promote simple innovations and solutions to key constraints</li> </ul>

## Appendix A – Assessment of Additional Funding Required for implementation

### Midland Region

Assessment of additional funding required for the implementation of the Non-Surgical Cancer Treatment Services Plan for the Midland Region.

1. Workforce	Estimated Current Costs <sup>1</sup>	Estimated Additional Funding			
	2005/2006	2005/2006	2006/2007	2007/2008	2011/2012
	\$000s	\$000s	\$000s	\$000s	\$000s
Haematology SMOs	\$842		\$545		\$154
Medical Oncology SMOs	\$1,170		\$290		\$660
Radiation Oncology SMOs	\$1,638				\$968
Registrars	\$679		\$229		\$411
House Officers	\$219		\$85		\$107
Radiation Therapists	\$1,320		\$510		\$990
Medical Physicists	\$420		\$162		\$320
Chemotherapy Nurses	\$945		\$94		\$590
Care Co-ordinators			\$1,019		
Administrative Staff	\$525		\$152		\$271
Regional Clinical Director		\$38			
Regional Oncology Liaison Nurse			\$73		
Project Manager _ Patient Mapping	\$18				
<b>Total Workforce</b>	<b>\$7,777</b>	<b>\$38</b>	<b>\$3,159</b>		<b>\$4,470</b>

#### Notes on Workforce

For a breakdown of costs according to staff categories see sheets 1 (all categories) and sheet 2 (nurses + chemotherapy bed/chairs by hospital). Funding application has been made to the MOH to cover cost of project manager – patient mapping January – July 2005/06.

2. Equipment	Estimated Current Costs <sup>1</sup>	Estimated Additional Funding			
	2005/2006	2005/2006	2006/2007	2007/2008	2011/2012
	\$000s	\$000s	\$000s	\$000s	\$000s
Chemotherapy Beds/Chairs					\$49
Upgrade single energy linac room (anticipated)			\$513		
Replace single energy linac (anticipated)			\$2,050		
Significant upgrade to planning system (anticipated)			\$513		
Replace 2100 cd Linac (anticipated)			\$4,612		
Replace CT Scanner (anticipated)				\$2,101	
<b>Total Equipment</b>	<b>\$0</b>	<b>\$0</b>	<b>\$7,688</b>	<b>\$2,101</b>	<b>\$49</b>
<b>Total Workforce + Equipment</b>	<b>\$7,777</b>	<b>\$38</b>	<b>\$10,847</b>	<b>\$2,101</b>	<b>\$4,518</b>

#### Notes and Assumptions

Estimate of additional funding is based on recommendations made in the Non-Surgical Cancer Treatment Services Plan for the Midland Region.

<sup>1</sup> Major costs associated with dedicated haematology and oncology staff across the Midland Region. Additional funding does not take into account implications on associated services (i.e. palliative care) due to increase in supply of haematology and oncology services.

Salaries have been based on current MECA contracts as at August 2005, mid range salary of salary steps. Salary levels for clinicians include allowances, on-call rates, CME and superannuation. Future funding associated with staff costs include 4% annual increment for salary and annual step increases.

Future funding for equipment and related items includes 2.5% annual increment. Costs for any additional office accommodation, consulting rooms and associated equipment have not been included.

All additional funding needs to be sustainable with the exception of project manager – patient mapping.

Regional Clinical Director – costs associated with extending clinical director duties by an additional 0.2 fte (the costs / fte split 50:50 between BOP and Lakes DHBs).

Regional Clinical Liaison Nurse – new position, costs to be split equally between Waikato, BOP and Lakes DHBs.

Project Manager – patient mapping – to extend funding past February 2006 for an additional six months. Position currently funded 0.5 fte for six months(August 2005 – February 2006).

All new positions will need to be supported with business cases. The assumptions are based on maintaining the level of complexity of non-surgical cancer treatment services provided at hospitals across the Midland region.

