Otago/Southland
Local Cancer Network
Cancer Plan

2010/11 – 2012/13
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Executive Summary

Background

Cancer is a leading cause of death and a major cause of hospitalisation in New Zealand. The New Zealand Cancer Control Strategy (2003) provides a framework for reducing incidence, improving outcomes and reducing inequalities for people with cancer across the cancer continuum of prevention, screening, early detection, diagnosis, treatment, rehabilitation, support and palliative care.

The Ministry of Health set specific Priorities for Cancer Control in 2010/2011, including meeting the cancer health target for radiotherapy: “By the end of July 2010 everyone needing radiation treatment will have this within 6 weeks; and by December 2010 everyone needing radiation treatment will have this within 4 weeks.” In addition, the Ministry of Health has committed to 1) continue to progress the tumour stream approach and 2) continue with the current priorities of lung and bowel cancer in 2010/2011.

The Southern Cancer Network (SCN), which covers all DHB areas across the South Island, has developed regional priorities for the 2010/2011 period that will assist in the implementation of the cancer control strategy including 1) promote service improvements for lung and bowel cancer, 2) develop a co-ordinated and seamless cancer journey for the patient and 3) determine South Island inequalities for cancer patients.

The Southern Cancer Network (SCN) supports local cancer networks and spearheads cancer control planning throughout the South Island. The Otago/Southland Local Cancer Network (LCN) was established in December 2008 and includes broad representation of clinicians, consumers, primary care providers, DHB planners and managers and Non-Government Organisations (NGOs). The stated role of the LCN is to support the implementation of the New Zealand Cancer Control Strategy through the development and implementation of the Otago/Southland Local Cancer Plan.

Southern District Health Board (formerly Otago and Southland DHBs) is the Government-funded organisation responsible for planning, funding and delivering comprehensive health and disability services for its population, including cancer control services.

Cancer Burden in the Southern DHB Area

The demographic structure and socio-economic conditions of a population are major determinants of the health of the population. Cancer rates vary by age, gender, and ethnicity.

In 2007, there were 1409 new cancers registered in the Southern DHB region; 50.5 percent of the registrations were male and 49.5 percent were female. Nationally, 52.8 percent of new cancer registrations were male in 2007 and 47.2 percent were female. Similar to national patterns, most registrations were for those aged 65 and over for the time period 2003-2007.

From 2003-2007, the most commonly registered cancer for males and females in the Southern DHB region was colorectal cancer, accounting for 20.2 percent of all new cancer registrations from 2003-2007. Prostate (13.2 percent) and breast cancer (12.4 percent) were the next most commonly registered sites.

From 2003-2007, breast cancer was the most frequently registered cancer for females accounting for 25.8 percent of all female cancer registrations. Colorectal cancer (21.6
percent) and malignant melanoma of the skin (10.1 percent) were the next most commonly registered cancers for females. During this period of time, prostate cancer accounted for 25.4 percent of all new registrations for males, with the next most common registrations being colorectal cancer (18.9 percent) and lung cancer (11.5 percent).

In 2007, 676 people had cancer recorded as their underlying cause of death. Of these deaths, 54.3 percent were males and 47.3 percent were females (compared to 53.2 and 46.8 percent nationally). Most cancer deaths were among those aged 65 and over. From 2003-2007, lung cancer accounted for the most deaths from cancer for the Southern DHB population (18.2 percent), followed by colorectal cancer (17.4 percent) and prostate cancer (7.7 percent).

From 2003-2007, colorectal cancer caused the highest number of deaths among women in the Southern DHB region (18.6 percent) followed by breast cancer (15.3 percent) and then lung cancer (14.7 percent). During this time frame, the most common cause of death from cancer for men in the Southern DHB region was lung cancer (21.3 percent) followed by colorectal cancer (16.3 percent) and then prostate cancer (14.4 percent).

Using combined data for the time period 2003-2007, the age standardised registration rate for colorectal cancer was significantly higher in the Otago and Southland DHB Regions compared to New Zealand as a whole (66 compared to 49 per 100,000 respectively). Using combined data for the time period 2003-2007, the age standardised registration rate for malignant melanoma of the skin was significantly lower in the Southland DHB Region compared to New Zealand as a whole (25 compared to 42 per 100,000).

Māori are known to have high rates of cancer registrations and deaths nationally but detailed analysis of data in relation to Māori and Pacific people was not possible, because of the small population sizes in the Southern DHB area.

Nationally the burden of incident cancers is expected to increase by about 29 percent (2006-2016) for males and 12 percent for females. The cancer burden in the Southern DHB is expected to increase significantly in the coming years because of the aging population and increasing population size, particularly in the 65 and over age band. As the population ages, the volume of cancer registrations is expected to increase amongst Māori.

Key Service Planning Issues and Opportunities

Robust services will be required in order to treat the increased number of cancer cases expected in the coming years. The Southern DHB District Annual Plan 2010/2011 identified the following key issues in relation to cancer control:

- Increasing burden of cancer and changing cancer demographics and treatments
- Increasing demand for oncology services and the resulting resource requirements
- Increasing expectations and requirements such as workforce and facilities
- Timely access to diagnostic services, cancer treatment and palliative care services
- The identification of ethnic and socio-economic inequalities specific to the Otago/Southland region and the development of strategies to reduce these inequalities.

The Southern DHB plans to develop and implement a Māori Health Plan across the Southern DHB region, with initial strategies developed to address three key areas
relevant to cancer control: 1) Reducing smoking prevalence 2) Increasing uptake of breast and cervical screening programmes and 3) Ethnicity data collection.

The Otago/Southland Local Cancer Network has identified a number of other cancer control service issues and opportunities (Section 5) to be addressed in order to reduce the incidence and impact of cancer and reduce inequalities with respect to cancer:

- Maximal gains in the realm of prevention/early detection will be made by coordinating cancer control activities with all relevant service providers.
- The existence of a single PHO will create opportunities for additional partnerships and collaboration in the Southern DHB area in relation to health promotion, prevention and early detection.
- Additional actions to increase breast and cervical screening rates amongst Māori and Pacific women need to be investigated.
- The Southern Cancer Network Otago DHB Audit of Access to Colonoscopy of 33 Selected Cases in Otago District Health Board made a number of recommendations in relation to colonoscopy capacity and provision.
- On-going work is needed to develop appropriate referral pathways between primary and secondary care services.
- Heightened activity is required to implement the ABC approach for smoking cessation in hospital and primary care settings to achieve Ministry of Health targets.
- Geographic distance is an ongoing problem which creates difficulties for rural patients in accessing assessment and treatment.
- A recent Southern Cancer Network Regional Lung Cancer Patient Mapping Report made a number of recommendations for the Southern DHB to improve the journey for lung cancer patients.
- Surgical cancer services work independently from the Southern Blood and Cancer Service. Inequities could exist because surgical cancer patients may not receive the comprehensive care that non surgical cancer patients receive through the SB&CS.
- Telemmedicine clinics are not utilised for oncology services and could prove beneficial for both patients and clinicians. This option is being investigated as a useful patient management tool where distance raises issues.
- There is a lack of private cancer treatment services available in the region.
- Additional Ministry of Health funding is available to supplement existing DHB spending on PET scanning.
- Funding has been allocated to employ staff to lead and coordinate the Adolescent and Young Adult Service in order to enhance patient care for this age group of oncology patients
- There is relative lack of supportive care and rehabilitation available for cancer survivors in the Southern DHB.
- A Patient Coordinator / Navigator role could facilitate patient access to cancer treatment services across the continuum; the feasibility of this role within the DHB may be considered.
- Otago Community Hospice and Hospice Southland are currently undertaking initiatives to integrate specialist and generalist palliative care providers.
- There is a need for standardisation of data collection and reporting across the Southern DHB, ensuring collection of data for cancer patients in primary care, SB&CS and outside SB&CS.
- The Southern Cancer Network is developing a South Island wide Central Cancer Registry / Database (SICCIS) that will be used to link the current Dunedin Cancer Centre patient systems (MOSAIQ) with the management systems used by Christchurch Cancer Centre and St George’s private cancer centre in Christchurch.
The SDHB is required to develop a comprehensive cancer plan that identifies priority actions to reduce the impact of cancer for the SDHB population. Development of the Otago/Southland Local Cancer Plan has involved ongoing engagement with key stakeholders in the Otago/Southland Local Cancer Network, and has been informed by a review of key national, regional and local planning documents relevant to cancer control. The Local Cancer Plan incorporates planning and funding activity in both the government and non-government sector.

The Otago/Southland Local Cancer Plan (Part I of this document) summarises cancer incidence and mortality trends in the region; describes current cancer service provision and documents key issues relating to cancer service delivery. The Local Cancer Plan therefore provides a basis for planning the delivery of cancer services in the Southern DHB, for the purpose of reducing the incidence, impact and inequalities of cancer.

The structure of the Otago/Southland Local Cancer Control Action Plan (Part II of this document) mirrors that of the New Zealand Cancer Control Strategy framework, to ensure a comprehensive approach is used to address the entire continuum of cancer control from primary prevention to palliative care services. Recommended actions are designed to align local activity with regional and national initiatives.

The Action Plan does not include all cancer related activities, as the objective of the plan is to outline key actions required to address cancer control within the Southern DHB area. The Action Plan will guide the development of annual service implementation plans, with specific goals and performance indicators. These will need to be developed each year as part of wider SDHB and NGO budgeting and prioritisation processes.

Services and activities will also need to continue to respond to changing expectations and priorities. Accordingly, the Otago/Southland Local Cancer Network will review and revise the plan on an annual basis.
PART I: BACKGROUND

1. Background

Over the past ten years there has been considerable development in relation to cancer control at national and regional levels. This section provides background in relation to key strategic documents. Full copies of most documents are available through the Ministry of Health website [http://www.moh.govt.nz/cancercontrol](http://www.moh.govt.nz/cancercontrol) and the Southern Cancer Network website [www.southerncancernetwork.org.nz](http://www.southerncancernetwork.org.nz).

1.1 Southern DHB

The Southern District Health Board (Southern DHB) was created from the merger of the Otago and Southland DHBs on 1 May 2010. The newly established Southern DHB has inherited the long standing financial difficulties of its predecessors. The District Annual Plan (Southern DHB DAP 2010a) projects a core deficit in 2010/11 of $15.3 million. Financial projections in the out years of the DAP indicate that the Southern DHB is not financially sustainable at projected levels of funding and expenditure.

The DAP’s strategies reflect the DHB’s commitment to ensure that services are both clinically and financially sustainable. This is the main reason for the merger between the Otago DHB and Southland DHB as well as the consolidation of the nine PHOs across Otago and Southland into a single entity, the Southern PHO (from 1 October 2010). The Provider Arm of the newly merged DHB will focus on the implementation of a Regional Clinical Services Strategy for hospital services using a “single service, many sites” approach, ensuring care is delivered as cost effectively and as close to where people live as possible.

1.2 Review of Otago and Southland Oncology Services

In 2005, the Chief Executives of Otago and Southland District Health Boards requested a review of Oncology and Haematology Non-Surgical Treatment Services (Otago and Southland DHB 2005), with the explicit intent of establishing a regional clinical service across the two districts. The objectives of the review were to:

- Identify options for a regional model of service delivery that would ensure all Otago and Southland patients have equitable access to assessment, treatment and follow up, with care provided as close as possible and practical to the patient’s residence.
- Build a strong, innovative, and proactive relationship between the staff in Otago and Southland Oncology and Haematology services.

The Regional Review made a number of recommendations to enhance service delivery and coordination, with specific recommendations made in relation to leadership, resourcing, and service delivery framework and processes. One of the key recommendations was to establish shared referral guidelines and a common referral point, creating a single combined waitlist across Otago and Southland DHBs. This was highlighted as the “single most important action to ensure a more equitable service across the region.” This has been achieved with the establishment of the Southern Blood and Cancer Service (refer Southern DHB’s Service Coverage, section 5.3.4).

1.3 Southern Cancer Network

The New Zealand Cancer Control Strategy Action Plan 2005-2010 (Ministry of Health 2005) identified a number of priorities, including the continued development of regional cancer networks to enhance cooperation and collaboration of organisations involved with/or contributing to cancer control. Four regional cancer networks were established in 2007 to improve the coordination of cancer services as part of the implementation of the New Zealand Cancer Control Strategy. The Southern Cancer
Network (SCN) covers the Nelson/Marlborough, West Coast, Canterbury, South Canterbury, and Southern DHB. The goals set for the regional cancer networks are to reduce the incidence and impact of cancer, to reduce inequalities with respect to cancer and to improve the cancer patient journey.

