



**Australian Government**  
**Department of Health and Ageing**

DEPARTMENT OF HEALTH AND HUMAN SERVICES
19 JAN 2011
ACTION OFFICER.....
F No.....

Mr David Roberts  
Secretary and Chief Executive  
Department of Health and Human Services  
GPO Box 125  
HOBART TAS 7001

57122

Dear Mr Roberts

**Health and Hospitals Fund application - Tasmanian Cancer Care (supplementary bid)**

I am writing to you at the request of the Health and Hospitals Fund (HHF) Advisory Board in relation to the above application, which relates to cancer infrastructure at Burnie.

The Board met to consider your application in December 2010 and has requested that you provide additional information to justify the inclusion in the application of a new pharmacy, external works and road realignment and how these components will contribute to the provision of radiotherapy services.

As these components total \$3.8 million, or nearly 20 percent of the funding sought (\$20.65 million), and the total funding sought is higher than that announced by the Government on 12 August 2010 (\$16.5 million), specific information is required as to the need for these in the context of a project related to radiotherapy.

I would appreciate your response to this request by 28 February 2011 if possible. If you have any questions in relation to this request, please contact Sue Campion, Assistant Secretary, HHF Taskforce on (02) 6289 7220.

Yours sincerely

Peter Morris  
First Assistant Secretary  
Portfolio Strategies Division

14 January 2011

Department of Health and Human Services  
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WITS No.: 57122

Mr Peter Morris  
First Assistant Secretary  
Portfolio Strategies Division  
Department of Health and Ageing  
MDP 51  
GPO Box 9848  
CANBERRA ACT 2601

Dear Mr Morris

**Subject: Health and Hospitals Funding Application - Tasmanian Cancer Care  
(supplementary bid)**

Thank you for your letter of 14 January 2011, which sought further information about Tasmania's supplementary bid for cancer infrastructure at the North West Regional Hospital (NWRH) in Burnie. The two components of the bid about which clarification was sought are the requests for \$2.8 million to relocate the pharmacy and \$1.0 million to relocate the main access road alongside the hospital, totalling \$3.8 million. These are additional to the estimated \$16.5 million cost of establishing a radiation oncology facility. This letter makes the case for the inclusion of these components as a necessary and justified part of the radiation oncology enhancement of the original bid.

The originally-proposed location of this Cancer Care Centre (CCC) was on the same site as the main hospital buildings but separated from them by the main access road, which carries heavy traffic all day.

Since the original application was made, there has been considerable ongoing community interest in there being a wider range of cancer services made available locally, including radiation oncology. In response to this, there has been further discussion with cancer care professionals working at the NWRH about the optimal future arrangements for the provision of comprehensive cancer care there.

The clinical advice arising from this further consultation with these NWRH clinical staff has been the main driver for these proposed inclusions within the scope of establishing a radiation oncology care centre, given the constraints of the site and the position of existing buildings.

**The clinical advice**

The original submission for the CCC located at the NWRH envisaged that the most complex clinical therapeutic intervention to be provided locally was chemotherapy. This was complemented by various co-located supportive and palliative care services.

Since the application and with the proposal now extended to encompass radiation oncology, further clinical meetings have been held. Clinicians at the NWRH are now strongly of the view that the cancer centre, with its expanded range of complex cancer care services, including radiation and chemotherapy services, means that there will be more patients treated at the CCC with more complex care needs than had been originally envisaged and that this presents an increased clinical risk as well as increasing the challenge to sustainably provide optimal cancer care with the optimal financial and workforce considerations.

For these patients to receive the best possible care, the facilities in which they receive it must be as fully integrated into the rest of the hospital as possible to: more readily access the staff there; reduce staff and service duplication and increase patient safety. Examples of clear benefits which justify the proposed co-location and integration are that emergency response teams will be more accessible when they are needed by cancer patients; there will be greater support from pharmacists for clinical input for cancer patients with complex care needs; social work support will be more readily available and more accessible learning and other support opportunities for all CCC staff.

Another clinical factor is the significant dependence of the new CCC is on access to complex pharmacy services. When more detailed work was done to assess the impact of providing substantially more chemotherapy pharmacy work it became clear that the volume demands of the CCC required a larger facility to manufacture chemotherapy medications than already exists at the NWRH. To avoid the prospect of duplicating this function with a separate satellite facility and the attendant ongoing penalty of additional pharmacists, support staff and other costs, a unified and centrally-located pharmacy service is proposed by the supplementary bid. This is proposed to be sited so that the CCC as well as the rest of the hospital is well served and so that unwell cancer patients accessing the pharmacy for outpatient medication are able to do so with least effort.

### **The site constraints**

It is helpful to explain that the NWRH site is located part-way up the side of a hill and is physically constrained from further building development in all directions, only one of which (the road) is amenable to a relatively simple and affordable solution. To the north, there is an 18 metre escarpment. To the west, there is privately owned land which has not been accessible to date. To the east, there is a private residential development. To the south is the existing main access road for the NWRH, running alongside all main existing building entrances and which carries considerable traffic all day. A map is attached which shows this feature of the site. To extend buildings to the south to accommodate a closely articulated and clinically-linked CCC requires that the road is moved further south, away from the existing buildings, to create space for the new CCC.

Alternative options were considered to that expressed in the final supplementary bid. The option of having no physical link at all and thereby requiring all patients and staff, staff and families moving between facilities having to leave the buildings and cross a busy access road, in all weather, was regarded as unsafe and would impose significant operational inefficiency due to the reduced ability to share clinical and support staff across areas. This would lead to necessary duplication of services, staff and facilities and therefore operational sustainability and financial risk concerns into the future. The staff categories seen as mainly impacted are pharmacy, nursing, registrar medical and social work – all of which are subject to workforce shortages.

Another way of physically linking the current NWRH and the new CCC when has been considered was a bridge over the road. Whilst this mitigates some of the safety factors, the relative separation of the buildings still means that clinical staff will be unable to access the CCC facility as quickly as desirable in the event of any clinical emergency, to optimally share staff across areas or allow easy movement for patients. It was also believed to not be a cost-effective alternative. This option was not therefore pursued.

Given the clinical advice above, the goal expressed in the supplementary bid is that the new CCC should be designed and built to better integrate and articulate with the existing NWRH services and allow for the safe and timely movement of staff, patients and visitors and support optimal cancer care arrangements, including future workforce and financial sustainability.

The road and pharmacy relocation solution presented in the supplementary bid provides for a NWRH CCC that is integrated into the full range of other clinical services and thus provides for:

- 1 timely access for cancer patients to emergency medical and nursing response teams
- 2 optimal staffing arrangements with least duplication and time wasted in travel
- 3 stronger clinical linkages to all other clinical services and
- 4 the best possible education and support opportunities for CCC staff./

These are outcomes regarded as essential to a strong and sustainable cancer clinical service at the NWRH and are direct, clear and ongoing benefits for the proposed radiation oncology service.

I hope that this information will assist the Board with their deliberations. If you need any further clarification of this information, please contact Dr Craig White, Chief Health Officer, on (03) 6231 3297 or 0410 312 194.

Yours sincerely



David Roberts  
Secretary

24 February 2011

Enc: Preliminary Masterplanning - Existing Site Conditions  
Preliminary Masterplanning - Proposed Ground Floor Plan  
Google Earth Photos of Site Limitations

Prepared by	Dr Craig White	Chief Health Officer	6233 3297	18 February 2011
Through	Jane Holden	CEO, NWAHS	6490 8950	21 February 2011
Through	Alice Burchill	Dep Sec Care Reform	6233 8091	21 February 2011
Cleared by	Dr Craig White	Chief Health Officer	6233 4838	21 February 2011

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WITS No.: 57333

The Chair  
Health and Hospitals Fund Advisory Board  
Department of Health and Ageing  
Bowes Street  
**WODEN ACT 2606**

- 1 OCT 2010

Dear Chair

**Health and Hospitals Fund – Regional Cancer Centre Funding Submission**

The Tasmanian Government strongly supports the provision of funding for radiation therapy services to the North West Area Health Service (NWAHS) as part of the Health and Hospitals Fund Regional Cancer Centre funding program. This supplementary application is made to follow up the commitment made by the Prime Minister on 16 July 2010 to give favourable and immediate consideration to a request to fund cancer radiation services in the North West of Tasmania.

Cancer is one of the key health issues for Tasmania. Demand for cancer services in the state is strong with Tasmania having the highest aged-standardised incidence rates of cancer of any state or territory in Australia. Tasmanians are not only the most likely people to be diagnosed with cancer, they are also the most likely to die from the disease with age-standardised death rates for cancer in Tasmania being 184.5 deaths per 100 000 people compared to the national average of 178.5 deaths per 100 000 people.

The North West of the state has particular need for radiation therapy services, with these services only being provided in the North of the state from the Northern Area Health Service (NAHS) in Launceston. Patients of the North West Area Health Service are typically required to travel over three hours a day for their radiation therapy.

Patients from the North West of the state account for 43 per cent of the radiation oncology and 18 per cent of medical oncology patients treated by the Launceston General Hospital of the Northern Area Health Service (NAHS). The existing and planned NAHS radiation therapy service capacity is anticipated to meet demand from the North West in the short-term. Planning data shows that by 2016 there will be a requirement for expanded radiation therapy services, and this should be located in the North West.

Yours sincerely

Michelle O'Byrne MP  
**Minister for Health**

Minister for Health  
Minister for Tourism

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WITS No.: 57333

The Hon Nicola Roxon MP  
Minister for Health and Ageing  
Parliament House  
**CANBERRA ACT 2600**

Dear Minister

**Supplementary Regional Cancer Centre Funding Submission to the Health and Hospitals Fund**

This letter accompanies a supplementary application from the Tasmanian Government, to the Health and Hospitals Fund seeking funding to support radiation therapy services at the North West Area Health Service (NWAHS) based in Burnie, Tasmania.

This supplementary application follows the commitment by the Prime Minister on 16 July 2010 to give favourable and immediate consideration to a request to fund cancer radiation services in the North West of Tasmania.

Cancer is one of the key health issues for Tasmania. Demand for cancer services in the state is strong with Tasmania having the highest aged-standardised incidence rates of cancer of any state or territory in Australia. Tasmanians are not only the most likely people to be diagnosed with cancer they are also the most likely to die from the disease with age-standardised death rates for cancer in Tasmania being 184.5 deaths per 100 000 people compared to the national average of 178.5 deaths per 100 000 people.

Patients of the North West Area Health Service are typically required to travel over three hours a day to the closest service at the Northern Area Health Service (NAHS) in Launceston for their radiation therapy or to relocate there for the duration of their therapy. The North West community seeks to have these highly specialised services available in their own region.

Patients from the North West of the state account for 43 per cent of the radiation oncology and 18 per cent of Medical Oncology patients treated by the Launceston General Hospital of the NAHS.

Whilst the existing and planned NAHS radiation therapy service capacity is anticipated to meet demand from the North West in the short-term, the proposal described in this application is for further expansion of the service in the form of a single machine unit based in Burnie. This will complement the enhanced cancer care and patient support service facilities to which the Australian and Tasmanian governments have already committed funding.

Yours sincerely

A handwritten signature in black ink, appearing to read "Michelle O'Byrne". The signature is fluid and cursive, with a long, sweeping tail on the final letter.

Michelle O'Byrne MP  
**Minister for Health**

Encl: Supplementary Regional Cancer Centre Funding Submission to the Health and Hospitals Fund



## NORTH WEST CANCER SERVICES

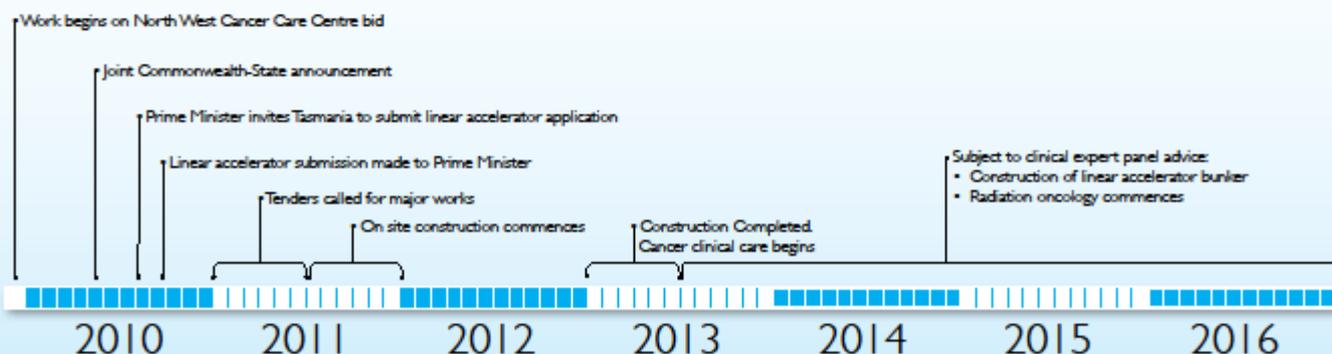
### Fact Sheet: Progress towards new cancer care services for the North West.

There's been a lot of work done towards improving the cancer care services for the North West Coast.

This is a summary of the work so far - and planned steps towards more comprehensive services within the region.

October 2009	Work begins on Tasmania's bid for Commonwealth Regional Cancer Centre funding including a new North West Cancer Care Centre at the North West Regional Hospital (NWRH).	30 September 2010	Master Plan for the NWRH completed.
January 2010	Tasmania's bid lodged with the Commonwealth seeking funding for a new North West Cancer Care Centre.	October 2010	Appointment of clinical expert panel headed by an eminent radiation oncologist and community input from cancer survivor Royce Fairbrother to advise on the timeline for delivering radiotherapy at Burnie.
January 2010	Premier and Health Minister announce the purchase of the NWRH from its private owners – enhancing prospects for future investment including a comprehensive Cancer Care Centre.	First half 2011	Completion of detailed design development for the North West Cancer Care Centre, including: <ul style="list-style-type: none"> <li>• 12 chemotherapy chairs</li> <li>• MRI facilities</li> <li>• Teaching facilities</li> <li>• Linear accelerator bunker</li> <li>• Palliative care beds</li> <li>• Consulting rooms</li> </ul>
April 2010	Further design work to improve integration of the new North West Cancer Care Centre and the NWRH.	First half 2011	Planning approval sought from the Burnie City Council.
May 2010	Commonwealth and State announcements of new \$48 million cancer funding for Tasmania, including \$16.5 million for the North West Cancer Care Centre.	First half 2011	Tenders called for major works associated with the new North West Cancer Care Centre.
June 2010	Specialist health planners Silver Thomas Hanley awarded a contract to develop a Master Plan for the NWRH site incorporating the new North West Cancer Care Centre and the linear accelerator bunker.	June 2011 or earlier	Report by expert panel with recommended start date for safe and sustainable radiation oncology at Burnie.
June 2010	State Budget provides \$29 million to complete the purchase of the NWRH.	Second half 2011	On site construction commences.
August 2010	Community reference group appointed to advise CEO on Master Plan, including: <ul style="list-style-type: none"> <li>• Royce Fairbrother</li> <li>• Roger Jaensch</li> <li>• Dale Ephinstone</li> <li>• Anita Dow</li> <li>• Libby Bingham</li> </ul>	2013	Construction of the first stage of the North West Cancer Care Centre completed and commencement of clinical services for North West patients.
August 2010	Community consultation on the Master Plan commences.	Subject to advice from the clinical expert panel	Construction of bunker for a linear accelerator with space for clinical support services for radiation oncology and a second bunker to allow future replacement without interrupting patient care.
August 2010	Formal application to Commonwealth Health and Hospitals Fund for a linear accelerator, bunker and other equipment.	As soon as services can be delivered safely and sustainably	Radiation oncology services commence at the North West Cancer Care Centre.

The Tasmanian Government will continue to develop additional cancer care facilities, staffing and capacity in line with the Tasmanian Cancer Plan, including comprehensive cancer services in the North West as soon as they can be delivered safely and sustainably.



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WITS No.: 59374

Hon Bryan Green MP  
Minister for Primary Industries and Water  
Email: [Bryan.Green@parliament.tas.gov.au](mailto:Bryan.Green@parliament.tas.gov.au)

27 JAN 2011

  
Dear Minister

I refer to the email of 12 January 2011 I received from your office via the Department of Premier and Cabinet regarding cancer services at the North West Regional Hospital.

As requested, I have attached for your information a briefing on this issue, which has been prepared by the Department of Health and Human Services.

Yours sincerely



Cassy O'Connor MP  
**Acting Minister for Health**

Enc: Issues Briefing – North West Cancer Centre Services

## **NORTH WEST RADIOTHERAPY CLINICAL EXPERT PANEL**

**Advice for provision of radiotherapy services to people with cancer from  
North West Tasmania**

**Prepared for the Tasmanian Government Minister for Health  
by an Independent Clinical Expert Panel**

**June 2011**

**CONTENTS**

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- EXECUTIVE SUMMARY AND PREFERRED OPTION..... 4**
  - KEY FINDINGS ..... 4
  - OPTIONS FOR PROVISION OF RADIOTHERAPY SERVICES FOR NORTH WEST TASMANIA ..... 5
- 1. BACKGROUND..... 6**
  - KEY POINTS ..... 6
  - 1.1 HISTORY OF THE PROJECT ..... 6
  - 1.2 PURPOSE AND SCOPE OF REPORT ..... 7
- 2. RADIOTHERAPY AND ITS ROLE IN CONTEMPORARY CANCER CARE..... 8**
  - KEY POINTS ..... 8
  - 2.1 WHAT IS RADIOTHERAPY?..... 8
  - 2.2 ROLE OF RADIOTHERAPY IN MULTIDISCIPLINARY CANCER CARE ..... 10
  - 2.3 REQUIREMENTS FOR RADIOTHERAPY ..... 10
  - 2.4 QUALITY AND SAFETY PARAMETERS ..... 12
- 3. REGIONAL CONTEXT ..... 13**
  - KEY POINTS ..... 13
  - 3.1 ABOUT TASMANIA..... 13
  - 3.2 ABOUT THE NORTH WEST REGION..... 14
- 4. CANCER IN TASMANIA AND THE NORTH WEST REGION..... 17**
  - KEY POINTS ..... 17
  - 4.1 CANCER EPIDEMIOLOGY IN TASMANIA..... 17
  - 4.2 CANCER IN NORTH WEST TASMANIA..... 19
- 5. CANCER SERVICES IN NORTH WEST TASMANIA..... 22**
  - KEY POINTS ..... 22
  - 5.1 CANCER SERVICES IN TASMANIA..... 22
  - 5.2 CURRENT CANCER SERVICES AND REFERRAL PATHWAYS IN NORTH WEST TASMANIA  
(NON-RADIOTHERAPY) ..... 23
  - 5.3 RADIOTHERAPY SERVICE PROVISION FOR PEOPLE FROM NORTH WEST TASMANIA ..... 27
- 6. OPTIONS FOR RADIOTHERAPY PROVISION IN NORTH WEST TASMANIA..... 32**
  - KEY POINTS ..... 32
  - 6.1 OPTIONS FOR REGIONAL RADIOTHERAPY SERVICES: EXPERIENCE FROM OTHER STATES ..... 32
  - 6.2 PRINCIPLES FOR ESTABLISHING A SAFE AND SUSTAINABLE REGIONAL RADIOTHERAPY  
SERVICE..... 33
  - 6.3 OPTIMAL CONFIGURATION OF A REGIONAL RADIOTHERAPY SERVICE..... 34
  - 6.4 BENEFITS AND RISKS OF A NETWORKED REGIONAL RADIOTHERAPY SERVICE..... 36

6.5 FINDINGS RELATED TO A REGIONAL RADIOTHERAPY SERVICE FOR NORTH WEST TASMANIA .....	37
6.6 PREFERRED MODEL FOR A LOCAL RADIOTHERAPY SERVICE FOR THE NORTH WEST .....	38
<b>7. PREFERRED OPTION FOR PROVISION OF RADIOTHERAPY FOR NORTH WEST TASMANIA .....</b>	<b>41</b>
<b>APPENDIX I: LIST OF ACRONYMS AND ABBREVIATIONS .....</b>	<b>42</b>
<b>APPENDIX II: MEMBERSHIP OF THE SINGLE MACHINE RADIOTHERAPY UNIT CLINICAL EXPERT PANEL.....</b>	<b>43</b>
<b>APPENDIX III: STAKEHOLDERS CONSULTED.....</b>	<b>48</b>
<b>APPENDIX IV: SUMMARY OF LITERATURE REVIEW .....</b>	<b>49</b>

## EXECUTIVE SUMMARY AND PREFERRED OPTION

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**This document provides advice from an independent Clinical Expert Panel (CEP) appointed by Tasmanian Government Minister for Health about the safe and sustainable provision of radiotherapy services for people affected by cancer in North West Tasmania. The CEP comprised experts with national and international reputations in regional radiotherapy service development as well as a local consumer representative.**

The CEP has considered current and projected demand for radiotherapy and associated services in North West Tasmania, the risks and benefits of different clinical models for provision of radiotherapy for patients in the region, barriers to delivering the recommended model and the conditions under which this model should be implemented.

The steps taken in developing this advice included:

- a review of best practice models to identify key principles for the planning and implementation of regional radiotherapy services
- interviews with stakeholders in Burnie, Launceston, Hobart and Melbourne to identify gaps, priority needs and potential models for a radiotherapy service in North West Tasmania
- meetings of the CEP to discuss the approach to developing the advice, consider the literature review and stakeholder consultation findings and gain consensus on the preferred model
- development and refinement of the final document.

### KEY FINDINGS

- The caseload of cancer patients in North West Tasmania is sufficient to use the capacity of one linear accelerator (linac) and will continue to increase with time.
- The utilisation rate for radiotherapy in North West Tasmania of 42.5% is similar to that in other areas of Tasmania and other states and territories but is below the national guideline recommendation of 52%.
- Launceston has provided an excellent radiotherapy service for patients from North West Tasmania to date in terms of access and quality of care. However, the burden of travel for radiotherapy is a major issue for people with cancer from the North West.
- The cancer caseload in North West Tasmania and burden of travel for people from the North West support the need for radiotherapy to be made available locally.
- Radiotherapy is a complex treatment modality for cancer that must be managed safely with appropriate professional management and support within an organisational safety culture.
- A radiotherapy service in North West Tasmania should be linked to an established radiotherapy service. A stand-alone radiotherapy service entails unacceptable risks to the safe, sustainable delivery of services.
- Development of a radiotherapy service for the North West should be considered within the broader context of a multidisciplinary cancer service across the North/North West region.
- Other priority areas of need include: improvements in coordination of care and access to cancer services; improvements in a range of cancer services in the region, including medical oncology and malignant haematology, palliative care, allied health support services, general and specialist medical services; and improvements in the overall governance of cancer services within the region and networking across the state.

## **OPTIONS FOR PROVISION OF RADIOTHERAPY SERVICES FOR NORTH WEST TASMANIA**

The CEP advice comprises immediate actions to reduce the current burden on patients and carers related to radiotherapy treatment and longer-term actions to be taken when funding for a local radiotherapy service becomes available.

### **Immediate actions**

The CEP has identified actions that could be implemented without waiting for funds for a local radiotherapy service to become available. These immediate actions would reduce the burden on patients and carers associated with travelling from the North West region to Launceston for radiotherapy and include:

- implementing strategies to improve coordination of care for people with cancer who need to travel outside the North West region for treatment
- improving the quality of transport and accommodation options for people who need to travel outside the North West region for treatment
- increasing access to information about available transport, accommodation and other support services for people with cancer and their carers.

### **Actions to be taken when funding for radiotherapy in the North West is available**

The CEP has concluded that it is appropriate to develop a local radiotherapy service in the North West of Tasmania when funds are available to support the infrastructure and workforce required to ensure safety, quality and sustainability. The preferred model is a radiotherapy service operating across two sites in the North and North West that:

- utilises established radiotherapy services at Launceston General Hospital
- adds a new single linac and staff at the North West Regional Hospital Burnie
- provides capacity for expansion to a second linac at Burnie in future if required.

To minimise the risks of safety and sustainability, the existing Launceston radiotherapy department and the proposed Burnie radiotherapy department should be run as a single administrative entity. This model is contingent on having a systematic and clear plan about how immediate and future priorities for broader issues of cancer service delivery in the region will be addressed. A number of the priorities identified in this review are designed to be addressed through the development of the North West Regional Cancer Centre.

The report outlines a range of issues to be considered for the proposed model, including:

- the risk profile, including societal risks, patient risks, economic risks, health service risks to be managed during planning and implementation
- the importance of clear contractual agreements between the North and North West sites
- the importance of an adequate and sustainable oncology workforce and resources to link services at both sites
- key staffing, equipment and linkages required, including linkages within and outside Tasmania
- the importance of a clear communication strategy to articulate the role and scope of services provided by a regional radiotherapy service to the North West community and the broader Tasmanian population.

# 1. BACKGROUND

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## KEY POINTS

- This report provides advice from an independent Clinical Expert Panel (CEP) to the Tasmanian Government Minister for Health about the safe and sustainable provision of radiotherapy services for people affected by cancer in North West Tasmania.
- CEP advice has been informed by a review of current best practice for planning and implementing radiotherapy services in regional areas, as well as broad consultation with stakeholders in Burnie, Launceston, Hobart and Melbourne.
- The report considers the current and projected demand for radiotherapy and associated services within the region, the risks and benefits of different clinical models for provision of radiotherapy services, barriers to delivering the recommended approach and the conditions under which the optimal model should be implemented.

## 1.1 HISTORY OF THE PROJECT

In 2010, Tasmania applied successfully for funding through the Commonwealth Government Health and Hospitals Fund (HHF) Regional Cancer Centres (RCC) initiative. A total budget of \$48.5 million has been provided to fund the Tasmanian Cancer Care Project, which will comprise purpose-built cancer facilities (including ambulatory care and patient support facilities) in each Area Health Service (South, North and North West). Additional funds have been sought for clinical information technology systems and advanced videoconferencing facilities. The RCC funding is part of a long-term strategy by the Tasmanian Government to improve the distribution of cancer services across the state. In addition to RCC funding, a budget bid has been made for Cancer Care Coordinator positions in each Area Health Service as well as administrative support for multidisciplinary teams.

In North West Tasmania, RCC funding is designed to bring together cancer specialists, community-based palliative care and non-profit organisations such as Cancer Council Tasmania.

On 8 October 2010, a supplementary application was lodged with the Australian Government Minister for Health and Ageing on behalf of the Tasmanian Government to seek funding for expansion of the Tasmanian Cancer Centre to include radiotherapy in North West Tasmania. This application was made in response to a policy commitment given by the Australian Government to consider funding the construction of facilities and equipment to enable provision of radiotherapy services at the North West Regional Hospital.

### North West Regional Cancer Centre funds will support:

- magnetic resonance imaging (MRI)
- 12 chemotherapy chairs
- consulting rooms
- outreach palliative care
- education facilities
- provision for future addition of two radiation oncology bunkers.

### Single Machine Radiotherapy Unit Clinical Expert Panel

In 2010, the Tasmanian Government Minister for Health appointed a Clinical Expert Panel to provide independent advice about when radiotherapy services can safely and sustainably be provided in the North West. The Single Machine Radiotherapy Unit Clinical Expert Panel (CEP) is an independent panel of leading national experts from other jurisdictions with significant expertise in the planning and implementation of regional cancer services, including radiotherapy, in Australia and overseas. Interstate CEP experts were assisted by a local community representative, who is a cancer survivor. Details of CEP members are provided in Appendix II.

The CEP met face-to-face in Tasmania and in Melbourne at intervals throughout the membership term and corresponded via a designated intranet site established to support information sharing and discussion. The CEP was supported by staff from the Department of Health Tasmania as well as an independent healthcare communications consultant who assisted in the development of this report.

CEP members undertook a broad consultation process with stakeholders in Burnie, Launceston, Hobart and Melbourne to inform the development of their advice (see Appendix III for the list of consultations). The CEP also considered relevant reports and publications about provision of radiotherapy services in regional and rural areas, in particular single machine radiotherapy units (SMU). A summary of the key documents used to inform this report is provided in Appendix IV.

## **1.2 PURPOSE AND SCOPE OF REPORT**

This report has been developed by the CEP to provide the Tasmanian Government with independent advice about the provision of safe and sustainable radiotherapy services for patients with cancer from the North West of Tasmania. The report considers current and projected demand for radiotherapy and associated services within the region, the risks and benefits of different clinical models for provision of radiotherapy services, barriers to delivering the recommended approach and the conditions under which the optimal model should be implemented.

### **Cancer services**

Cancer services are provided by a wide range of health professionals for patients as they journey through a continuum that includes early detection, diagnosis, treatment, follow-up and survivorship or palliative and end-of-life care. Supportive care is essential in all aspects of cancer care.

General practitioners (GPs) are often the first point of contact for a patient with symptoms/signs of cancer. Diagnostic investigations may include medical imaging, surgery and/or pathology procedures. Following diagnosis, cancer treatment may include medical oncology, radiation oncology, biological therapy, surgical oncology and supportive care, or a combination of these options. On completion of treatment, ongoing follow-up care and rehabilitation is important to check for signs of recurrence and long-term side effects of treatment. For some patients, palliative and end-of-life care is required.

This report focuses on radiation oncology. However, it is important to note that radiation oncology is only one component of the cancer care pathway and should only be provided as part of a multidisciplinary approach that considers the individual needs of the patient and carers.

## 2. RADIOTHERAPY AND ITS ROLE IN CONTEMPORARY CANCER CARE

### KEY POINTS

- Radiotherapy has a crucial role in contemporary cancer care and may be used alone as a curative treatment, to improve cure rates in combination with other treatments, or for symptom relief as part of palliative care.
- Radiotherapy should only be provided as part of a multidisciplinary approach to cancer care, alongside high-quality diagnostic, treatment and supportive care services.
- Planning and delivery of safe and effective radiotherapy is a complex process requiring highly specialised equipment and staffing.
- A course of radiotherapy may take up to 8 weeks to complete, with associated financial and social costs for patients over this time.
- The CEP advice focuses on external beam radiotherapy.

Information in this chapter has been adapted from *Options for radiation oncology services in the Northern Territory: a report commissioned by the Government of the Northern Territory of Australia (August 2004)*.<sup>1</sup>

### 2.1 WHAT IS RADIOTHERAPY?

Radiotherapy (or radiation therapy) involves the use of ionising radiation (from X-rays,  $\gamma$ -rays or particles) to kill cancer cells. Clinical radiotherapy schedules are designed to take advantage of the different responses to ionising radiation of normal cells and cancer cells. Generally, normal cells are able to repair damage caused by ionising radiation, whereas cancer cells are not as efficient at repairing damage.

Radiotherapy has a crucial role in the treatment of many cancers, alongside surgery, chemotherapy and hormonal therapy. It may be:

- curative (e.g. early-stage lymphoma, and cancer of the larynx)
- an adjuvant therapy used following surgery and/or chemotherapy (e.g. following lumpectomy for breast cancer) to improve cure rates, or
- given as palliative treatment for symptom relief (e.g. pain due to bone metastases).

Radiotherapy can prolong survival, help to preserve organs affected by cancer, provide symptom relief, and improve quality of life for people affected by cancer.

#### Types of radiotherapy

Radiotherapy delivers radiation in one of two ways:

- as an **external beam** generated by a machine called a linear accelerator (linac) that produces beams of megavoltage X-rays and electrons used to target the tumour
- as **brachytherapy**, where a radioactive source is inserted directly into or onto tissue affected by a tumour; brachytherapy is a highly specialised technique that is confined to large

#### Definitions

**Radiation oncology:** the study and discipline of treating cancer with radiation.

**Fraction:** The amount of radiation given in one session.

**Field:** A beam of radiation.

specialised cancer centres with expertise in radiation oncology and the relevant specialised field of surgery required to insert the radioactive source.

The CEP advice focuses on external beam radiotherapy.

### What does radiotherapy involve?

Radiation is given as a series of doses or ‘fractions’ over days or weeks. The number of fractions, the amount of radiation given in each fraction and the time between fractions is designed to kill as many cancer cells as possible, while minimising damage to normal tissue.

Different cancer types vary in their level of sensitivity to radiation. Curative radiotherapy uses higher radiation doses that are close to the tolerance of normal tissues. Palliative radiotherapy typically uses low doses of radiation.

The length of a treatment course of radiotherapy varies with the intent of treatment and can be up to 8 weeks. A course of radiotherapy delivered with the aim of cure typically involves daily treatment for 5 days a week for up to 8 weeks. Delivery of radiation beams typically takes only a few minutes but each session can take 12 to 15 minutes. Prior to starting treatment, the patient has one or more planning appointments to determine the optimal dose, mode of delivery and exact specifications for their treatment course.

### Who should receive radiotherapy?

The optimal radiotherapy utilisation rate (RTU) describes the optimal proportion of patients for whom radiotherapy is indicated. The RTU for the treatment of cancer was estimated by Delaney *et al.*<sup>2</sup> and is used as a benchmark for planning radiotherapy services in Australia and internationally.

Not all types of cancer are suitable for radiotherapy because of the different natural history of cancers, and differences in the normal tissues around the cancer. The overall distribution of different cancers therefore affects the overall RTU.

#### Calculating the RTU

Radiotherapy was considered indicated if it increased survival, controlled tumour growth, improved the patient’s quality of life or reduced treatment toxicity and the patient was fit enough to receive treatment. Indications were taken from Australian and international cancer guidelines of treatment efficacy. The proportion of all cancer cases with each indication was estimated from the available epidemiological data.

**From the guideline and epidemiological data Delaney *et al.* estimated that 52% of new cases of cancer in the Australian population have an indication for radiotherapy at least once during the course of their illness.**

### Minimising side effects

Side effects of radiotherapy depend on which part of the body is being treated, how much normal tissue is exposed to radiation, the amount of radiation given per week (dose accumulation) and the total dose of radiation over the entire treatment period.

Side-effects of radiotherapy can be minimised by meticulous planning and delivery following a step-wise approach that requires input from a number of specialist and allied health professionals (see Section 2.3).

#### Side effects of radiotherapy

**Early reactions:** result from damage to tissues with rapidly dividing cells (e.g. lining of the gastro-intestinal tract, skin). Most patients recover completely.

**Late reactions:** usually result from damage to tissues that cannot replace damaged cells. Typically occur at least 3 months after completion of treatment, and, while rare, are usually permanent or progressive.

## Specialised radiotherapy techniques

Special external beam radiotherapy techniques include:

- **intensity-modulated radiotherapy (IMRT)**, in which the radiation beam is modified during treatment to allow the dose of radiation to be increased when the beam concentrates on tumour tissue, and decreased for adjacent normal tissue
- **stereotactic radiotherapy** in which multiple narrow high-energy beams intersect in the tissue requiring treatment; stereotactic radiotherapy may also be delivered as multiple  $\gamma$ -rays from cobalt isotopes fixed in a treatment device called a gamma knife.

These techniques are often specified (by inclusion or exclusion) in estimates of the costs of purchasing and running radiotherapy equipment. Given that the indications for these specialised radiotherapy techniques are rare, the techniques are usually confined to a small number of centres that can service a large population, ensuring cost effectiveness and availability of necessary expertise.

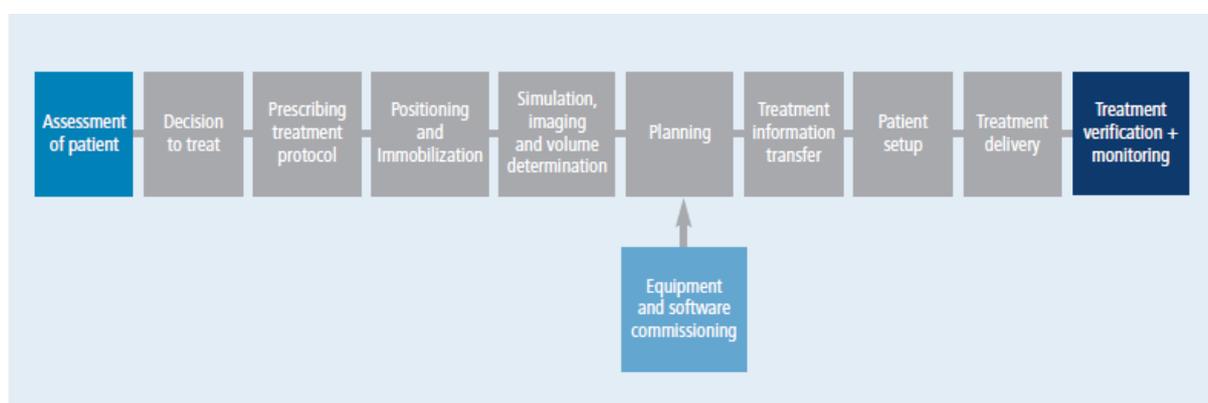
## 2.2 ROLE OF RADIOTHERAPY IN MULTIDISCIPLINARY CANCER CARE

Radiotherapy should only be provided as part of a multidisciplinary approach to cancer care. This requires adequate access not only to the specialist services required for radiotherapy itself (see Section 2.3) but the full range of diagnostic, treatment and supportive care services involved in the delivery of high-quality cancer care. This includes surgical and medical oncology, pathology, imaging, general and specialist medical and surgical services (including emergency services, palliative care and general practice), nursing, psychosocial support and allied health services. Careful, comprehensive planning of all of these services is critical if the value of an investment in radiation oncology is to be realised.

## 2.3 REQUIREMENTS FOR RADIOTHERAPY

Provision of a safe and effective radiation oncology service is complex, with a number of key steps required to manage the risks involved (Figure 1). It requires a substantial capital investment in radiotherapy equipment, a specially designed building, ongoing investment for equipment maintenance and replacement, expert teams of specialist doctors (radiation oncologists), radiation therapists and medical physicists, supported by nursing and allied health, good access to engineering support as well as specialised computer support and data management. Despite the complexity of resources required, based on available figures, radiotherapy appears to be a cost-effective investment.<sup>3</sup>

**Figure 1:** Radiotherapy risk profile



World Health Organization<sup>4</sup>

## Equipment/facility requirements

Central to the delivery of external beam radiotherapy is the linac. This machine accelerates electrons onto a tungsten target, which generates X-rays within the megavoltage energy range. The X-rays are then aimed at the tumour. A linac can emit electrons alone, and the electrons can also be used therapeutically.

The X-rays produced in a linac have much higher energy, and penetrate tissue more deeply than X-rays from a diagnostic machine. With modern linacs, the dose of radiation can be concentrated at deeper sites by directing the X-ray beams, thus minimising skin side-effects. Multiple beams can be directed at the tumour and the beam can be shaped according to the tumour volume and to minimise damage to surrounding normal tissues.

Linacs are installed in concrete bunkers. A concrete-lined corridor typically separates the room containing the radiation-generating equipment from other rooms in a radiation oncology unit. Because of the cost of shielding, it is unusual for any occupied areas to be located above the bunker. Other rooms in a radiation oncology unit include waiting areas for patients, space for planning resources, such as computed tomography (CT) scanners and dosimetry computers, clinic rooms where patients are assessed, offices for staff and various workshops for maintaining and servicing equipment.

## Radiotherapy staffing requirements

Three types of professionals are involved in the prescription and safe delivery of radiation treatment.

- The **radiation oncologist** is a specialist medical practitioner with expertise in:
  - assessing cancer patients, jointly with other members of a multidisciplinary cancer team
  - determining whether radiotherapy is the most appropriate treatment for a patient
  - explaining treatment options to patients, and helping them make treatment choices
  - planning courses of radiotherapy for individual patients, including prescription of doses
  - supervising the delivery of radiotherapy
  - managing complications of radiotherapy
  - providing support and ongoing advice to patients
  - surveillance and follow-up after completion of treatment
  - contributing to educational activities for patients and professionals.
- The **radiation therapist** is technically trained and skilled in the planning and delivery of radiotherapy in accordance with the prescribed dose and the pre-determined tumour volume, and undertakes roles including:
  - development of appropriate immobilisation devices
  - imaging to support planning and calculation of the optimal treatment plan
  - positioning of patients and delivery of treatment
  - checking equipment and the treatment plan for variations
  - routinely assessing the accuracy of beam delivery based on patient position and shape
  - providing education and support to patients during treatment
  - assessing the patient daily for changes, referring to relevant staff as required.

- The **medical physicist**:
  - helps to ensure that the prescribed dose of radiotherapy can be delivered within the tolerance of the available equipment
  - ensures that the dose prescribed is actually delivered by taking dose-verification measurements
  - calibrates the radiotherapy machinery
  - plays a major role in radiation safety.

There are acute shortages of medical physicists in Australia and in many other developed countries. Training programs have been or are being established to address these shortages. Australia also has a relative shortage of radiation oncologists.

### **Typical staffing configuration**

Current European guidelines recommend staffing levels of one radiation oncologist per 200–250 cancer patients (depending on the complexity of cases) and one medical physicist per linac.<sup>5</sup> The Faculty of Radiation Oncology of the Royal Australian and New Zealand College of Radiology recommends that the maximum case load should be 200–250 new cases per radiation oncologist, which equates to about 1.5 radiation oncologists per linac.

The National Strategic Plan for Radiation Oncology (Australia) recommended in 2001 that each linac should be staffed with a minimum of eight radiation therapists and 1.7 medical physicists.<sup>6</sup> These parameters may need to be changed as technology evolves.

### **Linac capacity**

Each linac can treat a limited number of cases each year. The Radiation Oncology Inquiry found that each linac treats an average of 414 courses (for all reasons) each year.<sup>7</sup>

## **2.4 QUALITY AND SAFETY PARAMETERS**

Quality and safety parameters for a radiation oncology service relate to both facilities and personnel. The Radiation Oncology Inquiry identified the value of bringing together a critical mass of each profession involved in the planning and delivery of radiotherapy with sufficient patient numbers. Such critical mass helps to facilitate sub-specialisation within the profession, allows the development of a high level of expertise on the part of staff and can help to maintain a high standard of quality.<sup>7</sup> Other identified benefits include an increased likelihood of clinical trial participation, and economies of scale for training and quality control procedures. Fewer patients means that development of expertise is slowed and the maintenance of quality assurance can be more difficult.

Planning for a radiation oncology service also requires consideration of backup protocols in case of equipment breakdown to minimise treatment delays or the burden of additional travel for patients.