<b>Workforce Levels - Midland Region</b>				
	<b>Current</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>
<b>Number of FTEs</b>	<b>2005/2006</b>	<b>2005/2006</b>	<b>2006/2007</b>	<b>2011/2012</b>
<b>SMOs</b>				
Haematology	3.6		5.7	6
Medical Oncology	5		6	8
Radiation Oncology	7		7	10
<i>Total</i>	<i>15.6</i>		<i>18.7</i>	<i>24</i>
Registrars (dedicated) - Waikato DHB	7		9	12
House Officers (dedicated) - Waikato DHB only	3		4	5
<b>Allied Health</b>				
Radiation Therapists	24		32	45
Medical Physicists	6		8	11.3
<b>Nursing</b>				
Chemotherapy Nurses	21		22.2	31.7
Care Co-ordinators			14	14
Administrative Staff (dedicated) - Waikato DHB Only	15		18.6	24
<b>Regional</b>				
Regional Clinical Director	0.2	0.2		
Regional Oncology Liaison Nurse			1	
Project Manager Patient Mapping	0.5	1		

Notes on workforce

Regional Clinical Director currently provides 0.2 fte (Waikato DHB only).

Project Manager 1 fte for six months (January to July 2006) as per RFP MOH (October 2005).

### Waikato DHB

Assessment of additional funding required for the implementation of the Non-Surgical Cancer Treatment Services Plan for the Midland Region.

	Estimated Current Costs <sup>1</sup>	Estimated Additional Funding			
	2005/2006	2005/2006	2006/2007	2007/2008	2011/2012
<b>1. Workforce</b>	<b>2005/2006</b>	<b>2005/2006</b>	<b>2006/2007</b>	<b>2007/2008</b>	<b>2011/2012</b>
	<b>\$000s</b>	<b>\$000s</b>	<b>\$000s</b>	<b>\$000s</b>	<b>\$000s</b>
Haematology SMOs	\$842		\$545		\$154
Medical Oncology SMOs	\$1,170		\$290		\$660
Radiation Oncology SMOs	\$1,638				\$968
Registrars	\$679		\$229		\$411
House Officers	\$219		\$85		\$107
Radiation Therapists	\$1,320		\$510		\$990
Medical Physicists	\$420		\$162		\$320
Chemotherapy Nurses	\$495		\$39		\$265
Care Co-ordinators			\$510		
Administrative Staff	\$525		\$152		\$271
Regional Clinical Director					
Regional Oncology Liaison Nurse			\$24		
Project Manager _ Patient Mapping	\$6				
<b>Total Workforce</b>	<b>\$7,314</b>	<b>\$0</b>	<b>\$2,546</b>		<b>\$4,145</b>



	Estimated Current Costs <sup>1</sup>	Estimated Additional Funding			
	2005/2006	2005/2006	2006/2007	2007/2008	2011/2012
	\$000s	\$000s	\$000s	\$000s	\$000s
<b>2. Equipment</b>					
Chemotherapy Beds/Chairs					\$28
Upgrade single energy linac room (anticipated)			\$513		
Replace single energy linac (anticipated)			\$4,612		
Significant upgrade to planning system (anticipated)			\$0		
Replace 2100 cd Linac (anticipated)			\$7,688		
Replace CT Scanner (anticipated)				\$2,101	
<b>Total Equipment</b>	<b>\$0</b>	<b>\$0</b>	<b>\$12,813</b>	<b>\$2,101</b>	<b>\$28</b>
<b>Total Workforce + Equipment</b>	<b>\$7,314</b>	<b>\$0</b>	<b>\$15,359</b>	<b>\$2,101</b>	<b>\$4,174</b>

#### Notes and assumptions

Estimate of additional funding is based on recommendations made in the Non-Surgical Cancer Treatment Services Plan for the Midland Region.

<sup>1</sup> Major costs associated with dedicated haematology and oncology staff at both Waikato and Thames Hospitals. Additional funding does not take into account implications on associated services (i.e. palliative care) due to increase in supply of haematology and oncology services. Salaries have been based on current MECA contracts as at August 2005, mid range salary of salary steps. Salary levels for clinicians include allowances, on-call rates, CME and superannuation. Future funding associated with staff costs include 4% annual increment for salary and annual step increases.

Future funding for equipment and related items includes 2.5% annual increment. Costs for any additional office accommodation, consulting rooms and associated equipment have not been included.

All additional funding needs to be sustainable with the exception of project manager – patient mapping.

Project Manager – patient mapping – Waikato DHBs contribution towards extending funding past February 2006 for a further six months.

Current funding is 0.5 fte six months (August 2005 – February 2006).

Costs for regional positions – for ease of calculating costs have been split equally across Waikato, BOP and Lakes DHBs.