1.4 Otago/Southland Local Cancer Network
The Otago/Southland Local Cancer Network (LCN) was established in December 2008 with broad representation of clinicians, consumers, primary care providers, DHB planners and managers and Non-Government Organisations (NGOs). The LCN provides a forum for key stakeholders to discuss, debate and plan local cancer services through a partnership approach at a local level. The Terms of Reference (Otago and Southland District Heath Boards 2008) describe the purpose of the LCN:

- To support the implementation of the New Zealand Cancer Control Strategy through the development and implementation of the Otago/Southland Local Cancer Plan
- To create an advisory inter-sectoral Cancer Network to translate the New Zealand Cancer Control Action Plan and the Otago/Southland Local Cancer Plan into prioritised actions based on need, existing inequalities, available resources, available skills, expertise and national direction.

The role of the Otago/Southland Local Cancer Network is:

- To provide a framework that supports the linkages of key stakeholders in order to coordinate the implementation of the cancer control strategy action plan in the Southern DHB.
- To provide a formal structure that supports improvement in coordination of education and research, population programmes for prevention, screening and diagnosis and the quality of treatment and support to families and patients on the pathway of cancer care, including the cancer component of palliative care.
- To advise DHBs on issues relating to cancer service planning in the region and to facilitate and coordinate the work of stakeholder agencies in implementing the New Zealand Cancer Control Strategy.
The Otago/Southland Local Cancer Plan is aligned with a number of key related documents and strategies. A full description of these documents can be found in Part III, section 7: Policy Context.

2.1 New Zealand Cancer Control Strategy (Ministry of Health, 2003) and New Zealand Cancer Control Action Plan (Ministry of Health, 2005)

2.2 Māori Health Frameworks (1993-1995)

2.3 Primary Health Care Strategy (Ministry of Health, 2001)

2.4 The New Zealand Palliative Care Strategy (Ministry of Health, 2001)

2.5 Ministry of Health Guidance for Improving Supportive Care for Adults with Cancer in New Zealand (2010)

2.6 The Voice of Experience (Cancer Council of New Zealand, 2010)

2.7 Ministry of Health Targets (2010/2011)

2.8 Southern Cancer Network Priorities (2010/2011)

2.9 Southern Cancer Network Regional Lung Cancer Patient Mapping Report for Otago and Southland (2010)

2.10 Southern Cancer Network Audit of Access to Colonoscopy of 33 Selected Cases in Otago District Health Board (2010)

2.11 Southern Cancer Network Projects on Inequalities and Cancer (2010)

2.12 Southern Cancer Network South Island Cancer Services Stocktake (2009)

2.13 Southland and Otago DHB District Strategic Plans (2005-2010)

3. Southern DHB’s Demographic Profile Summary

Introduction
The demographic structure and socio-economic conditions of a population are major determinants of the health of the population. Cancer rates vary by age, gender, and ethnicity, as described in the cancer incidence section. Population data provide a foundation for evaluating future trends in cancer incidence and mortality.

Much of this information comes from Census 2006 (Statistics New Zealand 2006) and is reported in the Southern DHB Draft Health Profile: Demographics (Southern DHB 2010b). Population projections are based on assumptions made about future fertility, mortality and migration patterns of the population. Although the assumptions are carefully formulated to represent future trends, they are subject to uncertainty and therefore should be used as an indication of the overall trend, rather than an exact forecast. Demographic projections are designed to meet short and long term planning needs.

This section describes demographic trends and some of the broader determinants of health for the Southern DHB region. Current population size and future projections are described by age band, gender and ethnicity along with measures of socio-economic status based on the Index of Deprivation NZDep06 (White et al 2008).

The current Southern DHB covers eight Territorial Local Authorities: Central Otago District, Clutha District, Dunedin City, Waitaki District, Southland District, Invercargill District, Gore District and Queenstown Lakes. The 2006 Census estimated the resident population of the Southern DHB as 286,233. Over half the population lived in the main urban centres of Dunedin and Invercargill. Queenstown Lakes District Council is one of the two most rapidly growing local authorities in the country but the rest of the region experienced only small growth or population decline since the previous Census in 2001. A brief demographic summary is provided below and additional information is included separately in the Local Cancer Plan Addendum.

Demographic Summary
- The 2006 Census estimated the resident population of the Southern DHB as 286,233.
- Just over half the population lived in the main urban centres of Dunedin and Invercargill. Queenstown Lakes District Council is one of the two most rapidly growing local authorities in the country.
- The population age structure is similar to the whole of New Zealand but with a higher proportion of those aged 15–24 and over 65 years in Otago. In Southland the population structure is similar to the rest of New Zealand.
- The Southern DHB population is predominantly of European/other ethnicity (77 percent) with a lower proportion of Māori (8 percent) and Pacific (1.5 percent) than other areas of New Zealand but a similar proportion of Asian people (3 percent).
- An overall 3.4 percent population increase in the Southern DHB is projected through to 2031 with the largest increase expected in the over 65 year age group. Most growth is predicted in Queenstown Lakes and Central Otago.
- Fewer people in the Southern DHB live in areas with higher NZDep2006 scores than in other parts of New Zealand, although more Māori live in areas that are significantly more deprived than non-Māori.
- Māori are younger than their non-Māori counterparts; the 0-14 year age group is predicted to have the largest increase through to 2016 (13 percent in Otago and 15 percent in Southland) compared to NZ (5 percent) through to 2016.
- Population growth for all ethnic groups is predicted to be similar to New Zealand as a whole. Māori populations are expected to increase in Otago and...
Southland by 30 and 22 percent respectively, over the period 2006-2021. Pacific populations are expected to increase by 30 percent in both Otago and Southland within the same time frame.

- 8.3 percent of people in Southland and 3.8 percent in Otago live in highly rural/remote areas compared to the national average of 2 percent.
4. Southern DHB’s Cancer Burden Summary

Summary information on cancer registrations and deaths in the Southern DHB is provided below. Cancer Registration and Mortality Data Sources and Technical Notes are included in the appendix, section 8. Additional detailed information is included separately in the Local Cancer Plan Addendum.

Cancer registrations
- In 2007, there were 1409 new cancers registered in the Southern DHB region; 50.5 percent of the registrations were male and 49.5 percent were female. Nationally, 52.8 percent of new cancer registrations were male and 47.2 percent were female in 2007.
- Between 1996 and 2007, the number of registrations increased 5.4 percent (compared to a national increase of 18.2 percent between 1997 and 2007). However, when adjusted for age and population growth, registration rates actually decreased by 6.5 percent between 1996 and 2007, compared to a national decrease of 2.2 percent.
- Similar to national patterns, most registrations were for those aged 65 and over for the time period 2003-2007.

Most common registrations of cancers for males and females, 2003-2007
- The most commonly registered cancer in the Southern DHB region was colorectal cancer, accounting for 20.2 percent of all new cancer registrations from 2003-2007. Prostate (13.2 percent) and breast cancer (12.4 percent) were the next most commonly registered sites.

Most common registrations of cancers for females, 2003-2007
- For females, breast cancer was the most frequently registered cancer accounting for 25.8 percent of all female cancer registrations. Colorectal cancer (21.6 percent) and malignant melanoma of the skin (10.1 percent) were the next most commonly registered cancers for females.

Most common registrations of cancers for males, 2003-2007
- For males, prostate cancer accounted for 25.4 percent of all new registrations, with the next most common registrations being colorectal cancer (18.9 percent) and lung cancer (11.5 percent).

Deaths from cancer
- In 2007, 676 people had cancer recorded as their underlying cause of death. Of these deaths, 54.3 percent were males (compared to 53.2 percent nationally).
- The number of cancer deaths increased 8.3 percent from the 624 deaths recorded in 1996. However, when adjusted for age and population growth cancer mortality rates decreased by 6.7 percent from a value of 149 in 1996 to 139 in 2007.
- Most cancer deaths were among those aged 65 and over.

Most common causes of death from cancer for males and females, 2003-2007
- Lung cancer accounted for the most deaths from cancer (18.2 percent), followed by colorectal cancer (17.4 percent) and prostate cancer (7.7 percent).
Most common causes of death from cancer for females, 2003-2007
- For women, colorectal cancer caused the highest number of deaths (18.6 percent) followed by breast cancer (15.3 percent) and then lung cancer (14.7 percent).

Most common causes of death from cancer for males, 2003-2007
- For men, the most common cause of death from cancer was lung cancer (21.3 percent) followed by colorectal cancer (16.3 percent) and then prostate cancer (14.4 percent).

Ethnicity
- Māori are known to have high rates of cancer registrations and deaths nationally but there were no significant differences in registration and mortality rates between Māori and non-Māori in the Southern DHB, when aggregated data were reviewed over the time period 1996-2007.
- However, detailed analysis of data in relation to Māori and Pacific people is not possible because of small population sizes in the Southern DHB.

Specific sites
- Using combined data for the time period 2003-2007, the age standardised registration rate for colorectal cancer is significantly higher in the Otago Region compared to New Zealand as a whole (66 compared to 49 per 100,000 respectively).
- Using combined data for the time period 2003-2007, the age standardised registration rate for malignant melanoma of the skin was significantly lower in the Southland Region compared to New Zealand as a whole (25 compared to 42 per 100,000).

Future National Cancer Incidence Projections
In January 2010, the Ministry of Health released the document, Cancer Projections: Incidence 2004-08 to 2014-18 (Ministry of Health 2010a). Key incidence projection results for selected sites, 2006 to 2016, are indicated in the table below. Overall, the risk of cancer is projected to stabilise over the coming decade (2006-2016) for males and actually decline by about 11 percent for females. Nevertheless, the burden of incident cancers will still increase, by about 29 percent for males and 12 percent for females, as a result of demographic trends (increasing size and older age structure of the New Zealand population).

Table 1: Key incidence projection results for selected sites, 2006 to 2016

<table>
<thead>
<tr>
<th>Selected site</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorectal</td>
<td>Rates are projected to decline in all age groups except 75+ for both sexes, falling overall by approximately one-quarter in the 45-74 age group. Burden still increases, however, by about 15% because of offsetting demographic effects.</td>
</tr>
<tr>
<td>Lung</td>
<td>Rates continue their steady long-term decline in males (all ages), falling by one quarter over the decade. As a result the overall burden remains stable. Trends in incidence rates vary by age group among females, but the overall outcome is stability. Given stable rates, the burden must increase for females; an increase of one-quarter is projected over the next decade.</td>
</tr>
<tr>
<td>Melanoma</td>
<td>Trends in rates are projected to vary by age among males such that the overall rate remains stable and the total burden increases by one third. Female rates are expected to decline in all age groups except the oldest so the overall rate falls slightly. The burden increases by about one-sixth overall.</td>
</tr>
<tr>
<td>Breast</td>
<td>Rates are projected to fall among women younger than 45 years of age, remain stable in those aged 45-74, and increase slightly in those aged over 75 years, with the result that the overall rate remains stable. Total burden nevertheless increases by about one fifth, reflecting the impact of demographic trends.</td>
</tr>
<tr>
<td>Cervix</td>
<td>Both rates and counts are projected to continue to fall sharply. This is entirely due to the ongoing effect of the screening programme.</td>
</tr>
<tr>
<td>Prostate</td>
<td>Rates are projected to increase slowly, even after correcting for the impact of opportunistic PSA screening, with the result that the burden of new cases is expected to increase by approximately 70%. This steep increase reflects the impact of population ageing.</td>
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</table>
Robust services will be required in order to provide comprehensive services for the increasing number of cancer cases expected in the Southern DHB in the coming years. Service planning will need to take into account workforce issues and required infrastructure improvements to enhance and optimise the cancer patient’s journey. Appropriate services need to be in place to provide optimal care for Māori across the continuum of cancer services. This section further describes key service issues and opportunities in cancer control for the Southern DHB.

5.1 Primary Prevention

There are a number of agencies and organisations that have cancer prevention and early detection roles within the Southern District, for example Public Health South and the Cancer Society. Maximal gains in the realm of prevention/early detection will be made by coordinating cancer control activities with all relevant service providers.

5.1.1 Tobacco Control

Smoking is the single leading preventable cause of morbidity and mortality in New Zealand. The prevalence of current daily smokers is 18 percent in Otago and 22 percent in Southland compared to 19 percent for New Zealand. Smoking rates among Māori (both male and female) and for Pacific males were significantly higher than the rates for the non-Māori, non-Pacific population in this region. While the overall prevalence of regular smoking in Māori people living was 37 percent in Otago and 42 percent in Southland, there are many areas where Māori smoking rates were exceptionally high within Otago and Southland locations, with more than 50 percent of Māori aged 15 years and over classified as regular smokers (Southern DHB 2010b).