### **Key findings and recommendations**

- Radiotherapy is a complex treatment modality for cancer that must be delivered safely with appropriate professional management and support within an organisational safety culture.
- A stand-alone radiotherapy service would entail unacceptable risks to the safe, sustainable delivery of services. A radiotherapy service in North West Tasmania must be linked to an established radiotherapy service.

### 3. REGIONAL CONTEXT

#### KEY POINTS

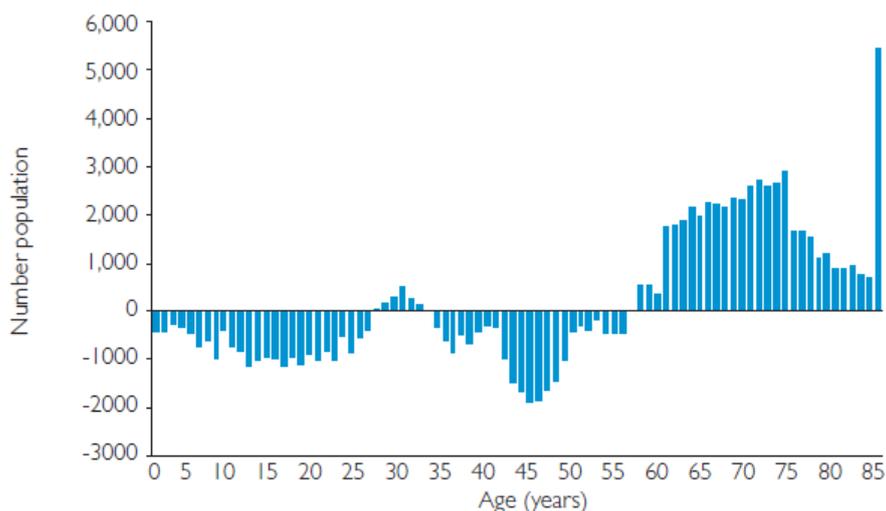
- Tasmania has a dispersed population of around 0.5 million.
- Approximately 22% of the population lives in the North West region of the state.
- While population growth in Tasmania is expected to be modest in the next 10 years, the population of Tasmania is ageing more rapidly than the populations of other states and territories. The North West has one of the fastest ageing populations in Tasmania.
- Burnie in North West Tasmania is situated 160km by road from Launceston and 330km from Hobart. While Melbourne is 370km away, the link between the North West and Melbourne can be easier than the link between the North West and Hobart.

#### 3.1 ABOUT TASMANIA

Tasmania has a population of around 0.5 million.<sup>8</sup> This is a dispersed population. At the time of the 2006 census, 49.5% of the population lived in the South, 28.2% in the North and 22.3% in the North West. The major population centres in Tasmania are Hobart in the South, Launceston in the North and Burnie and Devonport in the North West.

Population growth over the planning period is expected to be modest over the next 10 years, with a 3.2% growth predicted between 2006 and 2021.<sup>9</sup> However, the Tasmanian population is ageing more rapidly than the populations of other states and territories. In 2006, Tasmania had the second highest proportion of people aged 65 years and above. The proportion of the Tasmanian population aged 70 years was 10.6% in 2006 and this is predicted to increase to 16.6% by 2021 (Figure 2).

**Figure 2:** Changes in the Tasmanian population by age group, 2006–2021<sup>10</sup>



In the 2006 census, 3.5% of the Tasmanian population identified as Indigenous.<sup>11</sup> Almost half of the Indigenous population is located in the South (47%), followed by the North West (32%) and the North (21%).<sup>12</sup>

## Health in Tasmania

Nationally, Tasmania has the second highest:

- death rates for cancers overall
- death rate for circulatory diseases
- incidence of respiratory cancers
- rates for accidents and intentional self-harm.<sup>12</sup>

Many of the conditions significantly affecting the health and wellbeing of the Tasmanian community are preventable or their effects can be reduced by active prevention and early intervention strategies.<sup>12</sup>

With distance from Hobart, socio-economic determinants of poorer health outcomes (smoking, diet, education, teen pregnancy) increase.<sup>13</sup> Health outcomes tend to be poorer in people living in remote areas compared to those living in metropolitan areas.<sup>9</sup> Factors that may explain this difference include geographic isolation, quality of transport networks, and lack of access to health professionals and health services.<sup>14</sup> Typically, the most health-disadvantaged people have the least ready access to health services.

## Health services in Tasmania

Tasmania's health system includes non-admitted community-based services and inpatient services in metropolitan and rural areas. Publicly funded services are complemented by private community- and hospital-based services.<sup>9</sup>

Three main tertiary hospitals operate in Tasmania: the Royal Hobart Hospital in the South; the Launceston General Hospital in the North; and the North West Regional Hospital Burnie in the North West.

## 3.2 ABOUT THE NORTH WEST REGION

The North West region of Tasmania (also known as Mersey-Lyell and the Cradle Coast) is made up of nine local government areas (LGAs) (Burnie, Central Coast, Circular Head, Devonport, Kentish, King Island, Latrobe, Waratah-Wynyard and West Coast) (Figure 3).

In 2009, the North West was home to 22% of the Tasmanian population (112,383 people).<sup>8</sup> This means that just under half of the population of the northern half of Tasmania reside in the North West in the LGAs of Latrobe, Devonport and the Central Coast. Between 15% and 21% of the population is over 65 years of age, making these among the fastest ageing regions in Tasmania.<sup>9</sup>

Figure 3: Map of Tasmania



## Transportation links

Burnie is 50 km from Devonport, 160 km from the nearest radiotherapy service in Launceston, and 330 km from Hobart. The travel time to Launceston is approximately 3 hours from Smithton, 2 hours from Wynyard, 1.75 hours from Burnie, 1.25 hours from Ulverstone, and 1 hour from Devonport.

The North West region is closer to Melbourne than Hobart in terms of accessing services. The flight from Burnie or Devonport to Melbourne takes 1 hour and 10 minutes, with flights departing daily. There are four flights a week from Devonport to Hobart. There are no flights from Burnie to Hobart.

### Key findings

- Tasmania has a dispersed population with almost one-quarter of people living in the North West region.
- Although population growth is modest, the ageing population is likely to lead to an increased demand for cancer and other health services.
- The North West's distance and relative isolation from Launceston and Hobart mean that residents feel isolated from the services that are available in the state's major centres.

## 4. CANCER IN TASMANIA AND THE NORTH WEST REGION

### KEY POINTS

In 2007:<sup>14</sup>

- there were 3024 new cancer cases in Tasmania, and 591 new cancer cases in the North West region
- there were 1170 cancer-related deaths in Tasmania
- the most common cancer diagnosed in men was prostate cancer, followed by colorectal cancer and then lung cancer; the most common causes of cancer-related deaths were lung cancer, colorectal cancer and prostate cancer
- the most common cancer diagnosed in women was breast cancer, followed by colorectal cancer and then lung cancer; the most common causes of cancer-related deaths were lung cancer, colorectal cancer and breast cancer.

It is predicted that the incidence of cancer in the North West will nearly double to 1066 cases by 2021.<sup>15</sup>

### 4.1 CANCER EPIDEMIOLOGY IN TASMANIA

Notification of cancer is a statutory requirement in all Australian States and Territories. Analysis and reporting of population-based cancer data generally takes several years from the time of collection. Cancer incidence and mortality data reported in this report are based on the most current available data as reported by the Tasmanian Cancer Registry in 2010, and reflect cancer registrations for 2007 unless otherwise specified.<sup>14</sup>

#### Cancer incidence and mortality

Tasmania has the second highest incidence of cancer in Australia,<sup>16</sup> with 3024 new cases of cancer (excluding non-melanoma skin cancers) diagnosed in 2007. The risk of developing any cancer (other than non-melanoma skin cancers) by the age of 75 was 1 in 2 for Tasmanian men and 1 in 4 for Tasmanian women.<sup>14</sup> Tasmania also has the highest age-standardised incidence rate (ASR) for cancer of any Australian state or territory.<sup>17</sup> The overall ASR during 2007 was 432.3 per 100,000 for men and 271.2 per 100,000 for women.<sup>14</sup>

#### A note on age-standardised rates

Cancer incidence and mortality rates are adjusted for age to facilitate comparisons between populations that have different age structures, e.g. between youthful and ageing communities. The age-standardised incidence and mortality rates used in this report use the World Standard Population (1960).

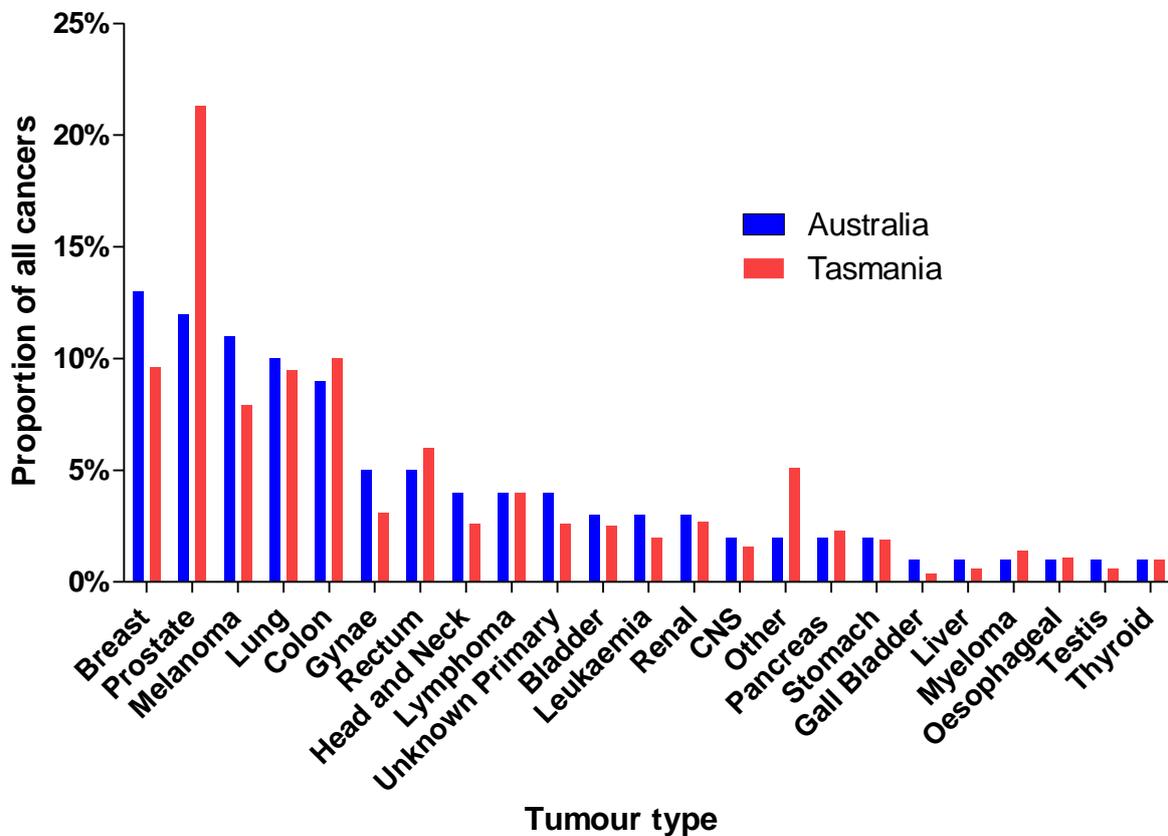
In 2007, there were 1170 cancer-related deaths of Tasmanian residents (627 in men and 543 in women), with an overall age-standardised mortality rate of 134.2 per 100,000 for men and 98.3 per 100,000 for women.<sup>14</sup>

The most commonly diagnosed cancers in 2007 were prostate, colorectal and lung cancer for men and breast, colorectal and lung cancer for women. The most common causes of cancer-related deaths were lung cancer, colorectal cancer and prostate cancer in men and lung, colorectal and breast cancer in women.<sup>14</sup> These cancers, and in particular breast, lung and prostate cancer, are among the cancers that most commonly utilise radiotherapy.<sup>16</sup>

Figure 4 shows the proportion of cancer cases by type for Tasmania compared with Australia. Tasmania has the second highest incidence of cancer in Australia.<sup>18</sup> As a proportion of all cancers,

prostate cancer is more common in Tasmania than the rest of Australia and many other cancers are slightly less common.

**Figure 4:** Cancer cases by tumour site for Australia and Tasmania<sup>14</sup>



The ASR for all cancers (excluding non-melanoma skin cancers) among Tasmanian residents increased by 52% for men and 28% for women between 1980 and 2007, and increased by 10% for men and decreased by 2% for women between 2006 and 2007.<sup>14</sup> The difference between men and women is likely to have been driven by the introduction of prostate-specific antigen (PSA) testing in the late 1980s, which was responsible for the detection of a large number of previously undiagnosed prostate cancers in the early 1990s. As prostate cancer accounts for 25–29% of all male cancers, this has affected the trend for all cancers for men.

Cancers that had a particularly high incidence in 2007 compared with 1980 were prostate cancer and malignant melanomas in men, and lung, malignant melanoma and colorectal cancers in women.<sup>14</sup> This increasing cancer incidence can be attributed to a number of factors, including the ageing of the population, lifestyle changes, screening and early diagnosis.

As is the case throughout Australia, the burden of cancer is likely to increase rapidly as the proportion of the population aged over 65 years increases in the coming years. This is particularly pertinent for Tasmanians, given that Tasmania has one of the fastest ageing populations in Australia.<sup>19</sup>

## Regional variations across Tasmania

There appears to be little variation in the incidence of cancer across Tasmania's LGAs.<sup>20</sup> Age-standardised incidence rates for all cancers appear to be highest for men and women living in inner regional areas of Tasmania (529.9 per 100,000 population) and lowest for men and women living in remote and very remote areas (454.2 per 100,000 population). Cancer mortality in remote and very remote areas is not statistically significantly different from cancer mortality in more accessible areas for either men or women.<sup>20</sup>

### A note on regional classifications

The Accessibility/Remoteness Index of Areas (ARIA) classification system is based on 1996 Census data.

The ARIA index classifies people into one of six Australian Standard Geographical Classification (ASGC) Remote Areas: major cities; inner regional areas; outer regional areas; remote areas; very remote areas; and migratory.

None of the localities in Tasmania has been classified as a major city, as none of Tasmania's centres has a population greater than 250,000.

Differences in cancer incidence do appear to exist across socio-economic groups and are likely to reflect differences in lifestyle, as well as behavioural and environmental risk factors. Tasmanians living in areas of relatively low socio-economic status have a significantly higher incidence of lung cancer and all smoking-related cancers combined than those in areas of higher socio-economic status.<sup>20</sup>

## 4.2 CANCER IN NORTH WEST TASMANIA

In 2007, there were 591 new cancer cases in the North West region.<sup>14</sup> This is predicted to increase by 17% to 769 cases by 2011, by 38% to 911 cases by 2016, and by 62% to 1066 cases by 2021 (Table 1).<sup>15</sup>

**Table 1:** Current and projected incidence of cancer patients in Tasmania and the North West region

Area Health Service	Projected 2011	Projected 2016	Projected 2021
South	1625	1964	2346
North West	769	911	1066
North	952	1139	1342
Total	3346	4014	4754

Australian Institute of Health and Welfare<sup>15</sup>

The North West region is referred to as Mersey-Lyell in the AIHW report.

The most commonly diagnosed cancers in the North West in 2007 were: prostate cancer (157 cases, 24%); colorectal cancer (118 cases, 18%); breast cancer (65 cases, 10%); and melanoma of the skin (63 cases, 10%).

A review of new cases of cancer diagnosed between 2002 and 2006 showed that, compared with other parts of Tasmania, the North West region had proportionally fewer breast, lung and prostate cancers but a slightly higher proportion of melanoma (Table 2).

**Table 2:** New cases of cancer; counts by type and health region, Tasmania, 2002–2006<sup>21</sup>

Cancer type	North	North West	South
Bladder	90	64	171
Breast	437	338	829
CNS	6	4	4
Colon	280	282	541
Gall Bladder	24	29	41
Leukaemia	76	63	202
Liver	26	25	62
Lung	432	314	676
Lymphomas	142	120	277
Melanoma	297	299	594
Oesophageal	51	44	85
Pancreas	87	61	131
Prostate	587	444	1,103
Rectum	177	153	322
Renal pelvis etc	8	6	13
Stomach	90	67	118
Testis	25	16	36
Thyroid	40	18	77
Head & Neck	100	62	160
Myeloma	47	31	85
Gynaecological	133	115	224
Unknown	149	93	228
Other	339	287	607
<b>Total</b>	<b>3643</b>	<b>2935</b>	<b>6586</b>

### Demand for radiotherapy

Using the planning figures discussed above, the number of cases with an indication for radiotherapy in 2007 was 344. This is projected to rise to 558 by 2021 if all cases with an indication for radiotherapy receive treatment. If the current utilisation rate of 42.5% remains unchanged then demand for radiotherapy will be 292 cases in 2011 and 405 cases in 2021. About 25% of cases will need a second course of treatment at some stage. There are clearly sufficient cancer cases in the North West to use the entire capacity of one linac.

**Table 3:** Projected number of new cases with an indication for radiotherapy in North West Tasmania

	<b>New cases of cancer in North West Tasmania</b>	<b>Current utilisation rate in North West Tasmania (42.5%)</b>	<b>Optimal utilisation rate (52%)</b>
2007	658	250	344
2011 (projected)	769	292	402
2016 (projected)	911	346	476
2021 (projected)	1066	405	558

**Key findings and recommendations**

- The caseload of cancer patients in North West Tasmania is sufficient to use the capacity of one linear accelerator and will continue to increase with time.

## 5. CANCER SERVICES IN NORTH WEST TASMANIA

### KEY POINTS

Priorities for cancer services to be addressed in North West Tasmania identified through stakeholder consultations (not presented in order of priority) were:

- reducing the burden on patients who have to travel for radiotherapy services (various options ranging from improving transport/accommodation options to local provision of radiotherapy)
- improving coordination of care and access to cancer services
- improving access to information about treatment and support services
- improving medical oncology and malignant haematology services in the region
- improving a range of other relevant services, including palliative care, access to physicians and general medical and support services
- improving overall governance of cancer services within the region and networking across the state.

### 5.1 CANCER SERVICES IN TASMANIA

Tasmania has a Cancer Clinical Network comprising clinicians and consumers. The Network does not hold funding but has a focus on clinical engagement, professional development support and oversight of relevant projects.

Tasmania has a Cancer Framework and Strategic Cancer Plan developed by DLA Phillips Fox, which has been based on a comprehensive state-wide consultation process.<sup>17</sup> This document is supported by stakeholders in Tasmania. Tasmania's Cancer Framework has three key elements: a service system designed in accordance with best evidence; a contemporary a model of care; and strong governance systems. The nine principles underpinning the Cancer Framework are outlined in Table 4.

In recent years there has been some investment in public health and health promotion activity focused around stopping smoking, increasing health motivation, and using patient experts as drivers for behavioural change.

#### Objectives of the Tasmanian Cancer Plan:

- improving cancer prevention
- detecting cancers earlier
- creating an integrated and sustainable system
- providing a contemporary model of care
- ensuring a well-governed system.

**Table 4:** Principles of the Tasmanian Cancer Framework<sup>17</sup>

<b>Principle 1</b>	<b>A multidisciplinary approach</b> Achieving optimal outcomes for all Tasmanians through a consistent multidisciplinary approach, implemented across the continuum of prevention and care and throughout the state
<b>Principle 2</b>	<b>Integrated, quality care that meets the needs of consumers</b> Developing systems to support the delivery of patient-centred, coordinated and integrated care in accordance with evidence-based practice
<b>Principle 3</b>	<b>Access, equity and diversity</b> Facilitating timely access to information and integrated high quality services by all Tasmanians, regardless of where they live or their social, physical or economic circumstances
<b>Principle 4</b>	<b>A skilled and supported workforce</b> Providing the career pathways, educational and organisational supports and cultures to attract and retain appropriate numbers of highly skilled cancer professionals
<b>Principle 5</b>	<b>Research and innovation</b> Fostering a culture that values innovation and promotes and supports research as a basis for the delivery of evidence-based care
<b>Principle 6</b>	<b>Data and information to support decision-making</b> Establishing, maintaining and supporting high quality data collection and monitoring systems that support clinical decision-making, clinical governance and continuous improvement
<b>Principle 7</b>	<b>An engaged and educated community</b> Enabling the community to engage meaningfully in cancer prevention and management, providing effective community education on the risk factors for cancer, promoting healthy behaviours and creating healthy environments to support behavioural change, early detection and participation in screening programs and supporting people who are living with cancer
<b>Principle 8</b>	<b>A planned, flexible and adaptable system</b> Ensuring that the service system remains responsive to the needs of the community and the forces impacting on it through ongoing planning and review
<b>Principle 9</b>	<b>Accountable and responsible stewardship and use of resources</b> Designing and managing the cancer service system so that it is sustainable across time and generations and complements the broader health service system

## **5.2 CURRENT CANCER SERVICES AND REFERRAL PATHWAYS IN NORTH WEST TASMANIA (NON-RADIOTHERAPY)**

As with the rest of Tasmania, cancer care in the North West is delivered by a network of health and community services. The North West Area Health Service is responsible for the care provided in the North West Regional Hospital and surrounding district hospitals, multipurpose centres and services. The private sector also plays a significant role in acute and primary care, with some clinicians working across both sectors.

A summary of Tasmania's cancer treatment resources and cancer medical workforce is provided on the following page, followed by more detailed information about specific elements of cancer service delivery, including stakeholder feedback about issues and gaps. Consideration of this feedback should take account of the fact that cancer services in North West Tasmania are likely to be improved with the development of the North West Regional Cancer Centre.

Tasmania's cancer treatment resources include:<sup>17</sup>

- day oncology units in each of the three regions (South: 12 chairs, 2 beds; North: 12 chairs, 1 bed; North West: 9 chairs, 1 bed)
- public and private inpatient beds (including a 20-bed oncology/haematology ward in the South; in the North West, patients with cancer are cared for in general medical wards and surgical wards)
- two linacs in each of Hobart and Launceston, with a third linac installed and being commissioned in Launceston at the time of writing the report; high-dose brachytherapy is available in Launceston and a superficial X-ray unit and low-dose brachytherapy are available in Hobart
- range of imaging in the South (CT, magnetic resonance imaging (MRI) and positron emission tomography (PET)) and North (CT and MRI), with general imaging services (CT) available in the North West (MRI has been approved for installation in the North West but does not have a licence for Medicare rebate)
- comprehensive range of pathology services provided by the Launceston General Hospital and Royal Hobart Hospital, with private services also available; pathology services are contracted from the private sector in the North West
- most cancer surgery is performed across Tasmania; major neurosurgery and thoracic surgery are only performed at the Royal Hobart Hospital, and surgery for some tumours (e.g. sarcomas, paediatrics) is performed interstate
- specialist medical oncologists and haematologists practice in Hobart and Launceston and provide outreach consulting services to the North West; outreach services to the North West not provided in a private capacity; a medical oncology link with the Peter MacCallum Cancer Centre in Melbourne has recently been established
- a single statewide service is available for autologous bone marrow transplantation (BMT), including a nurse coordinator, and is led from Hobart, with arrangements for care with the Launceston General Hospital; allogeneic BMT is provided interstate
- designated public and private inpatient palliative care beds are available in the South and North; inpatient palliative care beds are also available in the North West, with a 'hospice without walls model' used across the state.

Tasmania's current cancer medical workforce includes:<sup>16</sup>

- **Medical oncology/haematology:** South: 5.0 FTE Medical oncologists including a BMT Director; 2.0 FTE Haematologists; North: 3 FTE Medical oncologists and 3 FTE Haematology/Haem-oncologists; North West: Joint NWAHS–Peter MacCallum Medical Oncologist 8 days/month from June 2011; visiting Clinical trials oncologist from RHH 1 day a month; visiting Medical oncologist from LGH 2 days a month; visiting Haematology-oncologist Launceston General Hospital 3.5 days a month
- **Radiation oncology:** South: 3.0 FTE Radiation oncologists (2 FTE combined public/private practices; 1 FTE public-only staff specialist); North: 3 FTE Radiation oncologist (public/private combined practices); North West: Visiting Radiation oncologist from Launceston General Hospital for consulting services 2 days/month
- **Palliative care (not cancer specific):** South: 3 FTE; North: 2 FTE; North West: 1 vacant position; visiting Royal Hobart Hospital clinician to commence end of June 2011 for 6 months
- **Registrar training positions:** South: 1 advanced trainee in medical oncology; 2 advanced trainees in haematology; 1 accredited radiation oncology trainee; North: 1 accredited trainee

in radiation oncology; 1 accredited advanced trainee in medical oncology; North West: visiting Medical Oncologist Registrar from Royal Hobart Hospital 3 days a month with Visiting Medical Oncologist (ceased June 2011).

### **Surgical oncology**

Surgical oncology services are provided at North West Regional Hospital and Mersey Community Hospital. However, many procedures are only available in the larger centres in Launceston and Hobart and a small number of specialties are provided in one centre alone.

### **Medical oncology and haematology**

Medical oncology and haematology care is available in Launceston and Hobart, with more limited local services supplemented by outreach services in Burnie/Latrobe. Some chemotherapy is administered in small district hospitals. A variety of outreach cancer services are provided to the North West region. For example, haematologists and medical oncologists from both Hobart and Launceston visit the North West region on a regular basis to provide consulting services to people who live in those areas. Initiatives to improve sustainability in medical oncology include an ongoing relationship with Launceston General Hospital and new partnerships with Royal Hobart Hospital and Peter MacCallum Cancer Centre. The North West has a haematology service and transfusion service, but service expansion is needed.

The Tasmanian Cancer Framework identified that these services are not organised systematically and have tended to be unsustainable in the past because of their dependence on key individuals. Stakeholders consulted during the CEP review indicated that the current model results in fragmented and non-cohesive management of patient care. Arrangements for funding vary and have not been established systematically with the primary purpose of ensuring service sustainability and quality.

There is a state-wide bone marrow transplantation service led from Hobart that works collaboratively with Launceston-based clinicians to enable care to be provided closer to home when clinically appropriate.

**Stakeholder feedback suggests that provision of medical oncology and haematology continues to be an issue in the North West.**

### **Allied health and cancer nursing**

Tasmania has several community-based nurse co-ordinators, including a breast care nurse and bowel cancer screening nurse employed within the community health subsector, and a breast care nurse employed with 4-years' funding support from the McGrath Foundation (reporting to both BreastScreen and the Royal Hobart Hospital continuing care management team). The Leukaemia Foundation also employs a community-based nurse coordinator.

The North West has two Breast and Stomal Nurses, but these are not full-time roles. A part-time Cancer Care Co-ordinator project position established in February 2010 to August 2011 is proving a valuable addition to the supportive services for patients in the North West. There is 1.0 FTE Cancer Care Co-ordinator in both of the North and South.

**Issues with coordination of care and access by patients to information and support services were raised by stakeholders during the CEP review. The need for improved continuity and coordination of care for patients from the North West was also identified.**

## **Palliative care**

Tasmania's Palliative Care Service has three specialist community teams, based in Hobart, Launceston and Burnie, with outreach to rural areas. Stakeholder consultation indicated that palliative care in the North West is in a state of flux. Dedicated inpatient facilities for palliative care patients are available in Hobart and Launceston and there is an in-reach service into the state's teaching hospitals. The specialist palliative care health professionals in the Palliative Care Service work within a consultancy framework across the whole health sector to support primary health service providers in urban and rural areas to provide quality palliative care.

Tasmania's supportive and palliative care strategy is underpinned by the subacute care component of the Council of Australian Governments National Partnership Agreement on Hospital and Health Workforce Reform.

**Concerns were raised by some stakeholders about the quality and safety of some local services, with palliative care flagged as one example.**

## **General practice**

Tasmania's Health Plan indicated that, while Tasmania is not disadvantaged in GP numbers, on average, the number of GPs in 22 of the 29 LGAs falls below the national average.<sup>9</sup> In 2006, there were 96 GPs working in the North West, with a FTE rate of 59.9 per 100,000 population.

**Stakeholder feedback highlighted the fact that many of the doctors who work in the North West region of Tasmania were trained overseas and as a result many do not have established referral networks or an awareness of cancer referral pathways and strategies. The region also experiences a rapid turnover of GPs, and as a consequence a need exists for education regarding cancer services and optimal cancer care networks to ensure timely and appropriate referrals into cancer services from the primary care setting.**

## **Non-government organisations**

A number of non-government, community-based organisations make a key contribution to the care and wellbeing of Tasmanians with cancer and their carers. Usually working from a volunteer base, these organisations often make a substantial contribution through a range of roles. In the North West region, support for transport and/or accommodation and information and support for patients and carers by Cancer Council Tasmania is an important component of the cancer care system.

**Stakeholder feedback highlighted the value placed by patients and carers on the transport provided by Cancer Council Tasmania for people travelling to Launceston for radiotherapy and other treatments.**

## **Information and communications technology**

There is a state-wide information and communications technology (ICT) plan for oncology services, which proposes the use of ARIA as the dedicated oncology system for radiation oncology and medical oncology applications at all sites. The ARIA system is currently in use state-wide for radiation oncology. The medical oncology module of ARIA has been made available state-wide but is seen by users as cumbersome. Launceston-based users have attempted to use the majority of the applications available in this module but use at other sites is limited to the scheduling function. Stakeholder advice indicates a need for the allocation of ICT resources to develop the system to meet the needs of the users in medical oncology.

## 5.3 RADIOTHERAPY SERVICE PROVISION FOR PEOPLE FROM NORTH WEST TASMANIA

### Current radiotherapy services

The Royal Hobart Hospital and Launceston General Hospital both have two linacs. Money has been made available for a third linac. This has been allocated to Launceston General Hospital with a longer term view that it would increase critical mass and provide a substantial base for a training pipeline and outreach support for a future single machine unit in North West Regional Hospital. The third linac is due to be online in April 2011.

The North West region does not currently have a local radiotherapy service. Patients from the North West requiring radiotherapy typically have a return journey of over 300km to Launceston General Hospital for treatment. This involves either return day trips to and from appointments or overnight/weekly stays in Launceston for up to 8 weeks of treatment (depending on the intent of treatment).

A small number of patients requiring specialist radiotherapy services are referred to Melbourne. This includes patients requiring stereotactic radiotherapy and paediatric patients. Some patients elect to have treatment in Melbourne because of proximity to family or because of a perception that care will be better.

Financial costs for people who have to travel for radiotherapy include those related to travel, accommodation and loss of earnings. These costs were found to be considerable in the Victorian Single Machine Unit Trial (aggregate cost of \$400,000+ per annum per site).<sup>22</sup>

**Stakeholders indicated that the quality of the current radiotherapy service provided for patients from the North West region by Launceston General Hospital is good, but that the amount of travel required places a significant burden on patients and their carers. Every person consulted during the stakeholder consultation period highlighted the burden of travel for radiotherapy as the major issue for cancer patients from the North West. It was also noted that the current public–private structure and high number of VMOs also creates barriers to linkage of departments across sites and limits opportunities for sub-specialisation.**

### Transport and accommodation options for people requiring radiotherapy

A bus run by Cancer Council Tasmania (CCT) travels daily along the coast between Burnie and Launceston, picking up patients who are receiving radiotherapy at Launceston General Hospital. Currently, 10% of patients from the North West who attend the Holman Clinic in Launceston use the CCT bus. Accommodation in Launceston is available either through Spurr Wing or private options. Six units are currently being built at Launceston funded by the Commonwealth Government.

### *Patient Transport Assistance Scheme (PTAS)*

The Patient Transport Assistance Scheme (PTAS) provides some level of Government funding for patients who have to travel more than 100 km for treatment, but patients are typically still out of pocket.

For many North West residents, a 6–8-week course of radiotherapy at Launceston General Hospital requires either travel at night or loss of employment for individuals and their carers who may be already in low-income brackets. Table 5 lists PTAS payments made since 2009. Not all patients claim using the PTAS system so the numbers provided do not necessarily reflect the total cost.

**Table 5:** PTAS payments from 2009 to 28 February 2011<sup>23</sup>

Journey	Claims	Trips	Expenditure
<b>2009–2010 Financial year</b>			
Travel from Burnie/Devonport to Launceston	247	4728	\$244,831
Travel from other North West regions to Launceston	34	258	\$42,207
Travel from the North West region to Melbourne	4	4	\$8981
<b>TOTAL</b>	<b>285</b>	<b>4990</b>	<b>\$296,019</b>
<b>2010–2011 Financial year (until 28 Feb 2011)</b>			
Travel from Burnie/Devonport to Launceston	197	3451	\$208,858
Travel from other North West regions to Launceston	24	186	\$46,839
Travel from the North West region to Melbourne	-	-	-
<b>TOTAL</b>	<b>221</b>	<b>3637</b>	<b>\$255,697</b>

PTAS payments only apply to journeys over 100km so these costs do not reflect costs for people travelling shorter distances that can still represent a significant burden for patients and carers.

Not all patients claim PTAS so numbers do not reflect the total cost of travel.

### Radiotherapy utilisation

Using the proportions of different tumour types in Tasmania, it is possible to estimate the proportion of cases in which radiotherapy would be indicated. For example 9.8% of all cancers in Tasmania are breast cancers and 83% of breast cancers have an indication for radiotherapy at least once. Therefore 7.9% (83% of 9.8%) of cancers in Tasmania are breast cancers with an indication for radiotherapy.

Table 6 shows the proportion of cases for each tumour site, the proportion of that tumour type with an indication for radiotherapy and the proportion of *all cases* with an indication for radiotherapy.

By summing the proportions of each cancer with an indication for radiotherapy, it appears that 53% of all cases of cancer in Tasmania have an indication for radiotherapy at least once. The optimal radiotherapy utilisation rate for North West Tasmania is 52.5%, which is slightly higher than the estimate for Australia but slightly lower than for other regions of Tasmania.

**Table 6:** Proportion of cancer cases in Tasmania with an indication for radiotherapy

<b>Tumour type (1)</b>	<b>Proportion of all cancers in Tasmania (%) (2)</b>	<b>Optimal radiotherapy utilisation rate by tumour type (%) (3)</b>	<b>Proportion of all cancer cases with an indication for radiotherapy in Tasmania (%) (4)</b>
Bladder	2.5	58	1.5
Breast	9.6	83	7.9
Central nervous system	1.6	92	1.5
Colon	10.0	14	1.4
Gall bladder	0.4	13	0.1
Gynaecological	3.1	35	1.1
Head & neck	2.6	78	2.0
Leukaemia	2.0	4	0.1
Liver	0.6	0	0.0
Lung	9.5	76	7.2
Lymphoma	4.0	65	2.6
Melanoma	7.9	23	1.8
Myeloma	1.4	38	0.5
Oesophageal	1.1	80	0.9
Other	5.1	50	2.6
Pancreas	2.3	57	1.3
Prostate	21.3	60	12.8
Rectum	6.0	61	3.7
Renal	2.7	27	0.7
Stomach	1.9	68	1.3
Testis	0.6	49	0.3
Thyroid	1.0	10	0.1
Unknown primary	2.6	61	1.6
<b>Total</b>	<b>100.0</b>		<b>53.0</b>

Column (4) = Column (2) x Column (3)

### **Current radiotherapy service utilisation from North West Tasmania**

It is estimated that 42.5% of the North West region's new cancer patients access radiotherapy.<sup>24</sup> This figure is similar to that in other jurisdictions but is short of the national benchmark of 52%.

In 2010, 377 patients from the North West region started a new course of radiotherapy. The majority of patients (83%) came from the coastal towns of Smithton, Wynyard, Somerset, Burnie, Ulverstone, Devonport and Latrobe. Between January 2010 and December 2010, 42% of the patients treated on radiotherapy linacs in Launceston were from the North West region.

Of the North West patients who accessed radiotherapy in Launceston, 55% received curative radiotherapy and 45% palliative radiotherapy. Twenty-nine per cent of these patients had received previous radiotherapy treatment.

### **Forecast need for radiotherapy in North West Tasmania**

Currently, the number of patients being treated with radiotherapy from the North West region is sufficient to sustain one machine. Based on 2007 incidence data, it is predicted that there will be a 38% increase in the number of cancer cases in the North West region by 2016, and a 62% increase by 2021.<sup>15</sup> Depending on radiation therapy utilisation rates, this would mean that the North West region requires the capacity of 1.1 to 1.8 linacs to meet demand. Given that it is not possible to have a fraction of a machine, this would mean that by 2021 the region would require a two-machine radiotherapy unit.

### **Drivers for a local radiotherapy service in North West Tasmania**

Stakeholder feedback has identified the following drivers for establishing a local radiotherapy service in the North West.

- There is sufficient caseload for a single machine unit radiotherapy service.
- The key driver is the burden of travel for the large number of patients from the North West region who have to travel for daily treatment over extended periods of time.
- Patients must choose between an average daily trip of over 300km, living away from home for extended periods or forgoing radiotherapy altogether.
- Anecdotal evidence suggests that a small minority of patients choose not to have radiotherapy because of the distance.
- Radiotherapy is the only 'day-to-day' health service not available in Burnie.
- There has been a long-standing desire in the North West community for radiotherapy services to be provided as close to home as possible.

### **Key findings and recommendations**

- Utilisation of radiotherapy in North West Tasmania is similar to that in other areas of Tasmania and other states/territories but is below guideline recommendations.
- Launceston has provided an excellent radiotherapy service for patients from the North West region to date in terms of access and quality of care. However, the burden of travel for radiotherapy is a major issue for people with cancer in this region.
- The cancer caseload in North West Tasmania *and* burden of travel for people from the North West support the need for radiotherapy to be made available locally.
- Development of a radiotherapy service for the North West should be considered within the broader context of a multidisciplinary cancer service across the North/North West region.
- Other priority areas of need include improvements in coordination of care and access to cancer services, improvements in a range of cancer services in the region, including medical oncology and malignant haematology, palliative care and allied health support services, general and specialist medical services and improvements in the overall governance of cancer services within the region and networking across the state.

## 6. OPTIONS FOR RADIOTHERAPY PROVISION IN NORTH WEST TASMANIA

### KEY POINTS

- The challenge for health planners is how to provide equitable access to radiotherapy services in areas where radiotherapy utilisation rates are less than optimal while maintaining service viability and quality.
- A stand-alone radiation oncology service distant to major population centres is not appropriate owing to staffing issues, insufficient demand, and insufficient support and expertise locally to manage such a specialist service.
- A linked model in which equal responsibility for patient outcomes is assigned to both the metropolitan cancer centre and the networked regional service partner is preferable.
- It may not be possible for all cancer patients to be treated at a regional radiotherapy unit; patients needing complex treatment may still need to be referred to specialist hospitals. Community education will be essential to raise community understanding of what a single machine unit radiotherapy service in a regional area can and cannot provide.

### 6.1 OPTIONS FOR REGIONAL RADIOTHERAPY SERVICES: EXPERIENCE FROM OTHER STATES

The question of how to provide radiotherapy services safely and effectively in regional areas is not unique to Tasmania. The shift to decentralising radiation oncology services reflects considerations around equity of access and recognition that radiotherapy utilisation rates in regional areas are often significantly lower than metropolitan populations and that travel and long stays away from home place a large burden on patients and their carers. This lower utilisation may be associated with the poorer cancer survival outcomes seen in some regional settings.

It is not appropriate to develop isolated radiation oncology services in areas distant to major population centres for reasons that include:

- an inability to attract sufficient numbers of specialist staff
- insufficient caseload to justify a stand-alone service
- insufficient support or expertise at the local hospital to manage and operate such a specialist service.

As a result, there is strong support for models of care that link smaller centres to larger centres of specialist expertise, with timely referral arrangements, ensuring that the quality of care is not compromised for people living in regional, rural and remote areas.<sup>25</sup> The challenge for health planners is how to provide equitable access to radiotherapy while maintaining service viability and quality, particularly in the context of workforce shortages.<sup>25</sup>

In 2002, the Commonwealth and Victorian State Government funded the National Radiotherapy Single Machine Unit Trial (SMU Trial). This 5-year project established that safe and cost effective radiation oncology services are feasible in regional areas, assuming that certain conditions are met. The major requirement was that the service was linked and supported by a larger radiotherapy service.<sup>25</sup> The SMU trial found that single machine radiotherapy services in regional areas linked with and supported by larger radiotherapy services can be successfully established. This linkage arrangement with one or more larger metropolitan radiation oncology services was designed to overcome or reduce potential problems with maintaining an appropriate quality of service, supporting service continuity and viability and ensuring future proofing. One regional service took 5 years to recruit its full staff complement and as a result extra resourcing and support was required from the partner centre.

## 6.2 PRINCIPLES FOR ESTABLISHING A SAFE AND SUSTAINABLE REGIONAL RADIOTHERAPY SERVICE

The review of published literature about regional radiotherapy services (see Appendix V) and consensus discussion by the CEP has been used to develop the following key principles for establishing a safe and sustainable regional radiotherapy service.

### Demand and capacity

- **Demand:** It must be possible to demonstrate sufficient local need to justify costs. At minimum, a radiotherapy service must have a demonstrated demand of 400 new courses per year (typically this would comprise about 330 new cases and 70 retreatment cases) for reasons of economy and efficiency and to ensure economies of scale.<sup>7</sup>
- **Capacity:** Any radiotherapy service should have a two bunker capacity (even if only one linac is installed initially) as a minimum with linacs matched across networked sites. For a regional networked service, work processes should be designed to accommodate cross-site working, facilitate operational efficiencies and ensure training opportunities across sites.
- **Broader health service support:** Other health service units (surgical and medical oncology, other general and specialist surgical and medical services, general and specialist nursing services, diagnostic services, allied health services, and psycho-social support services) should be enhanced as a consequence of the increasing caseload and complexity of cases that would be treated locally rather than being managed elsewhere. This enhancement should be planned in parallel with the planning of the new radiation oncology unit.<sup>1</sup>

### Linkage

- **Network support:** The unit should be developed in conjunction and retain a strong operational link with a major established radiation oncology service.<sup>1</sup> Linkage into a network arrangement with a service provider of sufficient size to support an outreach facility is essential. A linked model in which equal responsibility for patient outcomes is assigned to both the metropolitan cancer centre and the networked regional service partner is preferable.<sup>26</sup>
- **Outreach:** The department to which the unit is linked must have a demonstrated capacity to sustain professional and service-related linkages over long distances and have experience in providing outreach services and sustaining collegial relationships by telemedicine and video-conference.