All new positions will need to be supported with business cases. The assumptions are based on maintaining the level of complexity of non-surgical cancer treatment services provided at hospitals across the Midland region.

<b>Workforce Levels</b>			
	<b>Current</b>	<b>Projected</b>	<b>Projected</b>
<b>Number of FTEs</b>	<b>2005/2006</b>	<b>2006/2007</b>	<b>2011/2012</b>
<b>SMOs</b>			
Haematology	3.6	5.7	6
Medical Oncology	5	6	8
Radiation Oncology	7	7	10
<i>Total</i>	<i>15.6</i>	<i>18.7</i>	<i>24</i>
Registrars (dedicated)	7	9	12
House Officers (dedicated)	3	4	5
<b>Allied Health</b>			
Radiation Therapists	24	32	45
Medical Physicists	6	8	11.3
<b>Nursing</b>			
Chemotherapy Nurses	11	11.8	16
Care Co-ordinators		7	
<b>Administrative Staff</b>			
Administrative Staff (dedicated)	15	18.6	24

### **Bay of Plenty DHB**

Assessment of additional funding required for the implementation of the Non-Surgical Cancer Treatment Services Plan for the Midland Region. Two funding scenarios have been developed for the BOP DHB. The first scenario covers the status quo in terms of the level of complexity of non-surgical cancer treatment services provided at both Tauranga and Whakatane Hospitals (level 3 service). The second scenario is based on Tauranga Hospital moving towards a level 4 services as a consequence haematology and /or medical oncology services being provided onsite.

#### **Scenario 1 Level 3 Service**

Status quo in terms of complexity of non-surgical cancer treatment services provided at both Tauranga and Whakatane Hospitals

	Estimated Current Costs <sup>1</sup>	Estimated Additional Funding		
	2005/2006	2005/2006	2006/2007	2011/2012
	\$000s	\$000s	\$000s	\$000s
<b>Workforce</b>				
Chemotherapy Nurses	\$297		\$46	\$243
Care Co-ordinators			\$364	
Regional Clinical Director		\$19		
Regional Oncology Liaison Nurse		\$24		
Project Manager - Patient Mapping	\$6			
<b>Total Workforce</b>	<b>\$303</b>	<b>\$43</b>	<b>\$410</b>	<b>\$243</b>

#### Notes

For a breakdown of number of ftes and costs per fte used by hospital refer to sheet 2.

Equipment				
Chemotherapy Beds/Chairs	n/a	n/a	n/a	\$20

#### Notes on equipment

Current number of chemotherapy beds / chairs at Tauranga Hospital exceeds projected requirements 2006/07.

Current number of chemotherapy beds / chairs at Whakatane Hospital exceeds projected requirements 2006/07 – 2011/12.

<b>Total Workforce + Equipment</b>	<b>\$303</b>	<b>\$43</b>	<b>\$410</b>	<b>\$263</b>
------------------------------------	--------------	-------------	--------------	--------------

<b>WORKFORCE LEVELS - Scenario 1</b>				
	Current	Projected	Projected	
Number of FTEs	2005/2006	2006/2007	2011/2012	
Chemotherapy Nurses	6.61	7	11	
Care Co-ordinators		5		

### Scenario 2: Level 3 and Level 4 Service

Tauranga Hospital (level 4 service) – haematology and/or medical oncology services provided onsite (increase in complexity of services provided).

Whakatane Hospital (level 3 service) – haematology and medical oncology visiting specialist clinics (status quo).

	Estimated Current Costs <sup>1</sup>		Estimated Additional Funding					
	2005/2006	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012
	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s
Workforce								
Chemotherapy Nurses	\$297		\$46	\$49	\$51			\$243
Care Co-ordinators			\$364					
Regional Clinical Director		\$19						
Regional Oncology Liaison Nurse		\$24						
Project Manager - Patient Mapping	\$6	\$0						
SMOs				\$253	\$263			
Registrar					\$109			
Administrative staff				\$38	\$39			
<b>Total Workforce</b>	<b>\$303</b>	<b>\$43</b>	<b>\$410</b>	<b>\$340</b>	<b>\$462</b>			<b>\$243</b>

Notes on workforce

SMO requires support if 1 fte chemotherapy nurse + administrative person.  
For a breakdown of costs per fte used refer to sheets 1 and 2 to follow.