The DHB is committed to achieving a reduction in the incidence and impact of smoking related disease by reducing exposure to first and second hand smoke. Better help for smokers to quit through the implementation of the ABC approach to smoking cessation in hospital and primary care settings will help to reduce the incidence and prevalence of smoking (refer section 7.14). Smoking cessation programmes are also available through the Quit Line and the NGO sector. Aukati Kai Paipa services provide smoking cessation programmes that are ‘by Māori, for Māori.’ Services are currently available through Te Roopu Tautoko ki te Tonga in Dunedin and through Nga Kete Matauranga in Invercargill/Lakes District.

DHB Smokefree Hospital and Primary Care Coordinators have been appointed to lead the changes necessary to provide better help for smokers to quit. The national target is that 80 percent of hospitalised smokers will be provided with advice and help to quit by July 2010 and 95 percent by July 2012. End of year results for 2009/10 reflect that 52 and 62 percent of hospitalised smokers were assisted to quit smoking in Otago and Southland respectively.

A strategy will be developed to address the Southern District Annual Plan specific priority to reduce smoking rates in Māori working alongside the Local Cancer Plan. The strategy will incorporate a whānau ora approach highlighting a planned response to reduce smoking prevalence and consumption rates.

5.1.2 Nutrition and Physical Activity

Environmental factors such as food, nutrition and physical activity are known to influence the risk of cancer. The World Cancer Research Fund/American Cancer Institute for Cancer Research Report, Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective (2007) provides a number of recommendations to reduce the risk of cancer in relation to: body fatness; physical activity; food and drinks that promote weight gain; consumption of plant and animal
foods; alcoholic drinks; preservation, processing, preparation; dietary supplements; breastfeeding and cancer survivors. The report notes that “Maintaining a healthy weight throughout the lifespan may be one of the most important ways to protect against cancer.”

Fruit and vegetable consumption is slightly better in the Southern DHB than the national average, with females consuming more servings than males. Around 34 percent of people are obese or overweight which is slightly lower than the national average. However, Māori and Pacific people are over-represented in this group. Around 58 percent of all adults do 30 minutes of physical activity each day compared to 50 percent nationally (Southern DHB 2010b).

There are numerous stakeholder agencies delivering nutrition and activity programmes, with differing priorities and funding streams, including the Healthy Eating, Healthy Action (HEHA) programme. HEHA is the Ministry of Health strategic approach to improving nutrition, increasing physical activity and achieving healthy weight for all New Zealanders.

The Southern DHB HEHA Plan 2010-2012 (Southern DHB 2010c) includes objectives to provide support, information and facilitation to build Māori and Pacific community capacity and workforce development. The HEHA Plan also includes an objective to apply the four pathways for achieving whānau ora described in He Korowai Oranga to improve nutrition and physical activity for Māori, through HEHA Māori Community Action Project grants and other actions.

A coordinated and collaborative approach would facilitate implementation of nutrition and physical activity programmes in the Southern District. This would involve ongoing development and promotion of a multiagency plan to inform implementation, including action in relation to leadership, community, education, workplaces, and health services.

5.1.3 Alcohol Harm Reduction
Alcohol is a known risk factor for cancer. There is convincing evidence that alcohol is associated with an increased risk of cancers of the mouth, pharynx, larynx, oesophagus, colorectum (in men) and breast. Some evidence suggests that alcohol increases the risk of colorectal cancer in women and liver cancer (World Cancer Research Fund/AICR 2007). Smoking and alcohol together have a synergistic effect on cancer risk. This means the combined effects of smoking and alcohol are significantly greater than the risk from the individual risks added together. This suggests that messages about alcohol should be targeted at smokers, in particular.

Recent research conducted by ALAC and Public Health South in Queenstown/Wanaka found that primary care health professionals are not aware of the full range of service providers for problem drinkers and that services are unattractive to some people because of the mental health label associated with heavy drinking.

5.1.4 Human Papilloma Virus (HPV) Immunisation
Currently, around 150 women are diagnosed and 60 women die from cervical cancer each year in New Zealand. The Human Papilloma virus (HPV) immunisation programme aims to prevent HPV infection and reduce the incidence of cervical cancer in New Zealand. Immunisation is available to help protect young women against the two common types of high-risk HPV (types 16 and 18) that cause up to 70 percent of cervical cancer. The vaccine is included on the National Immunisation Schedule for girls in school year 8 (or age 12 if not given at school). The HPV immunisation is free for girls and young women born on or after 1 January 1990. It is available through participating schools or from family doctors, local health centres and some Family Planning clinics. The vaccine is given in three doses, usually an initial dose with follow-
ups two months and six months afterwards. The vaccine does not protect against all HPV types; therefore, women who have been immunised must still continue to have regular smear tests (Ministry of Health 2010b).

5.2 Screening and Early Detection

5.2.1 Breast Screening
BreastScreen Aotearoa (BSA) is the publicly funded national breast screening programme that checks women for early breast cancer by providing mammograms to eligible women (asymptomatic women aged 45-69) every two years. The programme aims to screen at least 70 percent of the eligible population of women aged 50-69 every 2 years to achieve a 30 percent reduction in breast cancer mortality. Breast screening may be under-reported as private screening rates are not captured in reported regional rates.

For the 24 months ending 31 December 2009, the combined Otago and Southland DHB region surpassed the target rate of 70 percent screening for eligible women aged 50-69, achieving 75 percent coverage. Breast screening coverage for Māori women in Otago DHB and Southland DHBs was below target at 58 percent. BSA coverage of Pacific women was also below target for Otago District Health Board and Southern District Health Board at 59 percent (BreastScreen Aotearoa 2009). This is an inequality that requires strategic focus and direction.

Southern DHB actions to increase screening rates include:
- aligning this work with the primary health sector to promote screening for all eligible women
- ongoing education for referrers
- collaboration with focus groups to consult and identify the needs of hard to reach women, to assist in reducing inequalities

Additional actions to increase screening rates amongst Māori and Pacific women are needed. Actions to reduce barriers to participation could include the following:
- linking with nga Runaka in the Southern District to encourage Māori women to enrol
- adopting whānau ora practices
- encouraging the Southern PHO to review, and enhance as required, current strategies to increase the uptake of mammograms and cervical smears for Māori and Pacific women
- developing strategies with Pasifika Women’s regional groups and Pacific Nurse Networks to access Pacific women

Additionally, the DHB could investigate whether there are issues regarding Asian women within the District in relation to access and awareness of breast screening.

5.2.2 Cervical Screening
The National Cervical Screening Programme (NCSP) aims to reduce the incidence and mortality rates of cervical cancer by the detection and treatment of precancerous cell changes. Regular cervical smear tests every three years are recommended for women, if they have ever been sexually active, from the age of 20 to 70. The programme target is to screen 75 percent of the eligible population (women aged 20-69). The coverage rate data represents the number of eligible women screened in the previous three years as a proportion of the total eligible number of women from the 2001 Census.

For the 36 months ending January 2010, Otago DHB had one of the highest screening rates in the South Island for the total eligible population, achieving over 79 percent coverage, while Southland achieved 76.6 percent coverage. Over the same time
period, the cervical screening rates for Māori women were considerably below the target screening rate (49.5 percent in Otago and 45.4 percent in Southland). This is consistent with low rates of screening achieved nationally (54.3 percent). At 70.7 percent, screening rates for Pacific women were significantly higher in Southland, compared to the national average of 59.1 percent. Coverage rates for Pacific women were lower in Otago (56.9 percent). This is another inequality that requires strategic focus and direction. Regular cervical screening has been shown to result in a reduction in deaths from cervical cancer but currently it appears that Māori and Pacific women are receiving less than adequate levels of care. The DHB will need to consider actions required to increase screening rates for Māori and Pacific populations in order to achieve the Ministry of Health target of 75 percent coverage for all ethnic groups by 2011 (National Cervical Screening Programme 2010).

### 5.2.3 Colorectal Cancer Screening

In May 2010, the Ministry of Health announced its intention to begin a four year pilot to assess whether New Zealand should introduce a national bowel cancer screening programme. The pilot will commence in late 2011 in one or two District Health Board areas selected according to ability to provide a minimum sample population of 60,000, including at least 6000 Māori. The programme will invite eligible people aged 50 to 74 years living in the DHB area to participate in screening once every two years during the pilot.

The Ministry of Health is also developing guidelines for people with suspected bowel cancer and establishing a New Zealand Familial Gastro-Intestinal Registry and national surveillance programme for high risk populations. (Refer Part II, Section 7.10 for information on the Southern Cancer Network Otago DHB Access to Colonoscopy Audit).

### 5.2.4 Genetics Services

Capital & Coast DHB provides the Southern Regional Genetics Service on behalf of the South Island DHBs, with the exception of Nelson/Marlborough DHB. Genetic Services provide information and education, risk assessment and clinical management, and diagnosis and laboratory testing for a wide variety of inherited and/or congenital conditions. The service includes:

- two clinical units based in Wellington and Christchurch
- two laboratories (cytogenetic and molecular) based in Wellington.
- clinics held in many of the smaller centres in the South Island.

### 5.2.5 Primary Care

Primary care features prominently in Otago/Southland Local Cancer Network primary prevention and early detection strategies. The existence of a single PHO will create opportunities for additional partnerships and collaboration in the Southern DHB area in relation to health promotion, primary prevention (e.g. immunisation, nutrition services) and early detection. Refer Section 5.3.1 for additional information on diagnosis and primary care) and Section 7.11 for information in relation to Southern Cancer Network projects on Inequalities and Cancer.
5.3 Diagnosis and Treatment

5.3.1 Diagnosis
The New Zealand Guidelines Group has recently released Suspected Cancer in Primary Care: Guidelines for Investigation, Referral and Reducing Ethnic Disparities (2009). Decision support systems (optimally electronic) are needed to assist General Practitioners to implement these guidelines.

The Local Cancer Network recognises the need to increase awareness of prevention, early detection, screening, diagnostics, and referral within the primary care community and will access Continuing Medical Education (CME) opportunities available across the Southern District Board area for this purpose. CME may also overcome barriers to communication between hospital and community. The LCN will explore ways to overcome barriers to CME in rural localities, e.g. visiting specialists presenting at CME.

Within the DAP, the SDHB (Southern DHB 2010a) has identified “timely access to diagnostic services” as an issue and challenge in relation to cancer treatment waiting times. The SDHB will consider and implement specific actions to address recommendations from the SCN Regional Lung Cancer Patient Mapping Report, Otago and Southland, March 2010, and the February 2010 SCN Audit of Access to Colonoscopy in Otago (refer Section 7.9 and 7.10).

5.3.2 Optimising Treatment
Because cancer is a complex disease, multidisciplinary management is believed to be associated with more appropriate diagnosis and better outcomes from treatment. Multidisciplinary meetings (MDMs) are routinely conducted to a high standard in Dunedin and involve clinicians from a number of specialist areas to maximise the patient journey. The Ministry of Health National Cancer Control Work Plan 2010/2011 includes targets for increased MDM focus on a number of tumour streams, including lung, bowel cancer, breast, prostate, upper gastrointestinal, head and neck, and gynaecological cancers (Ministry of Health 2010c).

The Southern DHB is undertaking a project to establish a high resolution video link from Southland to Dunedin, with associated diagnostics, to enable Southland clinicians to more fully participate in the MDM process. Additionally, the SDHB is working with the Southern Cancer Network to develop a comprehensive programme of individual ‘Mapping the Cancer Patient Journey’ projects across the different tumour streams, continuing with mapping of lung and bowel cancer patient journeys in 2010-2011.

5.3.3 Surgical Cancer Services
Surgical services at Dunedin and Southland hospitals provide anticancer treatment. Some patients will not require any further anticancer treatment beyond their surgical intervention. Surgical cancer services work independently from the Southern Blood and Cancer Service (SB&CS). Inequities could exist because surgical cancer patients may not receive the comprehensive care that non surgical cancer patients receive. SB&CS does not currently have the resources required to extend services to surgical cancer patients, e.g. psychosocial support, complex care coordinators. The LCN will encourage surgical cancer services to collaborate with SB&CS and leverage off the infrastructure that supports and optimises the patient’s journey to non-surgical services. This includes single point of referral, standardised triage protocols, communication with primary care, formalisation of MDTs and psychosocial support services.