### Operating principles

- **Governance:** Service level agreements should be in place between the networked centres to define service provision and standards, agreed responsibilities and costs, and income streams. It is essential that the approaches to linkage are documented, including having memoranda of understanding in place to satisfy the needs of both partner sites as well as machine ownership agreements and service level agreements identifying specifics around ownership of records, data access, withdrawal agreements.
- **Compliance with accredited standards:** Access is required to a broader body of medical physics expertise for the resolution of difficult or unusual physics problems, and to allow cross-checking for quality assurance.
- **Contingency plans:** Detailed and feasible contingency plans for machine breakdown and patient transfer should be provided.

## Sustainability and work practice

- **Workforce:** A regional radiotherapy service must be able to ensure adequate staffing levels to support service capacity, which requires innovative approaches and incentives for recruitment and retention of staff. This includes staff willing to live full-time in the vicinity. The partnering department should be well established and situated within a multidisciplinary oncology service. It must have the capacity to support all of the professions represented in the smaller service, including a fully qualified workforce capable of covering staff absences. Remote access solutions may be possible for some clinical tasks such as radiotherapy dose planning and for some quality assurance.
- **Funding:** Both network partners should be funded adequately to support travel and inter-centre links, e.g. efficient IT linkages with system redundancy and communications technology to support videoconferencing and planning. Consideration also needs to be given as to how a reduction in available funding for the larger service could impact on the smaller service. This could be addressed by having one department functioning over two sites.
- **Administrative and technical support:** Adequate resources must be available locally to support administrative, staffing and technical requirements.

## Provision of best practice care

- **Multidisciplinary care:** The support of local medical oncology services, patient medical services, allied health, and palliative care services is essential, as is access to cancer imaging and relevant reference pathology services.
- **Working within capability:** It may not be possible for all cancer patients to be treated at a regional radiotherapy unit. Complex treatments that require specialised equipment, such as stereotactic radiosurgery for brain lesions, and radiotherapy treatment for the majority of paediatric patients may need to be undertaken at specialist hospitals.<sup>27</sup>
- **Protocols and guidelines:** Detailed protocols should be utilised to ensure standards of care, including definition of disease types and stages to be treated. These should cover imaging, planning and treatment protocols, safety and monitoring of standards, and access for patients who require special techniques.<sup>1</sup>
- **Patient accommodation and transport:** Some patients will still need to travel and stay overnight even when radiotherapy is provided at a regional site. On-site patient accommodation and patient transport options will be required for patients and carers who have to travel for treatment.

## 6.3 OPTIMAL CONFIGURATION OF A REGIONAL RADIOTHERAPY SERVICE

### Staff

A regional radiotherapy service will generally require the following staff:

- **health professionals:** radiation oncologists (specialist and registrar); radiation therapists; medical physicists; and nursing staff including cancer nurse co-coordinators
- **technical staff:** technicians; biomedical engineer; appliance fabricator; instrument maker and electronics technician
- **administrative staff:** Clinical Director; Unit Manager; secretaries and medical typists, general administration and reception staff; Cancer Registry staff; QA officer; clinical trials data manager; IT support staff; other data management staff
- **support staff:** cleaning, catering, portering, security etc

- additional staff may be attached to the unit on a full-time basis or may attend on a part-time or ad hoc basis, and are likely to include: pharmacist; therapists (physiotherapy, occupational therapy, speech pathology); dietitians; social workers; pastoral care staff; clinical psychologists; and palliative care staff.

In 2003, a survey of radiotherapy services in 41 European countries recommended staffing levels of one radiation oncologist per 200–250 cancer patients (depending on the complexity of cases) and one medical physicist per linac.<sup>5</sup> The Faculty of Radiation Oncology of the Royal Australian and New Zealand College of Radiology recommends that the maximum load for a radiation oncologist should be 250 new consultations per year (about 80% of consultations result in treatment), which equates to about 1.5 radiation oncologists per linac.

The National Strategic Plan for Radiation Oncology (Australia) recommended in 2001 that each linac should be staffed by a minimum of eight radiation therapists and 1.7 medical physicists.<sup>6</sup> This may need to be reviewed as technology evolves.

Based on 2007 incidence data, it is predicted that there will be a 38% increase in the number of cancer cases in the North West region by 2016, and a 62% increase by 2021.<sup>15</sup> Depending on radiation utilisation rates (the current radiation utilisation rate of 42.5% falls short of the recommended rate of 52.5%), it is predicted that the North West region will be able to sustain a 2-machine radiotherapy unit by 2021. It is therefore likely that by 2021 such a unit would require three radiation oncologists (or four with administrative duties and travel), four medical physicists and at least 16 radiation therapists.

## Facilities

A radiation oncology unit provides for the assessment, planning and treatment of patients and associated administrative and support functions, such as managing and organising staff, equipment and work processes. A typical configuration is provided below.

- **Entry and reception area:** this is likely to also serve as the central administrative area and needs to accommodate the needs of staff, patients and families. Ideally this should include patient resources/education facilities, including computers for patient education and for completing quality of life data for clinical trials, a children's play area, facilities for volunteers and transport staff, changing rooms and toilets.
- **Clinical suite:** rooms for multidisciplinary clinical review of patients, consulting rooms, nurses' area for dressings and a nurses' station.
- **Bed bay:** for accommodation of bed-bound inpatients attending for treatment.
- **Treatment planning:** dedicated CT, patient changing rooms and toilets, computer planning room, offices for radiation therapists.
- **Radiation treatment:** bunkers, mazes, control areas, changing rooms and toilets, examination and consultation rooms. Linacs require rooms (bunkers) that provide radiation protection using concrete walls, floors and ceiling to a specified thickness. These concrete bunkers are usually located directly on the ground owing to the weight of the structure. A concrete-lined corridor (maze) separates the room containing the radiation-generating equipment from other rooms in the radiation oncology unit.
- **Appliance fabrication:** fitting/mark-up room, separate dirty/noisy room, workstations and storage areas.
- **Medical physics and biomedical engineering:** physics laboratory, storage for medical physics equipment, electronic and biomedical engineering workshop, mould- and shield-making room.

- **Clinical trials and research:** facilities should be available to accommodate involvement in clinical trials, research and training of students.
- **Staff offices and staff amenities:** staff room, library, meeting rooms, offices for consultants, unit manager, chief radiation therapist, physicist and others.
- **Proximity to other services:** ideally the radiotherapy facility should be adjacent to chemotherapy delivery suites because a proportion of patients will have both chemotherapy and radiotherapy on the same day.
- **Access to inpatient care:** the facility should have access to inpatient beds to manage complications of cancer and its treatment.

## 6.4 BENEFITS AND RISKS OF A NETWORKED REGIONAL RADIOTHERAPY SERVICE

### Benefits

A networked regional radiotherapy service can provide benefits both to the community and to the regional and partnering health services. Regional **patients** are likely to benefit in many ways, the most important being improved local access to a broad range of tumour-site-specific expertise in radiation oncology. A regional radiotherapy service will reduce the burden for those who have previously had to travel to access radiotherapy services. Many patients, their carers and families are likely to experience an improvement in their quality of life if the need for travel and overnight accommodation while accessing treatment is removed. Networking of regional radiation services may also lead to an improvement in the coordination of the patient's care.

Regional **health professionals** can benefit in a number of ways from a networked regional radiotherapy service. Linkage to a large partner centre allows for provision of outreach advice and treatment protocols from specialist health professionals. This advice is likely to be of benefit in the management of complex cases. Likewise, having access to a broad body of physics expertise for the resolution of difficult physics problems and for quality assurance purposes will bring benefit to both health professionals and patients.

Local health professionals are also likely to welcome the greater opportunities for professional development and peer support that an association with a larger partner centre will bring. There are also the benefits that can be brought by the enhanced opportunities for participating in clinical research. The greater range of working environments for health professionals is likely to encourage greater mobility of staff and to provide additional career development opportunities.

Benefits for the **regional health services** include having a local source of expertise in cancer management to advocate for and to enhance local service delivery. Benefits to a **larger partnering centre** include increased critical mass and associated benefits, such as increased opportunities for sub-specialisation, better service provision to local patients, and fewer resources required to deliver services to regional patients.

### Risks

There are risks associated with establishing a regional radiotherapy service. It is possible that other health services (e.g. speech pathology, dietitians, psychosocial support) in the region will not be able to provide the expertise and capacity to support the management of radiation oncology patients. There is also the risk that other cancer services (especially medical oncology, haematology and palliative care) will not be able to cope with the increased demand for local services. Compounding this increase in demand can be the difficulty that regional services can experience in recruiting and retaining professional staff. If such issues exist, it may prove difficult to provide a continuous service without interruption due to technical factors and staffing issues. There is also no guarantee that

patients will be referred to the regional unit, and if patients continue to be referred elsewhere, this may lead to under-utilisation and a higher unit cost for service delivery.

Risks for the **larger partnering centre** include a reduction in utilisation of the larger site's radiation facilities, although this may also be viewed as a benefit if it frees up capacity to treat other patients. There may also be an issue of critical mass for more complex cases and maintaining expertise. The cost of a networked model is generally higher than that of a decentralised approach, as more staff are required to manage services across two sites. Networked services do, however, bring some financial benefits to the community as a whole, as fewer out-of-pocket expenses are borne by the patient.

## **6.5 FINDINGS RELATED TO A REGIONAL RADIOTHERAPY SERVICE FOR NORTH WEST TASMANIA**

### **Immediate needs**

While stakeholders acknowledged the burden of travel for patients from the North West region, there was a general sense from the consultations that **a future radiation oncology service in Burnie would not be appropriate unless broader issues of workforce, governance and supporting infrastructure for cancer services are addressed.**

Regardless of the chosen approach, an **improvement in coordination and continuity of care** was flagged as essential. It was noted that funding is being sought for increased numbers of cancer care coordinators and support for multidisciplinary teams. Other immediate priorities flagged by the majority of stakeholders included:

- provision of **improved transport and accommodation services** for patients travelling for cancer treatment (it was noted that there are plans in place to improve the hostel accommodation at Launceston General Hospital)
- **improved access to information** for patients about available support services.

### **Medium-to-long-term needs**

Provision of a local radiation oncology service in the North West was seen as a medium- to long-term goal by the majority of stakeholders with a proviso that **this should only be introduced when it is safe to do so and when sustainability can be assured.** Even if the decision to establish a radiotherapy centre in the North West was made immediately, it would take at least 2 years before the patients could be treated because of the time taken to design, build, install and commission equipment. There was a consensus view that **Burnie was the optimal location for a local service.** Only one stakeholder suggested that radiotherapy should be centralised in Launceston for the whole state and that a local service would never be viable.

Identified benefits of a local service included:

- reducing the burden of travel for patients
- availability of adequate numbers of patients to warrant a service
- potential for a local service to impact positively on other services (such as increased availability of clinical trials, trainees etc)
- opportunity to link with a larger centre around 2–3 hours away.

Identified negative aspects of a local service included:

- cost of establishing a new service
- need to consider how patients will be treated if the machine breaks down
- whether provision of a local service is in proportion with the broader level of service provision in the region.

## 6.6 PREFERRED MODEL FOR A LOCAL RADIOTHERAPY SERVICE FOR THE NORTH WEST

Based on the Principles, stakeholder findings and assessment of benefits and risks of different models, the CEP identified and assessed a number of options for provision of radiotherapy in the North West. These are summarised in Figure 5 with the preferred model highlighted.

The preferred model for provision of a local radiation oncology service in the North West was a **service linked to an established service**.

**A standalone service based at Burnie was the least favoured option, with feedback indicating that most people would prefer no local service than a standalone service, due to concerns about safety, quality and workforce sustainability.** Indeed, nowhere in Australia is an isolated single machine department accepted. Support for a standalone service was greater among some administrative stakeholders than clinical stakeholders. Identified benefits of a linked service included retaining critical mass for the larger centre, providing training opportunities for staff and increasing the likelihood of recruiting appropriately trained staff to the region.

The majority of stakeholders indicated a preference for a **service linked to Launceston**. Melbourne was the second choice for linkage, with Hobart the least preferred option due to its distance from Burnie. It was recognised that if the service was linked to a Melbourne site, this may have to be contracted on a 'quasi private' basis. The additional complication of air transport to Melbourne in the event of a local machine breakdown was identified as a major limitation.

Stakeholders would also support a private radiation oncology service as long as the service is linked with a larger centre and patients do not incur out-of-pocket expenses for their treatment.

### Impact of a local radiotherapy service in the North West

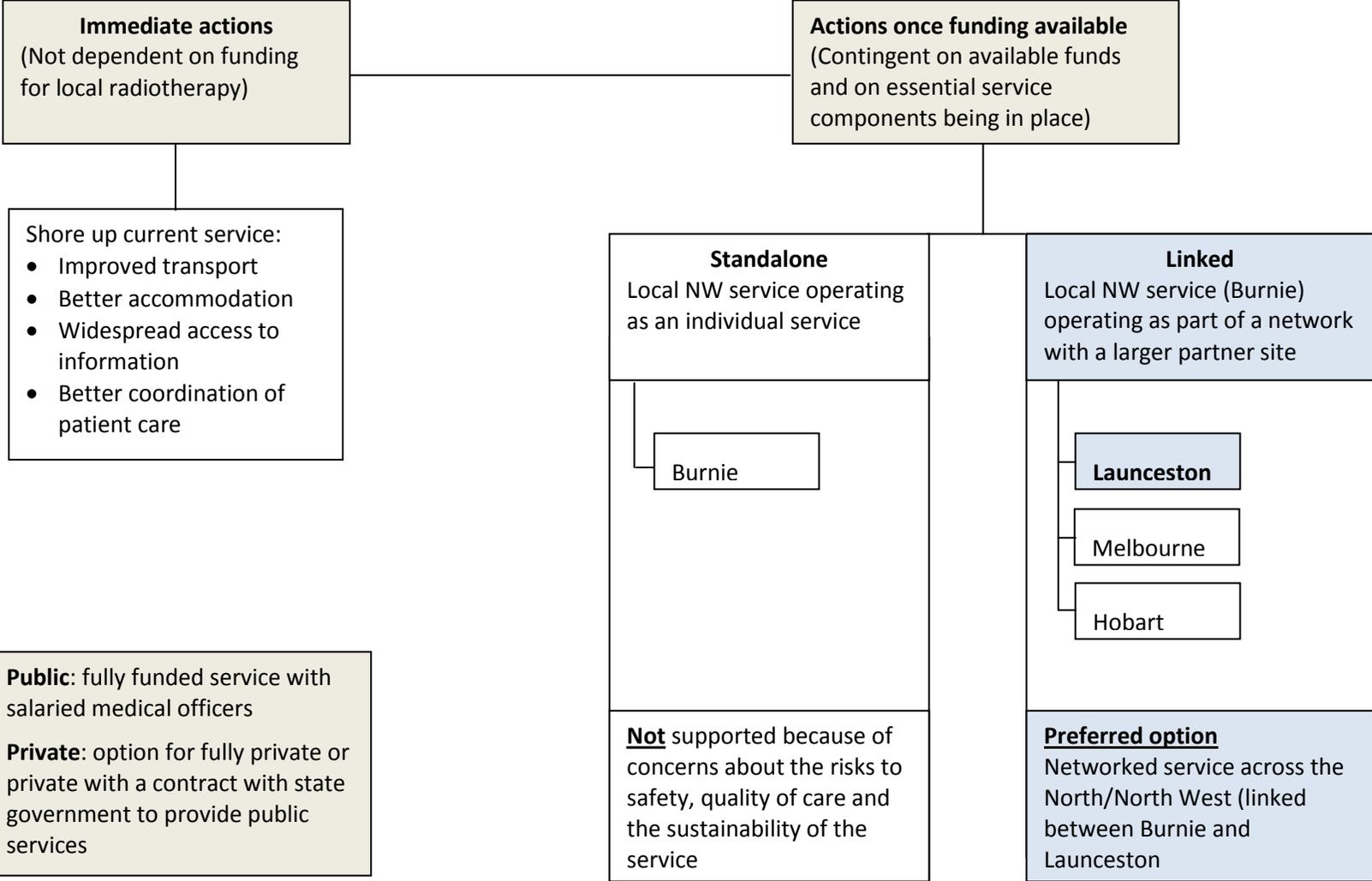
When considering the impact of a local radiation oncology service in the North West, stakeholders recognised that:

- provision of a North West radiotherapy service would still require transport and accommodation to be provided for people living further west
- not all patients requiring radiotherapy could be treated locally with specialist services still requiring referral to specialist centres of expertise (e.g. for paediatrics, brachytherapy and some neuro-oncology)
- some patients would still choose to go elsewhere for treatment
- community education will be essential to raise community understanding of what a single machine unit radiotherapy service in a regional area can and cannot provide
- provision of local radiotherapy would also be likely to affect other services, including chemotherapy (with an increased demand for concurrent chemotherapy), local acute services, allied health support, diagnostic services, and NGO services
- it was important to have a communication strategy to keep relevant stakeholders and the community informed of progress.

### **Key findings and recommendations**

- There is strong support in Australia and overseas for models of care that link smaller centres to larger centres with specialist expertise in radiation oncology services.
- The 2002 National Radiotherapy Single Machine Unit Trial concluded that safe and cost effective radiation oncology services are feasible in regional areas assuming certain conditions are met.
- The CEP concluded that the preferred model for provision of a local radiation oncology service in the North West was a service linked to an established service.
- The majority of stakeholders indicated a preference for a service linked to Launceston. Melbourne was the second choice for linkage, with Hobart the least preferred option due to its distance from Burnie
- A standalone service based at Burnie was the least favoured option, with feedback indicating that most people would prefer no local service than a standalone service, due to concerns about safety, quality and workforce sustainability.

**Figure 5: Options for a local public radiotherapy service in North West Tasmania\***



\* Options for private providers exist but involve additional level of complexity.

## **7. PREFERRED OPTION FOR PROVISION OF RADIOTHERAPY FOR NORTH WEST TASMANIA**

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**The CEP advice comprises immediate actions to reduce the current burden on patients and carers caused by travelling for radiotherapy treatment and a longer term plan to develop a local radiotherapy service in the North West of Tasmania when funds are available to support a safe, quality and sustainable service.**

### **Immediate actions**

Implement immediate actions to reduce the burden on patients and carers associated with travelling from the North West region to Launceston for radiotherapy:

- improve the quality of transport and accommodation options
- improve financial support through PTAS
- increase access to information about available transport, accommodation and other support services
- implement strategies to improve coordination of care for people travelling outside the region for treatment.

### **Actions to be taken when funding for radiotherapy is available**

The CEP has concluded that it is appropriate to develop a local radiotherapy service in the North West of Tasmania when funds are available to support the infrastructure and workforce required to provide a safe, quality and sustainable service.

The preferred model is a single radiotherapy service across two sites in the North and North West that:

- utilises established linacs at Launceston General Hospital
- adds a new single linac at the North West Regional Hospital Burnie
- provides capacity for expansion to a second linac in future if required.

To minimise the risks of safety and sustainability the existing Launceston department and the proposed Burnie department should be run as a single administrative entity.

This model is contingent upon having a systematic and clear plan about how immediate and future priorities for broader issues of cancer service delivery in the region will be addressed. A number of the priorities will be addressed through the North West Regional Cancer Centre. The report outlines a range of issues to be considered, including:

- the risk profile of the proposed model (including societal risks, patient risks, economic risks, health service risks) to be managed during planning and implementation
- the importance of clear contractual agreements between sites
- the importance of adequate resourcing of both the smaller and larger site
- the key staffing, equipment and linkages required if a radiotherapy service is developed in the North West
- the importance of a clear communication strategy to articulate the role and scope of services provided by a regional radiotherapy service.

## APPENDIX I: LIST OF ACRONYMS AND ABBREVIATIONS

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Abbreviation/acronym	Explanation
ARIA	Accessibility/Remoteness Index of Areas
ASR	Age-standardised incidence rate
CEP	Clinical Expert Panel
CT	Computed tomography
FTE	Full time equivalent
HHF	Health and Hospitals Fund
ICT	Information and communications technology
IGRT	Image guided radiotherapy
IMRT	Intensity modulated radiotherapy
LGH	Launceston General Hospital
Linac	Linear accelerator
MCH	Melbourne Childrens' Hospital
MRI	Magnetic resonance imaging
NWRH	North West Regional Hospital
PET	Positron emission tomography
PTAS	Patient Transport Assistance Scheme
RCC	Regional Cancer Centre
RHH	Royal Hobart Hospital
SMU	Single machine unit
YTD	Year to date

## **APPENDIX II: MEMBERSHIP OF THE SINGLE MACHINE RADIOTHERAPY UNIT CLINICAL EXPERT PANEL**

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### **Professor Michael Barton OAM (Chair)**

*Professor of Radiation Oncology, South Western Sydney Clinical School, University New South Wales*

Michael Barton OAM is Professor of Radiation Oncology at University of NSW, Research Director of the Collaboration for Cancer Outcomes Research and Evaluation (CCORE) and the Research Director of the Ingham Institute at Liverpool Hospital. His major interest is in cancer health services research. He has published over 100 papers in peer-reviewed journals and has written 38 reports on cancer services in Australia and overseas.

He has been involved in State, national and international strategic planning projects for cancer services. These include chairing the Victorian Cancer Services Framework Report, the Papua New Guinea Cancer Services Report, the review of cancer services in New South Wales in 2004, the feasibility study of radiotherapy in the Northern Territory and a review of cancer services in Western Australia. He was the inaugural Chair of the NSW Neuro-oncology Group and he currently chairs the National Brain Tumour Guidelines Committee of the Australian Cancer Network. He was the inaugural Secretary of the Faculty of Radiation Oncology of the Royal Australian and New Zealand College of Radiologists.

The benchmarks for radiotherapy service delivery that CCORE developed have now been adopted throughout Australia, Europe and Great Britain. Recently a similar benchmark has been developed to benchmark and plan chemotherapy services.

Professor Barton was awarded the Medal in the Order of Australia in June 2007 for his service to medicine, particularly radiation oncology, through a range of clinical, research, education and professional development roles.

### **Ms Rhonda Coleman**

*Director, WA Cancer and Palliative Care Network*

Rhonda trained as a radiation therapist and worked in Sydney, Brisbane, Ottawa and Vancouver Island in Canada before coming to Perth 8 years ago as Head of Radiation Therapy. She is the Director for the WA Cancer and Palliative Care Network and represents WA Health on national committees related to Radiation Oncology. At the same time she is the Project Director for Cancer Redevelopment responsible for the building of the first Comprehensive Cancer Centre in WA. This involves leading the process redesign required to make hub and spoke specialist led multidisciplinary care implementable.

Rhonda's extensive experience in Australia and Canada as a cancer clinical services leader specialising in developing and implementing models of cancer care has enabled her consult in Australia and overseas related to cancer facilities and services. She has been involved to varying degrees in the development of six Comprehensive Cancer Centres and five cancer units in Australia, Indonesia and Canada. Rhonda works with architects and clinicians to ensure that the facilities provide an opportunity for multidisciplinary care to happen and encourage the efficient use of new technology and new procedures.

As an educator, department manager and now leading a statewide clinical network Rhonda has fostered a learning environment with academic pursuits and clinical research integrated into the day to day operations of each department she had led. This has resulted in recruitment incentives as the best staff want to work in a progressive environment.

Rhonda has presented at state, national and international conferences. She is an avid reader and continues to learn as she attends events and reads journals for the following organisations of which she is a current member.

- Australian Institute of Radiography (AIR)
- Australian College of Health Service Managers (ACHSM)
- International Society for Quality in Health Care (ISQua)
- Trans Tasman Radiation Oncology Group (TROG)
- Canadian Association Medical Radiation Technologists (CAMRT)
- International Society Radiographers & Radiological Technologists (ISRRT)

Her personal drive is to make things better for those who need treatment for cancer. Rhonda focuses on improving services for the current and future generations driven by consumer identified priorities.

### **Professor Gillian Duchesne**

*Director, Radiation Oncology & Cancer Imaging, Peter MacCallum Cancer Centre, Melbourne*

Gillian has been the Director of Radiation Oncology at the Peter MacCallum Cancer Centre for over eight years during which time she has overseen the expansion of Radiation Oncology service provision by Peter Mac in Victoria from two to five satellite networked services including the first single machine service in Bendigo. She has also served in a number of extracurricular professional roles, including membership of the Royal Australian and New Zealand College of Radiologists Council and the Radiation Oncology Faculty Board; she has been the Chair of the Tri-Partite Committee representing the three professions of Radiation Oncology, Radiation Therapy and Radiation Oncology Medical Physicists since 2005, and was a member of the Ministerial Taskforce for Cancer, Victoria, 2003–2006. She has also fulfilled numerous academic and professional roles including for example the Scientific Chair of the Trans Tasman Radiation Oncology Cancer Research Group, member of the Australian Synchrotron Medical Beam Line Clinical Advisory Panel, and various MSAC supporting committees. She is active in clinical research and professional training.

### **Mr Royce Fairbrother**

*Community representative*

Royce was the inspiration behind the birth of Fairbrother Pty Ltd. He left Devonport High School at the age of 15 to commence an apprenticeship as a Joiner with a small Devonport company. After completing 7 years in the Joinery trade he worked as a carpenter for a further 3 years before commencing business in partnership with his wife Thea.

Initially Royce was responsible for all estimating and project management while at the same time working on site. As the Company grew he undertook the various roles necessary to facilitate that growth and over the past 37 years has provided the leadership and vision that has enabled the Company to become an industry leader in Tasmania.

Royce has extensive experience in Project Management and Development. He possesses advanced people management and motivational skills, and has been at the forefront of the development of Fairbrother's Project Management, Quality Assurance, Health & Safety and Leadership Development systems and programs. He has no formal education but claims to have graduated from the 'University of Hard Knocks' with honours. Royce has spent many hours studying the requirements for successful business management, is an avid reader and is often sought to speak on the subject. Royce says, "The most valuable lesson my Mother and Father taught me was the need to work hard for what you want. The most valuable lesson that life has taught me is the need to be honest with yourself and the people you deal with." Fairbrother has been built on these principles.

After leading the company as Managing Director for 30 years, in 2003 Royce embraced a new challenge as company Chairman. As Fairbrother has grown and expanded, in this role Royce is now responsible for providing leadership, strategic direction and vision for the entire Fairbrother Group of companies, which includes Fairbrother Construction & Joinery, Fairbrother Developments, Fairbrother Facilities Maintenance & Management, Tasmania's leading mechanical services and refrigeration company Degree C, and Fairbrother's regional Victorian based construction arm Morey & Hurford.

In 2008, Royce received National recognition for his long-standing commitment to Australian apprentices when he became the inaugural winner of the Minister's Award for Commitment to Australian Apprentices.

Royce has provided support and career opportunities for hundreds of apprentices and continues to advocate tirelessly for their key role in the industry and our nation's futures.

Outside the office Royce is an avid sports person with a strong personal focus on health and wellbeing.

Having represented Australia four times at the Triathlon World Championships, Royce has also ridden a number of the mountain passes that feature in the Tour de France and can be regularly found cycling through Tasmania's picturesque countryside. As Chairman of the Premier's Physical Activity Council, he is a leading advocate for healthy lifestyles with a particular focus on workplace health and wellbeing programs.

He is also a strong supporter of the National Heart Foundation and the Cancer Council Tasmania.

Royce also has a strong and vocal passion for his community and the youth of Tasmania. Seeing a need to address issues such as suicide prevention, depression and mental illness in the Tasmanian construction industry and in particular amongst apprentices, Royce worked tirelessly to bring the OzHelp Foundation to Tasmania. OzHelp, of which Royce is now Tasmanian Chairman, addresses these critical issues via a range of training programs and support services. Royce's passion for his home region is evident in his work as a Director on the Cradle Coast Authority Board, and he is working to improve the schools system as Chair of the Tasmanian North West Schools Improvement Board. Together with wife Thea, Royce is further giving back to his home State via the Fairbrother Foundation, a not for profit organisation the couple have established to provide charitable assistance and support to targeted worthy causes and recipients.

Royce was also the 2006 Gold Medal Award Winner as the Tasmanian Director of the Year awarded by the Tasmanian Division of the Australian Institute of Company Directors. The award is presented to a person acknowledged as having contributed service to the community in a number of spheres – including business, charitable works and employment creation. It's awarded to a person who upholds high ethical standards in their personal and public life. The award is made in recognition of outstanding effort as a company director and citizen of Tasmania.

### **Ms Philippa Hartney**

*Manager, Loddon Mallee Integrated Cancer Service, Bendigo Health*

Philippa is currently the Strategic Manager for the Loddon Mallee Integrated Cancer Service in Victoria. She is a registered nurse with a Certificate of Management (Nursing), Master of Health Sciences and Diploma of Teaching (Nursing). She is currently a PhD candidate at the School of Public Health, Flinders University. Philippa is a committee member of the Victorian Integrated Cancer Service Network Group, the Victorian Statewide Supportive Care Project Steering Committee, the Loddon Mallee Cancer Care Coordination Committee and is on the BioGrid Australia Board of Management. Her previous positions have included Program Manager for Bendigo Regional

BreastScreen, State Coordinator of the rural mobile screening service for BreastScreen Victoria, Program Manager for Loddon Mallee Breast Services Enhancement Project and accreditation surveyor for BreastScreen Australia.

**Ms Josephine Smylie**

*Manager, Radiation Therapy, Gippsland Cancer Care Centre, William Buckland Radiotherapy Centre, Latrobe Regional Hospital*

Jo has been involved in health care services for over 40 years in the specialty of Radiation Oncology. Her career has included both clinical and senior management positions at three major Australian public hospitals. Her management experience in Radiation Oncology includes:

- Chief Radiation Therapist/ Business Manager, Royal Adelaide Hospital
- Chief Radiation Therapist/ Budget Manager, William Buckland Radiotherapy Centre, the Alfred
- Director Radiation Therapy Services, Peter MacCallum Cancer Institute
- Radiation Therapy Manager, William Buckland Radiotherapy Gippsland, Latrobe Regional Hospital.

Her experience spans all aspects of operational service management and various levels of policy and decision-making in health care management. Her appointments at Peter MacCallum Cancer Institute and the Alfred involved development of satellite services, including the start-up of two single machine unit sites at Bendigo and Latrobe Regional Hospital respectively. Currently she is the operational manager for a single machine unit site in Gippsland and is intimately aware of the issues concerning the development of regional services.

Additionally she has made substantial contributions to national and state reviews/committees concerning the development of radiation oncology services, cancer services, cancer research, funding models, quality assurance modelling and equipment evaluation. Her level of contribution has varied from executive appointments, committee representation and the provision of expert opinion to the Department of Health and Ageing enquiry into Radiation Oncology which resulted in the publication of the Baume report in 2002.

She has been engaged as a private consultant by hospital administrations to review and to comment on the development, structure and staffing of Radiation Oncology services, including a review of cancer services in Papua New Guinea.

She has a long standing professional relationship with the Australian Institute of Radiography (AIR) culminating in an appointment to the Board of Directors (2000 to 2006) and serving as the President in 2003/04.

She brings a set of broad-based skills at the organisational, economic, strategic planning and service development levels. Her career has been dedicated to quality patient care delivered by a professional multidisciplinary team.

**Dr Stephen Vaughan**

*Director, Grampians Integrated Cancer Services (GICS)*

Stephen Vaughan conducts a part-time practice as a Locum Consultant Physician in Haematology / Medical Oncology in various public and private clinics throughout Victoria, New South Wales and Tasmania. He has also worked as a consultant to the Health Insurance Commission on high-cost drugs and for the Department of Health & Human Services on Pathology accreditation.

Stephen was Chairman of Geelong Water Authority (Barwon Water) for eight years and a Board Director of the Peter MacCallum Cancer Institute for six years.

He is Chairman of Cell Therapies Pty Ltd, a biotechnology company manufacturing cancer vaccines and was a Board Director of City West Water, a water supply company that services the CBD and West Melbourne from 2005 to 2008.

Currently he is a part-time Director of the Grampians Integrated Cancer Service (GICS), which is part of the Victorian Government's "Fighting Cancer" initiative. [www.health.vic.gov.au/cancer/index.htm](http://www.health.vic.gov.au/cancer/index.htm)

He also works as an expert witness in the areas of cancer, blood diseases and transfusion medicine.

Professional qualifications include a Bachelor of Medicine, Bachelor of Surgery from the University of Melbourne, Fellowship of the Royal Australian College of Physicians (FRACP), Fellowship of the Royal College of Pathologists Australia (FRCPA), Member of the Royal Australian College of Medical Administrators (MRACMA) and Fellow of the Australian Institute of Company Directors (FAICD).

Current associations include the Haemophilia Society, Thalassaemia Society, Haematology Society of Australia, Clinical Oncology Society of Australia (COSA), Member of Medical Oncology Group of Australia (MOGA).

## APPENDIX III: STAKEHOLDERS CONSULTED

Group	Representative(s)
Local specialist oncology health professionals	Anne Wilks (oncology nurse, Mersey) Pauline Denton (oncology nurse, NWRH)
Local nursing/allied health professionals	Sharon Murcott (Cancer Care Nurse, NWRH)
North West Regional Health	Mr James Roberts-Thomson (Surgeon, Mersey) Denise Parry (General Manager, NWRH) Anne Cabalzar (Director, Quality, Mersey) Dr Trevor Leese (Surgeon, NWRH) Suzette Seaton (Manager Pharmacy, NWAHS)
North West Regional Health and Rural clinical school	Prof Michael Buist (Director Medicine, NWRH) Bert Shugg (Director, Paediatrics, NWRH)
Consumers of oncology services	Via Cancer Council Tasmania/Cancer Voices Tasmania – Rosalie Stevens organising group (1 x driver and 4 x patients – transport2treatment)
General practitioners	Keith MacArthur (GP NW Liaison Officer)
Other specialist oncology health professionals (Hobart)	<b><u>Holman Clinic RHH</u></b> Rosie Harrup Barbara Shields Bronwyn Hilder Michael Young John Ward John Daubenton
Other specialist oncology health professionals (Launceston)	<b><u>Holman Clinic LGH</u></b> Helen Tubb Dr Stan Gauden Dr Mike Beamish Dr David Woods Dr Mark Bell Grant Smith John Bertram John Kirwan Dr Kim Rooney
Other specialist oncology health professionals (Melbourne)	Professor Chris Hamilton (Austin Hospital) A/Professor Jeremy Millar (Alfred Hospital) Dr Michael Guiney (Radiation Oncology Victoria) Professor Gillian Duschene (Peter MacCallum Cancer Centre)

## APPENDIX IV: SUMMARY OF LITERATURE REVIEW

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### CAPACITY AND UTILISATION

#### Numbers

- A single linac site is likely to have capacity to treat 400 patients per year.<sup>22</sup>
- The National SMU Radiotherapy Trial reported lower than benchmark activity levels (400-450 courses per linac per annum) of the SMUs after 2 years in operation. This was due to staffing shortages and the 'bedding-in' time required for the new linacs. Referral patterns and appropriate staffing of the services are unlikely to have been optimised at the SMUs in the first year of operations.
- The SMUs improved radiotherapy utilisation in regional areas, however all areas of Victoria were still found to be below utilisation rates recommended by Baume and the optimal rates for the Australian population calculated by Delaney.<sup>25</sup>

#### What services can/cannot be delivered

- To minimise any risk of poorer outcomes for regional patients, SMUs should initially focus on the treatment of sentinel cancers using common protocols. More complex treatment should be considered where there is available expertise and capacity, and demand for these treatments to be undertaken.<sup>25</sup>
- A major role for linked units is likely to be in the treatment of fit adults with common solid tumours and a low risk of acute side-effects.<sup>28</sup>
- The following tumour groups are potentially suitable for treatment in a SMU:
  - metastatic disease (with the provisos QA standards being particularly important)
  - breast cancer (post mastectomy and post conservation surgery)
  - prostate cancer (radical external beam local therapy)
  - lung cancer (local palliation, radical external beam therapy)
  - bladder cancer (radical external beam therapy)
  - lymphoma (palliative treatment)
  - gynaecological tumours (pelvic external beam therapy)
  - colorectal cancer (pre-operative pelvic therapy, post-operative pelvic therapy)
  - oesophageal cancer (palliative external beam therapy)
  - skin cancer.<sup>28</sup>

#### Potential for growth

- The speed of growth of a SMU reflects the capacity for new radiation oncology services to capture unmet demand and provide a local focus for regional cancer referrals. SMU sites in the SMU Trial all experienced significant growth after an initial settling in period. The speed of growth in SMU sites was faster than predicted by examining population demographics and growth.<sup>22</sup>
- A key constraint to growth noted at one site in the SMU Trial was a limitation in medical oncology, resulting in a number of patients bypassing the local service to receive their

chemotherapy/radiotherapy care in Melbourne. Conversely, available treatment complexity at another site increased upon a new specialist surgeon commencing in the region, in part attracted by the access to local radiation oncology services for his patients.<sup>22</sup>

- The centres will only meet their potential if the other part of the equation – patient travel and accommodation assistance – is markedly improved.<sup>26</sup>
- Technological advances in treatment are improving the success rate of radiation therapy and expanding number of cancer cases for which radiation therapy can be beneficial.<sup>29</sup>

## **DESIGN AND PLANNING**

### **General design considerations**

- A regional radiation oncology service should, as a minimum, be patient-focused, multidisciplinary and pro-active in developing relationships with local and sub-regional health service providers.<sup>22</sup>
- Peter MacCallum experience: design trends to improve patient experience. Good design needs to take account of comfort, peace and a caring non-clinical atmosphere (for patients and staff), as well as safety and functionality. This includes providing spaces and support for carers while the patient is having treatment.<sup>30</sup>
- The environment should foster hope, and make people feel like they're in a community setting, not a hospital.<sup>30</sup>
- Patient/carer accommodation should be provided as part of the development of regional radiotherapy services, with capacity to meet estimated demand increases.<sup>25</sup>
- The specific model of care for a particular regional radiation oncology service will differ depending on the available local health resources and facilities that patients and clinicians can access, local patient preferences, historical referral pathways, the expertise of and support available for regional radiation oncology staff.<sup>22</sup>
- In NSW, in accordance with the RT Strategic Plan to 2016, all cancer centres are being built with a minimum physical infrastructure for two bunkers, providing capacity for two linacs over time as needed. All bunkers are designed to accommodate high energy / high dose rate machines and IMRT.<sup>29</sup>
- Site capacity for and timing of expansion from one to two bunkers/linacs should be considered as part of the initial planning and design stages. This serves to future proof services for growth into the medium term, as well as reducing disruption from machine replacement at the end of a machine's useful life.<sup>22</sup>
- The access route for installation or replacement of equipment needs to be planned and consideration given to width of doors, corridors, ceiling height and weight of machine.<sup>29</sup>
- Consider accommodation needs for fly-in fly-out staff, as well as patients.<sup>30</sup>

### **Integration with other services**

- Ideally, radiation oncology treatment centres should be built within a cancer centre precinct.<sup>30</sup>
- To ensure quality and workforce issues can be adequately addressed, SMUs should be established and operated by a larger partner service.<sup>25</sup> Benefits include access to a broad range of tumour-site specialist expertise in radiation oncology. Specialists can provide outreach advice and treatment protocols, and can take over the care of complex cases. Access is

provided to a broader body of physics expertise for the resolution of difficult or unusual physics problems, and in cross-checking for quality assurance.<sup>1</sup>

- There is strong support for networked models of care. The establishment of SMU services in a networked arrangement (sometimes called a ‘hub and spoke’ arrangement in past literature) overcomes or reduces potential problems with maintaining an appropriate quality of service and supporting service continuity and viability. The SMU trial involved different ‘hub’ sizes and ‘spoke’ construction and operations, and found that different models can be used to address local needs and to integrate with existing infrastructure.<sup>22</sup>
- Networked arrangements should be put in place to facilitate referral of patients to the larger partner when waiting lists increase at the smaller site.<sup>25</sup>
- The distance between network partners may limit the ability of SMUs to be effectively operated, serviced and maintained with integration from a hub centre. Within Victoria, no smaller partner was more than 2.5 hours by road from the larger partner, enabling travel within a single day between sites, and facilitating back-up from metropolitan areas as required.<sup>25</sup>
- A number of local factors are likely to affect the success of an SMU. These include the availability of services and activities such as medical oncology, emergency support, physics and engineering and continuing medical education for medical and nonmedical staff. The absence of these services/opportunities could potentially degrade a remote unit’s operations.<sup>25</sup>
- In the SMU Trial, all the hospitals/towns in which SMUs were located already provided significant cancer services (chemotherapy/surgery), and had access to a broad range of other hospital services (24 hour emergency, on-call anaesthetists, ICU).<sup>25</sup>
- Medical, surgical, nursing, allied-health, psychosocial support and diagnostic service staff are likely to face an increased workload as a result of the establishment of a new radiation-oncology service.<sup>1</sup>
- Radiation oncologists also tend to sub-specialise so that even ‘non-complex’ work may require support from or referral to another site to ensure the patient is treated adequately.<sup>22</sup>

### **Future proofing**

- SMU services should be established with (at least) two bunkers to allow for service expansion over time, or capacity to ensure that expansion can occur.<sup>1,25</sup>
- The design of a radiation-oncology unit should allow for expansion over time, as the caseload increases. For example, the unit should be situated in an area where an additional adjacent bunker could be built if needed. This is an essential part of long-term planning.<sup>1</sup>

## **RESOURCES AND REQUIREMENTS**

### **Infrastructure**

- Ideally, equipment within the larger partner site should be compatible with at least some of the equipment at the smaller site.<sup>1</sup> Having matched linacs at both sites means staff are familiar with the equipment, and that plans created for a linac in the larger unit will be valid for smaller units, which is useful if patients have to be transferred in the event of breakdown.<sup>28</sup>
- Age of equipment has an inverse relationship to radiotherapy efficiency. Older equipment is more likely to be out of operation for longer periods due to repairs and maintenance, while brand new equipment may take time to ‘optimise’.<sup>25</sup>

- All megavoltage accelerators require planned ‘down time’ for quality assurance and maintenance. Unplanned ‘down time’ is approximately 1% per year; if a major breakdown were to occur, patient outcomes could be adversely affected,<sup>31</sup> and respected guidelines for radiotherapy units with linacs recommend that there should be ready access to a minimum of two fully-staffed machines<sup>28</sup> or access to a second linac in the case of a SMU.<sup>1</sup>
- For the ideal staffing mix to function effectively and for the centre to meet current and future needs, a range of services and infrastructure would need to be in place, including: efficient referral pathways (e.g. to ensure patients with complex cancers requiring highly specialised care are promptly referred to, and monitored through, larger centres); and strengthened links with primary care in the region and with tertiary care in large centres.<sup>26</sup>
- Efficient data-sharing capacity must be built into the networking of centres, to improve referral pathways and ensure capacity to manage single electronic health identifier (as government e-health agenda progresses).<sup>26</sup>
- Facilities such as telemedicine must be available to support outer remote services and to allow linkage to metropolitan centres.<sup>26,30</sup>

## Staff

- It is important to recruit key staff at the earliest possible time to ensure their expert involvement in establishing the service.<sup>22</sup>
- Consideration should be given to appropriate skill mix and level of seniority and expertise required, particularly given that staff may be operating without immediate peer support.<sup>29</sup>
- A valuable selection criterion for radiation oncologists would be a willingness to assist with the general oncology workload, and to undertake the management of uncomplicated medical-oncology patients.<sup>1</sup>
- Medical physicists are in demand throughout Australia and overseas, and some Victorian services experienced difficulty in filling new or replacement positions.<sup>32</sup> Recruitment of appropriately qualified radiation oncology medical physicists (ROMPs) has also been a challenge in the commissioning of the second linac at Coffs Harbour, NSW. This problem reflects the high vacancy rates for ROMPs Australia wide and internationally.<sup>22</sup>
- Work environments alone do not encourage retention. Staff retention can be improved through access to mentoring, inclusion in multi-disciplinary care, opportunities for teaching and research, as well as linkages with tertiary centres.<sup>25,29</sup>
- In the SMU trial, staff reported being happy to be working in smaller, team-oriented and less bureaucratic environments than the hubs.<sup>25</sup>

## Costs

- The SMU Trial reported that capital items constituted greater than 85% of total equipment costs: linacs, multi-leaf collimators (MLCs), CT scanners / simulators, simulation systems, treatment planning systems (for dosimetry), verification systems; staffing costs accounted for approximately 60% of recurrent costs for SMUs.<sup>25</sup>
- Linacs become outdated after 10 years (although Commonwealth HPG will pay for a replacement after this period of time). Radiotherapy is subject to rapid development of new technologies, many of which have significant capital cost implications.<sup>32</sup>
- When assessing the costs and benefits of a new regional service, consideration should be given to the reduction in financial burden on rural and regional patients and their carers. Financial

costs to these people include those related to travel, accommodation, and loss of earnings. These costs were found to be considerable in the SMU Trial (\$400,000+ per annum per site).<sup>22</sup>

- Referral patterns and appropriate staffing are unlikely to be optimised in the first year of operation. There is a certain amount of downtime in the first year of establishing new equipment. Cost efficiencies are related to caseload mix of sentinel or more complex cancers. Three to five years is therefore a reasonable period for a new SMU service to become operationally viable.
- There is a need to consider the impact on surgery and medical oncology providers as the establishment of radiation oncology services has been shown to increase the volume of all cancer care in that region. Costs may include theatre time, extra facilities and workforce, chemotherapy chairs, beds, ward space and time, and workforce.