Equipment same as scenario 1 above, a business case will be required to consider revenue and implications on service volumes at regional cancer centre. Other set up costs such as upgrading pharmacy facilities not included.

<b>WORKFORCE LEVELS - Scenario 2</b>								
	<b>Current</b>	<b>Projected</b>						
<b>Number of FTEs</b>	<b>2005/2006</b>	<b>2005/2006</b>	<b>2006/2007</b>	<b>2007/2008</b>	<b>2008/2009</b>	<b>2009/2010</b>	<b>2010/2011</b>	<b>2011/2012</b>
Chemotherapy Nurses	6.61		7	8	9			13
Care Co-ordinators			5					
SMO				1	2			
Registrar					1			
Administrative Staff				1	2			

#### Notes and assumptions on workforce

Estimates of new and additional funding are based on recommendations made in the Non-Surgical Cancer Treatment Service Plan for the Midland Region. Estimated costs associated with dedicated chemotherapy nurses at Tauranga and Whakatane Hospitals for 2005/06.

Salaries have been estimated on current MECAs at August 2005, mid range salary steps. Future funding associated with staff costs includes 4% annual increment for salary and annual step increases. All additional funding needs to be sustainable with the exception of project manager, patient mapping.

Regional Clinical Director – BOP DHBs contribution towards extending clinical director duties by an additional 0.2 fte (the fte / cost has been split 50:50 between BOP and Lakes DHBs).

Regional Oncology Liaison Nurse – BOP DHBs contribution to funding this new position.

Project Manager – patient mapping – BOP DHB contribution towards extending funding past February 2006 for a further six months. Current funding is 0.5 fte six months (August 2005 – February 2006).

Costs for regional positions – for ease of calculating costs have been split equally across Waikato, BOP and Lakes DHBs.

All new positions and equipment need to be supported with business cases.

#### **Lakes DHB**

Assessment of additional funding required for the implementation of the Non-Surgical Cancer Treatment Service Plan for the Midland Region.

Workforce	Estimated Current Costs <sup>1</sup>	Estimated Additional Funding		
	2005/2006	2005/2006	2006/2007	2011/2012
	\$000s	\$000s	\$000s	\$000s
Chemotherapy Nurses	\$153			\$81
Care Co-ordinators			\$146	
Regional Clinical Director		\$19		
Regional Oncology Liaison Nurse		\$24		
Project Manager - Patient Mapping	\$6			
<b>Total Workforce</b>	<b>\$159</b>	<b>\$43</b>	<b>\$146</b>	<b>\$81</b>

Note of workforce

For a breakdown of number and costs per fte for nursing staff refer to following sheet 2.

Equipment	Estimated Current Costs <sup>1</sup>	Estimated Additional Funding		
	2005/2006	2005/2006	2006/2007	2011/2012
	\$000s	\$000s	\$000s	\$000s
Chemotherapy Beds/Chairs	n/a	n/a	n/a	n/a

Note on equipment

Number of chemotherapy beds / chairs at Rotorua and Taupo Hospitals exceeds projected requirements 2006/07 – 2011/12.

For a breakdown of number and costs for chemotherapy beds / chairs refer to following sheet 2.

	Estimated Current	Estimated Additional Funding	
--	-------------------	------------------------------	--

	<b>Costs<sup>1</sup></b>			
	<b>2005/2006</b>	<b>2005/2006</b>	<b>2006/2007</b>	<b>2011/2012</b>
	<b>\$000s</b>	<b>\$000s</b>	<b>\$000s</b>	<b>\$000s</b>
<b>Total Workforce + Equipment</b>	<b>\$159</b>	<b>\$43</b>	<b>\$146</b>	<b>\$81</b>

#### Notes and assumptions

Estimates of new and additional funding are based on recommendations made in the Non-Surgical Cancer Treatment Service Plan for the Midland Region.

Estimated costs associated with dedicated chemotherapy nurses at Rotorua Hospital for 2005/06.

Salaries have been estimated on current MECAs at August 2005, mid range salary steps. Future funding associated with staff costs includes 4% annual increment for salary and annual step increases. All additional funding needs to be sustainable with the exception of project manager, patient mapping.