5.3.4 Regional Service Provision of Medical Oncology, Haematology and Oncology and Radiation Oncology
The Southern Blood and Cancer Service was established in December 2007 as a strategic alliance to deliver regional oncology and haematology services via a single service delivery entity across the Otago and Southland DHBs. This regional clinical service is one of six cancer services in New Zealand. A key service objective is to ensure equity of access for patients across the Otago and Southland region with service provision as close to the patient’s place of residence as practical.

Current Service Provision:

- Medical Oncology, radiation oncology, haematology and palliative Care services are provided on both an inpatient and outpatient basis at Dunedin and Southland Hospitals and on an outpatient basis at Southland Hospital.
- The service has a diverse group of highly skilled staff which includes nurses, doctors, radiation therapists, medical physicists, administrative staff and psychosocial support staff.
- Oncology/haematology day-stay unit at Southland Hospital is managed by an experienced oncology General Physician and nursing team, with support from the service’s tertiary based colleagues at Dunedin Hospital.
- Inpatients at Southland Hospital are managed by the General Medicine department with support from Dunedin based specialists as required.
- Dunedin based tertiary specialists provide regular clinics at Southland Hospital in conjunction with the Southland based team.
- Clinics are provided in rural centres across the district.
- Patients across the region requiring radiotherapy travel to Dunedin for this specialized treatment.
- Dunedin is the sole national centre for the provision of Stereotactic Radiosurgery.
- Outpatient clinic service is provided for those communities served by the rural hospitals of Oamaru, Dunstan and Balclutha. Chemotherapy of varying complexity is administered at these hospitals alongside the principal hospitals of Dunedin and Invercargill.

The SB&CS delivers systematic and formal clinical multidisciplinary team meetings for the tumour streams of lung, lymphoma, breast, head and neck, colo-rectal and gynaecological malignancies. This provides a gold standard of care in relation to the development of cohesive, multidisciplinary and structured treatment plans. The Southern Blood and Cancer Service has proven to be an effective and progressive arrangement that enables the clinical staff to provide the best possible care for patients and better manage workloads. The regional service ensures consistency of care through shared clinical protocols and a single wait list ensuring prioritisation and care are provided appropriately. Regional capability is facilitated by centralising referral receipt, triage, waiting list management and outpatient scheduling functions within the Dunedin Cancer Centre.

Establishment of the SB&CS has enabled significant improvements in the timeliness of access to First Specialist Assessment (FSA) for Southland domiciled patients. Radiation Treatment delivery times have also improved, as refinement of processes at the Dunedin Cancer Centre have been made to redress the balance of equity of access across the region. The core objectives of the SB&CS were all achieved within the first three months of operation. Additionally, in Quarterly Reports to the Ministry of Health for Radiation Therapy (March and July 2010) and Chemotherapy (March 2010), the SB&CS noted:

- that the radiation oncology service has 100 percent of its patients treated within the current Ministry guideline of 6 weeks from FSA to commencement of treatment
- that taken as an ‘average’ of all treatment categories, greater than 96 percent of patients received treatment within four weeks
that all patients commence chemotherapy within 4 weeks where able to do so, with an average FSA to treatment time of two weeks

- that all three sub-specialities (haematology, radiation oncology, medical oncology) deliver FSA within the recommended wait times of the Ministry of Health

While there have been significant changes to improve the service across the region, there are still issues that prevent patients from receiving care as close as possible to their home. Geographic distance is an ongoing problem which creates difficulties for rural patients in accessing assessment and treatment. Cancer service providers need to consider further requirements for optimal delivery of service across the Southern DHB. For example, within the Lung Cancer Patient Mapping Report (Robson 2010), the SCN recommended that the DHB “Investigate the use of telemedicine clinics as a patient management tool where distance raises issues of travel, accessibility to service and cost saving opportunities. Consideration should be given to the role of the rural hospital as part of cancer control activity.”

5.3.5 Radiotherapy Wait Times
The SB&CS anticipates achieving the ministry of Health Target of “100 percent receive radiation within six weeks by July 2010” but anticipates difficulty in further reducing the waiting time to within four weeks by December 2010. Financials indicate that the DHB will need to commit significant funding ($5–10 million in the 2010/2011 and 2011/2012 District Annual Plan) in order to achieve Ministry of Health targets. Achievement of this target may not be possible within current financial constraints.

A number of strategies will be employed to manage throughput to achieve additional efficiencies. One Linear Accelerator will need to be replaced in the medium term; this will need to be managed to avoid disruption of patient treatment.
5.3.6 **Public Private Interface**

Although New Zealanders have access to a wide range of treatments and medicines, there are many treatments that are available internationally that are not funded through the public health system, including the latest pharmaceuticals and medicines not funded by the Government. The Otago/Southland Local Cancer Network has noted the lack of private cancer care available in the region.

5.3.7 **Positron Emission Tomography (PET) Scanning**

Positron Emission Tomography (PET) has become an indispensable imaging tool for the management of cancer in most developed countries. Compared with current imaging modalities, PET has a marked ability to identify both the spread of cancer and the effectiveness of treatment. The Ministry of Health is now providing DHBs with additional funding to supplement existing DHB spending on PET scanning. DHBs are encouraged to (1) purchase PET scans for the agreed clinical indications and (2) participate in regional variance committees to promote patient access to PET scans for cases that fall outside nationally agreed clinical indicators.

5.3.8 **Adolescent and Young Adult Services**

Adolescent and young people have specific and unique needs when it comes to cancer treatment. In February 2010, the Ministry of Health and CanTeen launched the Adolescent and Young Adult (AYA) Service Specification in a move to bridge the gap between the treatment of adult and paediatric cancer. The Southern DHB has been allocated funding to employ staff to lead and coordinate the Adolescent and Young Adult Service in order to enhance patient care for this age group of oncology patients, from 2 July 2010.

5.3.9 **Primary Care Interface**

On-going work is needed to develop appropriate referral pathways between primary and secondary care services. In particular, there is a need to develop clinical pathways between primary and secondary care, including clarification of discharge to primary care for follow up. There may be potential to investigate Nurse Practitioner/Advanced Nursing Roles for the adult cancer service to bridge the gap between primary and secondary care and back to primary care.

5.4 **Support, Rehabilitation and Palliative Care**

5.4.1 **Supportive Care**

The Otago/Southland Local Cancer Network has noted the relative lack of supportive care and rehabilitation available for cancer survivors in the Southern DHB. The LCN acknowledges the programmes offered by the Cancer Society but noted the need to increase health professional awareness of these services.

*National Guidelines for Improving Supportive Care for Adults with Cancer in New Zealand* (Ministry of Health 2010d) defines supportive care and rehabilitation services as “The essential services required to meet a person’s physical, social, cultural, emotional, nutritional, informational, psychological, spiritual and practical, needs throughout their experience with cancer.” The Otago/Southland Local Cancer Network will participate in the stocktake of Southern District cancer support services and work with SCN to develop a plan to implement the guidelines in the Southern District. Additionally, the LCN will investigate the development of a Patient Coordinator/Navigator role to facilitate patient access to cancer treatment services across the continuum of cancer care.

5.4.2 **Travel and Accommodation**

The Southern DHB provides cancer services to a large geographical area that covers Oamaru in the north, to Te Anau and Bluff in the south. This geographical distance presents challenges for transport and accommodation needs for patients and their
family/ whānau who may have to travel for significant distances to Dunedin for assessment, diagnosis, treatment or follow-up. Improved integration and co-ordination of Dunedin Hospital-based services would contribute to reducing these challenges.

The Southern Cancer Network completed a report on Travel and Accommodation on 20 April 2010 (Southern Cancer Network 2010a) with a core recommendation for South Island DHBs to take a consistent approach to travel and accommodation issues. Immediate/short term recommendations include

- patient focused support actions;
- information and / communication on how to access travel and accommodation;
- cultural support;
- assistance in processing National Travel Assistance (NTA) claims; and
- clarification of NTA policy and policy in relation to eligibility for NTA coverage.

In addition, the South Island Shared Services Agency Limited is currently undertaking a project to “Develop, evaluate and present a model which best accommodates the economic and social impacts of patients travelling versus clinicians travel. The model is to assist in service planning for outpatient and inpatient services in South Island District Health Boards.”

5.4.3 Palliative Care

In its Regional Lung Cancer Patient Mapping Report, Otago and Southland (Robson 2010), the SCN observed that “Palliative care services are well integrated with functional or developing (Southland) relationships between the hospital, hospice and community district nursing services.” Plans are underway to further integrate hospice and secondary care across the Southern DHB.

Otago Community Hospice and Hospice Southland are currently undertaking initiatives to integrate specialist and generalist palliative care providers. This includes development of palliative care networks to enhance collaboration, disseminate information and provide continuing education. Generalist focussed palliative care education programmes are provided to support generalist palliative care colleagues (including education for night nurses/carers).

Otago Community Hospice and Hospice Southland have both been involved in consultation processes through the Ministry of Health and Hospice New Zealand to finalise draft Service Specifications for Specialist Palliative Care in this region (Ministry of Health 2008b). It is anticipated that this process will take some years to reach fruition. Initiatives are planned to establish the Liverpool Care Pathway for the Dying Patient (LCP) in the Southern District Health Board in specialist and generalist provider settings.

5.5 Effective Planning, Coordination and Monitoring of Services

5.5.1 Data Collection and Analysis

The Otago/Southland Local Cancer Network has identified the need for standardisation of data collection and reporting across the Southern DHB, ensuring collection of data for cancer patients in primary care, SB&CS, and those outside SB&CS. This will require information system support and will need to be achieved within existing funding. Links between primary and secondary care information systems will need to be created in order to facilitate data sharing.

There is national recognition of the long standing and critical need for accessible quality clinical data to monitor and improve patient outcomes. In the absence of a national registry, the SCN has identified an opportunity to develop a South Island Cancer Registry. The Southern Cancer Network has succeeded in gaining funding
through the Ministry of Health Cancer Service Development Fund to develop a South Island wide Central Cancer Registry / Database. The South Island Clinical Cancer Information System (SICCIS) will link the current Dunedin Cancer Centre patient systems (MOSAIQ) with the management systems used by Christchurch Cancer Centre and St George’s private cancer centre in Christchurch. The Southern Cancer Network anticipates launching the registry in December 2010.

5.5.2 Inequalities
Cancer is a significant health issue for Māori, with higher registration rates (21 percent higher in 2007) and mortality rates (60 percent higher in 2007), compared to non-Māori (Ministry of Health June 2010e). There are differences in the stage of diagnosis between Māori and non-Māori such that Māori are more likely to be diagnosed at a more advanced stage of disease for some tumours (Ministry of Health 2010f). Additionally, Māori are more likely than non-Māori of having stage of diagnosis omitted from the registration for a number of cancers (Ministry of Health 2010f). Nationally, mortality rates are disproportionately higher for Māori than non-Māori for some cancers, such as lung cancer, breast cancer, and cervical cancer (Ministry of Health 2010e). Even after taking stage of diagnosis into account, there are survival disparities for Māori in relation to a number of cancers (Ministry of Health 2010f).

Cancer is a major cause of mortality and morbidity for Pacific people. Rates of breast and cervical cancer in Pacific women may be indicative of lower participation in national screening programmes (Ministry of Health 2004).

Work is being undertaken by the Southern Cancer Network to understand the causes of health inequalities in relation to cancer care, including a project to assess the accuracy of the ethnicity data collected at the two cancer centres (Tao and Doolan-Noble 2010) and a project to assess the responsiveness of primary and community health care providers to Māori and Pacific Peoples, followed by a similar project to assess responsiveness to Asian and other migrant Peoples (Doolan-Noble 2010). The Otago/Southland Local Cancer Plan includes specific actions to address health inequalities for Māori across the cancer control continuum.

Southern DHB actions to enhance the effectiveness of services in delivering and positively contributing towards improving Māori cancer related health outcomes include:

- Reduce inequalities between the health outcomes of Māori and other New Zealanders through the implementation of whānau ora.
- Support and implement the Kia ora Hauora Māori Health Careers Programme within the Southern region. Revisit Te Waipounamu Māori Health & Disability Workforce Development Plan 2006-2011.
- Development of a SDHB Māori Health Plan Action Plan including actions to reduce smoking rates in Māori, improve access to breast and cervical screening and improve ethnicity data collection (refer section 7.14)

5.5.3 Whānau Ora Programmes
Whānau Ora is an inclusive approach to providing services and opportunities to families across New Zealand. It empowers families as a whole, rather than focusing separately on individual family members and their problems. Implementation of whānau ora to all services provided across the cancer continuum may help to reduce inequalities between health outcomes for Māori and other New Zealanders.