### **Quality assurance**

- The outcomes of the quality evaluation support the networked as successful in providing for a radiotherapy service at the SMUs that met, or in some cases exceeded, the quality of the larger site.<sup>22</sup>
- The connotation that ‘hub and spoke’ reflects an inferior distant service should be avoided; shared ownership of the service and responsibility for its outcomes, irrespective of locations, were the keys, and these needed to be embedded into the system.<sup>26</sup>
- To ensure quality and workforce issues can be adequately addressed, protocols applying at the larger partner site should be utilised at the smaller site, and an oversighting committee with membership of from both sites should regularly meet to discuss performance and activity at the SMU.<sup>25</sup>
- Quality service delivery is dependent on a range of factors, many of which are specific to the locality, and its proximity and relationships with other service providers.<sup>22</sup>

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WITS No.: 62819

The Chair  
Health and Hospitals Fund Advisory Board  
Department of Health and Ageing  
Bowes Street  
**WODEN ACT 2606**

Dear Sir/Madam

**Subject: Single Machine Radiotherapy Clinical Expert Panel Advice**

As previously advised, the Tasmanian Government strongly supports the provision of funding for radiation therapy services to the North West Area Health Service (NWAHS) as part of the Health and Hospitals Fund (HHF) Regional Cancer Centre funding program. A condition of the Australian Government's commitment to consider our funding application was that advice be sought from a Clinical Expert Panel (CEP) regarding when radiotherapy services can safely and sustainably be provided in the North West.

Please find attached for your information a copy of the recently completed report from the Single Machine Radiotherapy Unit Clinical Expert Panel (CEP) appointed by me to review the safe and sustainable provision of radiotherapy services for people affected by cancer in North West Tasmania.

This report underpins our strong supplementary application submitted to the HHF in October 2010, affirms our view and provides well informed advice in support of our application.

I look forward to the positive consideration by the HHF of this report and anticipate a favourable response.

Yours sincerely

A handwritten signature in blue ink, appearing to read "Michelle O'Byrne".

Michelle O'Byrne MP  
**Minister for Health**

Enc North West Radiotherapy Clinical Expert Panel Advice for the Minister for Health



**THE HON NICOLA ROXON MP  
MINISTER FOR HEALTH AND AGEING**

The Hon Michelle O'Byrne MP  
Minister for Health  
Minister for Tourism  
Level 10  
State Offices  
10 Murray Street  
HOBART TAS 7000

Dear Minister

I am writing to propose the enclosed Implementation Plan for the Tasmanian Regional Cancer Centre project.

Funding for this project is being provided from the Health and Hospitals Fund (HHF) which supports strategic investments in health infrastructure as part of the Commonwealth Government's reform agenda to equip Australia's health and hospital system for the future.

Upon your acceptance, this Implementation Plan will become part of the National Partnership Agreement on Health Infrastructure and funding will proceed in line with the processes established between the Commonwealth and the Tasmanian Government under the new Framework on Federal Financial Relations.

The Implementation Plan commits the Commonwealth to provide \$18.7 million to support the Tasmanian Regional Cancer Centre project. It has been developed in line with the project proposal received from the Tasmanian Government for funding under the HHF; and has been structured to focus on the achievement of outcomes with payments to the Tasmanian Government being assessed against specified construction milestones. The Implementation Plan outlines:

- the activities to be undertaken using Commonwealth funds;
- the roles and responsibilities of the Commonwealth and Tasmanian Governments; and
- reporting requirements.

The Implementation Plan does not, at this stage, include details of the North West Regional Hospital component of the cancer centre project. These details will be included through a variation to the Implementation Plan following the completion of the HHF Advisory Board's assessment of the Tasmanian Government's supplementary application for funding for radiation oncology facilities at the Hospital, and the Commonwealth's consideration of the Board's advice.

My Department and the HHF Advisory Board are currently considering ways in which to strengthen the monitoring of HHF projects. Two important elements of this work, regular (at least quarterly) progress reports and third party certification of construction milestones, have already been agreed with your Department for this project and have been included in the

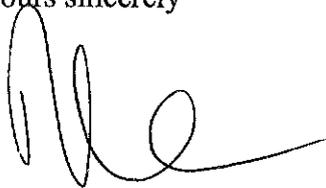
Implementation Plan. My Department will be writing in the near future to all recipients of HHF funds with further details of the new requirements.

I now propose the Implementation Plan for the Tasmanian Regional Cancer Centre project on behalf of the Commonwealth for your formal agreement. In line with the normal requirements of the Framework on Federal Financial Relations, copies of the Implementation Plan will be published on the relevant Commonwealth website.

I look forward to working with you to ensure the successful completion of this important infrastructure project.

If you have any questions on these matters, please contact Ms Sue Campion, Assistant Secretary, Portfolio Strategies Division on (02) 6289 7220 or via email to [hhf@health.gov.au](mailto:hhf@health.gov.au)

Yours sincerely

A handwritten signature in black ink, appearing to be 'Nicola Roxon', written in a cursive style.

**NICOLA ROXON**

Encl

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Minister for Children  
Minister for Sport and Recreation  
Leader of Government Business

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WITS No.: 63066

The Hon Nicola Roxon MP  
Minister for Health and Ageing  
Parliament House  
**CANBERRA ACT 2600**



19 AUG 2011

Dear Minister *Nicola*

Thank you for your correspondence of the 8 July 2011 regarding the Implementation Plan (IP) for the Tasmanian Cancer Care Project.

I am pleased to formally agree to the IP.

I understand that the IP will be revised to account for the outcome of Tasmania's supplementary Health and Hospitals Funding Application for cancer infrastructure in the North-West, and that this should be determined shortly.

I would be happy to show you progress with construction of the project at an appropriate time and look forward to working with you to ensure the successful completion of this important project.

Should you have any queries regarding this matter, please contact Julie Crowe on (03) 6233 8082 or email [julie.crowe@dhhs.tas.gov.au](mailto:julie.crowe@dhhs.tas.gov.au)

Yours sincerely

Michelle O'Byrne MP  
**Minister for Health**

Enc: Implementation Plan

Prepared by	Jane McKercher	Project Officer, Government Relations, Policy Information and Commissioning	6233 3541	25 July 2011
Through	Julie Crowe	Manager, Government Relations, Policy, Information and Commissioning	6233 8082	25 July 2011
Through	David Nicholson	Director, Policy and Intergovernmental Relations	6233 2483	25 July 2011
Cleared by	Alice Burchill	Secretary	6233 3530	29 July 2011



The Hon Tanya Plibersek MP  
Minister for Health

The Hon Michelle O'Byrne MP  
Minister for Health  
Minister for Children  
Minister for Sport and Recreation  
GPO Box 1470  
HOBART TAS 7001

MIN45572



Dept.....

**ACTION REQUIRED**

- Ack. for Min/SPS
- Prepared Reply for Minister's Signature
- Email Response
- Draft Reply
- Prepared Reply for SPS's Signature
- Direct Reply
- Briefing Note
- Appropriate Action
- For Information

Dear Minister

Thank you for your response of 8 November 2011 to the letter from the then Minister for Health and Ageing, the Hon Nicola Roxon MP, of 29 September 2011 regarding the Australian Government's 2010 election commitment to provide a further \$16.5 million from the Health and Hospitals Fund for the North West Regional Cancer Centre in Burnie.

With respect to this matter and the two assurances Minister Roxon sought in the letter of 29 September 2011, I welcome your advice that key stakeholders, including the Tasmanian Department of Health and Human Services, the Northern Area Health Service and the North West Area Health Service, have all endorsed the proposal to network an expansion of the Burnie radiotherapy service with the existing Launceston service.

You would recall in Minister Roxon's letter that she also raised the issue that the June 2011 report of the Northwest Radiotherapy Clinical Expert Panel identified the importance of an adequate and sustainable oncology workforce and resources to link services at both sites (p5).

I note that the Clinical Expert Panel was quite clear that workforce and resourcing issues were directly linked to the safety of the service and relevantly stated:

*...it is appropriate to develop a local radiotherapy service in the North West of Tasmania when funds are available to support the infrastructure and workforce required to ensure safety, quality and sustainability. (p5)*

The Panel's report explored these two fundamentally important issues in some depth, for example, Sustainability and work practice at page 34 and Optimal Configuration of a Regional Radiotherapy Service at pages 34 to 36.

Given the Panel's conclusions and in context of wider budgetary considerations, I would appreciate more detailed advice about your proposals for addressing the workforce and resourcing issues identified by the Northwest Radiotherapy Clinical Expert Panel.

Considered evidence of workforce planning and modelling around the adequacy and sustainability of the workforce for the site, and confirmation that resources are available to link services at both sites, is necessary in order for me to bring the proposal forward for consideration by the Australian Government.

I look forward to your early response.

Yours sincerely

A handwritten signature in black ink, reading "Tanya Plibersek". The signature is written in a cursive, flowing style.

**Tanya Plibersek**

17.4.12



MIN 54814.

**The Hon Tanya Plibersek MP  
Minister for Health**

The Hon Michelle O'Byrne MP  
Minister for Health  
GPO Box 1470  
HOBART TASMANIA 7001



Dept.....  
**ACTION REQUIRED**

- Ack. for Min/SPS
- Prepared Reply for Minister's Signature
- Email Response
- Draft Reply
- Prepared Reply for SPS's Signature
- Direct Reply
- Briefing Note
- Appropriate Action
- For Information

Dear Minister

Thank you for your letter of 16 May 2012 about the Australian Government's \$16.5 million 2010 election commitment to expand radiotherapy services in Burnie.

I was pleased to hear that a draft model of care for the networked Cancer Centre in the North West is being developed. I also noted, and agreed with your position that the lead time for the development of the new infrastructure in Burnie would allow for the considered development of the requisite workforce planning and modelling.

I hope that the \$53.9 million measure aimed at building the capability of Tasmania's medical workforce that I announced on 15 June 2012 will put Tasmania in a strong position to develop and finalise the workforce planning for the Burnie radiotherapy services project.

On the basis of the assurances you have provided and the clear commitment of the Tasmanian Government to this project I am pleased to approve the *Expanding Radiotherapy Services in Burnie* election commitment at the originally announced value of \$16.5 million.

I propose integrating the funding for this project into the existing Implementation Plan for the *Tasmanian Cancer Care Project (TCCP)*, including a workforce planning milestone. I will ask officers from my Department to ensure this happens with a minimum of further delay.

I would also like to take this opportunity to remind you of the requirements under Clause 15 of the TCCP Implementation Plan – a clause that is intended to ensure that the roles of the Commonwealth and Tasmania are acknowledged and recognised appropriately. Clause 15 is also intended to facilitate prior agreement on the nature and content of any events, announcements, publicity and promotional material including signage, hoarding and plaques.

The Australian Government's commitment of \$16.5 million to Burnie cancer infrastructure is a significant investment. In closing, I trust that, at the completion of the construction an adequate and sustainable workforce is ready to deliver the community health outcomes envisaged in Tasmania's bid of late 2010.

Once again, thank you for writing.

Yours sincerely



**Tanya Plibersek**

29.6.12



MIN34336

**THE HON NICOLA ROXON MP  
MINISTER FOR HEALTH AND AGEING**

Dept.....

**ACTION REQUIRED**

- Ack. for Min/SPS
- Prepared Reply for Minister's Signature
- Email Response
- Draft Reply
- Prepared Reply for SPS's Signature
- Direct Reply
- Briefing Note
- Appropriate Action:
- For Information



The Hon Michelle O'Byrne MP  
Minister for Health  
Minister for Children  
Minister for Sport and Recreation  
Level 10  
State Offices  
10 Murray Street  
HOBART TAS 7000

Dear Minister *Michelle*

I am writing to you about the application lodged by the Tasmanian Government on 30 September 2010 in response to the Australian Government's election commitment to provide up to \$16.5 million under the Health and Hospitals Fund (HHF) for cancer infrastructure at the North West Regional Cancer Centre in Burnie.

At its most recent meeting, the HHF Advisory Board (the Board) considered the report of the North West Radiotherapy Clinical Expert Panel, as provided to the Tasmanian Government. In particular, the following key findings were discussed:

- To minimise the risks of safety and sustainability, the existing Launceston radiotherapy department and the proposed Burnie radiotherapy department should be run as a single administrative entity (p5); and
- ...the importance of an adequate and sustainable oncology workforce and resources to link services at both sites (p5).

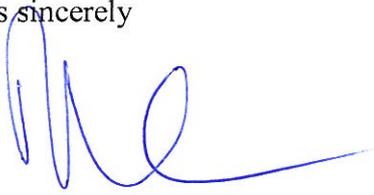
In line with the Board's legislated role to advise me on HHF applications and whether applications submitted under the HHF Regional Cancer Centre (RCC) initiative meet the HHF evaluation criteria and RCC Guiding Principles, the Board recommended that I should seek assurances from the Tasmanian Government about its capacity to ensure that:

- any service provided in the North West is delivered as part of an integrated service with the radiotherapy department in Launceston; and
- there is an adequate and sustainable workforce for the Burnie site.

Accordingly, I invite you to provide me with information about how the Tasmanian Government intends to address both of these issues at your earliest convenience.

I then look forward to finalising the funding agreement for this important project to allow construction to commence at the earliest opportunity.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Nicola', with a long horizontal flourish extending to the right.

**NICOLA ROXON**

29 SEP 2011

Minister for Health  
Minister for Children  
Minister for Sport and Recreation  
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WITS No.: 64835

- 8 NOV 2011

Hon Nicola Roxon MP  
Minister for Health and Ageing  
Parliament House  
**CANBERRA ACT 2600**

Dear Minister

Thank you for your correspondence of 29 September 2011, seeking assurance regarding elements of the Tasmanian Government's Health and Hospitals Fund (HHF) application for cancer infrastructure at the North West Regional Cancer Centre in Burnie.

The Tasmanian Government has prepared comprehensive HHF applications in response to the Australian Government's commitment to fund regional cancer centres around Australia (Budget Commitment, 7 April 2010), including the north west of Tasmania (Election Commitment, 12 August 2010). These applications for the Tasmanian Cancer Care Project have been completed and submitted in good faith, and in accordance with the stringent criteria used to assess applications by the HHF Advisory Board.

The projects submitted to the HHF will enhance the delivery of cancer care services across Tasmania. The projects will promote an integrated approach to a statewide problem, incorporating a whole-of-state public and private partnership initiative coordinating and linking Tasmania's three regions as well as other key stakeholders, including the Menzies Research Institute.

While I appreciate the commitment the Australian Government has made to the Tasmanian Cancer Care Project, the funds provided fall short of what has been requested. For example:

- for the Tasmanian Cancer Care Project, \$48.61 million was requested; however, \$18.7 million was provided; and
- for the Tasmanian Cancer Care Project Supplementary bid, \$20.65 million was requested; however, we are likely to receive \$16.5 million.

At each step, Tasmania has clearly articulated the costs associated with delivering improved cancer care services. The Australian Government has funded discrete elements of the Tasmanian Cancer Care Project which will make the delivery of a comprehensive, integrated statewide service more challenging, noting the significant stress our budget is already under.

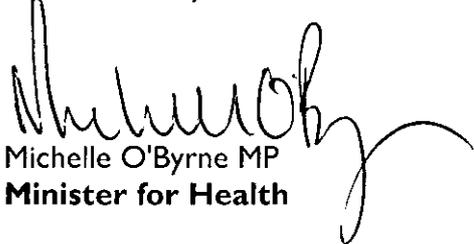
In response to your question about ensuring that any service provided in the North West is delivered as part of an integrated service with the radiotherapy department in Launceston, I note that key stakeholders, including the Tasmanian Department of Health and Human Services (the Agency), the Northern Area Health Service and North West Area Health Service have endorsed the Clinical Expert Panel's recommendation that the proposed radiotherapy service for the North West be located in Burnie and networked with the established radiotherapy service in Launceston.

In response to your second concern regarding the Tasmanian Government's capacity to ensure that there is an adequate and sustainable workforce for the Burnie site, the Tasmanian Government recognises the challenges ahead in providing an adequate and sustainable workforce for the Burnie site in the specialist disciplines of radiation physicists, radiation oncologists and radiation therapists. The four year lead time for the anticipated commencement of clinical services in Burnie in 2015-2016 will allow for the development of a recruitment and retention strategy to address the specialist workforce required to support an integrated service model between the Launceston and Burnie sites.

I propose that our officials continue to discuss any matters that remain outstanding, with the aim to finalising this protracted HHF application process as soon as possible.

I look forward, as I am sure you do, to the resolution of this matter and confirmation for the residents of the north west of Tasmania of the funding that will provide radiation oncology services in their community.

Yours sincerely



Michelle O'Byrne MP  
**Minister for Health**

Minister for Health  
Minister for Children  
Minister for Sport and Recreation  
Leader of Government Business

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WITS No.: 64835

The Hon Tanya Plibersek MP  
Minister for Health  
Parliament House  
**CANBERRA ACT 2600**

Dear Minister *Tanya*

Thank you for your correspondence of 17 April 2012 regarding the Australian Government's 2010 election commitment to provide a further \$16.5 million from the Health and Hospitals Fund for the North West Regional Cancer Centre in Burnie.

I am pleased to advise that the Chief Executive Officers (CEOs) of the Northern Area Health Service and the North West Area Health Service are meeting regularly and collaborating to finalise the service level agreement for the North West Regional Cancer Centre (the Cancer Centre). As previously advised to Minister Roxon, both CEOs are in agreement on the Cancer Centre services being networked as part of a single administrative entity with the radiotherapy department being located in Launceston. The CEO of the Northern Area Health Service is currently reviewing a draft model of care proposed by the CEO of the North West Area Health Service and costings for the agreement are being finalised.

In response to your concern about the adequacy and sustainability of the workforce for the Burnie site, as previously stated to Minister Roxon, the current three-year lead time for the anticipated commencement of the Cancer Centre in Burnie allows for the development of a recruitment and retention strategy to address the specialist workforce required, as outlined in the Independent Clinical Expert Panel Report. However, in the absence of a response to Tasmania's Health and Hospitals Fund application for the North West Regional Cancer Centre and within the current Tasmanian Government budget constraints, it is not feasible to dedicate the not inconsiderable resources needed to undertake the workforce planning and modelling exercise that this requires, prior to confirmation of the funding.

The Tasmanian Government lodged its application with the Health and Hospitals Fund on 30 September 2010 to satisfy the requirements for the corresponding Australian Government election commitment. I draw your attention to the considerable delays in progressing this matter and the impact this has had on the lead time for the establishment of the Cancer Centre and the planning required for the project. I also note in your correspondence of 17 April 2012 that you intend “to bring the proposal forward for consideration by the Australian Government”, and question why this is necessary, given the election commitment in August 2010 for the establishment of the North West Regional Cancer Centre and the protracted process to date.

I look forward to the prompt resolution of this matter and the finalisation of a funding agreement.

Yours sincerely



Michelle O'Byrne MP  
**Minister for Health**

16 MAY 2012

Minister for Health  
Minister for Children  
Minister for Sport and Recreation  
Leader of Government Business

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WITS No.: 64835

Hon Tanya Plibersek MP  
Minister for Health  
Parliament House  
**CANBERRA ACT 2600**

Dear Minister *Tanya*

Thank you for your correspondence of 29 June 2012 regarding the Australian Government's \$16.5 million election commitment to expand radiotherapy services in Burnie, Tasmania.

I am pleased that the project has now met the Health and Hospital Fund's criteria, enabling work to commence. I am assured that preparatory work has already commenced at the North West Regional Hospital, and I anticipate that work will progress expeditiously once the parameters of the project have been formally agreed.

I agree that it is sensible for the existing Implementation Plan for the Tasmanian Cancer Care Project to be revised to incorporate the project to be delivered under this funding. The Department of Health and Human Services (DHHS) will commence working with officers in your department to develop mutually agreed milestones for the medical workforce planning and modelling to support the Burnie radiography services project. This will include adding a workforce planning milestone to the Implementation Plan for the Tasmanian Cancer Care Project as soon as the details for this are agreed.

The DHHS will continue to keep the Australian Government advised of events, publicity and promotional opportunities as they arise. I have been advised that as signage is erected at the various sites, DHHS will ensure that this meets Australian Government requirements and will forward the relevant documentary evidence to officers in your department.

Thank you once again for this investment by the Australian Government in the Burnie cancer infrastructure.

Yours sincerely



Michelle O'Byrne MP  
**Minister for Health**

21 AUG 2012

Minister for Health  
Minister for Children  
Minister for Sport and Recreation  
Leader of Government Business

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WITS No.: 67967

Hon Tanya Plibersek MP  
Minister for Health  
Parliament House  
**CANBERRA ACT 2600**

Dear Minister *Tanya*

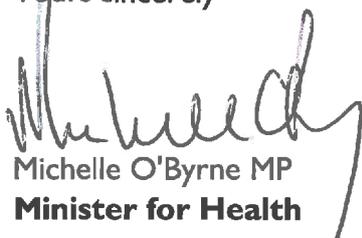
Thank you for the discussions we had in the North West of Tasmania regarding the Australian Government granting Medicare eligibility to the MRI to be installed in Burnie.

I have been encouraged by your willingness to give serious consideration to this matter. It is anticipated that the new cancer centre will create significantly increased demand for access to better diagnostic services that the MRI, once installed, will provide.

As has been the position of the private benefactor from the beginning, funding for the MRI is predicated on ensuring that the MRI is Medicare eligible, so as to enable all patients seeking diagnosis to have access to the facility.

I understand that the process for determining Medicare eligibility can be progressed by officers from our respective departments. I propose we seek to ensure this is instigated as soon as possible. The appropriate contact in my Department is Mr David Nicholson on (03) 6233 2483 or [david.nicholson@dhhs.tas.gov.au](mailto:david.nicholson@dhhs.tas.gov.au).

Yours sincerely

  
Michelle O'Byrne MP  
**Minister for Health**

29 MAR 2012



**THE HON NICOLA ROXON MP  
MINISTER FOR HEALTH AND AGEING**

**RECEIVED**  
11 JUL 2011  
Minister's Office

- Dept.....
- ACTION REQUIRED**
- Ack. for Min/SPS
  - Prepared Reply for Minister's Signature
  - Email Response
  - Draft Reply
  - Prepared Reply for SPS's Signature
  - Direct Reply
  - Briefing Note
  - Appropriate Action
  - For Information

The Hon Michelle O'Byrne MP  
Minister for Health  
Minister for Tourism  
Level 10  
State Offices  
10 Murray Street  
HOBART TAS 7000

Dear Minister 

I am writing to propose the enclosed Implementation Plan for the Tasmanian Regional Cancer Centre project.

Funding for this project is being provided from the Health and Hospitals Fund (HHF) which supports strategic investments in health infrastructure as part of the Commonwealth Government's reform agenda to equip Australia's health and hospital system for the future.

Upon your acceptance, this Implementation Plan will become part of the National Partnership Agreement on Health Infrastructure and funding will proceed in line with the processes established between the Commonwealth and the Tasmanian Government under the new Framework on Federal Financial Relations.

The Implementation Plan commits the Commonwealth to provide \$18.7 million to support the Tasmanian Regional Cancer Centre project. It has been developed in line with the project proposal received from the Tasmanian Government for funding under the HHF; and has been structured to focus on the achievement of outcomes with payments to the Tasmanian Government being assessed against specified construction milestones. The Implementation Plan outlines:

- the activities to be undertaken using Commonwealth funds;
- the roles and responsibilities of the Commonwealth and Tasmanian Governments; and
- reporting requirements.

The Implementation Plan does not, at this stage, include details of the North West Regional Hospital component of the cancer centre project. These details will be included through a variation to the Implementation Plan following the completion of the HHF Advisory Board's assessment of the Tasmanian Government's supplementary application for funding for radiation oncology facilities at the Hospital, and the Commonwealth's consideration of the Board's advice.

My Department and the HHF Advisory Board are currently considering ways in which to strengthen the monitoring of HHF projects. Two important elements of this work, regular (at least quarterly) progress reports and third party certification of construction milestones, have already been agreed with your Department for this project and have been included in the

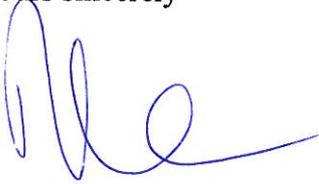
Implementation Plan. My Department will be writing in the near future to all recipients of HHF funds with further details of the new requirements.

I now propose the Implementation Plan for the Tasmanian Regional Cancer Centre project on behalf of the Commonwealth for your formal agreement. In line with the normal requirements of the Framework on Federal Financial Relations, copies of the Implementation Plan will be published on the relevant Commonwealth website.

I look forward to working with you to ensure the successful completion of this important infrastructure project.

If you have any questions on these matters, please contact Ms Sue Champion, Assistant Secretary, Portfolio Strategies Division on (02) 6289 7220 or via email to [hhf@health.gov.au](mailto:hhf@health.gov.au)

Yours sincerely



**NICOLA ROXON**

Encl

# Implementation Plan for Tasmanian Cancer Care Project

## NATIONAL PARTNERSHIP AGREEMENT ON HEALTH INFRASTRUCTURE

### PRELIMINARIES

1. This Implementation Plan is created subject to the provisions of the National Partnership Agreement on Health Infrastructure and should be read in conjunction with that Agreement. The objective in the National Partnership Agreement on Health Infrastructure is to improve the health and wellbeing of Australians through the provision of high quality physical and technological health infrastructure.
2. The funding for this project has been allocated from the Health and Hospitals Fund (HHF) under the Regional Cancer Centres (RCC) initiative. The RCC initiative aims to improve access to essential cancer services for as many people as possible living in rural, regional and remote areas, to help close the gap in cancer outcomes between the city and the country. The broader objectives of the HHF, while not replacing State and Territory effort, are to:
  - invest in major health infrastructure programs that will make significant progress towards achieving the Commonwealth's health reform targets; and
  - make strategic investments in the health system that will underpin major improvements in efficiency, access or outcomes of health care.
3. This whole-of-state public and private partnership project will coordinate and link Tasmania's three regions and three major public hospitals: the Southern Tasmania Area Health Service (Hobart), Northern Area Health Service (Launceston), and North Western Area Health Service (Burnie); as well as the Menzies Research Institute, Cancer Council Tasmania and other key stakeholders, as described in the Health and Hospitals Fund Regional Cancer Centres application dated 14 May 2010. Following new policy commitments relating to the development of the Cancer Centre at the North West Regional Hospital (NWRH) during the 2010 Federal Election, a supplementary application has been submitted in respect of the NWRH. This implementation plan addresses only the Launceston General Hospital and Royal Hobart Hospital developments. The elements of the application relating to the NWRH will be addressed in a variation to this Implementation Plan following the completion of the assessment of the supplementary application.
4. The project outputs outlined in this Implementation Plan have been assessed by the Health and Hospitals Fund Advisory Board. Consistent with the *Nation-building Funds Act 2008* any proposed variation from this project as assessed by the Advisory Board requires the reassessment of the Board. The Commonwealth funding contribution for the project is also subject to the re-assessment of the Advisory Board should proposed variations require the Board's consideration.

## TERMS OF THIS IMPLEMENTATION PLAN

5. This Implementation Plan will commence as soon as it is agreed between the Commonwealth of Australia, represented by the Minister for Health and Ageing, and the State of Tasmania, represented by the Minister for Health.
6. This Implementation Plan will cease on completion of the project as specified in this Implementation Plan, including the acceptance of final performance reporting and processing of final payments against performance milestones specified in this Implementation Plan.
7. This Implementation Plan may be varied by written agreement between the Ministers.
8. Either Party may terminate this agreement by providing 30 days notice in writing. Where this Implementation Plan is terminated, the Commonwealth's liability to make payments to Tasmania is limited to payments associated with performance milestones achieved by Tasmania by the date of effect of termination of this Implementation Plan.
9. The Parties to this Implementation Plan do not intend any of the provisions to be legally enforceable. However, that does not lessen the Parties' commitment to this Implementation Plan.

## PROJECT OBJECTIVE

10. The objective in this Implementation Plan is to establish state-wide, networked cancer services with cancer centres located at Hobart and Launceston (with Burnie to be covered through a subsequent variation to this Implementation Plan) by bringing together currently fragmented and disjointed treatment approaches enabling cancer care to be provided to patients closer to where they live.

## PROJECT OUTCOMES

11. The HHF funding will contribute to:

Southern Area (Hobart)<sup>1</sup>:

- the reconfiguration of existing wards to enable the development of;
  - a multi-disciplinary Outpatient Cancer Care Centre,
  - a third radiotherapy bunker; and,
  - a new patient support services centre;
- infrastructure for a Tissue Bank;

Northern Area (Launceston):

- the expansion of the medical oncology unit;
- a patient support centre;
- an education and research centre;
- 4 palliative care beds in district hospitals;

North Western Area (Burnie): to be addressed in a variation to this Implementation Plan.

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<sup>1</sup> Final construction details to be confirmed after detailed service modelling (expected due date: 30 July 2011). Any changes to the scope of the original proposal approved by the HHF Advisory Board will require re-assessment by the HHF Advisory Board.

## ROLES AND RESPONSIBILITIES

### Role of the Commonwealth

12. The Commonwealth is responsible for reviewing Tasmania's performance against the project milestones specified in this Implementation Plan and providing any consequential financial contribution to Tasmania for that performance.

### Role of Tasmania

13. Tasmania is responsible for all aspects of project implementation, including:
- (a) fully funding the project, after accounting for financial contributions from the Commonwealth and any third party;
  - (b) completing the project in a timely and professional manner in accordance with this Implementation Plan;
  - (c) meeting all conditions including providing reports and evidence to demonstrate the achievement of performance milestones and project completion in accordance with this Implementation Plan; and
  - (d) all aspects of the delivery, management and performance of the project including the management of all risks.

## FINANCIAL ARRANGEMENTS

14. The maximum financial contribution to be provided by the Commonwealth for the project is \$18.7 million payable in accordance with performance milestones set out in Table 1. All payments are exclusive of GST.

## MILESTONES AND REPORTING

**Table 1: Performance milestones and associated payments**

	Performance milestone	Expected due date	Amount
i	Agreement to the Implementation Plan	30 January 2011	\$2.29375 million
	Completion (and submission to the Commonwealth) of design development, pre-tender documentation and construction schedule/work plan for the Northern Area Education and Research centre and Medical Oncology upgrade		
	Commencement of construction works at the Northern Area facility.		
	Submission of a progress report to the satisfaction of the Commonwealth, in line with the relevant construction schedule/work plan.		
ii	Completion of Northern Area Education and Research Centre.	15 July 2011	\$1.19 million
	Completion of installation of histological and DNA preparation equipment in the Histology Laboratory at the Menzies Research Institute Southern Area		
	Completion (and submission to the Commonwealth) of design development, pre-tender documentation and construction schedules/work plans for the Northern Area Patient Support Centre and Palliative Care bed upgrades		

	Completion (and submission to the Commonwealth) of design development and pre-tender documentation for all components of the Southern Area facility.	31 January 2012	\$1.35 m
	Commencement of construction works at Southern Area.		
	Submission of a progress report to the satisfaction of the Commonwealth, in line with the relevant construction schedules/work plans for the Southern and Northern Area facilities.		
iii	Completion of the Northern Area Medical Oncology Upgrade.	30 April 2012	\$5.15 million
	Completion of the Northern Area Palliative Care bed upgrade.		
	Completion of the Southern Area Radiation Oncology Bunker.		
	Submission of a progress report to the satisfaction of the Commonwealth, in line with the relevant construction schedules/work plans for the Southern and Northern Area facilities		
iv	Completion of the Northern Area Patient Support Centre.	31 July 2012	\$0.4862 million
	Commissioning of the building and initiation of services (Northern Area).		
	Submission of a progress report to the satisfaction of the Commonwealth, in line with the relevant construction schedules/work plans for the Southern and Northern Area facilities.		
v	Commencement of construction of Oncology Upgrades (Southern Area).	31 October 2012	\$1.65 million
	Submission of a progress report to the satisfaction of the Commonwealth, in line with the relevant construction schedules/work plans for the Southern Area facility.		
vi	Completion of construction of Outpatient Cancer Centre including Patient Support Centre (Southern Area).	15 May 2013	\$1.1 million
	Submission of a progress report to the satisfaction of the Commonwealth, in line with the relevant construction schedules/work plans for the Southern Area facility.		
vii	Commissioning of building and initiation of services (Southern Area).	15 July 2013	\$0.7 million
	Submission of a final report for Northern and Southern Areas to the satisfaction of the Commonwealth.		
viii	Further milestones will be negotiated to incorporate NWRH component.	30 January 2013	Payments totalling \$4.779-

Notes: The Project Work Plans must set out the timing for the preparation of the site and as a minimum must also include and address the following:

- (a) floor plans including elevations;
- (b) schedule of accommodation;
- (c) cost plan; and
- (d) project program and cashflow.

15. Any Commonwealth financial contribution payable will be processed by the Commonwealth Treasury and paid to the Tasmanian Treasury in accordance with the payment arrangements set out in Schedule D of the *Intergovernmental Agreement on Federal Financial Relations*.

## BUDGET

16. The overall project budget (exclusive of GST) is set out in Table 2.

**Table 2: Overall project budget (\$36.419 million)**

Expenditure item	2009- 2010	2010- 2011	2011- 2012	2012- 2013	2013- 2014	Later Years	Total
(i) Commonwealth contribution (excluding NWRH)	-	2.29375	7.69	3.23625	0.700	-	13.920
(ii) NWRH component			TBC	TBC			\$4.779
(iii) Tasmanian contribution (excluding NWRH)		1.281	10.222	5.017			16.520
(iv) Tasmanian in-kind contribution (excluding NWRH)		1.200					1.200
<b>Total</b>		4.77475	17.912	8.25325	0.700	\$4.779	36.419

17. Having regard to the estimated costs of the project specified in the overall project budget, Tasmania will not be required to pay a refund to the Commonwealth if the actual cost of the project is less than the agreed estimated cost of the project. Similarly, Tasmania bears all risk should the costs of the project exceed the estimated costs. The Parties acknowledge that this arrangement provides the maximum incentive for Tasmania to deliver the project cost-effectively and efficiently.

## REPORTING ARRANGEMENTS

18. Tasmania will provide progress reports to the Commonwealth to demonstrate its achievement of performance milestones set out in Table 1.
19. In addition to the progress reports set out in Table 1, Tasmania will provide a quarterly progress report to the Commonwealth on 31 March, 30 June, 30 September and 31 December each year setting out progress against the relevant construction schedules / work plans for the project. Where a progress report under this paragraph coincides with the timing of a progress report required under Table 1, only one such report is required.
20. Each progress report will contain comprehensive information on the following:
- a description of actual performance of Tasmania in the period to date against the performance milestones and project budget and including the provision of evidence which verifies the achievement of the performance milestone;
  - details of any matter(s) that have arisen which could impact on the achievement of the Project Objective, and how Tasmania proposes to resolve this/these matter(s);
  - promotional activities undertaken in relation to, and media coverage of, the project during the reporting period; and
  - a description of the activities that will be undertaken to complete the remaining performance milestones and any expected promotional opportunities during the next reporting period.
20. Where Tasmania is required to report against a significant construction milestone as specified in Table 1, the performance report must include third party certifications which are provided to Tasmania.

21. Other evidence<sup>2</sup> that may be submitted to the Commonwealth to demonstrate that a milestone has been met includes:
  - dated photographs;
  - schematic designs;
  - tender advertisements;
  - letters to offer contracts;
  - letters of contractor acceptance;
  - certificates of practical completion and occupancy; and/or
  - contractor / project director's reports.
22. The final progress report is due within 60 Business Days of the completion of the project or termination of this Implementation Plan.
23. Any matters which will affect the submission of the final report must be raised by either party at least 30 days before it is due.
24. The final progress report will be a stand-alone document that can be used for public information dissemination purposes regarding the project and must:
  - describe the conduct, benefits and outcomes of the project as a whole;
  - evaluate the project, including assessing the extent to which the objective in this Implementation Plan has been achieved and explaining why any aspects were not achieved; and
  - include a summary of the outcomes relating to the matters raised as per paragraph 23.

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<sup>2</sup> Evidence to demonstrate that the milestone has been achieved is not limited to the information provided at paragraph 21. This has been provided as guidance only. The Commonwealth, from time to time, may request additional information to ensure it is satisfied that the milestone has been met.

# Implementation Plan for Tasmanian Cancer Care Project

## NATIONAL PARTNERSHIP AGREEMENT ON HEALTH INFRASTRUCTURE

### Preliminaries

1. This Implementation Plan is created subject to the provisions of the National Partnership Agreement on Health Infrastructure and should be read in conjunction with that Agreement. The objective in the National Partnership Agreement on Health Infrastructure is to improve the health and wellbeing of Australians through the provision of high quality physical and technological health infrastructure.
2. The funding for this project has been primarily allocated from the Health and Hospitals Fund (HHF) under the Regional Cancer Centres (RCC) initiative. The RCC initiative aims to improve access to essential cancer services for as many people as possible living in rural, regional and remote areas, to help close the gap in cancer outcomes between the city and the country. The broader objectives of the HHF, while not replacing State and Territory effort, are to:
  - invest in major health infrastructure programs that will make significant progress towards achieving the Commonwealth's health reform targets; and
  - make strategic investments in the health system that will underpin major improvements in efficiency, access or outcomes of health care.
3. This whole-of-state public and private partnership project will coordinate and link Tasmania's three regions and three major public hospitals: the Southern Tasmania Area Health Service (Hobart), Northern Area Health Service (Launceston), and North Western Area Health Service (Burnie); as well as the Menzies Research Institute, Cancer Council Tasmania and other key stakeholders, as described in the Health and Hospitals Fund Regional Cancer Centres application dated 14 May 2010.
4. The project outputs outlined in this Implementation Plan have been assessed by the Health and Hospitals Fund Advisory Board. Consistent with the *Nation-building Funds Act 2008* any proposed variation from this project as assessed by the Advisory Board requires the reassessment of the Board. The Commonwealth funding contribution for the project is also subject to the re-assessment of the Advisory Board should proposed variations require the Board's consideration.
5. This Implementation Plan replaces the original Implementation Plan for this project, agreed between the Commonwealth of Australia and the State of Tasmania on 19 August 2011.

### Terms of this Implementation Plan

6. This Implementation Plan will commence as soon as it is agreed between the Commonwealth of Australia, represented by the Minister for Health, and the State of Tasmania, represented by the Minister for Health.
7. This Implementation Plan will cease on completion of the project as specified in this Implementation Plan, including the acceptance of final performance reporting and processing of final payments against performance milestones specified in this Implementation Plan.

8. This Implementation Plan may be varied by written agreement between the Ministers.
9. Either Party may terminate this agreement by providing 30 days' notice in writing. Where this Implementation Plan is terminated, the Commonwealth's liability to make payments to Tasmania is limited to payments associated with performance milestones achieved by Tasmania by the date of effect of termination of this Implementation Plan.
10. The Parties to this Implementation Plan do not intend any of the provisions to be legally enforceable. However, that does not lessen the Parties' commitment to this Implementation Plan.