Regional Clinical Director – Lakes DHB contribution towards extending clinical director duties by an additional 0.2 fte (the fte / cost has been split 50:50 between BOP and Lakes DHBs).

Regional Oncology Liaison Nurse – Lakes DHB contribution to funding this new position.

Project Manager – patient mapping – Lakes DHB contribution towards extending funding past February 2006 for a further six months. Current funding is 0.5 fte six months (August 2005 – February 2006).

Costs for regional positions – for ease of calculating costs have been split equally across Waikato, BOP and Lakes DHBs.

All new positions and equipment need to be supported with business cases.

	<b>Current</b>	<b>Projected</b>	<b>Projected</b>
<b>Number of FTEs</b>	<b>2005/2006</b>	<b>2006/2007</b>	<b>2011/2012</b>
Chemotherapy Nurses	3.4		4.7
Care Co-ordinators		2	

#### Midland Region (SHEET 1)

Predicted numbers / assessment of projected costs of workforce and equipment for the Non-Surgical Cancer Treatment Services Plan for the Midland Region.

<b>Clinical Staff</b>								
<b>Haematology SMO</b>	<b>Current</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Annual</b>
	<b>2005/2006</b>	<b>2006/2007</b>	<b>2007/2008</b>	<b>2008/2009</b>	<b>2009/2010</b>	<b>2010/2011</b>	<b>2011/2012</b>	<b>Adjustment</b>
FTEs	3.6	5.7	5.7	5.7	5.7	5.7	6	
Cost per FTE \$000s	\$234	\$243	\$253	\$263.22	\$274	\$284.70	\$296	0.04
Total Costs for SMO \$000s	\$842	\$1,387	\$1,443	\$1,500	\$1,560	\$1,623	\$1,777	
Variance to current \$000s		\$545					\$154	
<b>Medical Oncology SMO</b>	<b>Current</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Annual</b>
	<b>2005/2006</b>	<b>2006/2007</b>	<b>2007/2008</b>	<b>2008/2009</b>	<b>2009/2010</b>	<b>2010/2011</b>	<b>2011/2012</b>	<b>Adjustment</b>
FTEs	5	6	6	6	6	6	8	
Cost per FTE \$000s	\$234	\$243	\$253	\$263.22	\$274	\$284.70	\$296	0.04
Total Costs for SMO \$000s	\$1,170	\$1,460	\$1,519	\$1,579	\$1,642	\$1,708	\$2,369	
Variance to current		\$290					\$660	
<b>Radiation Oncology SMO</b>	<b>Current</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Annual</b>
	<b>2005/2006</b>	<b>2006/2007</b>	<b>2007/2008</b>	<b>2008/2009</b>	<b>2009/2010</b>	<b>2010/2011</b>	<b>2011/2012</b>	<b>Adjustment</b>
FTEs	7	7	7	7	7	7	10	
Cost per FTE \$000s	\$234	\$243	\$253	\$263	\$274	\$285	\$296	0.04
Total Costs for SMO \$000s	\$1,638	\$1,704	\$1,772	\$1,843	\$1,916	\$1,993	\$2,961	
Variance to current							\$968	

#### Notes on SMOs

Costs include estimation for allowances, on-call, CME superannuation.

Includes 4% annual adjustment for salary and step increases.

Based on current MECA contracts at August 2005, mid range salary steps.