The Ministry of Health Whānau Ora Tool “is a practical guide to developing health programmes where whānau, hapu, iwi, and Māori communities play a leading role in achieving whānau ora. It places Māori at the centre of programme planning, implementation and evaluation (Ministry of Health 2008a).” The SDHB will use the
Whānau Ora Tool to develop plans to enhance the effectiveness of health and disability services to positively contribute towards improving Māori health outcomes.

The development and implementation of whānau ora programmes is not new to Māori providers across Southland and Otago. Southern DHB and Southern PHO will need to work alongside Māori providers and nga Runaka to progress existing and new whānau ora programmes.

The Southland region plans to pilot an outreach programme to provide health promotion and screening for at risk individuals (e.g. heavy smokers) in remote, rural, impoverished locations in Southland. If successful, this pilot programme may be extended to other similar areas in order to reach the “hard to reach.”

5.5.4 Demand and Capacity Planning
It has been evidenced that the burden of cancer is expected to increase significantly in the coming years due to the aging population and increasing population size, particularly in the 65 and over age band. As the population ages, the volume of cancer registrations is also expected to increase amongst Māori. In addition many actions suggested in the Local Cancer Action Plan, such as increasing the uptake of screening programmes, reducing waiting times and increasing support services will also increase demand for services across the cancer continuum, and place increasing pressure on the limited specialist staff and services available. It is therefore important that an informed and planned approach to service development is taken, looking at available evidence of where service demand will increase, by how much and by when. Services can then take a planned approach to meeting that increase in service demand, by developing innovative approaches to service delivery and workforce design.

5.6 Research and Surveillance
The Southern Cancer Network has facilitated the establishment of a regional research network which is helping to coordinate research across the South Island. The LCN will participate in the SCN Regional Research Network and continue existing clinical research within the SB&CS. In addition, the Otago/Southland Local Cancer Network will continue to endorse funding of cancer research in the Southern District, e.g. Cancer Society Social and Behavioural Research Unit. The DHB will participate in SICCIS (combined South Island cancer registry/database) planning processes. There may be opportunity for collaborative research between the DHB and the University of Otago.
Part II. This is a three year plan 2010/11-2012/13.

6. Otago/Southland Cancer Control Action Plan

The objective of the Otago/Southland Cancer Control Action Plan is to outline key local actions required to address cancer control within the Southern DHB area. The Action Plan does not document all cancer related activities undertaken locally, regionally or nationally but aligns local activity with regional and national initiatives and policy.

Actions have been prioritised within the three year time frame of the plan, and so ear marked for focus within a specific financial year. Where timeframes have been identified as “ongoing”, work to achieve the action has already commenced, but needs to continue to be monitored and supported by the Local Cancer Network.

Many actions are planned to be achieved within existing financial resources. Those actions that do not have funds currently identified (nominated TBC), or which may over time require additional resources, will have to be progressed through the development of specific business cases and normal SDHB funding prioritisation processes as appropriate each year.

Over time services are expected to respond to changing circumstances and priorities. As such, this plan is applicable for a three year time period and will be reviewed annually.

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<th>GOAL 1 – Reduce the incidence of cancer through primary prevention</th>
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<tr>
<td>Outcomes</td>
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<tr>
<td>1.1 Coordination of primary prevention/early detection programmes</td>
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<td>1.2 Reduction in prevalence of smoking in SDHB population</td>
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<td>1.2.2 Implement the ABC approach in primary care settings, to achieve Ministry of Health targets</td>
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<td>1.2.3 Implement programmes in community organisations (e.g. schools, workplaces, playgrounds, marae) to develop smoke free policies and activities that promote and normalise smokefree / auahi kore lifestyles</td>
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<td>1.2.4 Provide Aukati Kai Paipa smoking cessation programmes for Māori in the Southern region</td>
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<td>1.2.5 Develop and implement a Southern DHB strategy that incorporates a whānau ora approach to reduce smoking prevalence in Māori and Pacific peoples (refer Maori Health Plan)</td>
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<tr>
<th>1.3 Reduction in harm from alcohol</th>
<th>1.3.1 Develop an alcohol harm reduction strategy across Southern DHB region</th>
<th>SDHB, PHS, Māori providers, NGO’s</th>
<th>2011/12</th>
<th>TBC</th>
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<tr>
<td>1.3.2 Support community efforts to address alcohol related harm reduction (e.g. University banning of alcohol promotions, etc.)</td>
<td>PHS</td>
<td>Ongoing</td>
<td>SDHB</td>
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<p>| 1.4 Reduction in the incidence of cancers caused | 1.4.1 Reduce incidence of acute infections of hepatitis through the needle exchange. | NGOs | Ongoing | MoH |</p>
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<th>by infectious disease</th>
<th>1.4.2 Prevent further cases of hepatitis through managing acute presentations</th>
<th>NGOs</th>
<th>Ongoing</th>
<th>MoH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.4.3 Identify chronic hepatitis cases that might be amenable to further treatment.</td>
<td>NGOs</td>
<td>Ongoing</td>
<td>MoH</td>
</tr>
<tr>
<td></td>
<td>1.4.4 Achieve targets in human papilloma virus Immunisation (refer 2.2)</td>
<td>PHS, SPHO</td>
<td>Ongoing</td>
<td>SDHB</td>
</tr>
<tr>
<td>1.5 Reduce incidence of cancers caused by exposure to hazardous substances</td>
<td>1.5.1 Support healthier and safer social and physical environments to reduce adverse health effects of hazardous substances on people and communities. (NB: Primary prevention programmes for occupational health cancers are not provided by Southern DHB. Department Labour is the service provider for this area of primary prevention for cancers linked to occupation).</td>
<td>PHS, OSH</td>
<td>Ongoing</td>
<td>MoH</td>
</tr>
</tbody>
</table>
### GOAL 2 – Ensure effective screening and early detection to reduce cancer incidence and mortality

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Action</th>
<th>Agencies</th>
<th>Year</th>
<th>Funding Source</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2.1</strong> Reduction in breast cancer mortality</td>
<td>2.1.1 Ensure all eligible women are offered mammograms every two years</td>
<td>PHS, SDHB, SPHO</td>
<td>Ongoing</td>
<td>MoH</td>
</tr>
<tr>
<td></td>
<td>2.1.2 Increase the number of eligible women who are screened every two years, to achieve Ministry of Health targets.</td>
<td>PHS, SDHB, SPHO</td>
<td>Ongoing</td>
<td>MoH</td>
</tr>
<tr>
<td></td>
<td>2.1.3 Work collaboratively with local Maori women’s organisations to develop and implement interventions to increase the uptake of mammograms for Maori women (refer to Maori Health plan).</td>
<td>PHS, SDHB, SPHO, Māori providers,</td>
<td>2011/12</td>
<td>MoH</td>
</tr>
<tr>
<td></td>
<td>2.1.4 Work collaboratively with local Pacific women’s organisations to develop and implement interventions to increase the uptake of mammograms for Pacific women.</td>
<td>PHS, SDHB, SPHO, Pacific providers</td>
<td>2011/12</td>
<td>MoH</td>
</tr>
<tr>
<td></td>
<td>2.1.5 Ensure equal access and awareness for Asian women of breast screening services</td>
<td>PHS, SDHB, SPHO</td>
<td>2011/12</td>
<td>MoH</td>
</tr>
<tr>
<td><strong>2.2</strong> Reduction in mortality of cervical cancer</td>
<td>2.2.1 Implement a quality cervical screening programme, to meet Ministry of Health targets (refer 1.4.4)</td>
<td>PHS, SDHB, SPHO</td>
<td>Ongoing</td>
<td>MoH</td>
</tr>
<tr>
<td></td>
<td>2.2.2 Work collaboratively with local Maori women’s organisations to develop and implement interventions to increase the number of Māori women enrolling in cervical screening programme</td>
<td>PHS, SDHB, SPHO, Māori providers</td>
<td>2011/12</td>
<td>MoH</td>
</tr>
</tbody>
</table>
(refer Maori Health Plan)

| 2.2.3 | Work collaboratively with local Pacific women’s organisations to develop and implement interventions to increase the number of Pacific women to enrolling in cervical screening programme | PHS, SDHB, SPHO, Pacific providers | 2011/12 | MoH |

| 2.3 Promote early detection and screening |
| 2.3.1 | Implement education programme to increase knowledge in primary care of prevention, early detection and screening programmes, through CME opportunities | SPHO | Ongoing | SPHO |

<p>| 2.3.2 | Develop and implement an education programme (e.g. reducing inequalities and demystifying cancer) for the general public, in relation to early recognition of symptoms suspicious of cancer and early presentation | PHS, SPHO, SDHB, NGOs | 2012/13 | TBC |
| GOAL 3 – Ensure effective diagnosis and treatment of cancer to reduce cancer morbidity and mortality |
|---|---|---|---|---|
| Outcomes | Action | Agencies | Year | Funding Source |
| 3.1 Timely and appropriate referrals | 3.1.1 Implement education programme to increase knowledge in primary care on diagnosis and referral processes through CME opportunities | SPHO | Ongoing | SPHO |
| | 3.1.2 Develop and implement CME programme for rural GP teams | SPHO | 2012/13 | SPHO |
| | 3.1.3 Promote implementation of the NZ Guidelines Group ‘Suspected Cancer in Primary Care’ through GP networks, including use of electronic tools as available | SPHO | 2011/12 | SPHO |
| 3.2 Timely diagnostic tests for patients with suspected cancer (refer 5.1.1) | 3.2.1 Implement updated referral pathways for lung and bowel cancer | SDHB, SPHO | Ongoing | SDHB, SPHO |
| | 3.2.2 Investigate the applicability of service improvements (e.g. ‘straight to test’ and Respiratory Rapid Access diagnostic clinic) and implement where possible. | SDHB | 2012/13 | TBC |
| | 3.2.3 Implement recommendations from the SCN Audit of access to colonoscopy in Otago | SDHB | 2011/12 | SDHB |
| 3.3 Timely access for Radiation Therapy and Chemotherapy treatments (refer 5.1.1) | 3.3.1 Implement e-referrals as part of SI medical oncology prioritisation project, as facilitated by the SCN | SCN | 2011/12 | SCN/MoH |
| | 3.3.2 Achieve Ministry of Health waiting time targets for radiotherapy | SDHB | Ongoing | SDHB, SCN |</p>
<table>
<thead>
<tr>
<th>3.3.3 Participate in SI project for shared capacity and Linac Accelerator replacement</th>
<th>SCN</th>
<th>Ongoing</th>
<th>SCN</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.3.4 Achieve Ministry of Health access targets for chemotherapy treatment</td>
<td>SDHB</td>
<td>Ongoing</td>
<td>SDHB</td>
</tr>
<tr>
<td>3.3.5 Configure optimal locations for delivery of chemotherapy services, taking into account population needs across the Southern District</td>
<td>SDHB</td>
<td>Ongoing</td>
<td>SDHB</td>
</tr>
<tr>
<td><strong>3.4 Coordinated and seamless cancer journey for the patient (refer 5.1.1)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.4.1 Implement SI protocols to facilitate information transfer between public and private systems, to maximise clinical and patient safety</td>
<td>SCN, SDHB, NGOs, SPHO</td>
<td>2011/12</td>
<td>SCN</td>
</tr>
<tr>
<td>3.4.2 Implement national standards of care for lung and bowel cancer to optimise the patient’s journey</td>
<td>SDHB, SPHO</td>
<td>2011/12</td>
<td>SCN</td>
</tr>
<tr>
<td>3.4.3 Implement the recommendations from the SCN lung and bowel cancer mapping report</td>
<td>SDHB, SPHO</td>
<td>2011/12</td>
<td>SCN</td>
</tr>
<tr>
<td>3.4.4 Participate in SCN SI MDM project to define and implement a regional solution for clinician access to Multidisciplinary Meetings.</td>
<td>SDHB, SCN</td>
<td>2011/12</td>
<td>SCN</td>
</tr>
<tr>
<td>3.4.5 Develop, pilot and evaluate telemedicine clinics (i.e. specialist/patient and specialist/General Practitioner) as a patient management tool where distance raises issues of travel, accessibility to service and cost saving opportunities</td>
<td>SPHO, SDHB</td>
<td>2012/13</td>
<td>TBC</td>
</tr>
<tr>
<td><strong>3.5 Quality approach to service delivery</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3.5.1 Develop and implement quality improvement initiatives to address information needs of patients as identified in the Voice of Experience (refer section 7)</td>
<td>SDHB</td>
<td>2011/12</td>
<td>TBC</td>
</tr>
</tbody>
</table>
### 3.6 Development of Adolescent and Young Adult Services