## **Project Objective**

11. The objective in this Implementation Plan is to establish a network of state-wide cancer services with cancer centres located at Hobart, Launceston and Burnie by bringing together the currently fragmented and disjointed treatment approaches enabling cancer care to be provided to patients closer to where they live.

## **PROJECT OUTCOMES**

12. The funding will contribute to the:

### Southern Area (Hobart):

- the reconfiguration of existing wards to enable the development of;
  - a multi-disciplinary Outpatient Cancer Care Centre,
  - a third radiotherapy bunker; and,
  - a new patient support services centre;
- infrastructure for a Tissue Bank;

### Northern Area (Launceston):

- the expansion of the medical oncology unit;
- a patient support centre;
- an education and research centre;
- 4 palliative care beds in district hospitals;

### North Western Area (Burnie):

- construction of a purpose-built Cancer Centre connected to the NWRH including:
  - chemotherapy facilities (12 chemotherapy chairs);
  - palliative care facilities;
  - teaching facilities; and
- an MRI machine.

## Roles and Responsibilities

### *Role of the Commonwealth*

13. The Commonwealth is responsible for:

(a) reviewing Tasmania's performance against the project milestones specified in this Implementation Plan and providing consequential financial contribution to Tasmania for that performance;

(b) In accordance with the requirements of the Building and Construction Industry Improvement Act 2005 and subject to financial thresholds defined under the Building and Construction Industry (Accreditation Scheme) Regulations 2005, ensuring the financial contributions to a building project or projects as defined under the Building and Construction Industry (Accreditation Scheme) Regulations 2005, are only made where a builder or builders accredited under the Australian Government Building and Construction Occupational Health and Safety Accreditation Scheme is contracted; and

(c) In accordance with the requirements of the *Building and Construction Industry Improvement Act 2005* and subject to financial thresholds defined under the *Building and Construction Industry (Accreditation Scheme) Regulations 2005*, ensuring that compliance with the National Code of Practice for the Construction Industry and the Australian Government Implementation Plan Guidelines for the National Code of Practice for the Construction Industry is a condition of Australian Government funding.

### *Role of Tasmania*

14. Tasmania is responsible for:

(a) fully funding the project, after accounting for financial contributions from the Commonwealth and any third party;

(b) completing the project in a timely and professional manner in accordance with this Implementation Plan;

(c) meeting all conditions including providing reports and evidence to demonstrate the achievement of a performance milestone and project completion in accordance with this Implementation Plan;

(d) all aspects of the delivery, management and performance of the project including the management of all risks;

(e) In accordance with the requirements of the *Building and Construction Industry Improvement Act 2005* and subject to financial thresholds defined under the *Building and Construction Industry (Accreditation Scheme) Regulations 2005*, ensuring that only a builder or builders accredited under the Australian Government Building and Construction Occupational Health and Safety Accreditation Scheme is contracted and providing the necessary assurances to the Commonwealth; and

(f) In accordance with the requirements of the *Building and Construction Industry Improvement Act 2005* and subject to financial thresholds defined under the *Building and Construction Industry (Accreditation Scheme) Regulations 2005*, ensuring that compliance with the National Code of Practice for the Construction Industry and the Australian Government Implementation Guidelines for the National Code of Practice for the Construction Industry, is

made a condition of tender for all contractors and subcontractors who tender for the work and providing the necessary assurances to the Commonwealth.

### ***Shared Roles***

15. Both Parties will meet the requirements of Schedule E, Clause 26 of the Intergovernmental Agreement on Federal Financial Relations, by ensuring that prior agreement is reached on the nature and content of any events, announcements, promotional material or publicity relating to activities under this Agreement, and that the roles of both Parties will be acknowledged and recognised appropriately.

### **Financial Arrangements**

16. The maximum financial contribution to be provided by the Commonwealth for the project is \$19.756 million payable in accordance with performance milestones set out in Table 1. All payments are exclusive of GST.

## **MILESTONES AND REPORTING**

**Table 1: Performance milestones and associated payments**

**Northern Area - Launceston - \$5.51575 million**

	Performance milestone	Expected due date	Amount
i	Completion (and submission to the Commonwealth) of design development, pre-tender documentation and construction schedule/work plan for the Northern Area Education and Research centre and Medical Oncology upgrade	31-Mar-12	\$1.147 million
ii	Commencement of construction works at the Northern Area facility	31-Mar-12	\$1.147 million
	Submission of a progress report to the satisfaction of the Commonwealth, in line with the relevant construction schedule/work plan.		
iii	Completion (and submission to the Commonwealth) of design development, pre-tender documentation and construction schedules/work plans for the Northern Area Patient Support Centre and Palliative Care bed upgrades	15-Jun-12	\$1.741 million
iv	Completion of Northern Area Education and Research Centre	15-Jun-12	\$0.94475 million
v	Completion of the Northern Area Medical Oncology Upgrade	31-Mar-13	\$0.025 million
vi	Completion of the Northern Area Palliative Care bed upgrade	31-Mar-13	\$0.025 million
vii	Completion of the Northern Area Patient Support Centre	31-Mar-13	\$0.243 million
viii	Commissioning of the building and initiation of services	31-Mar-13	\$0.243 million

**Southern Area - Hobart - \$8.40425 million**

	Performance milestone	Expected due date	Amount
i	Completion and submission of design development and pre-tender documentation for all components of the Southern Area facility	31-Mar-12	\$1.0* million
ii	Commencement of construction works at Southern Area	31-Mar-12	\$0.35* million
iii	Completion of the Southern Area Radiation Oncology Bunker	15-Jun-12	\$3.654 million
iv	Commencement of construction of Oncology Upgrades	31-Dec-12	\$1.60025 million
v	Completion of installation of histological and DNA preparation equipment in the Histology Laboratory at the Menzies Research Institute Southern Area	31-Dec-12	\$1.1 million
vi	Completion of construction of Outpatient Cancer Centre including Patient Support Centre	1-Jul-13	\$0.4 million
vii	Commissioning of building and initiation of services	1-Sep-13	\$0.3 million

\* Funds already provided under the previous version of this Implementation Plan

**North Western Area - Burnie - \$5.836 million**

	Performance milestone	Expected due date	Amount
i	Completion of preliminary design documentation for the Cancer Centre at the North West Regional Hospital (NWRH)	15-Jun-12	\$1.057 million
ii	Following the outcome of the assessment of the Tasmanian Government's supplementary application of 30 September 2010 further milestones will be agreed by way of variation to this Implementation Plan. These additional milestones will capture the outputs associated with both the 2009-10 Budget Measure and the HHF funds for the North Western Area.	2014-2015	Payments totalling \$4.779 million

17. Any Commonwealth financial contribution payable will be processed by the Commonwealth Treasury and paid to the Tasmanian Treasury in accordance with the payment arrangements set out in Schedule D of the *Intergovernmental Agreement on Federal Financial Relations*.

## Budget

18. The overall project budget (exclusive of GST) is set out in Table 2.

**Table 2: Overall project budget – \$47.67 million**

Expenditure item	2010- 2011	2011- 2012	2012- 2013	2013- 2014	2014- 2015	Later Years	Total
(i) Commonwealth contribution (HHF)		9.98375	3.23625	0.700	4.779	-	18.699
(ii) Commonwealth contribution (2009-10 Budget Measure)		1.057					1.057
(iii) Tasmanian contribution	0.750	6.250	7.682	9.278			23.96
(iv) Tasmanian in-kind contribution	1.200		2.750				3.95
<b>Total</b>	<b>1.95</b>	<b>17.29075</b>	<b>13.66825</b>	<b>9.978</b>	<b>4.779</b>		<b>47.67</b>

19. This Implementation Plan also includes additional funds of \$1.057 million from the \$1.4 million 2009-10 Budget Measure *Health Infrastructure Projects in Tasmania*. The component comprising \$1.057 million is an additional Commonwealth contribution towards the Cancer Centre at the NWRH as described in the Health and Hospitals Fund Regional Cancer Centres application dated 14 May 2010.
20. Having regard to the estimated costs of the project specified in the overall project budget, Tasmania will not be required to pay a refund to the Commonwealth if the actual cost of the project is less than the agreed estimated cost of the project. Similarly, Tasmania bears all risk should the costs of the project exceed the estimated costs. The Parties acknowledge that this arrangement provides the maximum incentive for Tasmania to deliver the project cost-effectively and efficiently.

## Reporting Arrangements

21. Tasmania will provide a quarterly progress report to the Commonwealth due on 15 June 2012, and then 30 September, 31 December 31 March and 30 June, each year setting out progress against the relevant construction schedules / work plans for the project.
22. Each progress report will contain comprehensive information on the following:
- a description of actual performance of Tasmania in the period to date against the performance milestones and project budget and including the provision of evidence which verifies the achievement of the performance milestone;
  - details of any matter(s) that have arisen which could impact on the achievement of the Project Objective, and how Tasmania proposes to resolve this/these matter(s);
  - promotional activities undertaken in relation to, and media coverage of, the project during the reporting period; and
  - a description of the activities that will be undertaken to complete the remaining performance milestones and any expected promotional opportunities during the next reporting period.

23. Where Tasmania is required to report against a significant construction milestone as specified in Table 1, the performance report must include third party certifications which are provided to Tasmania.
24. Other evidence<sup>1</sup> that may be submitted to the Commonwealth to demonstrate that a milestone has been met includes:
  - dated photographs;
  - schematic designs;
  - tender advertisements;
  - letters to offer contracts;
  - letters of contractor acceptance;
  - certificates of practical completion and occupancy; and/or
  - contractor / project director's reports.
25. The final progress report is due within 60 Business Days of the completion of the project or termination of this Implementation Plan.
26. Any matters which will affect the submission of the final report must be raised by either party at least 30 days before it is due.
27. The final progress report will be a stand-alone document that can be used for public information dissemination purposes regarding the project and must:
  - describe the conduct, benefits and outcomes of the project as a whole;
  - evaluate the project, including assessing the extent to which the objective in this Implementation Plan has been achieved and explaining why any aspects were not achieved; and
  - include a summary of the outcomes relating to the matters raised as per paragraph 23.

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<sup>1</sup> Evidence to demonstrate that the milestone has been achieved is not limited to the information provided at paragraph 26. This has been provided as guidance only. The Commonwealth, from time to time, may request additional information to ensure it is satisfied that the milestone has been met.

28 October 2011

Julie Tate  
Manager Clinical Support  
Office of the Chief Health Officer  
Department of Health & Human Services  
Level 4/34 Davey St  
Hobart Tas 7000

Dear Julie

**Re: Menzies tissue bank equipment funded through the RCC Initiative (HHF)**

In response to your query to Dr Jo Dickinson regarding our plans for equipment purchase, I would like to request a variance on the implementation plan submitted by the DHHS.

Funding for a tissue banking facility, including tissue storage equipment to be placed in the regional centres was included in the Regional Cancer Centre plan. The plan was to incorporate a tissue banking facility into the new Medical Science 2 building, currently under construction, and to place freezers in the North and North-west Tasmania facilities for tissue storage. The plan for the new tissue banking facility is complete and the building is under construction. The building will not be completed until the end of 2012. Given the very large amount of growth experienced by the MRIT recently, there is currently no space to permit the new tissue banking facility to be housed in the existing building.

We would, however, like to access these funds at an earlier time. This will enable us to explore the equipment available and get the most competitive quotes for the equipment required. It is customary practice for suppliers to put short time frames on their competitive quotes and thus it is necessary to have immediate access to the funds when a decision is made on a purchase. In addition, there is a piece of equipment that we would be keen to access in the shorter term.

We therefore propose that MRIT raises an invoice to the DHHS for the full \$650,000, and this amount would be expended over the course of 2012 and the beginning of 2013, with a view to the MRIT Tissue banking facility being equipped by the end of 2012. For the freezers to be housed in the regional cancer centres, the DHHS would identify the appropriate sites for their location in consultation with the regional cancer centres and then notify the MRIT so that the freezers can be ordered and installation arranged.

Please let me know if you require any further information. I look forward to your advice on amendments to the Implementation Plan for our portion of the funds.

Yours sincerely



Kate Brown  
General Manager



## Sid Sidebottom MP ... for a fair go in Braddon

### MEDIA RELEASE

9 September 2011

#### **Cancer centre funding secured**

The Gillard Government is today delivering on a major election commitment for the local Burnie community.

The Health and Hospitals Fund Board has approved the development of the Burnie Regional Cancer Centre.

This investment will provide up to \$16.5 million to deliver radiotherapy services in Burnie.

The investment will fund the construction of a bunker and installation of a linear accelerator at the North West Regional Cancer Centre in Burnie.

“I have worked closely with the Minister for Health and Ageing to deliver this project and I am pleased that the communities on the North West and West Coasts can look forward to having access to a high quality, comprehensive and sustainable cancer care services,” said Federal MP Sid Sidebottom.

“We will now work with the Tasmanian Government to deliver the project following this formal approval.”

“This investment builds on the two GP Super Clinics, in Burnie and Devonport (\$7.5m), \$3.7m in Emergency Department funding and \$3.0m for residential accommodation at the North West Regional Hospital as well as numerous other commitments the Gillard Government has delivered to our region.” added Mr Sidebottom

For more information or to arrange an interview call - **Shane Broad** on **64 311 333** or **0418 276 239**



Australian Government  
Department of Health and Ageing

## **HEALTH AND HOSPITALS FUND**

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### **Regional Cancer Centres Initiative**

# **Funding Application**

(ITA No 171/0910)

## **Tasmanian Cancer Care**

**The Crown in the Right of Tasmania  
as represented by  
The Department of  
Health and Human Services**

## **ADVICE TO ORGANISATIONS SUBMITTING APPLICATIONS**

1. Organisations must familiarise themselves with the *Health and Hospitals Fund (HHF) – Regional Cancer Centres Initiative – Application Guidelines* (the Guidelines) before completing the application.
2. All applications must be completed using this form. Organisations are required to complete all parts of the application form.
3. The organisation's Chief Executive Officer or equivalent is required to complete and sign the declaration in Part Two. Please note that the declaration includes a statement of compliance and a statement of construction and OHS compliance as outlined in section 5 of the Guidelines.
4. Label any confidential information and provide reasons for the request to claim confidentiality on this information so that the Department of Health and Ageing (DoHA) can assess your claim. The information will be provided to the HHF Advisory Board but will be removed from any copies which may be sent to other agencies or officials. Please see section 5 of the Guidelines for more information.
5. Indicate clearly in the application where cost estimates are indicative or confirmed. Also include a source for the basis of cost estimates (eg. costing plan, industry benchmarks) and indicate whether this source document can be provided to the Advisory Board upon request. Please refer to section 4 of the Guidelines relating to GST when preparing financial information.
6. Applications must be submitted by 2:00pm Australian Eastern Daylight Time (AEDT) on 8 January 2010 to: Tender Box, Department of Health and Ageing, Ground Floor, C Block, Penrhyn House, Bowes Street, WODEN ACT 2606.
7. Applicants should note that the Tender Box will not be available for lodgements from 5 pm Australian Eastern Daylight Time (AEDT) Wednesday, 23 December 2009 until 9 am (AEDT) Monday, 4 January 2010.
8. Late applications will not be considered except in exceptional circumstances. Exceptional circumstances are considered to be beyond the control of the organisation, which includes where an application is late due solely to mishandling by DoHA. DoHA will provide eligible organisations with notification of receipt in the application stage.
9. Any further questions or queries should be directed in writing to [hhfrcc@health.gov.au](mailto:hhfrcc@health.gov.au). Please note that answers to de-identified questions may be made available on the HHF webpage. DoHA and the HHF Advisory Board will not answer questions verbally nor will they respond to queries sent to other than the aforementioned email address.
10. Please note that emails sent to [HHFRCC@health.gov.au](mailto:HHFRCC@health.gov.au) will not be responded to between 24 December 2009 and 3 January 2010 inclusive, due to the departmental stand-down over the Christmas period.

## **CONTENTS**

Part One	Cover sheet
Part Two	Chief Executive Officer's declaration
Part Three	Overview (including executive summary, timeframes and funding summary)
Part Four	Self assessment against the HHF Evaluation Criteria, taking into account the Regional Cancer Centres Guiding Principles
Part Five	Supporting information in relation to the HHF Evaluation Criteria
Part Six	Project Business Case, incorporating: <ul style="list-style-type: none"><li>• Financial Plan</li><li>• Implementation Plan</li><li>• Risk Management Strategy</li></ul>

## **ATTACHMENTS**

### **A Letters of Commitment and/or Support**

1. State Government of Tasmania
2. Calvary Health Care Tasmania
3. Cancer Council Tasmania
4. Menzies Research Institute
5. Elphinstone Pty Ltd
6. Intentionally left blank
7. Intentionally left blank
8. University of Tasmania
9. Peter MacCallum Cancer Centre
10. Cancer Voices Tasmania
11. Cancer Council Tasmania on behalf of 'Canteen' & 'David Collins Leukaemia Foundation'
12. Spurr Wing Inc.
13. Prof Daubenton

## **APPENDICIES**

### **B Static Information**

#### **Calvary Health Care Tasmania (Calvary)**

1. 30/6/09 Annual Audited Accounts
2. Certificate of Incorporation
3. Calvary Cash Flow Analysis

#### **Cancer Council Tasmania (CCT)**

4. 30/6/09 Auditors Certificate
5. Certificate of Incorporation

**C Financial Plan Information**

1. Detailed Funding Summary
2. Summary of Application Request

**D Implementation Plan Information**

1. Construction Project Plan
2. ICT Project Plan

**E Risk Management Information**

1. Risk Management Plan
2. Maintenance Services Inclusions & Exclusions Plan

**F Other Documentation**

1. Tasmanian Cancer Framework and Strategic Plan
2. Summary of Grants – Commonwealth & State
3. Video Conferencing Illustration
4. ICT Summary
5. Working Group Participants
6. Project Resourcing Schedule

**G Site and Construction Information**

1. RHH Redevelopment Plans
2. Impact on Capacity
3. Concept Drawings
4. Location Map - Area Health Services & Calvary



Australian Government  
Department of Health and Ageing

## HEALTH AND HOSPITALS FUND Regional Cancer Centres Initiative

### APPLICANT ORGANISATION NAME

THE CROWN IN THE RIGHT OF TASMANIA  
AS REPRESENTED BY THE DEPARTMENT  
OF HEALTH AND HUMAN SERVICES

### PROJECT TITLE

TASMANIAN CANCER CARE

### FUNDING AMOUNT REQUESTED

\$48.6 MILLION

#### APPLICATION SUBMISSION INSTRUCTIONS:

Number of copies: Ten (10) hard copies (single sided) and 1 electronic copy on a compact disc.

Please note: INCOMPLETE, FAXED OR EMAIL APPLICATIONS WILL NOT BE ACCEPTED INTO THE ASSESSMENT PROCESS.

Applications including attachments MUST be single sided, MUST NOT be bound or in a folder and NO staples are to be used.

Due date: 2pm Australian Eastern Daylight Time (AEDT)  
8 January 2010

Deliver to: Tender Box  
Department of Health and Ageing  
Ground Floor  
C Block, Penrhyn House  
Bowes Street  
Woden ACT 2606

Applicants should note that the Tender Box will not be available for lodgements from 5 pm (AEDT) Wednesday, 23 December 2009 until 9 am (AEDT) Monday, 4 January 2010.

## PART TWO – CHIEF EXECUTIVE OFFICER’S DECLARATION

- I, David Roberts, confirm that this application has been prepared in accordance with the *Health and Hospitals Fund – Regional Cancer Centres Initiative – Application Guidelines*.
- I confirm the ability of this organisation to comply with the National Code of Practice for the Construction Industry and the Australian Government Implementation Guidelines as well as the Australian Government Building and Construction OHS Accreditation Scheme.
- I confirm that I understand that HHF funding is available to projects related to the creation and development of infrastructure, including capital items and/or research facilities and associated labour costs where required.
- I declare that I have checked this application and that to the best of my knowledge, all relevant details are correct at the time of lodgement.



(Signature of Chief Executive Officer and confirmation that I have authority to bind the organisation)

Name: David Roberts

Date: 5 / 1 / 2010

I declare that I have obtained the agreement of the co-applicants and/or partner to this application and have the authority to submit this proposal on their behalf.



(Signature of Chief Executive Officer)

Name: David Roberts

Date: 5 / 1 / 2010

## PART THREE – OVERVIEW

### Details of the organisation that will contract with the Commonwealth

Organisation Name	The Crown in the Right of Tasmania as represented by the Department of Health and Human Services
ABN	11 255 872 006
Contact Officer (name and position held)	Dr Craig White, Chief Health Officer, Department of Health and Human Services
Work Phone Number	03 6233 3297
Mobile Phone number	04103 12194
Fax Number	03 6233 6392
Email Address	<a href="mailto:Craig.White@dhhs.tas.gov.au">Craig.White@dhhs.tas.gov.au</a>
Website	dhhs.tas.gov.au
Physical Address	Level 4, 34 Davey Street Hobart TAS 7000
Postal Address	GPO Box 125 Hobart TAS 7001

Organisation Name	State Government of Tasmania
Type of Contribution (cash, in-kind, other)	Cash (\$13.3 million)
Organisation Type	State Government
Contact Officer (name, position, phone and email)	Dr Craig White Chief Health Officer T: (03) 6233 3297 E:criag.white@dhhs.tas.gov.au

Organisation Name	Calvary Health Care Tasmania
Type of Contribution (cash, in-kind, other)	Cash (\$0.630 million)
Organisation Type	Other – Not for Profit, Private Hospital, incorporated company limited by shares.
Contact Officer (name, position, phone and email)	Sally Faulkner Director of Clinical Services - St Johns Campus Calvary Health Care Tasmania T: (03) 6220 3759 E: s.faulkner@calvarytas.com.au

Organisation Name	Cancer Council Tasmania
Type of Contribution (cash, in-kind, other)	In-kind - Land (\$0.600 million)
Organisation Type	Other - Not for Profit Organisation, incorporated Association under Associated Incorporations Act 1964
Contact Officer (name, position, phone and email)	Deborah Church Acting CEO M: 0429 625002 E: <a href="mailto:dchurch@cancertas.org.au">dchurch@cancertas.org.au</a>

Organisation Name	Menzies Research Institute
Type of Contribution (cash, in-kind, other)	In-Kind (\$0.600 million)
Organisation Type	Medical Research Institute
Contact Officer (name, position, phone and email)	Professor Simon Foote Director P: (03) 6226 7702 E: <a href="mailto:simon.foote@utas.edu.au">simon.foote@utas.edu.au</a>

Organisation Name	Elphinstone Pty Ltd
Type of Contribution (cash, in-kind, other)	In-kind (\$2.75 million)
Organisation Type	Other – Incorporated company limited by shares.
Contact Officer (name, position, phone and email)	Dale Elphinstone Executive Chairman P: (03) 6430 0000 E: <a href="mailto:daleelphinstone@wadams.com.au">daleelphinstone@wadams.com.au</a>

Please include letters of commitment from all of the above organisations as **Attachment A**.

## Executive Summary

This HHF Tasmanian Cancer Care (TCC) application will allow Tasmania to realise its vision for delivering world class regional cancer care. Tasmania is classified as regional and remote (RA2-5), much of which is recognised as 'rurally disadvantaged'. This infrastructure application will facilitate significant development and improvement of many oncology facilities and services across the state including:

- dedicated cancer precincts at each area health service site;
- improved radiation and medical oncology infrastructure and associated services;
- state of the art Multidisciplinary Team (MDT) facilities including full broadband enabled clinical video conferencing;
- improved and expanded supportive care (allied health) and palliative care facilities and services;
- expanded pharmacy compounding collocated with medical oncology in the north and south of the state;
- establishment of patient education, support and services centres in each region;
- expanded research and clinical trials capability including establishing a cancer tissue bank;
- continued development and deployment of a range of ICT linkage technologies including 'ARIA' which will provide a comprehensive state wide shared clinical cancer patient record system; and
- expanded and improved infrastructure for patient accommodation, transport and parking to allow better access to specialist cancer services across the state.

The application is seeking \$48.6 million in Commonwealth funding as part of a proposed \$66.7 million infrastructure redevelopment and construction program. The TCC application is a whole-of-state public and private partnership initiative that coordinates and links the state's three regions and the three major hospitals: Southern Region (SAHS), Northern Region (NAHS) and North Western Area (NWAHS); the state's major private oncology facility, Calvary Health Care Tasmania (Calvary); the Menzies Research Institute (Menzies); and Cancer Council Tasmania (CCT) and other key stakeholders.

This infrastructure funding is balanced and coordinated across the state to create a unified system. The establishment of a cancer precinct in each hospital will bring together the currently fragmented and disjointed treatment approaches. Funding has been allocated to maximise patient benefits and minimise duplication whilst balancing patients' need for cancer care close to where they live. With the support of the Menzies, patients, both public and private, will have access to some of the most innovative and advanced therapies and care arrangements available. The infrastructure includes a significant investment in clinical information systems that will leverage the investment in broadband infrastructure being delivered under the National Broadband Network (NBN) strategy.

The research agenda will be addressed through Menzies, located adjacent to Royal Hobart Hospital (RHH), which will have dedicated facilities for clinicians and medical students. Menzies provides professional support for researchers across the state as well as infrastructure resources in the south of the state. This support, along with the proposed new education and research centre in Launceston and links with the University of Tasmania and the Clifford Craig Medical Research Trust, will enable research scientists, clinicians and students to work together to ensure that advances in treatment approaches are quickly adopted in clinical settings and are integrated into medical and allied health student teaching. Our outreach programs will be enhanced and extended to medical practitioners and allied health professionals across the state. This infrastructure will also establish a Tasmanian tissue bank linked to patients' diagnosis and response to treatment. Researchers will use this information to develop a better understanding of how cancers are caused, develop, and respond to treatments as well as help identify those at risk of cancer.

This infrastructure will enable a new level of consistent and coordinated care for Tasmanians, addresses significant capacity constraints and help narrow the gap for rural patients' access to services, referrals and treatment approaches.

This infrastructure is critical to the half million Tasmanian citizens, as the state has:

- the most ageing population in Australia, with 20% of its residents aged 60 or over. By 2016 this number is expected to reach 30%;
- the highest age-standardised incidence rates of cancer of any state or territory in Australia at 433.9 cases per 100,000 people (excluding all skin cancers);
- a projected increase in cancer incidence of 42% over the next 10 years, increasing the number of cancers detected annually to 4,754 new cancers in the year 2021; and
- Tasmanians are not only the most likely Australians to be diagnosed with cancer, they are also more likely to die from the disease with age-standardised death rates for all cancers in Tasmania for 2005 being 205.2 deaths per 100,000 population compared to the national average of 177.5 deaths per 100,000 population.

This growing incidence of cancer and mortality places pressure on Tasmania's capacity to adequately provide for cancer patients. Day oncology chemotherapy chairs in each of the four major hospitals do not currently meet national space guidelines. Ad hoc solutions in use to cope with demand include converting chairs in other parts of the hospital to chemotherapy chairs, providing consultations in public areas, and increasingly using corridors for storage and consultation.

Similar pressures are placed on radiation oncology. In the north of the state, attendances have grown by 22% between 2003/04 and 2008/09. Waiting lists for radiation oncology in 2008 saw 22% of radical treatments and 37.5% of palliative treatments not delivered within the ACHS and RANZCR maximum acceptable standards of 28 and 14 days respectively.

The RHH radiation oncology unit was established in 1958 and was designed for one linear accelerator and 11 staff. Now there are two linear accelerators (both of which are fully committed) and 35 staff. This sees many aspects of the unit not meeting OH&S standards.

Patients in the North West of the State - who comprise 22% of Tasmania's population - do not have access to comprehensive cancer care services at their local hospital. Patients need to commute to Launceston, 297.0 km return from the North West Regional Hospital (NWRH) for radiation therapy. Day oncology, which is provided at NWAHS, not only does not meet chemotherapy chair space requirements, requiring clinicians to continually negotiate the use of additional chairs on a case-by-case basis, it also leads to the fragmented allocation of oncology chairs and inappropriate co-mingling of children with adults undergoing chemotherapy treatment.

Constraints in providing cancer services are manifested in many ways. Possibly the most poignant measure is the estimation of life years lost. Life years lost can be determined from a number of perspectives. Taking radiation treatment referral rates as an example, Tasmania has only a 42% referral rate (2006), well below the recommended rate of 52.3%. If referral rates remain unchanged and with predicted growth in patient numbers this would see an estimated 921 patients not receiving radiation therapy. This lack of radiation therapy treatment would equate to a total life years lost from 2011 to 2021 of 4,652 years. By another measure, we expect that this infrastructure will result in earlier detection and treatment of cancer, which will not only improve the quality of people's lives but has a significant economic benefit to the health system as well as the Tasmanian economy.

Current infrastructure deficiencies will be compounded by projected growth in patient numbers which are expected to increase by 42% by 2021. Infrastructure funding will double the space available to treat cancer patients (refer Appendix G2).

This proposed infrastructure will do more than meet projected demand for cancer services; it will also serve as a catalyst to deliver new models of care that will feature greater collaboration and coordination across the state. The development of TCC has been led by the CEOs and senior management teams of each of the regions' major hospitals. In addition,

the consortium has state cancer clinical leaders, the Director of Menzies Research Institute, senior representatives of advocacy and service delivery groups such as Cancer Council Tasmania and other key stakeholders (refer Appendix F5). The group meet regularly (currently weekly) and has helped guide the development of the state's first Tasmanian Cancer Framework and Strategic Plan, December 2009 (TCFSP) (refer Appendix F1). The Plan was developed to guide and coordinate the state's vision for cancer care. This infrastructure funding application is a critical component of realising the objectives of the TCSFP.

This infrastructure will be complemented by improved patient management. Largely this will be achieved by the integration of services and processes that currently operate as distinct services – such as radiation oncology, medical oncology, surgery etc. Integration in this sense will lead to patients being assessed and managed on a multi-disciplinary, multi-provider model rather than the current processes whereby patients are referred from one provider to the next in order to access services such as radiation therapy or clinical trials. Integration will be achieved through redevelopment of the physical facilities to allow patient-centric practice models. For example, Tasmania has adopted the tumour-specific frameworks used in Victoria and has done additional work in the area of lung and colorectal cancer as part of the CanNET project to provide more detailed pathways in these areas. Such frameworks provide best practice approaches to referral pathways, patient care and are intended to improve patient outcomes by facilitating consistent high quality care based on evidence and best practice across the state.

This enhanced model of care will also support the National Infrastructure Priorities through linking information and using advanced Information Communication and Technology (ICT) throughout the patient journey by taking advantage of Tasmania's early construction of the National Broadband Network (NBN). This will leverage the reach of practitioners to care for patients beyond their walls and treat people in remote areas more efficiently and effectively. Treatment will be supported by the development of a single accessible statewide patient record for public and private cancer patients. This will allow collection, sharing and accessibility of complete patient information, including access to supporting images and data and integration of information systems across the entire health network. ICT advances will also extend to the next generation of cancer screening and contact management system.

The proposed Commonwealth funding of \$48.6 million represents excellent value for money. It will leverage significant State, participant, in-kind and philanthropic contributions which represent an additional \$18.1 million, bringing total investment to \$66.7 million. This funding will be pivotal to Tasmania to help implement and realise its comprehensive TCC vision and supporting plans.

## **Proposal Timeframes**

Estimated Start Year: 2010

Estimated Finish Year: 2014

Duration (years): Four (4) years

Operational Life (years): 20+ years

## Funding Summary

Table 1: Outline of the overall funding (GST exclusive) for the proposal

	2009-10 (\$m) Year 1	2010-11 (\$m) Year 2	2011-12 (\$m) Year 3	2012-13 (\$m) Year 4	2013-14 (\$m) Year 5	Later Years	TOTAL (\$m)
HHF cash contribution	2.720	22.205	19.003	4.680	-	N/A	48.608
Organisation cash contribution	-	-	-	-	-	-	0.0
Co-investor cash contribution	-	7.055	4.325	2.150	0.100	0.300	13.93
<b>SUB-TOTAL</b>	2.720	29.260	23.328	6.830	0.100	0.300	62.538
In-kind contribution and source	0.275	2.975	0.275	0.225	0.100	0.300	4.150
<b>TOTAL</b>	2.995	32.235	23.603	7.055	0.200	0.600	66.688

*Notes:*

- These are confirmed amounts.

*Table 2: Summary of co-investors' contributions (GST exclusive) to be made by each participant organisation.*

		2009-10 (\$m) Year 1	2010-11 (\$m) Year 2	2011-12 (\$m) Year 3	2012-13 (\$m) Year 4	2013-14 (\$m) Year 5	Later Years	TOTAL (\$m)
Co-investor (State Govt Tas)	Cash	-	6.425	4.325	2.150	0.100	0.300	13.300
	In-kind	-	-	-	-	-	-	-
	Total	-	6.425	4.325	2.150	0.100	0.300	13.300
Co-investor (Calvary Private Health Tas)	Cash	-	0.630	-	-	-	-	0.630
	In-kind	-	-	-	-	-	-	-
	Total	-	0.630	-	-	-	-	0.630
In-Kind (Cancer Council Tas)	Cash	-	0.600	-	-	-	-	0.600
	In-kind	-	-	-	-	-	-	-
	Total	-	0.600	-	-	-	-	0.600
In-Kind (Elphinstone Pty Ltd)	Cash	-	-	-	-	-	-	-
	In-kind	-	2.150	0.100	0.100	0.100	0.300	2.750
	Total	-	2.150	0.100	0.100	0.100	0.300	2.750
In-Kind (DHHS Facility Management)	Cash	-	-	-	-	-	-	-
	In-kind	0.050	0.100	0.050	-	-	-	0.200
	Total	0.050	0.100	0.050	-	-	-	0.200
In-Kind (Menziess Research Institute)	Cash	-	-	-	-	-	-	-
	In-kind	0.225	0.125	0.125	0.125	-	-	0.600
	Total	0.225	0.125	0.125	0.125	-	-	0.600
<b>TOTAL</b>	N/A	0.275	10.030	4.600	2.375	0.200	0.600	18.080

*Notes:*

- These are confirmed amounts.

## **PART FOUR – SELF ASSESSMENT**

### ***Evaluation Criterion 1***

This infrastructure redevelopment and construction proposal will facilitate a seamless and integrated care program balanced across the entire state<sup>1</sup> linking Tasmania's three major public hospitals, major private hospital, divisions of general practice, patient advocacy and support groups such as Cancer Council Tasmania (CCT), medical researchers and the University of Tasmania's Faculty of Health Sciences. Linkages will be enhanced through deployment of state of the art communication networks that will take advantage of Tasmania's leadership in constructing the NBN. Benefits will be realised not just for cancer patients but also those at risk of cancer, their families and carers, and support networks.

This funding will play a significant role in progressing the Commonwealth's reform targets by redeveloping and/or constructing facilities that will allow for a new level of care for Tasmanians affected by cancer. It takes advantage of the NBN rollout which is the first of seven National Infrastructure Priorities.

Nationally, Tasmania has the highest age standardised incidence rates (ASR) at 433.9 cases per 100,000 persons<sup>2</sup> (excluding skin cancers).

This infrastructure will also address significant capacity constraints. Tasmania has Australia's most ageing population with currently 20% of its residents aged 60 or over and by 2016 this number is expected to reach 30%. Based on projections from 2011<sup>3</sup>, Tasmanians are not only the most likely people to be diagnosed with cancer, they are also more likely to die from the disease with age-standardised death rates for cancers in Tasmania being 184.8 deaths per 100,000 people compared to the national average of 178.5 deaths per 100,000 people.

Cancer incidence is set to continue with AIHW data predicting a 3.5% compound growth in cancer rates (excluding non-melanocytic skin cancer) for the State. In practical terms this is expected to lead to an increase in new hospital cancer admissions of 42% (or 4,754 new cases) in 2021.

Tasmania's dispersed population sees a greater and rising percentage of the population isolated from cancer treatment centres than most other States: 39% of Tasmanians reside outside the four main urban areas in the State. In the North West region 59% of people live outside Burnie-Devonport. Tasmania's physical separation from the rest of Australia also increases the need to provide comprehensive cancer services beyond what might be adequate for a similarly sized population with secure and ready access to major metro cancer care within the state. Services in the more rural areas of Tasmania have historically depended on the presence of single practitioner or small numbers of practitioners practicing in isolation, although the new Tasmanian Cancer Network will go some way towards improving this.

Funding has been distributed and balanced across the State to both meet the specific needs of each region and to maximise coordination and efficiencies in the provision of services while minimising avoidable travel, accommodation and related expenses for patients and their carers. Commonwealth funding also aligns closely to each region's catchment areas: NWAHS with 22% of the population receiving 19% of funding, NAHS with 28.3% of the population receiving 21% of funding and SAHS with 49.4% of the population receiving 46% of funding. The remaining 14% of funding will go to 'whole of state' initiatives to link, leverage, and better coordinate cancer care predominantly through the use of technology solutions that are made practical by the construction of the NBN. Expanded and improved infrastructure will be extended to patient accommodation, transport and parking so that rural and regional patients can better access specialist cancer services.

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<sup>1</sup> All areas of Tasmania are formally classified as regional or remote, including the capital city of Hobart.

<sup>2</sup> Tasmanian Cancer Framework and Strategic Plan 2010-2013

<sup>3</sup> Australian Institute of Health and Welfare, 2009, Radiation Oncology Areas of Need: Cancer Incidence Projections, 2006-2021, Canberra AIHW (unpublished but approved for planning use).

More specifically there are serious gaps such as insufficient support services located in places close to where patients live or close to treating centres. These include NGOs such as CCT. In addition, there is an important role for NGOs to provide support which takes pressure off patients, carers and hospital staff. Note that specific infrastructure and the rationale for this infrastructure is detailed in Part 5 of this application.

## **Evaluation Criterion 2**

Tasmania is currently not meeting the recommended national benchmarks in numerous areas of cancer care due to limitations of the existing cancer related infrastructure and funding constraints. Tasmania has in place the TCSFP and the Tasmanian Strategic and Business Plan for Radiation Oncology (2009). Under the TCSFP, the RHH and Launceston General Hospital (LGH) are designated Comprehensive Cancer Care Centres.

The state's inability to meet best practice guidelines and treatment approaches is manifested in many ways. If demand increased as modelled and radiation oncology capacity in Tasmania is not increased beyond the proposed five linear accelerators by 2021, 921 patients will not be able to receive radiation treatment. A similar situation will exist for medical oncology if capacity is not increased from the existing 60 chemotherapy chairs (note that total activity in the medical oncology sector has increased by around 45% between 2003/2008). Through the proposed additional 18 chemotherapy chairs, together with adequate floor space for further expansion, in 2021 demand is expected to be essentially satisfied. The increase in chemotherapy chairs is particularly important for NWAHS in addressing the needs of their surrounding rural community.

The work to be undertaken is very significant in terms of scale. Dedicated floor space for cancer care in Tasmania will more than double to approximately 6,700 m<sup>2</sup> which represents an additional 3,750 m<sup>2</sup> or a 116% increase in floor space (refer Appendix G2).

This infrastructure spend will facilitate the significant development and improvement of many oncology facilities and services within the State, and better meet the needs of Tasmania's rural population, much of which is recognised as 'rurally disadvantaged'. It will provide: new patient support and services centres; improved radiation oncology infrastructure; improved medical oncology infrastructure and associated services and improved patient accommodation and parking. Our investment in information technology is critical to this principle. The development of a State wide oncology EMR (ARIA) will ensure greater patient safety and increased efficiency. The establishment of a cancer tissue bank expands the research capacity of the State. Benefits of the infrastructure for patients include:

- improved accessibility to cancer care services, including supportive care;
- improved patient screening processes, presentation rates, treatment and outcomes;
- improved freedom of choice and smoother transition between public and private facilities;
- improved treatment options by way of wider clinical trial participation;
- an improved patient journey and experience – through efficiency improvements and coordination of the patient's care (as a direct consequence of the combined benefits of the ARIA patient record management system and development of patient MDT plans);
- improved referral rates for radiation oncology, medical oncology, allied health and supportive services (in line with best practice examples).

It should be recognised that Tasmania has a demonstrated history and capability of providing sustainable oncology services. Cancer care in Tasmania is not new or unproven, with a dedicated cancer service established in the state in 1925.

This infrastructure will be sustainable in terms of employment and retention, training, research and clinical trials. Improvements in Tasmania's ability to recruit, retain and foster clinicians, nurses, researchers, students, physicists and other associated oncology related specialists will occur as a result of:

- new and improved facilities across the state;
- MDTs providing much needed forums for better outcomes, collaboration, training and professional support;
- increased research opportunities due to linkages with the Menzies;
- increased participation in clinical trials;

- links with the University of Tasmania (UTas), which trains medical, nursing and other allied health students;
- participation in the training education and accreditation program for radiation oncology medical physicists (to commence at LGH 2010 and RHH with the increase in facilities);
- increase in radiation therapy undergraduate and post graduate clinical placements;
- proximity of RHH to Menzies and UTas;
- commencement in 2010 of an Oncology Nursing certificate at UTas; and
- other NBN and IT initiatives, delivering advanced facilities and infrastructure.

The sustainability of the increase in services provided at both the public and private cancer facilities will be met through efficiency improvements and growth in revenues. Public hospitals will also have the ability to draw on state funding should it be required.

Finally, with respect to environmental sustainability, Calvary will be the first 4 Star environmental rated health development in Tasmania. It will represent best practice development standards for both the state and Australia and will help pave the way for future green star rated buildings in the health sector through participants in this development gaining valuable experience which can be used and shared in future green star rated buildings.

The improvements achieved in Tasmanian cancer-related health care will be realistic and measurable. In Principal Four these measures are presented. A significant improvement in Tasmania's ability to collect a range of cancer-related statistics will occur through the continued development and full implementation of the 'ARIA' patient management and clinical record system under this Proposal. This will prove to be an invaluable resource and evidence base for authoritative cancer-related statistical analysis.