	<b>Current</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Annual</b>
<b>Allied Health</b>	<b>2005/2006</b>	<b>2006/2007</b>	<b>2007/2008</b>	<b>2008/2009</b>	<b>2009/2010</b>	<b>2010/2011</b>	<b>2011/2012</b>	<b>Adjustment</b>
<b>Radiation Therapists</b>								
FTEs	24	32	32	32	32	32	45	
Cost per FTE \$000s	\$55.00	\$57.20	\$59.49	\$61.87	\$64.34	\$66.92	\$69.59	0.04
Total Costs for Radiation Therapists \$000s	\$1,320	\$1,830	\$1,904	\$1,980	\$2,059	\$2,141	\$3,132	
Variance to current \$000s		\$510					\$990	
	<b>Current</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Annual</b>
<b>Medical Physicist</b>	<b>2005/2006</b>	<b>2006/2007</b>	<b>2007/2008</b>	<b>2008/2009</b>	<b>2009/2010</b>	<b>2010/2011</b>	<b>2011/2012</b>	<b>Adjustment</b>
FTEs	6	8	8	8	8	8	11.3	
Cost per FTE \$000s	\$70.00	\$72.80	\$75.71	\$78.74	\$81.89	\$85.17	\$88.57	0.04
Total Costs for Medical Physicist \$000s	\$420	\$582	\$606	\$630	\$655	\$681	\$1,001	
Variance to current \$000s		\$162					\$320	
	<b>Current</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Annual</b>
<b>Chemotherapy Nursing Staff</b>	<b>2005/2006</b>	<b>2006/2007</b>	<b>2007/2008</b>	<b>2008/2009</b>	<b>2009/2010</b>	<b>2010/2011</b>	<b>2011/2012</b>	<b>Adjustment</b>
FTEs	21.01	22.2	22.2	22.2	22.2	22.2	31.7	
Cost per FTE \$000s	\$45.00	\$46.80	\$48.67	\$50.62	\$52.64	\$54.75	\$56.94	0.04
Total Costs for Chemotherapy Nursing \$000s	\$945	\$1,039	\$1,081	\$1,124	\$1,169	\$1,215	\$1,805	
Variance to current \$000s		\$94					\$590	

	<b>Current</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Annual</b>
--	----------------	------------------	------------------	------------------	------------------	------------------	------------------	---------------

Care Co-ordinators (New Positions)	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	Adjustment	
FTEs		14	14	14	14	14	14		
Cost per FTE \$000s		\$72.80	\$75.71	\$78.74	\$81.89	\$85.17	\$88.57	0.04	
Total Costs for Care Co-ordinators \$000s		\$1,019	\$1,060	\$1,102	\$1,146	\$1,192	\$1,240		
	Current	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Annual
Regional Positions	2005/2006	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	Adjustment
	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s	
Regional Clinical Director		\$20	\$21	\$22	\$22	\$23	\$24	\$24	0.04
Regional Oncology Liaison Nurse			\$73	\$76	\$79	\$82	\$85	\$89	
Project Manager (0.5 for 12 months)	\$35	\$35							

#### Notes

For breakdown of staff levels and additional funding by hospital refer to following sheet 2.

Funding for project manager – patient mapping approved 0.5 fte for 6 months (August 2005 – February 2006). Additional funding sought to extend the contract after February 2006 until 30 June 2006.

Additional funding for Regional Clinical Director represents the contribution from BOP and Lakes DHBs to extend clinical director duties by an additional 0.2 fte.

<b>Chemotherapy Chairs</b>	<b>Current</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Projected</b>	<b>Annual</b>
<b>Number beds/chairs</b>	<b>2005/2006</b>	<b>2006/2007</b>	<b>2007/2008</b>	<b>2008/2009</b>	<b>2009/2010</b>	<b>2010/2011</b>	<b>2011/2012</b>	<b>Adjustment</b>
Number of beds/chairs required	49	49	49	49	49	49	55	
Additional beds/chairs required	0	0	0	0	0	0	6	
Cost per bed/chair (\$000s)	\$3.50	\$3.59	\$3.68	\$3.77	\$3.86	\$3.96	\$4.06	0.025

<b>Radiation Oncology Equipment</b>	<b>Current</b>	<b>Projected</b>	<b>Projected</b>	<b>Annual</b>
	<b>2005/2006</b>	<b>2006/2007</b>	<b>2007/2008</b>	<b>Adjustment</b>
	<b>\$000s</b>	<b>\$000s</b>	<b>\$000s</b>	
Upgrade single energy linac room (anticipated)		513		0.025
Replace single energy linac (anticipated)		2,050		
Significant upgrade to planning system (anticipated)		513		
Replace 2100 cd Linac (anticipated)		4,612		
Replace CT Scanner (anticipated)			\$2,101	
Total Equipment costs - radiation therapy (anticipated)	\$0	\$7,688	\$2,101	

Notes on equipment

Includes 2.5% annual increment

Current bed / chair numbers exceed predicted levels at this stage. For breakdown of additional funding by hospital see sheet 2.

Radiation equipment is based on draft Health Waikato Capital Expenditure 5 year Plan, as at August 2005.

### Projected numbers of additional support staff required

The following information supports projections relating to additional clinical support staff (registrars / house surgeons) and administration staff for non-surgical cancer treatment services. Assumptions are based on current staffing levels at the Regional cancer centre (Waikato DHB).