<table>
<thead>
<tr>
<th>3.6.1</th>
<th>Implement the Adult and Young Adolescent National service specifications within the Southern DHB, to include:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Appointment of a coordinator/key worker</td>
</tr>
<tr>
<td></td>
<td>• Identification of a clinician who will provide leadership and link with the key worker</td>
</tr>
<tr>
<td></td>
<td>• Participation of the Southern DHB in the Regional MDT to promote a regional approach to the management of AYA in the South Island</td>
</tr>
</tbody>
</table>

| SDHB  | Ongoing | MoH |
GOAL 4a – Improve the quality of life for those with cancer, their family/whānau through a rehabilitative and survivorship approach

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Action</th>
<th>Agencies</th>
<th>Year</th>
<th>Funding Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 Supportive Care for Adults with Cancer in New Zealand</td>
<td>4.1.1 Develop a plan to implement recommendations (when available) from the MoH ‘Guidance for Improving Supportive Care for Adults with Cancer’. Project Managers – Health Outcomes International.</td>
<td>ALL</td>
<td>2011/12</td>
<td>TBC</td>
</tr>
<tr>
<td></td>
<td>4.1.2 Develop and implement a survivorship rehabilitation programme</td>
<td>SDHB, NGOs</td>
<td>2011/12</td>
<td>TBC</td>
</tr>
<tr>
<td></td>
<td>4.1.3 Identify best service model to meet psychosocial support needs for the cancer patient.</td>
<td>SDHB</td>
<td>2011/12</td>
<td>TBC</td>
</tr>
<tr>
<td>Outcome</td>
<td>Action</td>
<td>Agencies</td>
<td>Year</td>
<td>Funding Source</td>
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</tr>
<tr>
<td>4.1 Increase integration of specialist and generalist palliative care service providers</td>
<td>4.1.1 Establish local palliative care networks to enhance collaboration and dissemination of information.</td>
<td>All palliative care providers, SPHO, Māori providers, SDHB, SCN</td>
<td>2011/12</td>
<td>Palliative care providers</td>
</tr>
<tr>
<td></td>
<td>4.1.2 Specialist Palliative Care providers to develop and implement a comprehensive education programme, aligned to whānau ora principles, to support generalist providers of palliative care</td>
<td></td>
<td>Ongoing</td>
<td>Palliative care providers</td>
</tr>
<tr>
<td>4.2 Develop palliative care service capacity</td>
<td>4.2.1 Promote the use of the primary care subsidy for palliative care patients</td>
<td>SPHO All Palliative care providers, SDHB, SPHO</td>
<td>Ongoing</td>
<td>SPHO Hospice Providers, SDHB</td>
</tr>
<tr>
<td></td>
<td>4.2.2 Implement the Liverpool Care Pathway across specialist and generalist provider settings i.e. hospices, hospitals (including rural), residential care.</td>
<td>Specialist Palliative care providers</td>
<td>2011/12</td>
<td>TBC</td>
</tr>
<tr>
<td></td>
<td>4.2.3 Monitor access to specialist palliative care services for Māori (ethnicity data) and work with Māori providers to develop a home based family care model of service</td>
<td>Otago Community Hospice</td>
<td>2012/13</td>
<td>Otago Community Hospice</td>
</tr>
<tr>
<td></td>
<td>4.2.4 Otago Community Hospice to pilot and evaluate day based programme of specialist services for patients and their families/ whānau that takes a self management/rehabilitation approach</td>
<td>Otago Community Hospice</td>
<td>2011/12</td>
<td>Otago Community Hospice</td>
</tr>
<tr>
<td>4.3 Implement national service</td>
<td>4.3.1 Actively engage in consultation processes across the sector to finalise national service specifications</td>
<td>ALL</td>
<td>Ongoing</td>
<td>N/A</td>
</tr>
<tr>
<td>specifications for specialist palliative care</td>
<td>4.3.2 Develop a plan to implement service specifications upon release by MoH</td>
<td>Palliative Care Providers</td>
<td>TBC</td>
<td>MoH</td>
</tr>
<tr>
<td>---</td>
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</tr>
<tr>
<td>4.4 National Palliative Care Data Project</td>
<td>4.4.1 Actively participate in project team to explore electronic records options, and developing the minimum data set using collaborative approach across hospice, secondary care and primary care</td>
<td>ALL</td>
<td>Ongoing</td>
<td>MoH</td>
</tr>
</tbody>
</table>
## GOAL 5 – Improve the delivery of services across the cancer continuum through effective planning, co-ordination and integration of resources and activity, monitoring and evaluation

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Action</th>
<th>Agencies</th>
<th>Year</th>
<th>Funding Source</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5.1 Services meet the prioritised needs of the SDHB community</strong></td>
<td>5.1.1 Undertake a demand/capacity modelling exercise to assess the level and scope of services (screening, diagnostics, treatment and palliative services) required to meet the predicted needs of the community and expected MoH Access targets 2011-2015. Update assumptions on an annual basis to reflect actual data.</td>
<td>SDHB</td>
<td>2011/12</td>
<td>SDHB</td>
</tr>
<tr>
<td></td>
<td>5.1.2 Develop a process by which new technology and innovations (e.g. tests) can be considered and prioritised by the SDHB</td>
<td>SDHB</td>
<td>2011/12</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>5.1.3 Include stakeholders in the planning and monitoring of cancer control activities through the Otago/Southland Local Cancer Network.</td>
<td>ALL</td>
<td>Ongoing</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>5.1.4 Implement recommendations of SCN Ethnicity Data Collection Project</td>
<td>ALL</td>
<td>Ongoing</td>
<td>SCN</td>
</tr>
<tr>
<td></td>
<td>5.1.5 Implement the whānau ora tool in delivery of all services</td>
<td>ALL</td>
<td>Ongoing</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>5.2 Workforce is planned to meet service requirements</strong></td>
<td>5.2.1 Undertake a workforce planning exercise to inform the recruitment and retention of staff working along the cancer service continuum. This work should be informed by demand/capacity modelling 2011-2015 (refer 5.1.1).</td>
<td>ALL</td>
<td>2011/12</td>
<td>SDHB</td>
</tr>
<tr>
<td>5.2.2</td>
<td>Investigate the development of new roles (e.g. Nurse Practitioner) where there is a need identified by the workforce planning review.</td>
<td>ALL</td>
<td>2012/13</td>
<td>TBC</td>
</tr>
<tr>
<td>5.2.3</td>
<td>Training and education programmes for staff working across the cancer continuum are informed by 'good practice' and service quality improvement initiatives. (also refer 2.3.1; 3.1.1; 3.1.2; 4.1.2).</td>
<td>ALL</td>
<td>Ongoing</td>
<td>N/A</td>
</tr>
<tr>
<td>5.2.3</td>
<td>Support the implementation of the Kia ora Hauora Māori Careers programme within cancer services in the Southern region</td>
<td>ALL</td>
<td>Ongoing</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**5.3 Cancer data collection**

| 5.3.1 | Participate in South Island Clinical Cancer Information System (SICCIS) Data Project for the South Island linking patient data management system with Canterbury and St Georges Private Cancer Centres | SDHB | Ongoing | SCN |

**5.4 Strengthen local and regional networks**

<p>| 5.4.1 | Review at least annually membership of the Otago/Southland network to ensure multidisciplinary representation across all providers in cancer care | ALL | Ongoing | N/A |
| 5.4.2 | LCN to maintain an informed position with respect to cancer service provision across the district, and works with key stakeholders both locally, regionally and nationally to address issues | LCN | Ongoing | LCN |</p>
<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Action</th>
<th>Agencies</th>
<th>Year</th>
<th>Funding Source</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>6.1 Service delivery informed by research data</strong></td>
<td>6.1.1 Participate in regional SCN research network</td>
<td>ALL</td>
<td>Ongoing</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>6.1.2 Continue existing clinical research within the Southern Blood and Cancer Service</td>
<td>SDHB</td>
<td>Ongoing</td>
<td>SDHB</td>
</tr>
<tr>
<td></td>
<td>6.1.3 Endorse funding of cancer research in the Southern District, e.g. Cancer Society, Social and Behavioural Research Unit</td>
<td>ALL</td>
<td>Ongoing</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>6.1.4 Utilise SICCIS data to monitor cancer activity and treatment in order to enhance the efficiency and effectiveness of the system in relation to the patient’s journey.</td>
<td>SDHB</td>
<td>Ongoing</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>6.1.5 Strengthen links with departments involved in Cancer Research at Otago University</td>
<td>ALL</td>
<td>2011/12</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>6.1.6 Utilise findings from quality reviews/surveys to inform service development, supporting principles of continuous quality improvement.</td>
<td>ALL</td>
<td>Ongoing</td>
<td>N/A</td>
</tr>
</tbody>
</table>
PART III: APPENDICES

7. Policy Context

The Otago/Southland Local Cancer Plan is aligned with a number of key related documents and strategies described here:


In August 2003 the Ministry of Health and the New Zealand Cancer Control Trust collaboratively produced the New Zealand Cancer Control Strategy as the first phase in the development of a comprehensive cancer control programme. By promoting an integrated approach to cancer control in New Zealand, the Strategy aims to encourage and enable service providers to work together more closely and provide services that are more efficient and effective for patients. The overall purposes of the New Zealand Cancer Control Strategy are to reduce the incidence and impact of cancer and to reduce inequalities with respect to cancer. The strategy has been developed to ensure consistency with Māori needs and expectations. This involves acknowledging the Treaty of Waitangi, action to reduce inequalities and the explicit use of concepts of hauora, whānau and whānau ora.

The New Zealand Cancer Control Strategy is based on the concept of a continuum as a policy tool for planning cancer control interventions. The continuum provides the foundation for a planned, systematic and coordinated approach to numerous activities undertaken as part of a cancer control programme. The Goals of the New Zealand Cancer Control Strategy are to:

- Reduce the incidence of cancer through primary prevention
- Ensure effective screening and early detection to reduce cancer incidence and mortality
- Ensure effective diagnosis and treatment to reduce cancer morbidity and mortality
- Improve the quality of life for those with cancer, their families and whānau through support, rehabilitation and palliative care
- Improve the delivery of service across the continuum of cancer control through effective planning, co-ordination and integration of resources and activity, monitoring and evaluation
- Improve the effectiveness of cancer control in New Zealand through research and surveillance.

The Principles of the New Zealand Cancer Control Strategy are:
1. Work within the framework of the Treaty of Waitangi to address issues for Māori
2. Reduce health inequalities among different population groups
3. Ensure timely and equitable access for all New Zealanders to a comprehensive range of health and disability services, regardless of ability to pay
4. Be of high quality
5. Be sustainable
6. Use an evidence based approach
7. Reflect a person centred approach
8. Actively involve consumers and communities
9. Recognise and respect cultural diversity
10. Be undertaken within the context of a planned, coordinated, and integrated approach.

The Ministry of Health (2005) published the New Zealand Cancer Control Action Plan 2005-2010 as a framework for implementation of the New Zealand Cancer Control
Strategy. The cancer control continuum described in the Action Plan is illustrated in figure 1 below.

**Figure 1:** The Cancer Control Continuum

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### 7.2 Māori Health Frameworks

Addressing the needs and expectation of Māori is a priority for the New Zealand Cancer Control Strategy. The Strategy refers to number of health frameworks developed to address the quality of service delivery to Māori, including Hui Whakawamarama: Report of a consensus hui concerning screening amongst Māori (Te Manawa Hauora 1993); Kia Whai te Maramatanga: The effectiveness of health messages for Māori (Ministry of Health 1994); He Taura Tieke: Measuring effectiveness of health services for Māori (Ministry of Health 1995) and He Anga Whakamana: A framework for the delivery of disability support services for Māori (Ratima et al 1995).

Te Whare Tapa Wha is a holistic Māori health model developed by Dr Mason Durie in 1994 which likens health to the four walls of a house, all of which are needed to ensure strength and balance. Every wall represents a distinct element: taha wairua (the spiritual side); taha hinengaro (thoughts and emotions); taha tinana (the physical side); and taha whānau (family). Effective support for Māori who are affected by cancer will involve equal attention to all four components of the Te Whare Tapa Wha health model.