The social benefits derived from the implementation of these initiatives are also significant. The Tasmanian MDT referral rate is currently around 35%, with initiatives in place to increase this rate to best practice levels of around 80%. This improvement will be made possible through a range of initiatives including improved meeting room and sophisticated clinical video-conferencing facilities as outlined elsewhere in this application.

Supportive care will be substantially increased. Currently; few patients have access to a consistent level psycho-social care, particularly in the North West. Psychological therapies have been shown to benefit patients by an improvement of 12% in measures of emotional adjustment, 10% in social functioning, 14% in treatment and disease related symptoms, and 14% in overall improvement in their quality of life.

This proposal represents excellent value for money. Significant leverage is achieved by the HHF funding through the combination of State, co-investor, in-kind and philanthropic contributions. This application seeks \$48.6 million from HHF, with a further \$18.1 million being achieved through the avenues above, for a total Tasmanian Regional Cancer Centre spend of \$66.7 million. The value in this proposition is also evident in: the Tissue Bank initiative in conjunction with the Menzies – \$0.650 million spend versus the Victorian Tissue Bank development at a reported costs of almost \$8 million; and the continued development and implementation of the ARIA EMR at a cost of \$2.2 million. Tasmania has a world class medical research institute in the Menzies, which is adjacent to RHH and is collocated with the UTAS Medical School. Cancer-related research is a particular strength of Menzies with one of their two Centres of Excellence focused specifically on cancer. Research is also undertaken in the north through both Menzies who have a dedicated staff member in the North and the Clifford Craig Research Foundation.

Patients, both public and private, will have access to some of the most innovative and advanced therapies available including participation in clinical trials which will, through this infrastructure funding, become available to public and private patients. Menzies has dedicated facilities for clinicians and medical students and will support clinicians with research interests throughout the state.

### **Evaluation Criterion 3**

Investment in this Proposal will not impede any investment from other organisations. In fact, successful HHF funding will leverage funding from five (5) additional sources: the Tasmanian state Government \$13.3 million, Calvary \$0.63 million, in-kind contributions from CCT \$0.60 million (land value); and a philanthropic contribution of at least \$2.75 million. Significant leverage is also being achieved through the attractive value propositions for several relatively small components of this application including:

- Menzies will contribute \$0.65 million towards the Tissue Bank initiative;
- the Breast Cancer Patient Screening System, with a proposed \$1.5 million investment, leverages the extensive multi-million dollar investment by the NSW Department of Health in the design, tendering and anticipated procurement of a solution; and
- the continued development and implementation of the ARIA EMR at a cost of \$2.2 million and will be supported by a clinical data repository, which will be predominantly funded by the state who are contributing \$3 million of the \$4 million in funding required. This is viewed collectively by clinicians as a fundamental component in cancer care patient management, MDT consultations, efficiency improvements and cost reductions. For the patient, this will translate to improvements in patient experience and journey, diagnosis, treatment and potentially outcome. The system will also provide tools for better measurement of performance and outcomes, for cancer research, and an invaluable resource for the collection of reliable statistics relating to cancer care.

The extent of the contributions reflects and strengthens the relationship and collaborations between the DHHS (represented by SAHS, NAHS and NWAHS), Calvary, Menzies, the Tasmanian Government, CCT and the community.

On a combined basis, the effect is to facilitate investment in much needed cancer infrastructure enabling Tasmania to consolidate, expand and provide improved comprehensive cancer services to people in rural, regional and remote areas.

The designs used in the construction of the facilities will draw on best practice principles both nationally and internationally in the design of comprehensive cancer treatment facilities. The required Australian HFG Standards have been adopted. A consultative process for facility design has been used, with the input of leading clinicians. A further requirement of this initiative is for all new facilities and refurbishments to be 'smart' wired for energy efficiency and increased functionality. The latest psycho-social research on aesthetic design appeal has been considered. The major funding initiatives for SAHS and NAHS (which account for over half of the allocated funding) extend existing building fabric rather than build new facilities, which reduces construction costs.

The translation of infrastructure will require the additional appointment of 39 FTE staff and students by 2016. The construction phase when Commonwealth and non Commonwealth investment is combined, will be responsible for generating approximately 90 construction-related positions on average each year for four years.

The development options presented have been considered by several layers of working groups, which have included the CEOs from each of SAHS, NAHS, NWAHS, CCT and Calvary, leading clinicians and DHHS representatives. The Tasmanian DHHS Facilities Management Department has been involved from the outset in the design process and will have overall control and responsibility for the development of each site, including Calvary. NWAHS has been approached by a local company, Elphinstone Pty Ltd, which has offered to co-fund an MRI machine and the necessary supporting staff (subject to NWAHS being issued a licence to operate the machine). This infrastructure program will allow for expansion of the NWRH to accommodate such a contribution in the future.

#### **Evaluation Criterion 4**

Infrastructure integration will occur at a number of levels. Firstly infrastructure funding has been coordinated across the entire state. Regional cancer centres have been well sited to leverage existing infrastructure, minimise avoidable travel, accommodation and related expenses for regional cancer patients and their carers whilst recognising the need for sustainability. Funding shares (refer Principle 1) also closely reflect the regional catchment areas. 14% of funding has been specifically allocated to integration and whole-of-state activities through predominantly technology-enabled solutions that facilitate better access to services and improve effectiveness and efficiency in patient care.

Ongoing recurrent costs associated with components of this infrastructure (refer Part 6) will be integrated into, and form part of, existing operations. HHF funding approval requires state Government support for state-owned entities to ensure that issues such as maintenance costs have been considered as they will be met by the state. Calvary's financial modelling shows that this infrastructure, including maintenance costs, will be cash flow positive (refer Appendix B3).

Each hospital has in place detailed Maintenance Plans (refer Part 5).

DHHS is deeply engaged in delivery of a large capital program over the next three years and has the capacity to readily expand its scope. Current initiatives are progressing well with the NAHS radiotherapy redevelopment being 6 months ahead of schedule. This success is the result of a growing body of experienced personnel and Commonwealth accredited builders to draw upon as well as progressive adherence to robust and comprehensive risk management and mitigation strategies (Appendix E1).

Acquiring and developing the necessary resources to realise the potential benefits of this infrastructure has been carefully considered and is embodied in the TCFSP. Note that workforce planning strategies are detailed in Part Five and a comprehensive implementation, risk management and maintenance plan has been developed and is outlined in Part Six of this application.

We recognize that a well-governed cancer system will have processes in place to monitor performance across the continuum of cancer care. Regular clinical audit and review is essential in order to monitor and measure the safety, effectiveness, appropriateness and accessibility of cancer care, treatments and interventions. Establishing the capacity to measure and monitor performance is a key component of an effective clinical governance system. In addition to broader health measures across the State, TCC has now agreed on 6 specific measures that will be reported on that are consistent with the CFSP and are described in Part 5.

Tasmania now has a state-wide cancer registry which is a critically important tool for ongoing system monitoring and development. It is funded by DHHS and maintained by Menzies and contributes to the national cancer registry program. Over time, registry infrastructure will be developed to enable expanded data collection and more sophisticated analysis of the patterns and outcomes of cancer in Tasmania. The proposed tissue bank will be an important contribution to the cancer registry.

## **PART FIVE – SUPPORTING INFORMATION IN RELATION TO THE HHF EVALUATION CRITERIA AND REGIONAL CANCER CENTRES GUIDING PRINCIPLES**

### **Principle 1 - Extension – Summary of Proposed Infrastructure**

The following describes the infrastructure needs and the purpose of the infrastructure funding for each health service. The aim is to concentrate cancer care in one area for each of the main providers. This will act as a focal point for cancer care in each hospital for patients, staff and ultimately the community as a whole. With the use of advanced and planned IT infrastructure complimented by improved transport, parking and accommodation there will be a greatly enhanced and smoother experience for rural patients with cancer and their families. Potential for expansion (to cope with the expansion in patient numbers and treatment complexity) has also been factored into the application for each area.

### **Southern Area Health Service (SAHS)**

Cancer related facilities and services at RHH are under significant and increasing pressure. The radiation oncology unit was established in the 1960 and was designed for one linear accelerator and 11 staff. Now there are two linear accelerators (both of which are fully committed) and 35 staff. This sees many aspects of this unit not meeting OH&S standards with corridors commonly used for storage and consultation and overcrowded meeting rooms (refer Appendix G5) being used for MDT meetings.

The chemotherapy pharmacy was designed over a decade ago to produce small volumes of chemotherapy medications. The facilities are now constrained due to the increasing use of non-cytotoxic biological therapies that require a biohazard containment suite that is not currently available, with a potential OH&S risk to staff working with these treatments. The oncology ward houses 20 beds and shares its facilities with a general ward. Patient privacy is poor, as the majority of rooms are shared 4-bed rooms.

Day oncology occupies 260m<sup>2</sup> of space and as well as administrative space, houses 14 chemotherapy chairs (reduced from 17 to comply with the Australian Standard of 9m<sup>2</sup> floor space per chair). The tight space constraints necessitate patient consultations being given beside other chemotherapy patients. Oncology clinics were recently relocated to a different floor and are now housed in a disused inpatient ward, separate from the chemotherapy treatment unit, in order to provide more space at the expense of integration.

These infrastructure constraints are compounded by service deficiencies that are the result of fragmented services and outdated and unsuitable facilities, requiring patients to traverse up to 4 floors of four different buildings. This physical separation has inhibited the development of a shared-care model and a multidisciplinary and seamless approach to service provision.

\$24 million of this funding will be directed to SAHS (\$5.8 million of which is State Government funding) to specifically overcome these deficiencies. Funding will be directed towards:

- **Outpatient Centre:** A multidisciplinary outpatient cancer centre will be developed that will include shared clinical and administrative space, patients will be treated in one clinic irrespective of care provision. A dedicated room for MDT meetings with state of the art video conferencing facilities will also promote, tele-health to allow outreach to remote areas. A dedicated oncology satellite pharmacy will also be established.
- **Day oncology:** Chemotherapy will be provided in enhanced and spacious surroundings allowing patient consultation with privacy.
- **Radiation oncology:** This redevelopment will allow for the Patient Support and Services Centre (refer next). A third bunker will be built to enable the second linear accelerator

machine to be replaced in 2012 without disruptions to clinical services. Administrative space can be centralised and combined with medical oncology. A third linear accelerator will be provided by the state when required (depending on demand and referral rates, between 2014 and 2021).

- **Patient Support and Services Centre:** This will provide psycho-social support, training and education for patients, preventative workshops and complementary health care, and will be located close to patient transport and accommodation.
- **Oncology Inpatient Ward:** The current 20 bed ward consisting of mostly 4 bed shared rooms is space constrained, inhibiting administration, clinical activities and patient contact. Case conferencing is typically done in hallways. The redevelopment will create 24 beds, most in single bed rooms, and will allow dedicated spaces for case conferencing and other clinical work. Improved facilities will include positive and negative pressure rooms for the protection of neutropaenic patients and infectious patients respectively.
- **Palliative care:** The unit will undergo a minor redevelopment allowing for 3-4 additional beds and to provide offices and meeting spaces being lost with the relocation of Acute Rehabilitation to the 90 Davey Street campus.

### **Calvary Private Health Tasmania (Calvary)**

With 42% of the Tasmanian population privately insured and an average of 50 patients a year self-funding chemo therapy treatments it is important that Tasmania strengthens its capacity and capability to provide equity and access to high quality cancer care. Calvary is currently limited in its ability to provide truly comprehensive cancer services, and the services it does provide are often in inadequate facilities that are unable to meet demand. For example, Calvary currently has six chemotherapy chairs. Demand has necessitated that three chairs in other parts of the hospital are regularly being used for chemotherapy treatment, leading to inefficiencies for both staff and patients.

The \$5.1 million in funding (\$4.5 million of which is Commonwealth funding) will be directed to Calvary to build a dedicated Cancer Centre, linked to the Tasmanian Cancer Clinical Network. This centre will provide much needed capacity to help meet current and projected demand but will also see the consolidation of cancer care that will provide synergies in terms of expertise, an expansion in complementary treatments and a more seamless patient experience from diagnosis through to palliative care or survival. This expanded capacity will allow day chemotherapy and medical oncology in key specialty areas that will address unmet demand for services. This will also address the degree of imbalance in the demand for services between the public and private hospitals, where demand is higher in the public system but lower in the private sector because of inadequate facilities and linkages. Addressing this imbalance will not only better meet patient needs and choice but will be more cost effective for government as private health funds will support private patient funding thereby reducing government service demand and associated expenditure.

Private patients will for the first time be able to participate in late stage clinical trials due to Calvary achieving a critical mass of patients to make clinical trials viable. Calvary will use the existing clinical trial research capabilities and business model from its South Australian Calvary sites where they have recruited patients as the global lead site in a number of oncology trials.

This broadened research opportunity will not only be a market lever to retain and recruit specialists who have a strong research focus within their clinical practice, but will ensure Tasmanians have far more opportunity to participate in clinical trials that may offer hope from research, supportive and potentially curative perspectives.

### **North West Area Health Service (NWAHS)**

With 22% of Tasmanians living in the North West of the State there is a pressing need to have a comprehensive cancer care facility. Medical and radiation oncology is currently provided predominantly from NAHS (43% of NAHS's medical and radiation oncology patients). This requires many patients to travel a 297 km return trip for a relatively short radiation therapy treatment and those from beyond Burnie will travel significantly further. Patients are typically unable to remain employed during treatment due to the time required to travel for treatment which also negatively affects the ability of friends and family to directly support them. NWAHS has inadequate space for chemotherapy treatment where chemotherapy rooms are shared and need to be negotiated case-by-case. Children receive care in the adult centre with no specific child-friendly provisions. There are currently no hospice services and palliative care is primarily nurse-led. Although there is at present no dedicated accommodation facility for patients undergoing cancer treatment in the North West region of the state, there are plans to address this issue through other Commonwealth funding. Finally this facility will also provide a focal point where patients who have broader needs such as financial and domestic support can be identified and where possible assisted. \$9.9 million of the proposed Commonwealth infrastructure funding has been allocated to NWAHS. This will be complemented by \$5.5 million in philanthropic and state Government support, which is contingent upon licenses required for the pledged equipment. This will transform cancer service delivery to the region and will result in the establishment of a purpose-built, truly integrated North West Cancer Care Centre. The features of this development would be acute treatment capacity with 12 chemotherapy chairs and a separate area for consulting rooms. The Centre will have a dedicated room for MDT meetings with state of the art videoconference facilities and will allow patients to participate in clinical trials. Palliative care facilities with outreach capacity will operate from the centre. The centre will also be used for teaching purposes for the local community, the UTas rural clinical school and the North West GP group. The cancer centre will also provide infrastructure that allows for expansion of services in the future. With the increased chemotherapy capacity and the future donation of equipment and supporting staff, this could enable NWAHS to provide a comprehensive cancer facility for people in the North West of the State. The proposed infrastructure will see a critical mass of cancer patients being treated in the North West and will support the appointment of clinicians and other health service providers who currently have to commute from other parts of the state.

### **Northern Area Health Service (NAHS)**

The TCSFP allocates Launceston General Hospital as the Comprehensive Cancer Care Centre for northern Tasmania. It provides radiation therapy services in its catchment area through outreach services and treating patients at the Holman Clinic at the LGH.

Demand for oncology services has grown significantly over the past 5 years. Between 2003/04 and 2008/09 there has been an increase of more than 50% in standardised patient attendances in the day oncology unit that provides medical oncology and clinical haem-oncology services. Radiation oncology attendances have grown by 22% over the same 5 year period. Waiting lists for radiation oncology in 2008 were such that 22% of radical treatments and 37.5 % of palliative treatments were not delivered within the ACHS and RANZCR maximum acceptable standards of 28 and 14 days respectively. The new Linear Accelerator, coming on-line at the end of 2010, will make inroads into this waiting list and will increase the number of patients treated per day.

The day oncology unit does not currently meet the national standards for chemotherapy chair spacing with the current complement of 12 chairs and 2 beds. With a 42% projected increase over the next 10 years there is a need to house an additional 6 chairs and 3-4 beds.

The current 3 medical and 3 radiation oncology consulting rooms are insufficient to meet the needs of the medical, nursing and allied health care providers. An additional Medical Oncologist, and Radiation Oncology Registrar will commence early in 2010 and additional

social worker and dietician hours will be added in July 2010. The proposed 3 additional consulting rooms will provide the facilities required for this expanded workforce as well as provide a dedicated room for MDT meetings with state of the art videoconference facilities will also promote tele-health to allow outreach services to remote areas.

Patient accommodation is a problem that was identified in the Banskott Review in 2008 *Review of Current Tasmanian Patient Transport Services – Financial Assistance, Transport Coordination and Health Related Accommodation*. The recommendation for the north of the state was to build family style units to house an additional 20 people as well as supporting the CCT's proposal to build accommodation for 30 people. The need is highlighted by those patients who incur significant out of pocket expenses staying in commercial accommodation. The Commonwealth, through the Radiation Oncology election commitment funding, is providing 6 two bedroom family-style accommodation units. This will house an additional 6 patients and their families. Additional and improved accommodation will help meet future demand created by the increase in cancer incidence over the next 10 years.

DHHS, CCT and Spurr Wing collaborated to map future needs for patient accommodation. With 30 patients currently being accommodated, and a projected increase of 40%, there is the need for accommodation to house an additional 12 patients and their carers. The current CCT proposal addresses this need, and can be expanded in the future should it be required.

Being a regional centre research and education are key components in the recruitment and retention of professional staff. The proposed Education and Research Centre, as part of this infrastructure will be key to achieving a sustainable workforce in the North of the State (refer below Workforce Planning).

The proposed Patient Support and Services Centre and transport hub will be operated by CCT and is also supported by the Leukaemia Foundation. It will provide patients and their families with a place to obtain information and support services, as well as a transport hub for people to rest and purchase food and beverages before being transported home, often to remote parts of the State.

## **ICT Infrastructure**

Tasmania will be the first region to construct and operate the NBN which will allow the deployment of a range of technology enabled solutions. This provides a valuable and timely opportunity to deploy and showcase technologies that will improve the provision of cancer services throughout the state. These technologies also have application to other parts of the health sector and will provide valuable learnings for mainland Australia. Four major ICT initiatives will be delivered which will account for 14% or \$9.7 million of total infrastructure spending. \$3.75 million of this expenditure will be borne by the state. State funding is directed towards pilot technologies that may have flow on benefits to the health care system.

**ARIA:** The further development of the ARIA system will make Tasmania the first state to implement a full clinical system for cancer across all the state. Comprehensive cancer services require access to patient information for all clinicians. The ARIA initiative will bring this information together and, through the benefits of faster data transfer via the NBN, will make the suite of patient information including large data files, high definition images and patient records available in real time across the health network to authorised personnel.

**Clinical Information System:** An integrated clinical data repository will be developed to provide access to all available data (public and private) in-patient and clinician-centric modes. This will be linked through the clinical system and made available in real time across the State, reducing the barriers that distance typically presents.

**Clinical Conferencing:** Full broadband-enabled clinical conferencing will be developed, utilising diagnostic, clinical data and live video conferencing for MDT work across sites. This can be used in a variety of settings including simultaneously allowing images, clinical information and direct vision to be integrated into case management in real time. This will

expand access to clinicians, reduce travel time, improve the transfer and sharing of knowledge and clinical decision making.

**Clinical networks:** Development of clinical network capabilities utilising web based portals for information sharing, case management and professional support. These facilities are expected to lead to better patient outcomes, as more effective and efficient use of clinicians' time, professional networking and support, streamlined access to specialist advice and multidisciplinary activities which also include consumers.

**Breast Screening:** Cancer screening is a vital element in cancer prevention and management. This infrastructure will enable patients with or at risk of cancer to have information directly available to them and their physicians through a Cancer Breast Screening Client Management System. This will provide a platform capability that can be extended to other cancers over time.

**Tissue Bank:** This will collect and store tumours and associated patient information from consenting patients. Cancer focused researchers will use these tissue samples to develop a better understanding of how cancers are caused, how they develop and respond to treatments, and help identify those at risk of cancer.

## **Principle 2 - Extension – High Benefits and Effective Use of Resources**

In 2011 Tasmania is expected to have 3,346 new cancer cases, growing to 4,754 in 2021 – a 42% increase. Tasmania will be unable to meet national benchmarks in cancer treatment due to inadequacies of the existing cancer related infrastructure and funding constraints.

Tasmania has in place the TCSFP and the Tasmanian Strategic and Business Plan for Radiation Oncology (2009). The TCSFP objective is 'to achieve optimal outcomes for all Tasmanians at risk of or affected by cancer, by providing high quality cancer services across a continuum of care, from prevention through to treatment, survivorship and palliative care' (TCFSP, pp.1).

The TCSFP identifies key areas of need. This can be summarised as the continued development and coordination across the care continuum and more equitable access to prevention, screening, diagnostic and treatment services, particularly for people living in rural areas. Improving the links and referrals between diverse service providers in cancer care will enhance access, quality, consistency, co-ordination, continuity and cost effectiveness of patient care. It also calls for further work to ensure the provision and co-ordination of the full range of multi-disciplinary care for cancer patients including broad ranging patient support and education programs (CSFP, p.19). This application directly addresses these issues.

Radiation oncology in Tasmania provides a clear example regarding the economic impact as a result of the limitations in services provided to the public. The current average Tasmanian referral rate for radiation therapy is 42%, well below the recommended radiotherapy utilisation rate of 52.3% (Delaney G, Jacob S et.al 2005). At current referral rates, insufficient patients are receiving radiotherapy. At the recommended utilisation rate of 52.3%, assuming a re-treatment rate of 35%, then by 2021, 921 patients are expected to not receive radiation oncology treatment due to capacity constraints. Barton MB et al (2005) calculated average survival of all radiotherapy patients to be 4.75 years. The survival benefit attributable to radiotherapy treatment was approximately 16% of this period or 0.76 years. The total life years lost from 2011 to 2021 will be 4,652. If the present 42% referral rate were to continue, the incidence of patients not being treated is substantially increased.

Referral rates for MDT services is similarly low in Tasmania: around 35%. With the initiatives and infrastructure proposed in this application, it is aimed to increase this to around 80%.

With the combination of the establishment of state-of-the-art MDT meeting facilities, together with the Tasmanian rollout of the NBN, this will be a significant development for MDT meetings in all cancer streams regionally, statewide and nationally. This technological advance will extend to GPs and result in improved engagement between GPs and MDTs. This will allow easier access for GPs to MDT meetings relevant to their patients (and possibly

patients themselves) by the use of desk top videoconference facilities. Ultimately, this will result in improved coordination of treatments for patients.

Total activity in the medical oncology sector has increased by around 45% between 2003/2008, largely due to increased cancer incidence, the availability of new drugs, more complex treatment regimes and the use of chemotherapy in a wider range of cancers.

Tasmania currently has 60 chemotherapy chairs. It is estimated that by 2021, 564 patients requiring chemotherapy will not be treated (based on the NSW planning guidelines for Intravenous Chemotherapy of a 41% referral rate and a re-treatment rate of 25% with an average of 10 chemotherapy visits per patient and an average of 1.2 chemotherapy visits per chair per day with 260 treatment days per year).

<b>Tasmanian Chemotherapy Forecasts – Treatment Requirements (at 60 Chairs)</b>			
60 Chairs	2011	2016	2021
New Cancers Cases	3,346	4,014	4,754
Total patients requiring treatment	1,715	2,058	2,436
Max patients treated pa	1,872	1,872	1,872
Number patients not treated	0	186	564

There will be a reduction in the number of un-treated patients in Tasmania with an increase in chemo-therapy chair capacity. The table below shows that the number of patients not treated is substantially lower using the proposed facilities. This is likely to translate into a reduction in life years lost for chemotherapy treatment, however there is inadequate research on the relationship between life years gained/lost and chemotherapy treatment. No comparative economic cost analysis for the impact of untreated patients can be performed but is likely that there is an overall economic benefit from increasing patient treatment rates.

The most significant benefit of improved access to chemotherapy is providing the rural and remote population of Tasmania with an improved and expanded service where treatment is delivered closer to home, along with the ability to meet forecast demand for treatment and assist with access to clinical trials with the associated benefits.

<b>Tasmanian Chemotherapy Forecasts – Treatment Requirements (at 78 Chairs)</b>			
78 Chairs	2011	2016	2021
New Cancers Cases	3,346	4,014	4,754
Total patients requiring treatment	1,715	2,058	2,436
Max patients treated pa	2,434	2,434	2,434
Number patients not treated	0	0	2

With particular regard to the North West, it is envisaged that the construction of a pivotal Patient Care and Support Services collocated with NWRH (and ultimately linked to the comprehensive cancer care centre at NAHS) will generate awareness and confidence that a cohesive cancer care centre with high quality evidenced based care is readily accessible to patients when they need it.

Supportive Care is another important element of this application, with services to be significantly increased through the inclusion of purpose-built facilities in the South, North, and North West. Currently very few patients have access to consistent psycho-social care, particularly in the North West. Cancer research studies provide encouraging results for the

provision of supportive care. Patients receiving psychological therapies showed on average, a significant improvement of 12% in measures of emotional adjustment, 10% in social functioning, 14% in treatment- and disease-related symptoms and 14% in overall improvement in their quality of life compared to those not receiving psycho-social therapies. (Clinical Practice Guidelines for the Psychosocial Care of Adults with Cancer, National Health & Medical Research Council, National Cancer Control Initiative and National Breast Cancer Centre, 2003).

Palliative Care referrals have continued to increase state wide over the last 5 years, with a 30% increase in referrals since 02/03 (South 34%, North 31% and North West 17%). The increase in referrals can be attributed to: continued increased demand for palliative care services (ageing population, high incidence of malignant and non-malignant conditions in Tasmania); recruitment of additional palliative care medical specialists in 2002-2007 (resulting in increased service activity and referrals); and extensive provision of palliative care education across the health care sector over the last three years. The number of referrals is expected to continue to grow with increasing cancer incidence. The increase in palliative care infrastructure will enable continued growth of the service to meet the increasing demands.

Tasmania currently has 35 active clinical trials related to cancer, involving approximately 200 patients state-wide (approximately a 6% participation rate with respect to incidence). The initiatives contained within this application will foster additional clinical trial activity, through the public hospitals, at Calvary and as a result of continued collaboration with Menzies and the Clifford Craig Research Foundation.

At Calvary, private patients are currently unable to access clinical trials as they are typically provided through the public system due to patient throughput. The increased capacity and volume of patients through the new facility at Calvary would see the introduction of clinical trials at that facility via collaborative arrangements with the public sector, specifically SAHS. Calvary has the ability to directly and rapidly build clinical trial capacity and service. Importantly, in the last six months Calvary's sister facility in Adelaide, the Calvary Health Care Adelaide Oncology Clinical Trial Unit, has already commenced two global cancer trials where they are the lead site and has commenced eight other trials. With the construction of a dedicated oncology facility, Calvary will be in a strong position to rapidly leverage a proven research model that includes clinical trials.

Tasmania has developed a world class medical research institute in Menzies, with an excellent record for translating clinical and epidemiological results into practice. Menzies has grown from 44 staff in 2002 to 320 staff in December 2009, which has in part resulted from leveraging Tasmania's unique competitive advantages for medical research – particularly its stable but historically isolated population. This means that cancers can be studied across an entire population. Combining clinical, epidemiological, and genetic information with this population-wide view has allowed progress in identifying the genes and environmental influences affecting cancer. For example, this has led to the identification of a gene underpinning prostate cancer in Tasmanian families and the identification of two loci in patients with chronic lymphocytic leukaemia (CLL).

Under the arrangements proposed in this application, public and private patients will have access to some of the most innovative and advanced therapies available, including participation in clinical trials which would be available to a greater number of patients. Menzies has dedicated facilities in Hobart for clinicians and medical students undertaking research. At both Hobart and Launceston, Menzies provides support to clinicians with research interests by providing them full access to physical and professional research infrastructure. This allows research scientists, clinicians and students to work more closely together to ensure that advances in treatment are quickly integrated into medical and allied health student teaching and rapidly adopted in clinical settings. The experience that Menzies has developed will improve the utilisation of new diagnostics and therapeutic interventions in Tasmania.

The infrastructure funding will also establish a Tasmanian tissue bank to help cancer-focused researchers identify those at risk of cancer, and develop a better understanding of how cancers are caused, develop, and respond to treatments especially those with a genetic basis..

## **Principle 4 - Extension – Implementation and Management**

### **Workforce Planning**

Tasmania has a long history in the successful provision of a skilled cancer services workforce throughout the state. As part of Tasmania's CFSP (Developing a Sustainable Workforce, pp. 56-62) further consideration has been given to broadening the skill base, developing a more sustainable workforce to meet the projected demand for services, and providing best practice approaches to service delivery in a regional context. Catchment populations broadly reflect patient demand and the thresholds defined by the relevant colleges to sustain medical specialist services. These thresholds have been used to guide workforce planning. Currently there are 24.7 dedicated cancer positions in the state with 8.2 FTE positions in the North, 2.3 in the North West, and 14.2 in the South (not including the 0.5 visiting service from Hobart to the North West).

In line with the State's implementation of the TCFSP, at least 5 medical oncologists/haematologists will be progressively appointed and will reside in Northern Tasmania to support this infrastructure and projected growth in demand. The North and North West have particular difficulties in attracting skilled personnel. A small number of specialists service these locations and there is little support from advanced trainees or cancer care coordinators. This means that even small changes in the availability of medical practitioners has a significant impact on cancer services capacity in the North and North West. The proposed infrastructure will be pivotal in addressing these issues and improving the skills of an expanded workforce in the following ways:

- improved infrastructure will assist with the recruitment and retention of key professionals, especially in the more distant regional hospitals;
- it will allow for multidisciplinary care to translate into teaching and learning;
- UTas has a statewide network of regional and rural teaching sites, in particular through the Rural Clinical School, the University Department of Rural Health, and the Faculty of Health Science (which encompasses teaching in medicine, pharmacy, nursing, midwifery, and others). This supports and complements cancer-related professional staff. Under this proposal, placements in the North and North West of the State will be expanded;
- a range of Research Higher Degree positions will be made available by UTas to develop the next generation of clinical and academic leaders in cancer services across the range of disciplines;
- the North West's Registrar Training accreditation for an advanced medical oncologist position will be renewed;
- the proposed infrastructure will provide improved facilities to teach students, and pre-vocational and vocational trainees;
- the provision of clinical trials, epidemiological and biomedical investigation will be expanded into the North and North West through Menzies; and
- there are opportunities for existing staff to undertake clinical leadership and management studies and research through a range of statewide UTas programs.

The collocation of medical researchers with UTas School of Medicine adjacent to the RHH will facilitate more interchange between clinicians and students, leading to greater student exposure to effective education and training related to cancer prevention and care.

Skill shortages, which are particularly pronounced in the North West of the state, will be in part addressed through their proposed Cancer Centre with the inaugural appointment of a dedicated medical oncologist. This facility will also be able to accommodate a greater number of student placements and will give specific exposure to cancer services in a rural setting. It will also help to foster and identify students who may seek a permanent career in regional Tasmania.

Through the implementation of the NBN, staff will be able to more effectively engage with health professionals remotely, as well as assist students in remote parts of the state to more fully participate in and access best practice training, through direct video linkages and real time data access and communication.

Calvary is exploring a nurse secondment model whereby nurses from its 17 sites across Australia may move to Tasmania and work for limited or extended periods by negotiation. The new facilities within the new infrastructure will provide the work space for these nurses as well as be a major attraction for this to occur.

NWAHS are well advanced in negotiations with Peter MacCallum Centre in Melbourne to extend its oncology clinicians to NWAHS. This proposal would make such an arrangement more appealing to the specialist oncology clinicians.

Tasmania has strong links to a number of mainland hospitals including the Peter MacCallum Cancer Centre, St Vincent's Hospital, the Royal Melbourne Hospital and the Royal Children's Hospital. The depth and breadth of these linkages vary but include drawing on specialists for complex or unusual cases, sharing of new developments, monthly video links for MDTs, and direct referrals. Melbourne-based clinicians also come to Tasmania for late effects clinics. Importantly, these linkages provide access to an expanded skill and resource base to support regional cancer care in Tasmania.

Workforce planning also has an emphasis on strengthening the role of primary care providers such as general practitioners, community and practice nurses and community-based allied health professionals in screening, early diagnosis, follow up during treatment, palliative care, support for survivors, etc. It is anticipated that with the support of ICT implementation and greater coordination of cancer services there will be improved skills and accessibility of these professionals allowing for more efficient and effective primary care.

It is also worth noting that the Stage One Menzies building opened December 2009, collocated with UTas School of Medicine and adjacent to the RHH. This facility is expected to assist with the attraction, retention and training of medical students, researchers and clinicians with research interests.

The proposed infrastructure will also allow Calvary patients in Hobart, for the first time, to participate in clinical trials, with obvious synergies of patient access to research and novel therapies. Calvary is now in a strong position to rapidly leverage its clinical trials model actively and successfully working in their four South Australian Calvary sites. As evidence of alignment with 'standards', the research model in SA has already (in under 12 months) resulted in three South Australian Calvary sites receiving Australian Council of Healthcare Standards (ACHS) 'Excellent Achievement' ('EA') rating in Organisational Wide reviews. In addition its Palliative Care Service was achieved an 'Outstanding Achievement' (OA).

The LGH Holman Clinic with this supporting infrastructure will be able to achieve long term sustainability of key staff by training these professions locally. From 2010 the centre will have an advanced trainee radiation oncologist, two radiation oncology Medical Physics registrars, two professional development year radiation therapists and providing clinical placements for up to 25 undergraduate radiation therapy students. The centre is also looking to have an advanced trainee medical oncology registrar position and is involved in the nurse and the medical training programs of UTas. Ongoing professional education is supported with an in-house education program. The existing meeting room cannot currently house all of the clinic's staff, reducing the ability for teaching and case conferencing to be fully integrated or multi-disciplinary. Case review conferences both local and state-wide are also held monthly and pathology and radiology meetings are also held in the facility. A new meeting room with the flexibility to divide into two smaller meeting rooms will facilitate these needs.

As a regional centre, research and education are key components in the recruitment and retention of professional staff. In both LGH and RHH, proposed spaces for education and research have been designed to meet the needs outlined below:

- Clinical trials offices do not meet the standard space requirements, requiring staffing and storages areas to be increased. LGH and RHH clinical trials centres have linkages with national and international trial centres. In LGH, there are also links between the Holman Clinic and the Clifford Craig Medical Research Trust, and in RHH strong links with UTas School of Medicine and Menzies. The proposed facilities provide substantially improved

spaces to house clinical trials. This also allows more space to expand day oncology clinical services.

- Formalised MDT meetings for a range of clinical specialities have been implemented, including haem-oncology, colorectal and lung cancer. These complement the long standing breast cancer meetings. Having better facilities for these meetings and improved video conferencing facilities will enhance opportunities to broaden involvement in these meeting to include participants from across the state.

### **Maintenance Program**

Integration of this building and achieving synergies between the hospitals, UTas, and Menzies is a key objective of this infrastructure funding. Each participant has supporting maintenance provisions. These provisions cover major capital works of the hospitals and are designed to ensure that any new infrastructure and related services maintain the performance standards after commissioning of new capital works. The overall burden of this infrastructure although significant in terms of its impact on cancer provision is a small percentage of the overall infrastructure and maintenance requirements, approximately 3%. Existing maintenance arrangements will be extended to incorporate this additional infrastructure. The marginal cost of this additional infrastructure remains within the current capacity of each organisation. There are no significant capital items proposed under this funding (such as MRI units or Linear Accelerators) that would have significant implications for maintenance.

As outlined in Principle 4, hospital-specific infrastructure will fall under DHHS maintenance arrangements detailed in Appendix E2. These guidelines cover the maintenance of major capital works of the department and ensure that new infrastructure and related services maintain performance standards after commissioning. This includes service level agreements for corrective maintenance, preventative/life cycle maintenance, restorative work, and statutory maintenance. These guidelines also ensure the timely attendance and quality of maintenance activities as well as special emergency and call out provisions. In addition to the maintenance program, new building works are typically expected to have a life of 60 years and will usually undergo a major refurbishment after 25 years.

ICT infrastructure that takes advantage of the NBN will use currently-available technologies and will be maintained by the state in collaboration with Aurora. Aurora has prime responsibility for the construction and implementation of the NBN into existing Service Level Agreements, warranties and performance commitments.

## **PART SIX – BUSINESS CASE**

### **Historical Strengths - Tasmanian Cancer Services**

Tasmania prides itself on having a long history of innovation in medical practice. Tasmanian firsts include the establishment of the oldest medical Act of Parliament in the British dominions, the administration of the first anaesthetic for surgery in Australia and the pioneering use of X-rays in medicine. The Medical Council of Tasmania is said to be the first and oldest such registration body in the world.

Innovation in cancer care, coupled with a strong tradition of community support and effective non-government contribution to the improvement of cancer services, has resulted in a robust track record of effective and efficient cancer service delivery in the state.

Cancer care in Tasmania has had as its foundation for many years a desire to improve the lives of cancer patients by finding new ways of providing better treatments irrespective of where patients live.

The beginnings of Tasmanian cancer services came in 1925 when Dr William Holman moved to Tasmania and established a radiology practice in Launceston. Dr Holman was keenly interested in the development of new and improved techniques for the delivery of radiotherapy and during the 1930s was responsible for the installation of an advanced deep therapy machine at the Launceston General Hospital. He achieved international recognition for his pioneering use of ionising radiation in the treatment of cancer and first used radon needles for treating breast cancer as far back as the 1930s.

The state government decided in 1943 that Tasmania's cancer services should move towards amalgamation with a centralized institution in Victoria. In 1952 the newly formed Cancer Institute Board of Victoria established Peter MacCallum clinics at Launceston, and later in Hobart, over which Dr Holman was given responsibility. The Tasmanian Government assumed responsibility for the service in 1986 and the clinics were renamed the W P Holman Clinics in his memory.

Dr Holman has previously been described as a 'powerful force for the good practice of medicine' and as a 'renaissance man'. His passion for innovation and excellence in cancer care lives on in Tasmania today.

In 1969 Professor Albert Baikie was appointed to the inaugural Chair of Medicine in the then newly-established University of Tasmania Medical School. He had an international reputation in the investigation and treatment of leukaemia which broadened to include cancer generally. He set up a weekly 'Joint Clinic' where patients of mutual interest were discussed with the radiation oncologists. This Joint Clinic continues today and can be seen as a prescient forerunner of the Multidisciplinary Clinics of modern oncology practice. Professor Norelle Lickiss, appointed inaugural Professor of Community Health in the early 1970s, developed an interest in palliative medicine (before the term was even invented). She went on to become a celebrated Professor of Palliative Care at the University of Sydney from which she has only recently retired.

In the tradition set by Dr Holman, current practitioners have continued to develop innovative cancer care techniques. Practices and procedures for which Tasmania is particularly recognised include:

- autologous bone marrow transplantation;
- brachytherapy;
- novel imaging and radiotherapy treatment techniques; and
- information technology, including the development of a state wide electronic cancer record.

Tasmanians since the 1980's have had the choice of either private or public treatment for cancer with Calvary via Gibson Unit at St John's Hospital which has been providing Palliative

& Haematology/Oncology service since the early 80's with the unit being officially opened in March 1986.

This HHF RCC funding will be a pivotal opportunity for Tasmania to continue to demonstrate leadership in implementing a new standard of regional cancer care and address the current infrastructure inadequacies that are having the greatest impact on cancer patients.

## **FINANCIAL PLAN**

### **Overview**

This Application comprises numerous separate developments distributed across the state and further complicated by several parties providing co-contributions, plus cash and property in-kind contributions. A detailed summary has been included as Appendix C1.

### **Summary of Contributions**

The estimated cost of the total Tasmanian Regional Cancer Centre development (exclusive of GST) is \$66.7 million, comprising:

- \$48.6 million requested from the HHF;
- a \$13.3 million co-investment from the Tasmanian Government;
- \$0.63 million co-investor contribution from Calvary Private Health Tasmania;
- an in-kind contribution from the Cancer Council Tasmania of land, valued at \$0.6 million;
- a philanthropic in-kind contribution of at least \$2.75 million toward associated equipment and training;
- an in-kind contribution from the Menzies Research Institute of \$0.6 million; and
- an in-kind contribution of \$0.2 million from DHHS Facilities Management Branch.

These direct contributions will be supported by in kind contributions in implementation management by senior executives of the three Area Health Services and DHHS Information Technology Services Unit. Refer Attachment C2.

Worthy of note are the other already occurring or committed funding through either Commonwealth or State Government avenues totalling \$39.6 million. These funds, when combined with the proposed \$66.7 million in new funding from HHF/state/Co-investors/In-kind, give a total cancer related activity in Tasmania of \$106.3 million. The resultant mix of contributors to the total proposed activity of \$106.3 million would be Commonwealth \$64.7 million (61%), Tasmania \$36.8 million (35%) and private donor contributions of \$4.8 million (4%).

## Ongoing Management of the Investment

The multiple projects will be co-ordinated across two offices of DHHS. The contractual, financial, and reporting arrangements will be conducted through Intergovernmental Relations and construction management responsibility undertaken by the specialty building services department of DHHS Facilities Management. These centrally co-ordinating offices will assume responsibility for each of the Area Health Services, Calvary, and Menzies as appropriate.

## Proposed Timeframe

Proposed Timeframes				
Entity	Design & Planning Completion	Gross Maximum Price Established	Estimated Construction Commencement	Estimated Construction Completion
SAHS	Oct 2010	Nov 2010	Dec 2011	Dec 2012
NAHS	June 2010	Aug 2010	Oct 2010	Dec 2011
NWAHS	Jun 2010	Oct 2010	Nov 2010	Dec 2011
Calvary	Mar 2010	Jun 2010	Jul 2010	Feb 2011
Menzies	n/a	n/a	n/a	n/a
DHHS-NBN/IT	Sep 2010	Jan 2011	Feb 2011	Nov 2011

Refer Appendix D1 and D2.

## Lifetime Management of Asset

Upon completion of the development of each of the assets, the DHHS Facilities Management Department will be released and the ongoing management will revert to each of the respective Area Health Services or private enterprises.

## Cost Estimates and Cash Flow

Construction Quantity Survey and/or Architectural Reports have been used to construct Gantt charts for the AHS and Calvary infrastructure projects and are included as Appendix D1. The ICT Project Plan is also provided as Appendix D2.