#### Ratio SMOs to Support Staff (clinical and administrative)

2005/2006	SMOs	Registrars	House Officers	Admin
FTEs	15.6	7	3	15
Ratio SMOs to Support Staff		1 to 2	1 to 5	1 to 1
<b>SMO FTES Haematology and Oncology Services</b>	<b>2006/2007</b>	<b>2011/2012</b>		
<b>Projected FTEs</b>	18.7	24		

#### Additional Support Staff Required

	2006/2007	2011/2012
Registrars	2	3
House Officers	1	1
Admin	3.6	5.4

#### Additional Costs for Support Staff

	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	Annual
<b>Registrars</b>								<b>Adjustment</b>
Cost per FTE \$000s	\$97.00	\$100.88	\$104.92	\$109.11	\$113.48	\$118.02	\$122.74	0.04
FTEs	7	9	9	9	9	9	12	
Total costs for Registrars (dedicated) \$000s	\$679	\$908	\$944	\$982	\$1,021	\$1,062	\$1,473	
Variance to current \$000s		\$229					\$411	

	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	Annual
<b>House Officers</b>								<b>Adjustment</b>
Cost per FTE \$000s	\$73.00	\$75.92	\$78.96	\$82.12	\$85.40	\$88.82	\$92.37	0.04
FTEs	3	4	4	4	4	4	5	
Total costs for House Officers (dedicated) \$000s	\$219	\$304	\$316	\$328	\$342	\$355	\$462	
Variance to current \$000s		\$85					\$107	
	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	Annual
<b>Administration Staff</b>								<b>Adjustment</b>
Cost per FTE \$000s	\$35.00	\$36.40	\$37.86	\$39.37	\$40.95	\$42.58	\$44.29	0.04
FTEs	15	18.6	18.6	18.6	18.6	18.6	24	
Total costs for administrative staff (dedicated) \$000s	\$525	\$677	\$704	\$732	\$762	\$792	\$1,063	
Variance to current \$000s		\$152					\$271	

## Midland Region (Sheet 2)

Predicted numbers / projected costs for chemotherapy nursing staff, care co-ordinators and chemotherapy beds / chairs by hospital.

<b>1. Chemotherapy Nursing Staff</b>							
<b>2005/2006</b>	<b>Waikato</b>	<b>Thames</b>	<b>Tauranga</b>	<b>Whakatane</b>	<b>Rotorua</b>	<b>Taupo</b>	<b>Midland</b>
FTEs	10	1	4.6	2.01	3.4	0	21.01
Cost per FTE \$000s	\$45	\$45	\$45	\$45	\$45		\$45
Total Costs for Chemotherapy Nurses \$000s	\$450	\$45	\$207	\$90	\$153	\$0	\$945
<b>2006/2007</b>	<b>Waikato</b>	<b>Thames</b>	<b>Tauranga</b>	<b>Whakatane</b>	<b>Rotorua</b>	<b>Taupo</b>	<b>Midland</b>
FTEs	10	1.8	5.4	1.6	3.4	0	22.2
Cost per FTE \$000s	\$46.80	\$46.80	\$46.80	\$46.80	\$46.80	\$46.80	\$46.80
Total Costs for Chemotherapy Nurses \$000s	\$468	\$84	\$253	\$75	\$159	\$0	\$1,039
Variance to current \$000s	\$18	\$39	\$46	-\$16	\$6	\$0	\$85
<b>2007/2008</b>	<b>Waikato</b>	<b>Thames</b>	<b>Tauranga</b>	<b>Whakatane</b>	<b>Rotorua</b>	<b>Taupo</b>	<b>Midland</b>
FTEs	10	1.8	5.4	1.6	3.4	0	22.2
Cost per FTE \$000s	\$48.67	\$48.67	\$48.67	\$48.67	\$48.67	\$48.67	\$48.67
Total Costs for Chemotherapy Nurses \$000s	\$486.72	\$87.61	\$262.82	\$77.87	\$165.48	\$0.00	\$1,080.47
<b>2008/2009</b>	<b>Waikato</b>	<b>Thames</b>	<b>Tauranga</b>	<b>Whakatane</b>	<b>Rotorua</b>	<b>Taupo</b>	<b>Midland</b>
FTEs	10	1.8	5.4	1.6	3.4	0	22.2
Cost per FTE \$000s	\$50.62	\$50.62	\$50.62	\$50.62	\$50.62	\$50.62	\$50.62
Total Costs for Chemotherapy Nurses \$000s	\$506	\$91	\$273	\$81	\$172	\$0	\$1,124
<b>2009/2010</b>	<b>Waikato</b>	<b>Thames</b>	<b>Tauranga</b>	<b>Whakatane</b>	<b>Rotorua</b>	<b>Taupo</b>	<b>Midland</b>
FTEs	10	1.8	5.4	1.6	3.4	0	22.2
Cost per FTE \$000s	\$52.64	\$52.64	\$52.64	\$52.64	\$52.64	\$52.64	\$52.64
Total Costs for Chemotherapy Nurses \$000s	\$526	\$95	\$284	\$84	\$179	\$0	\$1,169