### 7.3 Primary Health Care Strategy (2001)

The Primary Health Care Strategy (Ministry of Health 2001a) introduced the provision of primary care services through Primary Health Organisations throughout New Zealand. The strategy is based on the premise that a strong primary health care system is essential to improving the health of New Zealanders, especially in relation to addressing inequalities in health. The Primary Health Care Strategy indicates greater emphasis on the delivery of health services in primary care services, shifting secondary services to primary care.

### 7.4 The New Zealand Palliative Care Strategy (2001)

The New Zealand Palliative Care Strategy (Ministry 2001b) intends to establish a systematic and informed approach to the funding and provision of palliative care services. The Strategy indicates that 90 percent of people who use palliative care services are known to have cancer, with most of these people aged 60 years and over.

*New Zealand Palliative Care: A Working Definition* (Palliative Care Subcommittee, New Zealand Cancer Treatment Working Party, 2007) provides further definitions of palliative care, including palliative care for children, generalist palliative care and specialist palliative care. Palliative Care is defined as: Care for people of all ages with a life-limiting illness which aims to 1) optimise an individual’s quality of life until death by addressing the person’s physical, psychosocial, spiritual and cultural needs and 2)
support the individual’s family/whānau and other caregivers where needed, through the illness and after death.

The Ministry of Health released Draft Specialist Palliative Care Service Specification in February 2008. ‘Last days of life care programmes’ were included as one of seven essential service components to simplify access to quality end of life care for all people dying in New Zealand. In December 2009, the Ministry of Health completed a national gap analysis of specialist palliative care services in hospital and hospice settings. The gap analysis found that 1) hospice and other specialist palliative care are not uniformly delivered at local and regional levels and 2) hospital services generally provide only nursing and medical services.

The Ministry of Health endorses the internationally recognised Liverpool Care Pathway for the Dying Patient (LCP). This model of care aims to improve the care for the dying in the last few days of life across a range of care settings.

7.5 Ministry of Health Guidance for Improving Supportive Care for Adults with Cancer in New Zealand (2010)
In March 2010, the Ministry of Health released the publication, Guidance for Improving Supportive Care for Adults with Cancer in New Zealand (Ministry of Health 2010d). The stated purpose of this guidance document is “to improve the quality of life for people affected by cancer by improving access to and the quality of supportive care in New Zealand.” The Ministry of Health will work with the regional cancer networks and key stakeholders to develop implementation plans.

7.6 The Voice of Experience (2010)
In mid-2009, the Cancer Control Council of New Zealand undertook a survey of the experiences of people who received outpatient cancer treatment from eight cancer treatment centres in New Zealand over a six-month period of time. The Voice of Experience: Part One National Report (December 2009) reported national findings and reflected that certain areas for improvement were persistently found across all services, including providing more emotional support, more information (especially better explanations for waiting times) and treating patients within the context of their own lives. The Voice of Experience Companion Report: New Zealand Cancer Care Survey Results for Eight Treatment Services was published in January 2010. For the Southern region, cancer patients felt areas of strong performance included:

- Care coordination: The handling of transfers between specialist groups
- The ease of understanding directions/signs and the minimum noise at the hospital or clinic where the majority of cancer care was received.
- Staff doing everything to make the wait for radiation therapy comfortable
- Patients being told how to manage side effects of radiation therapy and staff doing everything to help with radiation side effects
- The level of privacy provided during care
- Being treated with dignity and respect by care providers

Opportunities for improvement for the Southern region included:

- Providing enough information, to the patients who needed it, on changes in sexual activity, nutritional needs, energy levels, changes in ability to do work/activities, and emotional changes
- Providing explanations for any treatment waiting times
- Putting patients in touch with care providers to help with anxiety and fear if this was required.
- Offering counselling/support for concerns
- Greater use of multidisciplinary teams to review cases and plan treatment
- Care professionals being more familiar with patients’ medical histories
7.7 Ministry of Health Targets (2010/2011)
In 2007/08, the Ministry of Health established a number of Indicators of DHB Performance to focus DHBs on priority health areas, to monitor activity, and to allow comparison between DHB performances. These Health Targets reflect the accountability that the DHB has for improving service performance and improving the health status of its population (Ministry of Health 2010g). The Ministry of Health (2009) has also set specific Priorities for Cancer Control in 2010/2011.

- Meeting the Cancer Health Target for radiotherapy: By the end of July 2010 everyone needing radiation treatment will have this within 6 weeks; and by December 2010 everyone needing radiation treatment will have this within 4 weeks.
- Improving medical oncology reporting via the indicator of DHB Performance (IDP): The Indicator of DHB Performance (IDP) measures waiting times for chemotherapy treatment. The Ministry will maintain the emphasis on all DHBs providing information on waiting times for chemotherapy administration for 2010/2011.
- The Ministry of Health is currently drafting prioritisation criteria and waiting times for referral to First Specialist Appointment (FSA) and from FSA to treatment. The criteria will be available to support reporting against the IDP for 2010/2011.
- Developing lung and bowel cancer tumour streams: The Ministry of Health has committed to continue progressing the tumour stream approach and to continue with the current priorities of lung and bowel cancer in 2010/2011.
- Supporting national and regional work to standardise a range of models of care and treatment pathways. The Ministry expects DHBs to work closely with Regional Cancer Networks to support implementation of patient pathways and productivity initiatives particularly in lung and bowel cancer.

7.8 Southern Cancer Network Priorities (2010/2011)
The Southern Cancer Network (SCN) has developed regional priorities for the 2010/2011 period that will assist in the implementation of the cancer control strategy in the Southern District (Southern Cancer Network Priorities 2010b). These include:

- Promote service improvements for lung and bowel cancer
- Develop a co-ordinated and seamless cancer journey for the patient.
- Determine South Island inequalities for cancer patients
- SCN maintains an informed position with respect to cancer service provision across the region and works with stakeholders to address issues

Refer to the Southern Cancer Network website for additional information (www.southerncancernetwork.org.nz).

7.9 Southern Cancer Network Regional Lung Cancer Patient Mapping Report for Otago and Southland (March 2010)
The SCN has recently completed a Regional Lung Cancer Patient Mapping Report for Otago and Southland (Robson 2010). The purpose of the project was “to define the current lung cancer patient journey in Otago and Southland and to identify issues, service gaps, and bottlenecks within the journey.” The report sets out a range of recommendations clustered around the following key themes:

- national leadership in relation to lung cancer in New Zealand
- strengthen clinical networks and collaborations
- improve survival rates through earlier presentation
- enhance local prevention strategies
- improve access to services
- improve care coordination, service provision and delivery, service delivery through workforce planning and patient information resources
- enhance the provision of palliative care
Key recommendations include the following:
- Develop improved referral pathways including primary care access to diagnostics and specialist referrals to address transit from referral to treatment
- Utilise a “straight to test” approach whereby the radiologist orders further tests on the basis of initial diagnostic tests, with appropriate processes in place to support this
- Consider development of Respiratory Rapid Access diagnostic clinic in Invercargill where tests and FSAs are coordinated into one day

SCN notes that some recommendations have already been actioned; the South Island Lung Cancer Working Group will monitor progress against remaining recommendations.

7.10 Southern Cancer Network Otago DHB Audit of Access to Colonoscopy of 33 Selected Cases in Otago District Health Board (January 2010)
In January 2010, the SCN (Bermingham et al 2010) reported the results of an audit of 33 patients in Otago. The audit took place as a result of General Practitioner concern in relation to perceived low colonoscopy rates. Colonoscopy is regarded as the “gold standard diagnostic tool” for the early detection of colorectal cancer. Within the audit, SCN noted that ODHB had the lowest rate of publicly funded colonoscopies per 10,000 people across all DHBs (37.73 colonoscopies per 10,000 population). The audit noted an increasing decline rate of referrals to colonoscopy over the five year period reviewed. Acknowledging the limitations of the review, the SCN noted that “it is clear from the hospital delay times alone that many of those people audited had prolonged journeys through the public system”.

The audit team made a number of recommendations in relation to colonoscopy capacity and provision, including monitoring progress, referral processes, timely access to colonoscopy, and further review of these case studies. In order to address the issues raised in the audit, in January 2010 the Otago District Health Board established a Gastroenterology Project Board to identify actions required to increase the availability of colonoscopy in the Otago region. A range of measures have been undertaken to provide a higher long term capacity for colonoscopies.

In conjunction with the audit, the SCN initiated a South Island Bowel Cancer Mapping Project which aims to “gather robust information and identify gaps in the diagnosis, treatment, follow up and surveillance of colorectal cancer in public and private South Island services”. The mapping project can present a more detailed analysis of the steps along the patient journey, from initial general practice referral to treatment and eventual survivorship or palliative care.

7.11 Southern Cancer Network Projects on Inequalities and Cancer (2010)
Accurate ethnicity data enables comparison of health outcomes in relation to specific ethnic groups and is essential in the planning and delivery of health care services. New Zealand studies have highlighted the issue of inaccuracy in ethnicity data collection and its implications. In February 2010, the Southern Cancer Network (Tao B, Doolan-Noble F 2010) conducted a small study, A review of the process and accuracy of ethnicity data collection at the two South Island cancer centres. The key area highlighted by the survey was the low level of formal training received by staff in relation to the 2004 Ethnicity Data Protocols.

In March 2010, the Southern Cancer Network (Doolan-Noble F 2010) undertook a project to assess Primary Health Organisations’ (PHO’s) responsiveness to Māori and Pacific Peoples and other disadvantaged population groups. The survey found that South Island PHOs use a range of evidence based strategies and initiatives to reduce barriers to Māori and Pacific Peoples in regard to accessing primary care. Strategies identified included employing Māori and Pacific community health workers; health days at marae and venues appropriate to Pacific Peoples; and working with GPs to follow up
mammograms and cervical smears in identified high needs females. The SCN recommended:

- Primary Health Organisations consider increasing the variety of approaches they use in relation to enhancing the uptake of mammograms and cervical smears for Māori and Pacific Peoples.
- PHOs need to monitor the uptake of mammograms and cervical smears closely over time to ensure that these programmes do not increase inequalities.

7.12 Southern Cancer Network South Island Cancer Services Stocktake (2009)

The SCN undertook a stocktake of cancer services in the South Island in February 2009 in order to ascertain the services provided by each DHB in the South Island. The Stocktake included cancer treatment centres (SB&CS) as well as referring District Health Boards (Southland DHB). Based on the information received, the SCN made the following recommendations relevant to the Southern DHB:

1. Potential issues regarding Asian women within ODHB (re access and awareness of breast screening) are further investigated to ascertain if any areas of concern exist.
2. Use of telemedicine clinics may prove beneficial for both patients and clinicians. This may warrant further investigation as a useful patient management tool where distance raises issues of travel, accessibility to service, and cost saving opportunities.”
3. ODHB seek to re-employ an Adult and Young Adolescent Key Worker into this vacant role and reinstate this service provision to the SB&CS population.
4. ODHB assess the need for a kaitiaki role in oncology and investigate the options regarding the most appropriate model of care for the local situation.
5. ODHB/SB&CS address issues regarding workforce planning and future needs through their oncology services. This would include workforce planning across the Otago and Southland Districts.
6. The SCN observed there is wide variation in how patient care co-ordination and patient navigation is offered across the South Island. The SCN recommended review and evaluation of these different models of patient navigation/coordination.

7.13 Southland and Otago DHB District Strategic Plans (2005-2010)

As a new entity the Southern DHB has not yet completed a District Strategic Plan (DSP). As such, the Otago/Southland Local Cancer Plan incorporates key intentions from the previous District Strategic Plans in (Otago DHB 2005) and Southland DHB (2005) including emphasis on:

- Promoting Healthy Lifestyles
- Managing Chronic Disease and Cancer
- Reducing Health Inequalities


A District Health Board District Annual Plan (DAP) is completed annually and is designed to show outcomes and intended activity for the following year in order to meet goals and objectives. The Southern DHB’s Draft 2010/11 DAP (Southern DHB 2010a) acknowledges the Government’s requirement for the public health system to deliver better, sooner, more convenient healthcare for all New Zealanders. In relation to cancer control, the DAP notes the following key issues and challenges:

- Increasing demand for oncology services and the resulting resource requirements
- Increasing burden of cancer and changing cancer demographics and treatments
- Increasing expectations and requirements such as workforce and facilities
- Timely access to diagnostic services, cancer treatment and palliative care services
• The identification of ethnic and socio-economic inequalities specific to the Otago/Southland region and the development of strategies to reduce these inequalities.

Table 2 below lists cancer control activities included in the Southern DHB Draft 2010/2011 in order to meet Minister of Health Targets.