## Area Health Services

The three public hospitals at the heart of this Application (RHH, LGH, and NWRH) are respectively a part of the three Area Health Services (SAHS, NAHS, and NWAHS) and consequently represent a significant investment by the state of Tasmania in the delivery of health services. As such, the responsible department, DHHS, has a vested interest in the short, medium and long term management and ongoing financial viability of these three entities.

At the micro economic level, this infrastructure proposal will result in AHS financial benefits through improved efficiency, training, and service integration. The most pointed example of efficiency improvements and cost savings will occur as a combined result of the establishment of state-of-the-art MDT infrastructure and the rollout of the ARIA patient record management system, both of which will be supported by the NBN rollout. On the revenue side, organic growth will occur as a direct result of improved efficiencies and expanded services.

Each of the AHSs operate within an annual budget allocation confirmed and underwritten by DHHS and the state of Tasmania. The establishment of budgets and the budgeting process for the ensuing year is dependent on open communication between AHS CEOs and the DHHS.

It is fundamental that DHHS and the state of Tasmania support the proposals within this Application, in view of the potential future impact that this infrastructure spend will have from both an economic and social services perspective. The AHSs have been deeply engaged in the development of this funding proposal. The core of the business rationale rests upon improved effectiveness and efficiency in the management of patient care through being able to deliver care closer to home with an integrated clinical team and improved utilisation of scarce specialist clinical staff through better deployment of technology.

The AHS CEOs are committed to managing the delivery of cancer care utilising the current specialist work force, recognising that an integrated patient journey and coordinated care will deliver increased output from the existing resources.

Economic support for the viability of this application is provided in a number of ways. The state has given a clear and strong commitment to supporting the Application, through the direct contribution of additional capital in the AHSs totalling \$13.3 million, 20% of the total Cancer Centre Infrastructure spend. This demonstrates clearly Tasmania's commitment to its existing investment and to continue to dedicate further ongoing financial support to the growth of the state's public health system. The viability of the Application is also supported by the considerable private and NGO sector support for which there are 12 letters of commitment and/or support which includes the public/private partnerships that underpin the sustainability of the proposed infrastructure.

The construction and development work to be undertaken within each of the AHSs is being managed by DHHS Facilities Management. This unit utilises consulting engineers, quantity surveyors and expert construction project managers. The projects proposed have been reviewed and endorsed by DHHS Facility Management. The costings for these proposals are included as Appendix D1, concept drawings as Appendix G3 and site location maps as Appendix G5.

### **Philanthropic Support**

The North West Area Health Service (Burnie) has received a letter of support for in-kind philanthropic support the Tasmanian Regional Cancer Centre initiative from a local company, Elphinstone Pty Ltd (included as Attachment A5). The proposal provides for a commitment of at least \$2.75 million, to be matched by either the Commonwealth Government or the state of Tasmania (all figures presented have assumed state co-contribution). The contribution is for the supply of an MRI machine and associated costs in housing it, plus the training of six radiographers over a six to eight year period. This will improve cancer diagnosis and assessment for people living in the North West. This commitment is subject to securing the relevant licenses.

### **Cancer Council of Tasmania (CCT)**

CCT has provided a letter from its Board Chairman to DHHS committing to providing an in-kind donation of land to the value of \$0.6 million. The letter from CCT is included as Attachment A3. Further, a letter of support for the Tasmanian Regional Cancer Care initiative has been provided by CCT on behalf of several other NGOs and is included as Attachment A11.

### **Calvary Private Health Tasmania (Calvary)**

***All material provided in relation to Calvary Private Health Tasmania is to remain commercial in confidence and is not to be disclosed or released in any form without the prior written consent of Calvary.***

Calvary is a long established private health facility which has been operating an oncology unit since the early 1980's. Calvary is an incorporated company wholly owned by Little Company of Mary Health Care Limited and produces audited annual accounts. The latest annual accounts to 30 June 2009 were audited by Moore Stephens, a leading audit practice,

provided unqualified accounts for this enterprise, reaffirming the company's ability to meet its financial obligations.

The full year accounts to 30 June 2009 (together with movements on prior year) show total revenue of \$120.0 million (+\$10.0 million) and NPBT \$3.6 million (+2.8 million). The balance sheet provides Total Assets of \$59.8 million (+\$0.9 million) and Retained Earnings of \$25.9 million (+\$3.6 million). The 30 June 2009 Annual Accounts are included as Appendix B1.

Calvary deploys sound financial management practices, as is demonstrated in Calvary's approach to assessing the viability and sustainability of the proposed expanded and dedicated 'stand alone' cancer service. A cashflow analysis has been produced and is included as Appendix B3.

The cashflow analysis and internal rate of return calculations demonstrates the viability of the proposal. Surplus cashflow contributes to the cash reserves of the operation over the entire spectrum of short through top long term.

The construction and development work to be undertaken by Calvary will also be managed by DHHS Facilities Management. This department comprises engineers, quantity surveyors and expert construction project managers. The Calvary project proposed has been reviewed and endorsed by DHHS Facility Management. The costings provided for Calvary's proposal is provided in the Gantt Charts included as Appendix D1, concept drawings as Appendix G3 and site location map in Appendix G5.

A cash co-contribution of \$0.63 million will be invested by Calvary for the upgrade of Palliative Care Facilities, additional chemotherapy chairs and the creation of additional parking facilities.

### **Menzies Research Institute (Menzies)**

The Menzies Research Institute is an entity of the University of Tasmania and as such does not provide separate financial accounts. In 2000, the Tasmanian Government named Menzies a "Tasmanian Icon" given its advancements in the fields of medical research and education. The HHF funding sought for the Menzies Tissue Bank is \$0.65 million, the bulk of which represents the capital cost of fridges and freezers to be located at each of the three main public hospitals and at Calvary. An in-kind contribution of \$0.6 million will be provided by Menzies in order to initially establish and then run the Tissue Bank over the first four years. All other associated costs and expenses associated with the Tissue Bank are to be absorbed by Menzies. A letter of support has been provided in Attachment A4.

### **Department of Health and Human Services (DHHS) Tasmania**

The DHHS information technology initiatives set out within this proposal are fundamental components needed to facilitate the daily operation of the Regional Cancer Centre infrastructure. The DHHS eHealth strategy identifies that the key issues for IT in healthcare delivery are access to integrated patient information and support for care delivery across a network of providers. The investment delivers against both goals through:

- continued investment in ARIA, a comprehensive clinical system for cancer services, building on established technologies;
- investment in clinical data integration systems – this is central to the development of both Electronic Medical Records for use within the health system and an Individual eHealth Record (IeHR) consistent with the national eHealth strategy;
- establishment of innovative videoconferencing solutions utilising the State and Commonwealth investment in broadband infrastructure under the NBN;
- developing portal services for network collaboration by clinicians within and outside the hospital system (including GPs); and
- developing contemporary client management systems for cancer screening such that there is an integrated patient journey for clients presenting to screening services.

The cost estimates for the IT components have been developed respectively through:

- full cost analysis for the ARIA system (refer Attachment D2);
- estimates for Clinical Data Integration drawn from recent industry quotes for comparable solutions (tender processes will be undertaken);
- video-conferencing solution – based on quotations for equipment (refer Attachment D2); and
- portal services – estimates drawn from DHHS development work currently underway.

## **IMPLEMENTATION PLAN**

This Implementation Plan has been generated collaboratively with the AHS, Menzies and DHHS. DHHS has taken a leadership role in ensuring the project plans are coordinated and will be implemented consistently. Implementation planning has built on the knowledge and experience of existing project teams' implementation experience, particularly those involved in the Menzies Stage One building, and the SAHS and NAHS redevelopments. This provides a high level of insight of the sites, including geotechnical conditions and heritage archaeology potential and takes into account Statutory Authority Approvals timeframes consistent with expected statutory requirements and previous experience. It also incorporates and captures current Managing Contractors' detailed experience with the local sub-contractor markets for these regions.

### **Managing Contractor Procurement Model**

State Treasury requires the appointment of pre-registered and approved consultants and contractors. Requirements for this pre-registration and approval are broad and varied but include validating financial management capacity, quality assurance registration compliance with OH&S, and track record in their area of expertise.

Both SAHS and NAHS are in the process of major construction programs with design consultants employed and building contractors moving on site in the next two months. The expanded works proposed under this application will be integrated with current work programs. Tendering processes present very low risks to delivering the program.

The works at Calvary and NWAHS are comparatively limited in scope and within the capability of the local industry. The NWAHS is located in an area experiencing severe adverse economic conditions and a major construction program will be welcome to the community and construction industry.

The ICT components of the application will proceed as four major projects:

- The expansion of ARIA builds on existing expertise and contracts exist between DHHS and ARIA for ongoing maintenance and development of the system. The investment will occur in deployment of technology and development of business processes as it relates to cancer.
- The implementation of clinical integration capability is dependent on tender processes building on detailed analysis of needs by PricewaterhouseCoopers;
- The majority of videoconferencing deployment builds on NBN infrastructure and, as it only requires linkage across the three major centres, can be rolled out as required dependent on the building construction program. Links with GPs will be dependent on NBN infrastructure delivery.
- The cancer screening client management development will occur over two years through a normal technology procurement model.

It should also be noted that the intended Long-Term Comprehensive Maintenance arrangements integrated into the proposed Contract bring about quality construction and ensure the buildings' maintenance to a high level of operational efficiency (refer Appendix E2).

## **Implementation Approach**

### **Project Planning**

Detailed and well considered project planning reduces risk and enhances efficiency of the project through better coordination and clear role definition. Project planning has begun at multiple levels. Individual project plans for each site and the ICT initiatives have already been considered and drafted (refer Appendix D1). These plans are developed to have some flexibility to deal with unforeseen issues and to take into account potential risk (refer below Risk Management Strategy and Appendix E1) for the approach to risk management and an outline of risks that have been identified and considered.

## Resourcing and Staffing

Participants in this application have available key and experienced project offers to assist and oversee this initiative. Given the significant works already underway at NAHS and SAHS, the proposed works would fall within the current works program. A dedicated Project Manager will be appointed at NWAHS and Calvary.

Additional architects, engineers, building contractors etc will be appointed in line with the project plan and in line with the nature of the components of the project.

## Reporting

In addition to the requirements of HHF reporting as part of the funding agreement, the state will implement formal reporting by the various stakeholders which will be overseen by the respective Project Managers. Part of the state's success in the implementation of large infrastructure projects is due to adopting formal reporting processes and our governance approach (refer Governance, below). Reporting not only keeps key decision makers well-informed but also enables early identification of emerging issues or unforeseen difficulties. Contingency plans already developed can be considered or new contingency planning developed at this point. Early identification of these issues is critical to ensuring projects remain well managed. Issues are then fed back into the evolving overall and sub-project plans.

## Key Steps and Timeline

The following significant Project Timeframe steps and timelines have been identified.

The major building and construction program will be delivered in the following timeframes assuming an agreement is established by March 2010. The delivery timeframes will vary with any change in the agreement date.

### Royal Hobart Hospital Cancer Care Centre

March 2010	April 2010	Commission consultants and establish client group(s)
April 2010	September 2010	Consult with client groups, establish concept plans, prepare order of cost estimates and seek approval for project plan.
June 2010	December 2010	Continue design development and prepare tender documents for each package
November 2010	March 2010	Tender Acute Rehabilitation and A Block Cancer Centre
December 2010	November 2011	Construct Acute Rehabilitation
November 2011	December 2011	Relocate Acute Rehabilitation to enable works within 1A for the cancer centre and day oncology to proceed.
December 2011	October 2012	Construct of A Block Levels Gnd and 1 <sup>st</sup>
February 2011	March 2011	Tender B Block Oncology
April 2011	December 2012	Construct B Block Oncology
March 2013	April 2013	Commission building and initiate services

### Launceston General Hospital Cancer Care Centre

March 2010	April 2010	Commission consultants and establish client group(s)
April 2010	June 2010	Consult with client groups, establish concept plans, prepare order of cost estimates and seek approval for project plan.

May 2010	November 2010	Continue design development and progressive tender of packages.
March 2010	May 2010	Negotiate purchase of accommodation land
July 2010	November 2010	Progressive tender of packages.
October 2010	November 2010	Relocate education and research to enable commencement of Medical Oncology
August 2010	October 2011	Construct packages.
February 2011	October 2012	Commission building and initiate services

### North West Cancer Care Centre

March 2010	April 2010	Commission consultants and establish client group(s)
April 2010	June 2010	Consult with client groups, establish concept plans, prepare order of cost estimates and seek approval for project plan.
June 2010	September 2010	Continue design development and prepare Tender documents
September 2010	November 2010	Tender
November 2010	November 2011	Construct works
November 2011	January 2012	Commission building and initiate services

### ICT Implementation

The implementation processes and timelines for the four major ICT projects will vary. However, all four will follow standard DHHS IT project management methodologies. A sponsor and business owner for each project will be established and during the project development and implementation phase a Steering Committee will work to the Sponsor in delivering project outputs. A project manager will be appointed for each project who will work to an approved project plan with monthly reporting to the Steering Committee.

DHHS has an eHealth governance structure involving all AHS CEOs and other senior executives. This Board ensures effective coordination across the wide portfolio of projects that are underway in the IT domain. These projects will fit within the total eHealth program for Tasmania.

In terms of timelines for each major element the following applies.

### Video Conferencing (VC)

DHHS has a mature VC network with 120 endpoints operating. The installation of the proposed new network for three major studios with the capability for limited links to GPs will occur on the following timetable:

VIDEOCONFERENCE IMPLEMENTATION PROGRAM		
July 2010	September 2010	Project planning, establish governance structures, develop tender specification
October 2010	November 2010	Tender and assessment, studio design
December 2010	Onwards	Installation – will depend on building works program at each site as to formal timing – potential for temporary sitting if permanent location is delayed

### Clinical Data Integration

DHHS has a major focus on clinical data integration in 2010-11. It is vital to the enabling clinicians to use patient information drawn from diverse clinical systems. If the Cancer Centre funding Application is successful the cancer services group would be an early implementation focus for data integration.

CLINICAL DATA INTEGRATION IMPLEMENTATION PROGRAM		
July 2010	September 2010	Project planning, establish governance structures, clinical engagement on needs, develop tender specification
October 2010	December 2010	Tender assessment, contract finalisation, implementation planning
January 2011	Onwards	Progressive implementation building data feeds and clinician view

### ARIA Clinical System Implementation Program

DHHS has acquired ARIA and it is in full use at LGH, limited use in RHH and not yet implemented in NWRH. The investment in ARIA and its extension to a full cancer clinical system does not require an acquisition phase. The key elements will be business needs analysis for wider use, staff training and system modification as required.

ARIA CLINICAL SYSTEM IMPLEMENTATION PROGRAM		
May 2010	June 2010	Project planning, establish governance structures, acquire additional ARIA licences to commence expansion of use
July 2010	September 2010	Clinical engagement on needs, business analysis for expanded use, commissioning of software modifications if required, staff recruitment for project
October 2010	December 2010	Training and progressive implementation of expanded functionality
January 2011	Onwards	Full implementation, development of support models and ensuring sustainable use

### Clinical Networks

This project entails development of clinical network capabilities utilising web based portals for information sharing, case management and professional support.

CLINICAL NETWORKS		
May 2010	July 2010	Project planning, establish governance structures
August 2010	October 2010	Define specifications/needs and develop tender process
November 2010	January 2011	Tender evaluation, negotiate contract
February 2011	November 2011	System build, testing, training, data migration and implementation
December 2011	Onwards	Commissioning and handover

## Cancer Screening Client Management and Clinical System Implementation

This project entails a full system replacement with needs definition, tendering and implementation

CANCER SCREENING SYSTEM IMPLEMENTATION PROGRAM		
May 2010	July 2010	Project planning, establish governance structures
August 2010	October 2010	Define specifications/needs and develop tender process
November 2010	January 2011	Tender evaluation, negotiate contract
February 2011	November 2011	System build, testing, training, data migration and implementation
December 2011	Onwards	Commissioning and handover

### Tissue bank implementation

The implementation of the Tissue Bank involves a number of different stages. The early parts of this implementation involve the background procedures in setting up a tissue bank in a close-knit community like Tasmania. This requires extensive community discussion so that there is an acceptance of the concept of a tissue bank. This work has already begun and was funded as part of an NHMRC program grant with Professor Don Chalmers, Dean of the Law Faculty, UTAS.

The ethical structure of the Tissue Bank has to be worked through as the concept of broad consent, which is a concept that the Tasmanian Ethics committee has had no experience. It is also a key part of the community engagement project.

The structure of the database has been determined and the major ethical aspects have been solved, at least as far as the Institute is concerned. There have been discussions with the Tasmanian Ethics committee and a formal proposal is being submitted.

The Tissue Bank Histology and DNA purification equipment will be housed in the Menzies Research Institute in Hobart. This has been planned in the construction of the new Menzies Institute Building. The Histology laboratory has sufficient space to house this equipment. Freezers at the Menzies will house the archived samples for the tissue bank. These will be stored on a database that will interact with the Pathology Database being run out in Tasmania as part of this Regional Cancer Initiative.

### Public Consultation

January 2010	July 2010	Public consultation planning. Writing and printing of pamphlets
April, 2010	April, 2010	Refine risk management plan
March 2010	July 2010	Preparation of Web Site through to release of Site to public
July 2010	December 2010	Public consultations carried out across Tasmania. Involves public meetings, media presentations, interactive web site etc

### Ethics Approvals

August 2009	January 2010	Consultation with Tasmanian Ethics committee (there is only one).
March 2010	June 2010	Application of Ethics application for establishment of Tasmanian Tissue bank

**Education and recruitment of Medical Professionals**

May, 2010	June, 2010	Internal staff straining
June 2010	December 2010	Education and recruitment of surgeons, pathologists and oncologists. Distribution of consent forms and training of relevant staff in administration of consent for entry into tissue bank.

**Establishment of Hardware**

April, 2010	May, 2010	Procurement process
May 2010	June 2010	Delivery of hardware
June 2010	December 2010	Deployment of Freezers in Burnie, Launceston and Hobart
January 2011	June 2011	Installation of histological and DNA preparation equipment in the Histology Laboratory at the Menzies Research Institute

## **GOVERNANCE**

Delivery of this infrastructure (including the ICT infrastructure, the works at three public hospitals, and the private hospital developments at Calvary) will be managed centrally by DHHS through its Facilities Management Branch. DHHS will act as the lead agency and take on oversight and management roles. As with all large infrastructure projects, this activity will be overseen by a Steering Committee. Steering Committees have been established in the NAHS and SAHS where this will form part of existing building works. New Steering Committees will be established for Calvary and NWAHS. The committees will periodically participate in each other's meetings to share knowledge and learn how each group is dealing with difficult issues. The Steering Committee is the peak executive group and as such will receive regular reports from the appointed Program Manager and infrastructure-specific Program Managers at each site. The establishment of the Working Group to oversee the TCFSP and this application has also strengthened links, and it is expected that there will be a higher degree of informal communication and coordination between the AHSs.

This governance approach was adopted for the NAHS and Menzies Stage One project. It is proposed to roll over these arrangements into this project. These arrangements have proven satisfactory to date for both NAHS and Menzies. The Menzies Stage One project has been completed on time and on budget. This is despite a number of unforeseeable complications such as discovering archeologically significant artefacts during the excavation phase and the planning and approvals required for the construction of a city building located in a precinct that involved European settlement in the first decade of settlement in Hobart. In addition to the governance arrangements described above, this means that the project has been subjected to the full scrutiny of arrangements oversighted by the University's Audit Committee and senior University lawyers. The NAHS redevelopment, although incomplete, is on budget and ahead of schedule with radiotherapy expected to be operational 6 months ahead of schedule.

This project will also be accounted for and reported in the States Financial Management Information System, and subject to State Government policies and procedures.

It should also be noted that the intended Long-Term Comprehensive Maintenance arrangements that will be integrated in this Contract, will support quality construction and ensure that the buildings are maintained to a high level of operational efficiency (refer Part 5).

The ICT components of the infrastructure funding will be included in the governance arrangements of this application. In addition they will be overseen by DHHS as part of the overall NBN roll out.

## **RISK MANAGEMENT**

Risk identification, management and contingency planning for large capital investments are recognised by DHHS as key management skills. Participants have identified specific and general risks associated with the infrastructure needs as outlined in this application (refer Appendix E1). Common risks across the group have been aggregated to form generic risks. Site- and/or infrastructure-specific risks have been identified separately (Appendix E1)

Identification and treatment of risk has occurred in the context of DHHS' overall risk management framework, of which there are 5 key elements. Each requires consideration as part of the development of the over-arching Risk Management Plan:

1. Risk consequence table;
2. Risk likelihood weighting;
3. Risk scoring assessment;
4. Risk identification matrix; and

5. Risk register.

As noted earlier DHHS is highly skilled in the management of large new infrastructure projects. The following five key risks have been identified that require special consideration beyond the Risk Management Plan:

1. Competing private oncology service.
2. Planning approvals, design and construction.
3. Financial risk.
4. Management and oversight of HHF RCC construction.
5. Accurate patient forecasts.

## Key Risk Areas

### 1. Competing private oncology service

Although there is considerable risk that a competing private oncology service may establish itself at some point in the future, the impact of this risk was thought to be low for a number of reasons:

- there is insufficient demand for two private providers in the foreseeable future;
- a second private provider would only be viable if they 'cherry pick' the services/treatments that are most profitable;
- the viability of any new private facility would be questionable given the establishment costs and time needed to grow patient numbers to profitable levels. The drain on cash reserves in the interim would be significant;
- it is likely that any new facility would be adversely affected by the limited service offering, limited capacity to deal with more complex cases, constrained hours of operation, and the likely narrower provision of allied health services;
- there would be no integration into the States ICT capabilities, which would further weaken their competitive position; and
- recruitment, training and retention of clinicians and allied health workers in a new private facility is a significant challenge. Any new private entrant would not have the internal mentors, training programs, linkages to key stakeholders such as UTas and Menzies to provide quality training and professional development. Should a key staff member resign, have a period of extended absence or even wish to take a significant amount of annual leave, there would be difficulties in meeting the care needs of cancer patients.

### 2. Planning approvals design and construction:

With regard to planning approvals, the state is looking at works within the existing SAHS and NAHS facilities, both of which are undergoing major works. As such DHHS has already secured planning approvals or new planning approvals are within the current approved uses for the land and are a local government approval process. At NWAHS there will be a new construction on a very large site that is owned by the Crown. The only approval required would again be by local government. Calvary will need to undertake the normal process of submitting and complying with the Hobart City Council (HCC) for building approval. Gaining approvals are not foreseen as a significant risk: the infrastructure is 'like for like' as Calvary are demolishing an existing building on their land and replacing it with a new building with similar specifications. Architects have had preliminary discussions with the HCC and no issues have been raised in relation to compliance or planning approval.

In regard to design and construction, current building constructions at Menzies and NAHS have put in place a successful core project management team. In addition to the usual appointment of various consultants and contractors who provide technical expertise, the team will include a dedicated Program Manager, a Managing Contractor, an Operational

Planning Group and the Project Control Group. We will also use this team to oversee and project manage the broader capital works program.

This team is not only experienced with these infrastructure projects but has been successful in dealing with unforeseeable problems including the redesign of the building on a new site after soil contamination issues forced a change in the site, liaison with the local heritage commission, the purchase of the site, liaison with the local Aboriginal community and significant negotiations with the Hobart City Council, all of which have been successfully concluded. The experience already gained by the team will be invaluable, combined with the previously outlined risk management approach and governance arrangements. Linking into the Menzies and NAHS project management teams will only further mitigate against our design and construction risk.

### **3. Financial:**

Financial risk has been considered from a number of perspectives. As already mentioned contractors and consultants used in the construction must be pre approved which includes a statement of financial viability.

Four of the five infrastructure initiatives (SAHS, NAHS, NWAHS and ICT) are State government funded and managed entities. Each hospital has a long history of providing care to its community. The three public hospitals must submit and report independently audited financial statements. These statements are included in the state's three-year forward estimates. The State has a AA+ Standard & Poors credit rating, the second highest available, and a AAA credit rating from Moody's, the highest available from the agency. This infrastructure initiative has the full support of the state Government, who see maintaining a public hospital system in the state as a core responsibility.

As a private hospital, Calvary has its own governance arrangements and is independent of the state's financial arrangements. As noted and expanded on earlier in Part 6 , Calvary has been in operation in Tasmania for nearly 30 years and is part of the Little Company of Mary Health Care, owner and operator of nine health and aged care facilities throughout Australia under the auspices of the Sisters of the Little Company of Mary, an international congregation founded in England in 1877. Calvary has developed detailed financial statements that project future patient numbers. These numbers are consistent with the findings of the broader group of public hospitals. Should these patient forecasts not be reached or costs increase, Calvary would restructure its operations more broadly. This would impact on cancer care but would be offset by restructuring within the hospital more broadly.

Supporting ICT infrastructure has been costed in detail. The technology being deployed is immediately available. The oncology clinical system (ARIA) to support the operation of the Centre is a current system that will be substantially expanded. The clinical data integration investment is the subject of a study recently completed by PricewaterhouseCoopers and is available within the proposed budget within technology capabilities currently available in the Australian marketplace. The videoconferencing technologies are available and well-established in the market on the basis that the NBN infrastructure investment for Tasmania can be leveraged to provide high speed links between the sites. The videoconferencing functionality will be significantly enhanced through with the bandwidth available via the NBN. DHHS has the expertise to deploy and support these technology platforms, and is currently responsible for the state government's largest IT network. For this reason the risk of cost escalation and implementation delays are minimal compared to typical ICT projects.

Financial risk in construction can be managed effectively as the works will form part of an extensive investment program currently underway at both the SAHS and NAHS. DHHS has a well-established track record in construction management and a strong team of major construction firms who can deliver within the required timeframes. All estimates have been

reviewed by Quantity Surveyors and building costs for hospital and health facilities are well understood given the very substantial construction program already underway.

A key feature of DHHS project management ability and approach is the experienced gained from the current capital works project. As noted in the Risk Management Plan, a number of contingency plans have been put in place to help manage cost escalations. These strategies include:

- A pre contract escalation amount of \$3 million to cover any unexpected cost increases that occur after the project has been quoted and contracts signed; and
- A budget of \$6.7 million to cover any post-project contract cost escalations (this includes inflation in building costs over the life of the building project).

It is industry best practice to include contract cost escalations into the budget. The escalation rates for this project relate to historical rates experienced in the local industry and are based on Rawlinsons Construction Handbook.

#### **4. Management and oversight of HHF RCC construction;**

The management and oversight of construction and implementation of the infrastructure program generally is a significant risk to be managed. As outlined in Governance arrangements in Part 5 Supporting Information above, DHHS will adopt a comprehensive and proven governance model. Combined with the risk management plan, this will considerably reduce risks in this context.

#### **5. Achieving growth forecasts:**

Current patient numbers (as explained in Part 4) already exceed the capacity of the current infrastructure. The correlation between patient age and incidence of cancer is now well established. Demographic projections based on Census data show a significant likelihood that Tasmania will have a disproportionately aging population compared to other states. These inputs give the state a high degree of confidence in its forward growth estimates of cancer rates.

Workforce planning, although a significant issue, is mitigated through linkages with UTas School of Medicine where enrolments can be expanded. Courses have and will continue to evolve to ensure that they provide the skills required for cancer professionals. Further, the use of improved ICT provided in this funding application, will allow the state to improve the productivity of its workforce, improve outcomes from training, and improve the efficiency of services provided to cancer patients. The planning around workforce issues is addressed in greater detail in Principle 4 and is further expanded on in the Part 5.

In the unlikely event that demand for services does not meet current projections the proposed infrastructure could easily be used for other patient care activities or made available commercially.

## **ATTACHMENTS**

### **A Letters of Commitment and/or Support**

1. State Government of Tasmania
2. Calvary Health Care Tasmania
3. Cancer Council Tasmania
4. Menzies Research Institute
5. Elphinstone Pty Ltd
6. Intentionally left blank
7. Intentionally left blank
8. University of Tasmania
9. Peter MacCallum Cancer Centre
10. Cancer Voices Tasmania
11. Cancer Council Tasmania on behalf of 'Canteen' & 'David Collins Leukaemia Foundation'
12. Spurr Wing Inc
13. Prof Daubenton

## **APPENDICIES**

### **B Static Information**

#### **Calvary Health Care Tasmania (Calvary)**

1. 30/6/09 Annual Audited Accounts
2. Certificate of Incorporation
3. Calvary Cash Flow Analysis

#### **Cancer Council Tasmania (CCT)**

4. 30/6/09 Auditors Certificate
5. Certificate of Incorporation

### **C Financial Plan Information**

1. Detailed Funding Summary
2. Summary of Application Request

### **D Implementation Plan Information**

1. Construction Project Plan
2. ICT Project Plan

### **E Risk Management Information**

1. Risk Management Plan
2. Maintenance Services Inclusions & Exclusions Plan

### **F Other Documentation**

1. Tasmanian Cancer Framework and Strategic Plan
2. Summary of Grants – Commonwealth & State
3. Video Conferencing Illustration
4. ICT Summary
5. Working Group Participants
6. Project Resourcing Schedule

## **G Site and Construction Information**

1. RHH Redevelopment Plans
2. Impact on Capacity
3. Concept Drawings
4. Location Map - Area Health Services & Calvary

## **Health and Hospitals Fund – Regional Cancer Centres Initiative**

### **APPLICANT CHECKLIST**

<b>Before you begin</b>	
Read all information in the Application Guidelines, particularly the Section 3 – Evaluation Criteria and Notes to Applicants, and the Funding Application Form.	
Ensure you understand the HHF Evaluation Criteria for the funding of regional cancer centres, and Regional Cancer Centres Guiding Principles, as specified in the Application Guidelines.	
Check the website <a href="http://www.health.gov/hhf">www.health.gov/hhf</a> and read the information on the regional cancer centres and the Questions and Answers.	
Check the following website for any addenda to the Application Guidelines and Funding Application Form: <a href="http://www.health.gov.au/tenders">www.health.gov.au/tenders</a>	
For private (including non-government organisations), read the Department of Health and Ageing’s standard capital works funding agreement included with the application package, and understand that by submitting an application, your organisation is agreeing to abide by the terms of this agreement should you receive funding.	
<b>Completing your application</b>	
Have you named the organisation applying for funding?	
Have you nominated a contact officer in this organisation?	
Have you signed the declaration in the Application Form?	
Does your application address all the HHF Evaluation Criteria, taking into account the Regional Cancer Centres Guiding Principles and following the guidance provided in the Notes for Applicants?	
Does your application include an Executive Summary?	
Does your application include a business case (including implementation plan, financial plan and risk management strategy)?	
Have you attached one original and ten (10) copies of your application and attachments?	
Attach a CD-ROM of your complete application and attachments	
<b>Submitting your application</b>	
<b>For private (including non-government organisations):</b>	
Include one (1) copy of a Certificate of Incorporation.	
Include one (1) copy of an audited financial statement for the previous financial year	
OR one (1) copy of an audited profit/loss statement for the previous financial year	
<b>For organisations submitting a joint application:</b>	
Include letters of support from other organisation/s actively supporting the proposal	
<b>CHECK ALL INFORMATION!</b>	

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*Proposal to revise the schedule of funding allocated to:*  
**Improving Cancer Services in  
North West Tasmania**

**North West Area Health Service**

January 2010

## Background

In the 2009/10 Budget the Australian Government committed a total of \$1.4m to improve Cancer Services in the North West of Tasmania.

These funds were to be utilised to enhance chemotherapy services at both the North West Regional Hospital (NWRH) and the Mersey Community Hospital (MCH). At the time of the commitment it was proposed that innovative models of service delivery for chemotherapy would be explored as part of this process and that the funds be allocated over 3 years as detailed below in **Table 1**.

Year 1	2009/10	\$400,000
Year 2	2010/11	\$400,000
Year 3	2011/12	\$600,000

**Table 1**

Since the initial allocation of these funds, the Australian Government has also announced the Health and Hospitals Fund (HHF) program to fund the establishment of a best practice network of Regional Cancer Centres across the nation and has sought proposals for suitable projects from all States.

The NWAHS has contributed to the development of the Regional Cancer Centre proposal for the state of Tasmania. If the Tasmanian submission is successful, the NWAHS will not require the total funding originally allocated in the 2009/10, as the development of cancer services at the NWRH(Burnie) will be progressed through the broader Tasmanian plan for a Regional Cancer Centre.

However, should the Tasmanian bid for the Regional Cancer Centre not be successful or the implementation delayed, the total allocation of original funds will still be required in order to meet the most urgent of current demands in the region.

Recent advice from the Health and Hospitals Fund is that the outcomes of the submissions are expected to be announced around the end of March 2010. Given the timeframes around a decision, announcement, and subsequent planning processes, the NWAHS is unlikely to realise any actual service or capacity benefit from the Tasmanian proposal before 2011. Should the Tasmanian bid be successful there will still be considerable delays before visible progress of cancer service expansion happens.

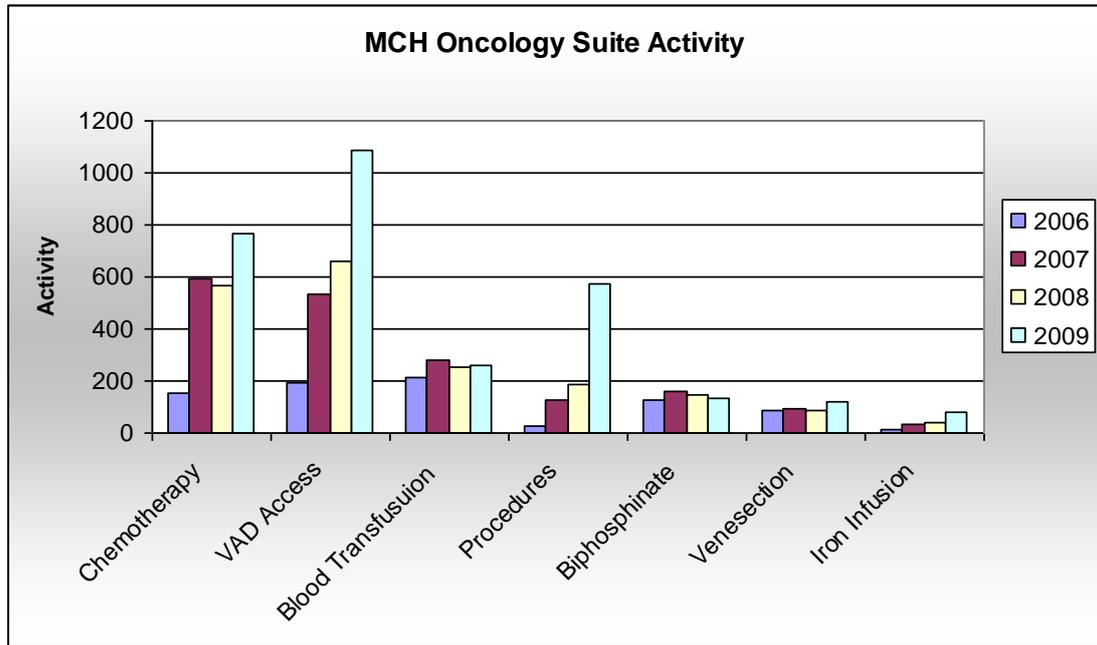
In recognition of the intent of the original funding and features of the more recent program by the Health and Hospitals Fund, the NWAHS requests that the funds allocated for 2009/2010 and 2010/2011 be made available now to immediately progress the development of additional chemotherapy services at the MCH.

## The Mersey Community Hospital Proposal

When the original proposal for the additional chemotherapy services at MCH was developed, the physical constraints of the existing area limited the project to a single additional chair and a slight increase in the area of each chair bay to reduce congestion, improve the safety, access, and functionality, and to enhance patient comfort in the area.

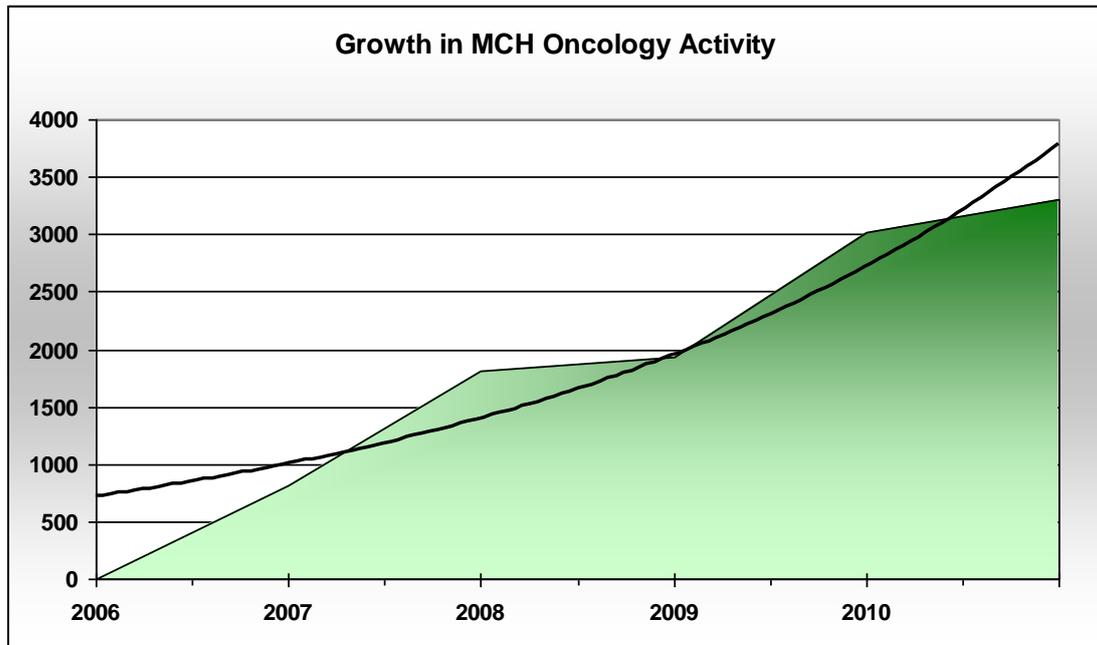
However, it is now recognised that by seeking to expand the Unit in its current location on the first floor, would be a very short lived, ineffective, and expensive solution as the activity of the Unit already operates at capacity Monday to Friday. Ultimately the Unit needs to be relocated to the ground floor where additional capacity can be provided and the service can function effectively as an ambulatory / outpatient service.

The activities of the MCH oncology suite over the past for years are represented below in **Figure 1**.



**Figure 1**

Similarly the over growth in the activity has been significant and is expected to continue as represented at **Figure2**



**Figure2**

It is therefore proposed that the Oncology Suite at the MCH be relocated and redeveloped as an adjacent to the Outpatient Department of the ground floor. If developed in conjunction with other proposed refurbishment of the Outpatient area considerable synergies and efficiencies could be realised through the development of shared support areas such as waiting, reception patient and staff amenities.

A revised schedule for expending the allocated funding proposed as follows:

Year 1	2009/10	\$160,000
Year 2	2010/11	\$740,000
Year 3	2011/12	\$500,000

**Table 2**

1. Funds allocated in Year 1 (2009/10) will be utilised to complete the design, tender and preliminary works and acquire some equipment in the current year.
2. Funds allocated in Year 2 (2010-11) will be used to complete construction, fit-out and commissioning the new facility by December 2010.
3. Funds allocated in 2011/12 will be utilised both at Mersey and as well as the NWRH to compliment the anticipated augmentation of cancer services at the NWRH that will be associated with the Regional Cancer Centre initiative under the HHF if this bid is unsuccessful. If the submission from Tasmania is successful further negotiation will occur during the agreement period regarding the 2011/12 year.

The estimated floor area required for the new unit is approximately 300sqm.

The various areas and requirements are detailed in **Table 3**.

The yellow shaded areas are core clinical service areas while the green shaded areas have potential to be shared or combined with the Outpatient Department thereby reducing associated project costs.

	Function	Locations	Area per Location	Area Required
1	Chairs	8	9	72
2	Complex infusion bays	4	12	48
3	Trolley/bed/procedure bays	2	12	24
4	Interview/ treatment education room	2	12	24
5	Consulting room	1	14	14
6	Managers Office	1	12	12
7	Reception	1	8	8
8	Waiting	1	16	16
9	Office/admin workspace	1	16	16
10	Dirty Utility	1	9	9
11	Clean area / work space	1	12	12
12	Kitchenette	1	6	6
13	Storage/equipment	1	12	12
14	Patient toilets	2	3	6
15	Staff Toilets	1	3	3
16	Staff room	1	16	16
	<b>Total</b>	<b>29</b>		<b>298</b>

**Table 3**

The summary of estimated building costs and associated infrastructure, fit-out and equipment are provided below in **Table 4 and Table 5**.