<b>2010/2011</b>	<b>Waikato</b>	<b>Thames</b>	<b>Tauranga</b>	<b>Whakatane</b>	<b>Rotorua</b>	<b>Taupo</b>	<b>Midland</b>
FTEs	10	1.8	5.4	1.6	3.4	0	22.2
Cost per FTE \$000s	\$54.75	\$54.75	\$54.75	\$54.75	\$54.75	\$54.75	\$54.75
Total Costs for Chemotherapy Nurses \$000s	\$547	\$99	\$296	\$88	\$186	\$0	\$1,215
<b>2011/2012</b>	<b>Waikato</b>	<b>Thames</b>	<b>Tauranga</b>	<b>Whakatane</b>	<b>Rotorua</b>	<b>Taupo</b>	<b>Midland</b>
FTEs	13.2	2.8	8.6	2.4	4.7	0	31.7
Cost per FTE \$000s	\$56.94	\$56.94	\$56.94	\$56.94	\$56.94	\$56.94	\$56.94
Total Costs for Chemotherapy Nurses \$000s	\$752	\$159	\$490	\$137	\$268	\$0	\$1,805
Variance to current \$000s	\$204	\$61	\$194	\$49	\$81	\$0	\$590
<b>2. Care Co-ordinators</b>	<b>Waikato</b>	<b>BOP</b>	<b>Lakes</b>	<b>Midland</b>			
<b>2006/2007</b>							
FTEs	7	5	2	14			
Cost per FTE \$000s	\$72.80	\$72.80	\$72.80	\$72.80			
Total Costs for Care Co-ordinators \$000s	\$510	\$364	\$146	\$1,019			
<b>2011/2012</b>							
FTEs	7	5	2	14			
Cost per FTE \$000s	\$72.80	\$72.80	\$72.80	\$72.80			
Total Costs for Care Co-ordinators \$000s	\$510	\$364	\$146	\$1,019			
<b>3. Chemotherapy Chairs/Beds</b>							
<b>2005/2006 (Current)</b>	<b>Waikato</b>	<b>Thames</b>	<b>Tauranga</b>	<b>Whakatane</b>	<b>Rotorua</b>	<b>Taupo</b>	<b>Midland</b>
Number of beds/chairs	16	6	10	7	6	4	49

<b>2006/2007 (Projected)</b>	<b>Waikato</b>	<b>Thames</b>	<b>Tauranga</b>	<b>Whakatane</b>	<b>Rotorua</b>	<b>Taupo</b>	<b>Midland</b>
Projected Number of beds/chairs	15	3	9	3	4	2	36
Variance to current	-1	-3	-1	-4	-2	-2	-13
<b>2011/2012 (Projected)</b>	<b>Waikato</b>	<b>Thames</b>	<b>Tauranga</b>	<b>Whakatane</b>	<b>Rotorua</b>	<b>Taupo</b>	<b>Midland</b>
Projected Number of beds/chairs	23	5	15	4	5	3	55
Variance to current level	7	-1	5	-3	-1	-1	12
Cost per bed/chair \$000s	\$4.06	\$4.06	\$4.06	\$4.06	\$4.06	\$4.06	\$4.06
Additional funding required for chairs/beds \$000s	\$28		\$20				\$49

Negative variance for chemotherapy beds / chairs means current chair and bed numbers are greater than projected level for 2006, so no additional chemotherapy beds and / or chairs required at this stage.