**Table 2:** Southern DHB Draft DAP 2010/2011 - Priority Areas related to Cancer Control

<table>
<thead>
<tr>
<th>Tobacco control aims</th>
<th>Outcomes</th>
<th>Actions to date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decreased incidence and impact of smoking related disease by reducing exposure to first and second hand smoke</td>
<td>Achieve Ministry of Health Target. Smoking status of hospitalised patients and within primary care is identified and smokers are offered advice to quit. Clinical staff are educated in ABC approach and recording systems.</td>
<td>Smokefree Coordinators are in place to facilitate the ABC approach across hospital and primary care settings. Smokefree service has been re-Organised and a regional Leader has been appointed to lead implementation of smokefree services.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cancer Control</th>
<th>Outcomes</th>
<th>Actions to date</th>
</tr>
</thead>
<tbody>
<tr>
<td>To enhance the continuum of care for patients with cancer in the Southern DHB</td>
<td>Implementation of the Local Cancer Plan</td>
<td>Joint planning and increased collaboration amongst clinical care teams in Otago and Southland has had clinical benefits for cancer patients across the region.</td>
</tr>
<tr>
<td></td>
<td>Implementation of the Specialist Palliative Care Service Specifications (upon confirmation by the Ministry of Health)</td>
<td>SB&amp;CS has been effective in addressing tertiary oncology access inequities across the region.</td>
</tr>
<tr>
<td></td>
<td>Achieve target of 100% receive radiation therapy within four weeks by December 2010</td>
<td></td>
</tr>
</tbody>
</table>

The DAP acknowledges He Korowai Oranga as the overarching vision for Māori health in the Southern District. The DAP also recognises that the whole health and disability sector is responsible for improvement in Māori health outcomes, as identified in Whakataataka Tuarua: Health Action Plan. Southern DHB will continue to participate in the development of these strategies as they relate to improving the health status of Māori in the district. The DHB plans to develop and implement a Māori Health Plan across the Southern DHB region, with initial strategies developed to address two key areas relevant to cancer control:

1. Reducing smoking rates by (May 2010)
2. Ethnicity data collection (December 2010)
8  Cancer Registration and Mortality Data Sources and Technical Notes

8.1  Data Sources
Information on national cancer incidence and mortality rates was sourced through Ministry of Health documents. Incidence counts (new registrations) and rates were based on the number of primary tumours rather than the number of individuals with cancer. Cancer mortality is the number of deaths with cancer identified as the underlying cause of death, occurring in a specified population during a period of time.

Information on the number of new registrations and deaths in the Southern District Health Board was supplied by South Island Shared Services Agency Limited (SISSAL) and was originally sourced from the New Zealand Cancer Registry. The Cancer Registry is a population based register of all primary malignant diseases diagnosed in New Zealand (excluding squamous cell and basal cell skin cancers). Because of the complexity of collecting, coding and collating national information on cancer registrations and deaths, there is a time delay in adding data to the Cancer Registry.

Breast and cervical screening coverage was provided by the National Screening Unit. The breast screening coverage rates represents the number of eligible women aged 50-69 screened in the previous two years as a proportion of the total eligible women from the 2001 Census information. The Ministry of Health are in the process of changing from population base 2001 to population base 2006. The cervical screening coverage rates represent the number of eligible women screened in the previous three years as a proportion of the total eligible number of women from the 2001 Census.

8.2  Technical Notes

Ethnicity data
The Cancer Registry records patient ethnicity data utilising hospital discharge information, the National Health Index and the Mortality Collection. The Cancer Registry follows Ministry of Health ethnicity data protocols in the collection and classification of ethnicity data. This analysis of cancer registrations and deaths uses prioritised ethnicity data in that each individual is allocated to a single ethnic group using the following priority: Māori, Pacific people and ‘other ethnicity.’ Because of the small numbers of Pacific registrations and deaths, most information is reported as either Māori or non-Māori.

ICD codes
The information reported in the cancer incidence and cancer mortality sections of this report includes the nine most common cancer sites as classified by the World Health Organisation International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (National Centre for Classification in Health 2002). The nine most common cancer sites were defined as the cancer sites with the greatest number of new registrations and the deaths in the time period 2003-2007 within the Southern DHB region (formerly Otago and Southland District Health Boards). Tables 10 and 11 show the tumour sites and ICD-10 codes for the incidence information (new registrations) and mortality information presented in this report, respectively. NB: Bladder cancer has not been included in the new registrations section because of changes to coding in January 2005.
### Table 3: ICD-10 codes identified and used in the new registrations section

<table>
<thead>
<tr>
<th>Tumour Site</th>
<th>ICD-10 Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colon and rectum</td>
<td>C18-C21</td>
</tr>
<tr>
<td>Pancreas</td>
<td>C25</td>
</tr>
<tr>
<td>Lung</td>
<td>C33-C34</td>
</tr>
<tr>
<td>Melanoma of skin</td>
<td>C43</td>
</tr>
<tr>
<td>Breast</td>
<td>C50</td>
</tr>
<tr>
<td>Prostate</td>
<td>C61</td>
</tr>
<tr>
<td>Kidney</td>
<td>C64</td>
</tr>
<tr>
<td>Non-Hodgkin’s lymphoma</td>
<td>C82-C85 &amp; C96</td>
</tr>
<tr>
<td>Leukaemia</td>
<td>C91-C95</td>
</tr>
</tbody>
</table>

### Table 4: ICD codes identified and used in the mortality section

<table>
<thead>
<tr>
<th>Tumour Site</th>
<th>ICD-10 Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colon and rectum</td>
<td>C18-C21</td>
</tr>
<tr>
<td>Pancreas</td>
<td>C25</td>
</tr>
<tr>
<td>Lung</td>
<td>C33-C34</td>
</tr>
<tr>
<td>Stomach</td>
<td>C16</td>
</tr>
<tr>
<td>Breast</td>
<td>C50</td>
</tr>
<tr>
<td>Prostate</td>
<td>C61</td>
</tr>
<tr>
<td>Kidney</td>
<td>C64</td>
</tr>
<tr>
<td>Non-Hodgkin’s lymphoma</td>
<td>C82-C85 &amp; C96</td>
</tr>
<tr>
<td>Leukaemia</td>
<td>C91-C95</td>
</tr>
<tr>
<td>Oesophagus</td>
<td>C15</td>
</tr>
<tr>
<td>Ovary</td>
<td>C56</td>
</tr>
<tr>
<td>Brain</td>
<td>C71</td>
</tr>
</tbody>
</table>

### Data manipulation

SISSAL (MacDonald et al 2010) has provided the following information describing data manipulation:

- Stratified, crude incidence data has been estimated using the number of cancer events as the numerator and the specified population as the denominator.
- In this report, age-specific rates are presented showing the rate of new registrations or deaths in a specified group and are expressed as the number of events per 100,000 population per year.
- The New Zealand Cancer Registry records multiple primary cancers in the same person. Incidence counts and rates were based on the number of primary tumours rather than the number of individuals with cancer.
- Throughout this report, the number of new cancer registrations of a specific site refers to specified populations and time periods.
- For breast cancer and cervical cancer the analyses are restricted to the relevant female population (and breast cancer cases counted are restricted to the female population).
- Prostate cancer analyses are restricted to the male population.
- Age standardised rates (ASRs) are a way of comparing groups that may have different age structures as well as comparing data from the same group where the age structure has changed over time.
- In this report the direct standardisation method has been used, whereby age specific rates are applied to a standard population. The standard population used for calculating ASRs in this report is the World Health Organisation world population.
- Confidence intervals have been calculated for ASRs at the 95 percent level. The confidence intervals have been calculated using the method presented by Breslow and Day (1987).
- The information presented in this report covers the period 1 January 1996 to 31 December 2007.

**Populations used to calculate cancer incidence and mortality rates**

Table 12 provides 2006 Census populations utilised by SISSAL in reporting cancer registration and mortality rates, using prioritised ethnicity data in which each respondent is allocated to a single ethnic group.

**Table 5: Southern DHB population by prioritised ethnicity, 2006**

<table>
<thead>
<tr>
<th></th>
<th>2006 Census Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Māori</td>
</tr>
<tr>
<td>Otago</td>
<td>12,500 (7%)</td>
</tr>
<tr>
<td>Southland</td>
<td>12,240 (11%)</td>
</tr>
<tr>
<td>Southern DHB</td>
<td>24,740 (8%)</td>
</tr>
</tbody>
</table>

*some figures do not add up to 100% due to rounding

**World Health Organisation world standard figures used for age standardisation**

**Table 6:** World Health Organisation (WHO) world standard figures used for direct age standardisation throughout the Southern Cancer Network health needs assessment

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>00-04</td>
<td>8860</td>
</tr>
<tr>
<td>05-09</td>
<td>8690</td>
</tr>
<tr>
<td>10-14</td>
<td>8600</td>
</tr>
<tr>
<td>15-19</td>
<td>8470</td>
</tr>
<tr>
<td>20-24</td>
<td>8220</td>
</tr>
<tr>
<td>25-29</td>
<td>7930</td>
</tr>
<tr>
<td>30-34</td>
<td>7610</td>
</tr>
<tr>
<td>35-39</td>
<td>7150</td>
</tr>
<tr>
<td>40-44</td>
<td>6590</td>
</tr>
<tr>
<td>45-49</td>
<td>6040</td>
</tr>
<tr>
<td>50-54</td>
<td>5370</td>
</tr>
<tr>
<td>55-59</td>
<td>4550</td>
</tr>
<tr>
<td>60-64</td>
<td>3720</td>
</tr>
<tr>
<td>65-69</td>
<td>2960</td>
</tr>
<tr>
<td>70-74</td>
<td>2210</td>
</tr>
<tr>
<td>75-79</td>
<td>1520</td>
</tr>
<tr>
<td>80-84</td>
<td>910</td>
</tr>
<tr>
<td>85+</td>
<td>635</td>
</tr>
</tbody>
</table>

Source: Breslow and Day (1987)
8.3 Explanatory notes:
The Ministry of Health 2007 provides the following description of rate calculations; this is applicable to the Southern DHB registration and mortality data:

Rate calculations:
Age specific rates show the number of events (for example registrations or deaths) per 100,000 of the population in each age group for each year (this is used when comparisons are made by age group)

Aged standardised rates adjust for differences in age distribution of the population being compared (see above).

Confidence intervals
A confidence interval is a range of values used to describe the uncertainty around a single value (such as an aged standardised rate) used to estimate the true value in a population. Confidence intervals describe how different the estimate could have been if change had led to a different set of data. Confidence intervals are calculated with a stated probability, e.g. 95 percent, which would indicate that there is a 95% chance that the true value lies within the confidence intervals.

Confidence intervals may assist in comparing rates over time for each cancer site and all cancer sites combined. If two confidence intervals do not overlap, then it is reasonable to assume that the difference is not due to chance. If they do overlap, it is not possible to make any conclusion about the significance of any difference between them.
<table>
<thead>
<tr>
<th>Glossary of Terms</th>
</tr>
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<tbody>
<tr>
<td>ABC</td>
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<tr>
<td>ALAC</td>
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<tr>
<td>AYA</td>
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<tr>
<td>BSA</td>
</tr>
<tr>
<td>CI</td>
</tr>
<tr>
<td>CME</td>
</tr>
<tr>
<td>DAP</td>
</tr>
<tr>
<td>DSP</td>
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<tr>
<td>DHB</td>
</tr>
<tr>
<td>FSA</td>
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<tr>
<td>FTE</td>
</tr>
<tr>
<td>GI</td>
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<tr>
<td>GP</td>
</tr>
<tr>
<td>HEHA</td>
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<tr>
<td>HPV</td>
</tr>
<tr>
<td>ICD</td>
</tr>
<tr>
<td>IDP</td>
</tr>
<tr>
<td>IT</td>
</tr>
<tr>
<td>LCN</td>
</tr>
<tr>
<td>LCP</td>
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<tr>
<td>Linac</td>
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<tr>
<td>MDM</td>
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<td>MDT</td>
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<tr>
<td>MoH</td>
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<td>MOSAIQ</td>
</tr>
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<td>NCSP</td>
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<td>NGO</td>
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<td>NZDep2006</td>
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<td>NZGG</td>
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<td>NTA</td>
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<td>ODHB</td>
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<td>OSH</td>
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<td>SCN</td>
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<td>SB&amp;CS</td>
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<tr>
<td>TLA</td>
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<td>WHO</td>
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</table>


Southern District Health Board. 2010b. *Draft Health Profile Demographics*. Dunedin: Southern District Health Board.