Building works	Est. Area sqm	Est. Cost
Total	298	\$ 745,000

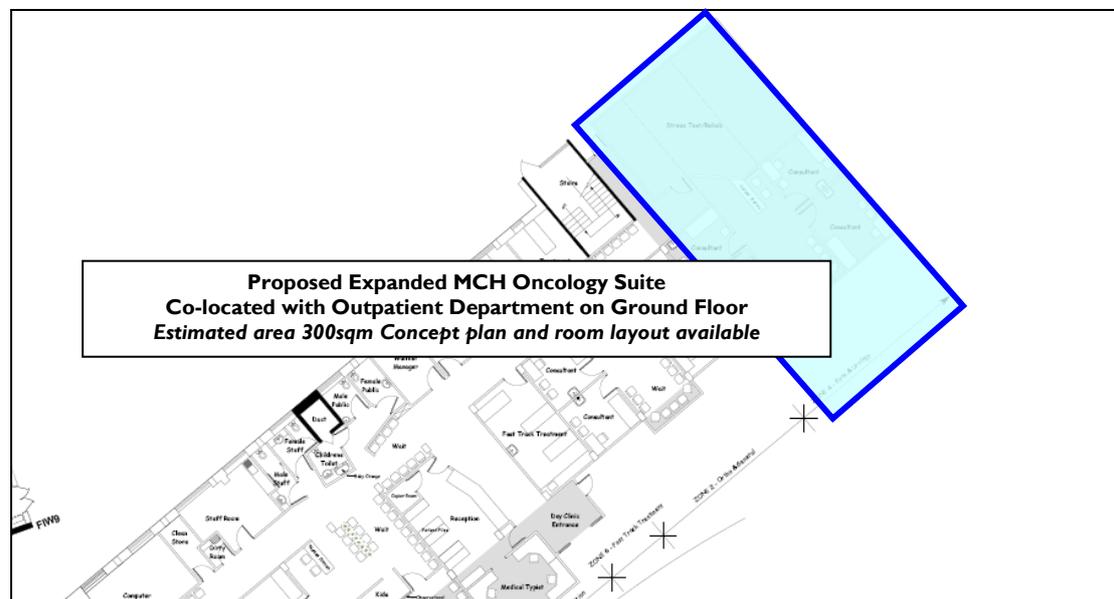
**Table 4**

Equipment	Cost
Air conditioning	\$ 20,000
Additional treatment chairs (fully reclining)	\$ 16,000
Wireless/mobile computer for chair/treatment areas	\$ 35,000
Audiovisual facilities for patients	\$ 8,000
Telemedicine linkage to LGH/NWRH/RHH/PMac	\$ 28,000
IT Hardware, Cabling & Oncology Applications	\$ 150,000
<b>Total</b>	<b>\$ 257,000</b>

**Table 5**

As previously cited the collocation of the Oncology Suite with the Outpatient Department will deliver significant efficiencies and synergies in relation to shared facilities and amenities (e.g. reception waiting, toilets) and has potential to significantly reduce constructions costs when compared to a stand alone facility.

A footprint of the proposed area and location at the end of the Outpatient Department is provided at Below at **Figure 5**. A detailed floor plan of this concept has been developed.



**Figure 5**

The NWAHS acknowledges the opportunity presented by this initiative that will enhance cancer services in NW Tasmania. Further research and consultation with the community needs has clearly demonstrated that the existing proposal would be achieved only if the relocation of the existing Oncology Suite occurred adjacent to the Outpatient Department.

To realise the potential of this project the funding schedule over 3 years as previously recommended requires variation to reflect the associated program of works at the MCH and the focus of redevelopment in the 1<sup>st</sup> and 2<sup>nd</sup> year, on this site rather than at the NWRH as originally proposed. Final plans will be submitted in April 2010.

If the Tasmanian submission to the HHF for a Regional Cancer Centre is successful then the funding and expenditure currently scheduled for 2011/12 at the NWAHS will require further consideration so that the NWAHS works complement the new service. However, in the event the HHF submission is not successful, the funds will be directed to the NWRH, to enhance essential cancer services at that site.

**Contact:**

Jane Holden,  
Chief Executive Officer,  
North West Area Health Service  
(03) 6430 6516  
[jane.holden@dhhs.tas.gov.au](mailto:jane.holden@dhhs.tas.gov.au)

Andrew Marshall,  
General Manager,  
Mersey Community Hospital  
(03) 64265463  
[andrew.marshall@dhhs.tas.gov.au](mailto:andrew.marshall@dhhs.tas.gov.au)



Australian Government  
Department of Health and Ageing

## **HEALTH AND HOSPITALS FUND**

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### **Regional Cancer Centres Initiative**

# **Funding Application**

(ITA No 171/0910)

## **Tasmanian Cancer Care (Supplementary bid)**

**Department of  
Health and Human Services  
Tasmania**

## **ADVICE TO ORGANISATIONS SUBMITTING APPLICATIONS**

1. Organisations must familiarise themselves with the *Health and Hospitals Fund (HHF) – Regional Cancer Centres Initiative – Application Guidelines* (the Guidelines) before completing the application.
2. All applications must be completed using this form. Organisations are required to complete all parts of the application form.
3. The organisation's Chief Executive Officer or equivalent is required to complete and sign the declaration in Part Two. Please note that the declaration includes a statement of compliance and a statement of construction and OHS compliance as outlined in section 5 of the Guidelines.
4. Label any confidential information and provide reasons for the request to claim confidentiality on this information so that the Department of Health and Ageing (DoHA) can assess your claim. The information will be provided to the HHF Advisory Board but will be removed from any copies which may be sent to other agencies or officials. Please see section 5 of the Guidelines for more information.
5. Indicate clearly in the application where cost estimates are indicative or confirmed. Also include a source for the basis of cost estimates (eg. costing plan, industry benchmarks) and indicate whether this source document can be provided to the Advisory Board upon request. Please refer to section 4 of the Guidelines relating to GST when preparing financial information.
6. Any further questions or queries should be directed in writing to [hhfrcc@health.gov.au](mailto:hhfrcc@health.gov.au). Please note that answers to de-identified questions may be made available on the HHF webpage. DoHA and the HHF Advisory Board will not answer questions verbally nor will they respond to queries sent to other than the aforementioned email address.

## **CONTENTS**

- Part One            Cover sheet
- Part Two            Chief Executive Officer's declaration
- Part Three          Overview (including executive summary, timeframes and funding summary)
- Part Four           Self assessment against the HHF Evaluation Criteria, taking into account the Regional Cancer Centres Guiding Principles
- Part Five           Supporting information in relation to the HHF Evaluation Criteria
- Part Six            Project Business Case, incorporating:
- Financial Plan
  - Implementation Plan
  - Risk Management Strategy

## **ATTACHMENTS**

### **A Letters of Commitment and/or Support**

State Government of Tasmania

## **APPENDICES**

### **A Projected Linac utilisation**

1. Linac utilisation forecasts (Northern Tasmania)
2. Linac utilisation forecasts (North West Area Health Service)

### **B Financial Plan Information**

1. Detailed Funding Summary

### **C Project plan**

1. Construction & fit out of Cancer Centre project plan
2. Key Activities Overview

### **D Risk Management Information**

1. Risk Management Plan
2. Maintenance Services Inclusions & Exclusions Plan

### **E Other Documentation**

1. Tasmanian Cancer Framework and Strategic Plan
2. Summary of Grants – Commonwealth & State
3. Project Resourcing Schedule

### **F Site and Construction Information**

1. NWAHS site drawings



## HEALTH AND HOSPITALS FUND

### Regional Cancer Centres Initiative

#### APPLICANT ORGANISATION NAME

DEPARTMENT OF  
HEALTH AND HUMAN SERVICES TASMANIA

#### PROJECT TITLE

TASMANIAN CANCER CARE  
(Supplementary application)

#### FUNDING AMOUNT REQUESTED

\$20.65 MILLION

#### APPLICATION SUBMISSION INSTRUCTIONS:

Number of copies: Ten (10) hard copies (single sided) and 1 electronic copy on a compact disc.

Please note: INCOMPLETE, FAXED OR EMAIL APPLICATIONS WILL NOT BE ACCEPTED INTO THE ASSESSMENT PROCESS.

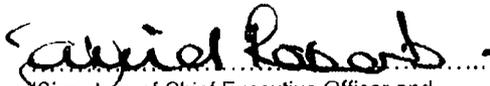
Applications including attachments MUST be single sided, MUST NOT be bound or in a folder and NO staples are to be used.

Due date: Not Applicable

Deliver to: Tender Box  
Department of Health and Ageing  
Ground Floor  
C Block, Penrhyn House  
Bowes Street  
Woden ACT 2606

**PART TWO – CHIEF EXECUTIVE OFFICER'S DECLARATION**

- I, David Roberts, confirm that this application has been prepared in accordance with the *Health and Hospitals Fund – Regional Cancer Centres Initiative – Application Guidelines*.
- I confirm the ability of this organisation to comply with the National Code of Practice for the Construction Industry and the Australian Government Implementation Guidelines as well as the Australian Government Building and Construction OHS Accreditation Scheme.
- I confirm that I understand that HHF funding is available to projects related to the creation and development of infrastructure, including capital items and/or research facilities and associated labour costs where required.
- I declare that I have checked this application and that to the best of my knowledge, all relevant details are correct at the time of lodgement.

  
.....  
(Signature of Chief Executive Officer and confirmation that I have authority to bind the organisation)

Name: David Roberts

Date: 20/9/10

I declare that I have obtained the agreement of the co-applicants and/or partner to this application and have the authority to submit this proposal on their behalf.

  
.....  
(Signature of Chief Executive Officer)

Name: David Roberts

Date: 20/9/10

## PART THREE – OVERVIEW

### Details of the organisation that will contract with the Commonwealth

Organisation Name	Department of Health and Human Services
ABN	11 255 872 006
Contact Officer (name and position held)	John Milbourne Director, Office of the Chief Health Officer – Projects
Work Phone Number	03 6233 8530
Mobile Phone number	0418 310 347
Fax Number	03 6233 6392
Email Address	<a href="mailto:John.milbourne@dhhs.tas.gov.au">John.milbourne@dhhs.tas.gov.au</a>
Website	<a href="http://dhhs.tas.gov.au">dhhs.tas.gov.au</a>
Physical Address	Level 4, 34 Davey Street Hobart TAS 7000
Postal Address	GPO Box 125 Hobart TAS 7001

Organisation Name	State Government of Tasmania
Type of Contribution (cash, in-kind, other)	Not Applicable
Organisation Type	State Government
Contact Officer (name, position, phone and email)	David Roberts Secretary and Chief Executive Department of Health & Human Services P: + 61 3 6233 3530 F: + 61 3 6233 4580 E: <a href="mailto:David.Roberts@dhhs.tas.gov.au">David.Roberts@dhhs.tas.gov.au</a>

Please include letters of commitment from all of the above organisations as **Attachment A**.

## Executive Summary

At the suggestion of the Prime Minister of Australia, the Department of Health and Human Services Tasmania provides this supplementary funding application under the Health and Hospital Fund Regional Cancer Centre program, for the establishment of radiation oncology services for the North West Area Health Service (NWAHS).

Clinical demand for radiation oncology care in the North West of the State is strong and growing. Tasmania has Australia's most ageing population with 20% of the state aged 60 or over. By 2016 this number is expected to reach 30%. Tasmanians are the most likely to be diagnosed with cancer and once diagnosed, are the most likely to die from the disease. Future demand for services is expected to grow in line with initiatives to lift the State's referral rates which in Northern Tasmania are only 42.5%, well below the nationally recommended referral rate for all cancers requiring radiation therapy of 52.3%.

About 22% of Tasmanians reside in the North West. They typically receive radiation therapy treatment in Launceston from the Northern Area Health Service (NAHS). Patients from the NWAHS catchment account for 43% of the radiation oncology and 18% of Medical Oncology patients of the NAHS. These patients would be treated by the NWAHS located in Burnie if radiation oncology services were available there. The NWAHS is 148 kilometres away from the NAHS. Many cancer patients still come to the NWAHS for their transport to NAHS on the community provided bus. The distances to NAHS are substantially more for those living further along the North West coast or those having to come for care from their home on the West Coast, where one-way travel times to Launceston are closer to four hours. Travelling for radiation therapy treatment has many negative consequences for patients including:

- Limiting their ability to remain employed during their radiation therapy treatment which is required several times per week or daily,
- Their ability to have support persons/networks accompany them for treatment,
- The physical toll of commuting for over three hours a day limits further patients' capacity to meet other life demands and obtain the necessary rest they need; and
- Travel time reducing time that could be spent in contact with family and friends.

Funding will be used to provide the capital and equipment requirements required for a comprehensive radiation oncology service. The construction phase, should this supplementary application be successful, will be timed to coincide with the North West Cancer Care Centre construction program funded under the HHF RCC program, which will see the development of a Cancer Care Centre at the NWAHS operational in 2013. The timing for purchase and installation of the equipment required and for commissioning radiation oncology services is subject to advice from a clinical expert panel being convened in October 2010 and due to report no later than June 2011.

Radiation oncology will be integrated into other cancer prevention, treatment and palliative care services that will be established as part of the North West Cancer Care Centre. This will also allow the North West Cancer Care Centre to scan tumours and plan for their radiation therapy treatment as well as provide support services such as dieticians and social workers. Supporting infrastructure such as patient waiting areas, consulting rooms, stores and planning rooms will be provided in line with typical modern radiation therapy infrastructure. This construction program also provides for the construction of a pharmacy (funded by the state) which is currently located at the nearby private hospital.

This Cancer Care Centre has been designed to be physically connected to the hospital, improving access and efficiencies in the provision of services and providing a fully integrated facility that will better enable staff, patient, student and research interaction. The Cancer Care Centre has been future proofed taking into account the projected growth in cancer incidence with designs and construction ensuring future expansion will be done in the most cost effective manner.

This HHF RCC application seeks \$20.65 million to provide these radiation therapy services from the NWAHS. The ongoing operational costs of approximately \$2.2 million per annum will be met by the State.

## **Proposal Timeframes**

Estimated Start Year: 2010

Estimated Finish Year: Construction 2013

Equipment purchase, installation and commissioning subject to advice from Expert Clinical Panel.

Duration (years): Three (6) years

Operational Life (years): 20 + years for bunker, 10 years for the linear accelerator

## Funding Summary

Table 1: Outline of the overall funding (GST exclusive) for the proposal

	2009-10 (\$m) Year 1	2010-11 (\$m) Year 2	2011-12 (\$m) Year 3	2012-13 (\$m) Year 4	2013-14 (\$m) Year 5	Later Years # (\$m)	TOTAL (\$m)
HHF cash contribution		\$1.64	\$5.89	\$8.12		\$5.0	\$20.65
Organisation cash contribution							
Co-investor cash contribution							
<b>SUB-TOTAL</b>							
In-kind contribution and source							
<b>TOTAL</b>		\$1.64	\$5.89	\$8.12		\$5.0	\$20.65

**Notes:**

- These are confirmed amounts.
- # Timing of equipment purchase, installation and commissioning subject to advice from Expert Clinical Panel.

## **PART FOUR – SELF ASSESSMENT<sup>1</sup>**

### ***Evaluation Criterion 1***

This radiation therapy construction and infrastructure proposal will play a significant role in progressing the Commonwealth's reform targets by constructing facilities that will allow for a seamless and integrated treatment approach for Tasmanians with cancer in the North West of the state.

This service is particularly important to patients in the North West as research has demonstrated that for cancer patients, particularly those living in rural, regional and remote areas, better integrated and well coordinated cancer services result in more cancers being prevented or detected early which ultimately leads to improved survival rates.

The justification for NWAHS to provide radiation and oncology services directly can be made from a number of perspectives.

Looking at radiation treatment referral rates, Tasmania has only a 42.5% referral rate, well below the nationally-recommended rate of referral for radiation therapy of 52.3%<sup>2</sup>. We expect that the provision of radiation oncology services in the North West, combined with the NWAHS Cancer Care Centre's education programs will lift referral rates significantly.

From the perspective of modelling caseload from the North West, using an increased referral rate of 46% and based on the NWAHS catchment area, there is a modelled clinical load for 1.1 linear accelerator (linac) machines by 2011 though it is not envisaged that the referral rate can increase this much over this period. In the immediate term the current and anticipated demand growth will be met by the radiation oncology service at the Launceston General Hospital (LGH) of the neighbouring Northern Area Health Service, whose third linear accelerator is due to be commissioned in March 2012. The decision to locate the third machine at the LGH was based on the need to create a viable and sustainable critical mass of specialist staff from which a future single machine unit could be supported.

Even if referral rates remain unchanged, the projected growth in patient numbers due to Tasmania's ageing population will see approximately 911 new cancer cases in 2016 (142 more than in 2011) with 387 of these patients requiring radiation therapy treatment. Each of these people with cancer will also incur treatment costs, which may be increased as a result of not accessing radiation oncology care. The estimated lifetime cost of a person with cancer is \$96,000<sup>3</sup>. As was demonstrated by the findings of the Single Machine Unit trial<sup>4</sup> we expect that this cancer care infrastructure will result in earlier detection and therefore more effective treatment of cancer, which will not only extend and improve the quality of people's lives but will also have a direct economic benefit to the health system and wider society and economy.

Complex cases will be referred to NAHS. In addition, greater clinical capabilities (e.g. specialist dietetics, nutrition and dental services for complex head and neck patients) are likely to be available from NAHS and through the increasingly close relationship with Peter MacCallum Cancer Centre in Melbourne. Also, it is not unusual for Radiation Oncologists to sub-specialise so that even "non-complex" work may require support from or referral to another site to ensure the specific cancer type is treated optimally.

<sup>1</sup> Part 4 SELF ASSESSMENT has been combined with PART 5 SUPPORTING INFORMATION

<sup>2</sup> Delaney G, Jacob S et. Al 2005

<sup>3</sup> The most recent data which comes from NSW shows the average lifetime cost of a person with cancer is \$96,000 according to Access Economics in their Cost of Cancer in NSW June, 2006

<sup>4</sup> Establishing Radiation Oncology Services in Regional Areas. Experiences Of The National Radiotherapy Single Machine Unit Trial And Other Regional Radiation Oncology Models p 7 – 8.

Current cancer-related facilities and services are under increasing pressure to meet demand and are not able to meet benchmark standards. With 22% of Tasmanians living in the North West there is a pressing need to have a more comprehensive cancer care facility in this region. Medical and radiation oncology is provided predominantly from the North Area Health Service (NAHS). The data shows that 43% of NAHS's medical and radiation oncology patients and 18% of Medical Oncology Patients treated there are from the NWAHS catchment. This requires patients to travel 148km with the return commute taking over 3 hours, for a relatively short radiation therapy treatment, which can be required daily for weeks. This has a number of negative consequences including:

- Further limiting patients' ability to remain employed during treatment due to the time required to travel for treatment;
- Support networks being severely limited as friends and family are less able to accompany patients undergoing treatment;
- Patients' poor health and lower energy levels further impacting their capacity to incorporate basic necessities of life such as cooking, cleaning, grocery shopping, paying bills, and maintaining their house. The travel time impacts on their ability to successfully undertake these activities; and
- Increased travel times, less comfortable conditions, which contributes to distress and discomfort for some patients. This applies to those patients, (especially those undergoing chemotherapy and/or have had surgery) who do not have private transport and rely on the much appreciated bus service provided by the Cancer Council Tasmania to transport them from the major North West coast centres to Launceston.

Providing radiation oncology services locally at NWAHS would overcome each of these negative consequences for many patients.

Future demand in radiation oncology services is also expected to increase significantly over the coming years as:

- Tasmanians represent the most aged state or territory of Australia, with 20% of its residents aged 60 or over. By 2016 this number is expected to reach 30%;
- Tasmanians have the highest age-standardised incidence rates of cancer of any state or territory in Australia at 433.9 cases per 100,000 people;
- Based on projections from 2011<sup>5</sup>, Tasmanians are not only the most likely Australians to be diagnosed with cancer, they are also more likely to die from the disease with age-standardised death rates for cancers in Tasmania being 184.8 deaths per 100,000 people compared to the national average of 178.5 deaths per 100,000 people.
- Referral rates in Northern Tasmania are only 42.5%, well below the recommended rate of 52.3%. Referral rates are expected to increase steadily over the coming years as local treatment approaches recommend best practice rates.

Aligned to the Government's Health and Hospital Reform targets this initiative will provide more concentrated and comprehensive cancer care in the North West of Tasmania, enabling these rural and regional communities to receive care closer to home and their community. The merit in treating people locally is not new and is becoming increasingly recognised both

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<sup>5</sup> Australian Institute of Health and Welfare, 2009, Radiation Oncology Areas of Need: Cancer Incidence Projections, 2006-2021, Canberra AIHW

in Australia and around the world<sup>[2]</sup>. The consequences of this are improving treatment outcomes and making the cancer journey for many rural patients more bearable.

The radiation oncology service will transform cancer service delivery to the region and will result in the establishment of a purpose-built, truly integrated North West Cancer Care Centre. This will be connected to and integrated into the North West Regional Hospital Burnie. It will complement the Cancer Care Centre which has been funded under the HHF RCC application which will have provision for current and some anticipated future growth in demand for ambulatory treatment with:

1. 12 chemotherapy chairs;
2. Consulting rooms;
3. A dedicated room for team meetings;
4. State-of-the-art videoconference facilities for case conferencing;
5. Facilities allowing patients to participate in clinical trials;
6. Palliative care facilities with outreach capacity;
7. Teaching facilities for the local community, the University of Tasmania (UTas) Rural Clinical School and the North West GP group;
8. Adjacent location of an MRI; and
9. Accommodation for the various support staff required.

This new infrastructure, when coupled with radiation oncology services, will enable NWAHS to provide a vastly more comprehensive cancer care facility for people in the North West of the state. The proposed infrastructure will see a critical mass of cancer patients being diagnosed and treated in the North West and will allow the successful recruitment and appointment of clinicians and other health service providers who currently have to commute from other parts of the state.

In line with the Government's National Health and Hospitals Network this initiative will ensure consistent and high quality care across the state of Tasmania, including an improved cancer patient journey, reduced delays in treatment and better clinical outcomes.

This infrastructure also aligns directly to National Infrastructure Priority area: 9. Supporting rural communities: improving the quality of life and economic prosperity in rural and regional communities.

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<sup>[2]</sup> Establishing Radiation Oncology Services In Regional Areas. Experiences Of The National Radiotherapy Single Machine Unit Trial and Other Regional Radiation Oncology Models p. 3

## **Evaluation Criterion 2**

Modelling for growth in cancer incidence in Tasmania suggests there may be 3,346 new cancer cases in 2011, growing to 4,754 in 2021; a 42% increase. The North West catchment area accounts for 22% of Tasmania's population is anticipated broadly to mirror this rate of increase, from 769 cancer cases in 2011 growing to 1066 cancer cases in 2021. If the referral rates for radiation oncology are assumed to increase even only to 46% then it will be a challenge for Tasmania to meet national benchmarks for cancer treatment due to the capacity constraints of existing cancer-related infrastructure. The modelling for this is tabulated in Appendices A1 and A2.

Radiotherapy is a vital part of cancer treatment, being the most common treatment modality after surgery. At the current referral rates of 42.5% less patients are receiving radiotherapy than recommended by the national benchmark. At the recommended referral rate of 52.3% assuming a re-treatment rate of 35%, then by 2021 the modelling suggests that there will be 921 patients who would not receive radiation oncology treatment due to capacity constraints. This will be particularly pronounced in the North West given the distance people need to travel to receive radiation treatment. Barton MB et al (2005) calculated average survival of all radiotherapy patients to be 4.75 years. The survival benefit attributable to radiotherapy treatment was approximately 16% of this period or 0.76 years. Applying this figure to total life years lost from 2011 to 2021 equates to 4,652 life years. Approximately 1,023 of these patients would be from the North West.

With particular regard to the North West it is envisaged that the construction of a pivotal patient care and support service co-located with NWRH (and ultimately linked to the more comprehensive cancer care centre at NAHS) will generate awareness and confidence that high quality care is readily accessible to patients when they need it.

Cancer patients require highly specialised care delivered in a number of settings with multiple providers, as well as many different types of treatment. Survival and quality of life depend on early detection and referral to an appropriate multidisciplinary team for diagnosis, a best practice treatment plan and both accompanied by supportive care.

People living in rural and regional Australia – more than 30% of Australians – tend to experience the greatest difficulties in accessing the full range of medical and specialist services, including cancer care. This is because of sparse health infrastructure, geographic isolation, and a relative shortage of health care providers. For some cancers, rural residents are up to three times more likely to die than their urban counterparts within five years of being diagnosed. The cancer patient's journey is frequently challenging and may cross multiple settings in both the private and public sectors. Cancer care involves numerous doctors and specialists, often providing care independently of one another. Navigating this complex system can be difficult for patients at a stressful time. It is therefore important to coordinate cancer care and treatment in a timely, seamless way to improve survival and quality of life for each patient.

### **Evaluation Criterion 3**

The total existing commitment to cancer care and support related investment at the NWAHS is \$16.5 million. This includes \$4.78 million allocation from the Commonwealth infrastructure funding HHF RCC made earlier this year. It also includes a contribution from the Tasmanian Government of nearly \$8 million. The rest comprised philanthropic contributions, contingent upon appropriate licenses being granted, as well as just over \$1 million from an earlier Commonwealth commitment to the North West.

This funding will transform cancer service delivery to the region and will result in the establishment of a purpose-built, truly integrated North West Cancer Care Centre. In addition to the 12 chemotherapy chairs, a separate area for consulting rooms, a dedicated room for team meetings with state-of-the-art videoconference facilities, enabling patients to participate in clinical trials, palliative care facilities with outreach capacity and use for teaching purposes for the local community, the UTas Rural Clinical School and the North West GP group.

This supplementary application proposes an additional \$20.65 million in Commonwealth infrastructure funding. This will allow for radiation therapy treatment - one of the three key treatment approaches (along with surgery and chemotherapy) - for cancer patients. Specifically the funding will enable the following buildings and equipment:

#### **Radiotherapy Buildings**

- Linac bunker and control area
- Spare bunker and control area
- Simulator room
- Planning room
- Consulting rooms
- Patient waiting rooms
- Office space for physicists, engineers, and radiation oncologist

#### **Relocation of pharmacy**

- Laboratory area
- Administration area
- Support area
- Circulation
- Travel
- Plant

#### **Equipment**

- Linear Accelerator
- Physics QA equipment
- Planning System
- CT Simulator
- Immobilisation devices (carbon fibre)

#### **External Works**

- Road Realignment

The Cancer Care Centre will also provide infrastructure that allows for the expansion of services in the future. With the increased chemotherapy capacity and the future donation of equipment and supporting staff, this could enable NWAHS to provide a comprehensive cancer facility for people in the North West of the state both now and in the future. The proposed infrastructure will see a critical mass of cancer patients being treated in the North West and will allow the appointment of clinicians and other health service providers who currently have to commute from other parts of the state.

#### **Evaluation Criterion 4**

The North West radiation therapy unit has been modelled on the successfully implemented hub and spoke model outlined in the joint Commonwealth Government and Victorian Government initiative 'Evaluation of the National Single Machine Unit Radiotherapy Trial'. This initiative demonstrated that the hub and spoke model, designed to deliver a radiotherapy service in regional areas, was at least as successful as the hubs in improving access for regional patients and meeting previously unmet local demand. It demonstrated that they can be implemented and operated in a relatively cost-effective manner and match, and in some cases exceed, the quality of their respective hubs. Other findings included:

- Staff were happy to be working in small, team-orientated and less bureaucratic environments;
- Radiation oncologist decision making and protocol adherence were routinely very high and consistent with other clinical practice audits;
- Professional development was an area requiring improvement; and
- Single machine services were an interim stage in the development of larger services and it is best practice to anticipate expansion to two linacs.

In addition there are numerous other reports about radiotherapy access since 1989. In summary, these reports identify three factors which stop Australians receiving appropriate radiotherapy for the cure or palliation of their cancer:

1. A lack of linear accelerators and staff;
2. Reliance on the private sector shouldering the burden of supply in regional areas; and
3. A rigid regime of assessment of new technology.

These reports demonstrated that radiotherapy is a cost-effective service that requires a particular configuration of technology, buildings and professional staff with carefully planned new centres so that all these features come together at the right time and in the right place. These reports also demonstrated that cancer patients in regional areas had lower rates of referral to radiotherapy due to inability to pay the 'gap' for private services that were located closer to their home, inability to quit work to commute to the services and lower compliance due to discomfort of travelling long distances whilst sick and suffering side effects of treatment.

The North West radiotherapy services will be an integral service within the North West's integrated regional Cancer Care Centre which has been well sited, with connectivity to the North West Regional Hospital to leverage existing infrastructure, minimise avoidable travel, accommodation and related expenses for regional cancer patients and their carers whilst recognising the need for sustainability.

An alternative option was to continue providing the North West area with radiotherapy services via the NAHS where the Launceston General Hospital has an existing radiotherapy service and supporting infrastructure. However, further investigations revealed that:

- The referral rate of cancer patients in the North West area at 42.5% was well below the recommended benchmark of 52.3%;
- There will be sufficient clinical volume of patients based in the North West who will be clinically eligible for radiotherapy to be treated locally via a single machine unit when the service can be offered safely and sustainably;
- Establishing radiation oncology services at the NWAHS was likely in the foreseeable future as demand for this service increases;

- Establishing radiation oncology services as part of the Cancer Care Centre would provide economies of scale and efficiencies in construction and provisioning; and
- There is strong community support for the local provision of radiation oncology services in the North West region.

## **Evaluation Criterion 5**

### **Integration of new infrastructure**

Tasmania has a history of successfully delivering health related infrastructure projects on time and on budget. The NAHS radiation therapy unit implementation project provides valuable learning and a growing body of experienced personnel and Commonwealth-accredited builders to draw upon as well as adherence to robust and comprehensive risk management.

The implementation plan (refer Part 6), which is a component of the broader implementation plan for the HHF RCC funding and the NWAHS Cancer Care Centre specifically will see DHHS take a leadership role in ensuring the project plans are coordinated and implemented consistently.

This \$20.65 million project is expected to have two stages.

#### **1. Construction phase.**

The construction phase will be incorporated into the NWAHS Cancer Care Centre project. Architects have been appointed (Silver, Thomas, Hanley – Health Architecture) and design work has already commenced which includes the integration of radiation therapy treatment into the NWAHS Cancer Care Centre (refer Appendix F2 - NWAHS site drawings). On site construction is expected to commence in the second half of 2011 with construction expected to be completed and cancer care services commenced by the end of 2013 (refer appendix C1 Construction & fit out of Cancer Centre project plan and C2 Project plan description).

State Treasury requires the appointment of pre-registered and approved consultants and contractors. Requirements for this pre-registration and approval are broad and varied but include validating financial management capacity, quality assurance registration compliance with OH&S, and track record in their area of expertise.

#### **2. Equipment phase.**

Equipment-related timelines for the purchase, delivery, installation, calibration and safety testing and clinical commissioning will be determined following advice from the clinical expert panel being appointed in October 2010.

### **Monitoring, Evaluation and Management**

As a public hospital, the site will be governed by the Tasmanian Government's DHHS. Due to the specialty nature of radiation therapy services, NWAHS will be drawing on the management expertise of a well supported radiation oncology hub. Specific hub arrangements although not finalised could either be in Tasmania or mainland Australia. Day-to-day operations will be overseen locally so there is quick decision making and a direct appreciation for the local site issues.

In addition to the broader health measures and performance management processes implemented across the state, this infrastructure will form part of the Tasmanian Cancer Care measures of performance. Key performance indicators include:

1. The Tasmanian CFSP being implemented according to the timeframes and milestones as set out in the supporting Business Plan.
2. Cancer screening rates by number and remoteness for breast, cervical and bowel cancer. Measures will be taken from the soon to be released National Health Care Agreement.
3. Wait times for radiotherapy – Waiting list as a percentage that are outside the maximum acceptable standards as set by Royal Australian New Zealand College of Radiologists and EQUIP clinical indicators for radiation oncology which are 2 days for emergency cases and 14 days for palliative and 28 days radical.

4. Radiotherapy activity statistics - Patient attendances weekly as compared to the Commonwealth's minimum data set for infrastructure utilisation
5. Chemotherapy – Standardised attendances (patient hours chair/bed) report monthly
6. Survival of people diagnosed with cancer. The 5 year relative survival rate both in absolute and by measure of remoteness and socio-economic status - targets set by the soon to be released National Health Care Agreement.

### **Human Resources and Workforce Planning**

Tasmania has a long history in the successful provision of a skilled cancer services workforce throughout the state. As part of Tasmania's Cancer Framework and Strategic Plan (Developing a Sustainable Workforce pp. 56-62) (refer Appendix E 1) consideration has been given to broadening the skill base, developing a sustainable workforce to meet the projected demand for services into the future, and providing best practice approaches to service delivery in a regional context.

In the short term at least 17 health professionals and administration staff will be appointed to support the radiation oncology services with nearly all expected to reside in the region to support this infrastructure. The proposed infrastructure will be pivotal in addressing the difficulties faced by the NWAHS in attracting skilled personnel. It will be designed to address these issues and improve the skills of an expanded workforce in the following ways:

- Improved infrastructure will assist with the recruitment and retention of key professionals;
- To enhance professional development, radiation therapists will be given the opportunity to plan and treat patients with a link between Launceston and Burnie hospitals to facilitate remote planning from the Launceston-based CT simulator.
- It will allow for multidisciplinary care to translate into teaching and learning;
- Expanded placements from UTas School of Medicine to the Rural Clinical School;
- Provide a range of Research Higher Degree positions to develop the next generation of clinical and academic leaders in cancer services across the range of disciplines;
- The proposed infrastructure will provide improved facilities to teach students and pre-vocational and vocation trainees;
- The provision of clinical trials, epidemiological and biomedical investigation will be expanded into the North West through Menzies Research Institute; and
- Opportunities for staff to undertake clinical leadership and management studies and research through a range of state wide UTas programs.

Health professional appointments will comprise a mix of senior and junior staff including a radiation oncologist, deputy chief physicist, supervisor radiation therapist, senior radiation therapist, a range of radiation therapists, a radiation therapist nurse, social worker and dietician. The facility will be able to accommodate a greater number of student placements and will give specific exposure to cancer services in a rural setting. This will help foster and identify students who may seek a permanent career in regional Tasmania.

The NAHS is also characterised by difficulties with recruitment and retention of some professional groups. To address this they have already implemented a 3.5 year training course for radiation therapists and provide clinical placements for up to 25 undergraduate radiation therapy students. These trained professionals represent a potential workforce for the NWAHS. Staff at NAHS also have the potential to support human resource requirements at the NWAHS.

### **Maintenance Schedule**

Integration of this infrastructure with the NWAHS and more broadly across Tasmania is a key objective of this total HHF RCC infrastructure funding. Radiation therapy services (as with all hospital specific infrastructure) will fall under the responsibility and maintenance provisions of the DHHS maintenance arrangements detailed in Appendix D2 –

Maintenance Services Inclusions & Exclusions Plan. These guidelines cover the maintenance of major capital works of the department and ensure that new infrastructure and related services maintain performance standards after commissioning. This includes service level agreements for corrective maintenance, preventative/life cycle maintenance, restorative work and statutory maintenance. These guidelines also ensure the timely attendance and quality of maintenance activities as well as special emergency and call out provisions. In addition to the maintenance program, new building works are expected to have a life of 60 years and will undergo a major refurbishment after 25 years. These provisions cover major capital works of the hospitals and are designed to ensure that new infrastructure and related services maintain the performance standards after commissioning of new capital works. DHHS as with all infrastructure projects recognises the maintenance burden associated with the maintenance of this infrastructure. Existing maintenance arrangements will be extended to incorporate this additional construction and equipment related infrastructure. The overall burden of this infrastructure although significant in terms of its impact on cancer provision is a small percentage of the overall infrastructure and maintenance requirements of DHHS.

The Department of Health and Human Services (DHHS) has negotiated cost competitive contracts for their linear accelerators and planning system requirements which will be extended to the NWAHS. The maintenance schedule for this specialised equipment will be incorporated into the existing maintenance schedule for the North West Regional Hospital. The major equipment items will be covered under warranty provisions for the first year of operation before service contracts are entered into. Equipment service, maintenance and repair arrangements, including contracted response times will be negotiated with contractors as well as estimated down time. First line response will be provided by NAHS given their proximity and the importance of fast response times.

Service and maintenance arrangements for the linac will be through a service contract valued at approximately \$200,000 per annum. \$80,000 has been budgeted for the CT Simulator.

## PART SIX – BUSINESS CASE

### FINANCIAL PLAN

This HHF RCC financial plan has been developed in collaboration with architectural firm Silver Thomas Hanley and Quantity Surveyors Donald Can Watts Corke who are leading firms in the design and costing of radiation therapy infrastructure. This experience combined with the state's experience in the soon to be commissioned third linear accelerator at the NAHS places the state in a strong position to have a detailed understanding of the cost implications for this proposed radiation therapy service from NWAHS. As the implementation arrangements will be integrated as part of the already announced NWAHS Cancer Care Centre so will the financial budgets. Appendix B1: Detailed Funding Summary provides detailed cost estimates for each component of the funding application.

#### Summary of Contributions

The estimated cost of the HHF RCC supplementary application (exclusive of GST) is \$20.65 million comprising:

- \$5.9 million for Radiation Therapy provision
- \$2.8 million for the relocation and construction of a Pharmacy;
- \$2.1 million for inflation and escalation costs, construction contingency, environmentally sustainable design
- \$5.0 million for Radiation oncology and CT equipment
- \$1 million for external works and road realignment
- \$2.0 million for consulting and authority fees
- \$1.8 million for ICT and other fees.

These direct contributions by the Commonwealth will be supported by the ongoing direct operating costs which will comprise \$2.0 million in staff costs and nearly \$300,000 in service contract and direct support costs.

#### Ongoing Management of the Investment

The contractual, financial, and reporting arrangements will be conducted through Intergovernmental Relations and construction management responsibility undertaken by the specialty building services department of DHHS Facilities Management.

#### Indicative Timeframe

Actual dates will need to be adjusted based on an actual Agreement Date

Indicative Timeframes				
North West Burnie Campus Cancer Centre	Total days 1044 (non-consecutive)	Start	Finish	Cash flow (\$ million)
1. Agreement Date	0 days	Mon 27/09/10	Mon 27/09/10	\$0.0
2. Project Inception	81 days	Mon 27/09/10	Fri 17/12/10	\$0.190
3. Design to Tender & road works	246 days	Mon 20/12/10	Tue 23/08/11	\$1.889
4. Tender	41 days	Wed 24/08/11	Tue 4/10/11	\$0.0
5. Start to Mid	223 days	Wed 5/10/11	Tue 15/05/12	\$3.662
6. Mid to Complete	273 days	Wed 16/05/12	Wed 13/02/13	\$8.832
7. Complete	71 days	Thu 14/02/13	Fri 26/04/13	\$1.077
8 Fit out	109 days	Mon 2/02/15	Fri 22/05/15	\$5.000

Refer Appendix C1: Construction & Fit out of Cancer Centre Project Plan

### **Lifetime Management of Asset**

Upon completion of the development of each of the assets, the DHHS Facilities Management Department will be released and the ongoing management will revert to each of the respective Area Health Services or private enterprises.

### **Cost Estimates and Cash Flow**

Construction Quantity Survey and Architectural Reports have been used to construct the above cash flow estimates and Gantt charts (refer Appendix C1: Construction & Fit out of Cancer Centre Project Plan). Cash flows and funding summaries are provided in Appendix B1: Detailed Funding Summary

### **Area Health Services**

As this funding will coincide with the development of the NWAHS Cancer Care Centre as well as other cancer funding awarded under the HHF RCC funding, this will see significant investment by the state in improving cancer care which ensures DHHS has a strong vested interest in the management and ongoing financial viability of this infrastructure.

At the micro economic level, this infrastructure proposal will result in all Area Health Services financially benefiting through improved efficiency, training, and service integration. On the revenue side, growth in demand for services will occur as a direct result of improved efficiencies and expanded services.

DHHS and the state of Tasmania strongly support this proposal with the DHHS being deeply engaged in the development of this funding application. The core of the business rationale rests upon improved effectiveness and efficiency in the management of patient care through being able to treat and deliver care closer to home with an integrated clinical team.

The construction and development work to be undertaken for radiation oncology services will be managed by DHHS Facilities Management. This unit utilises consulting engineers, quantity surveyors and expert construction project managers. The projects proposed have been reviewed and endorsed by DHHS Facility Management. Site location maps and concept drawings are provided in Appendices F1 and F2.

### **IMPLEMENTATION PLAN**

Implementation planning has built on the knowledge and experience of existing project teams' implementation experience, particularly those involved in the NAHS implementation of the third linear accelerator. This captures knowledge about the current Managing Contractors' detailed experience with the local sub-contractor markets for the NWAHS. It also incorporates and captures current Managing Contractors' detailed experience with the local sub-contractor markets for these regions.

This Implementation Plan has been generated collaboratively with the NWAHS and DHHS. DHHS has taken a leadership role in ensuring the project plans are coordinated and will be implemented consistently. Appendices C1, C2 and C3 provide more detailed itemisation of the timing of key activities.

### **Managing Contractor Procurement Model**

State Treasury requires the appointment of pre-registered and approved consultants and contractors. Requirements for this pre-registration and approval are broad and varied but include validating financial management capacity, quality assurance registration compliance with OH&S, and track record in their area of expertise.

Both SAHS and NAHS are in the process of major construction programs with design consultants employed and building contractors moving on site in the next two months. The expanded works proposed under this application will be integrated with current work programs. Tendering processes present very low risks to delivering the program.

The works at NWAHS are comparatively limited in scope and within the capability of the local industry. The NWAHS is located in an area experiencing some challenging economic

conditions and a major construction program will be welcome to the community and construction industry.

It should also be noted that the intended Long-Term Comprehensive Maintenance arrangements integrated into the proposed Contract bring about quality construction and ensure the buildings' maintenance to a high level of operational efficiency (refer Appendix D2).

## **Implementation Approach**

### **Project Planning**

Detailed and well considered project planning reduces risk and enhances efficiency of the project through better coordination and clear role definition. Project planning has begun at multiple levels. A high level project plans for the site has been drafted (refer Appendix C1). These plans are developed to have some flexibility to deal with unforeseen issues and to take into account potential risk (refer below Risk Management Plan Appendix D1) for the approach to risk management and an outline of risks that have been identified and considered.

### **Resourcing and Staffing**

Given the significant works already underway at NWAHS as part of the earlier HHF RCC application, the proposed works would fall within the current works program. A dedicated Project Manager will be appointed at NWAHS to oversee the effective implementation of this program. Additional architects, engineers, building contractors etc will be appointed in line with the nature of the components of the project.

### **Reporting**

In addition to the requirements of HHF reporting as part of the funding agreement, the state will implement formal reporting by the various stakeholders which will be overseen by the Project Manager. Part of the state's success in the implementation of large infrastructure projects is due to adopting formal reporting processes and our governance approach (refer Governance, below). Reporting not only keeps key decision makers well-informed but also enables early identification of emerging issues or unforeseen difficulties. Contingency plans already developed can be considered or new contingency planning developed at this point. Early identification of these issues is critical to ensuring projects remain well managed. Issues are then fed back into the evolving overall and sub-project plans.

## **GOVERNANCE**

Delivery of these radiation oncology services at NWAHS will be managed centrally by DHHS through its Facilities Management Branch. DHHS will act as the lead agency and take on oversight and management roles. As with all large infrastructure projects, this activity will be overseen using the usual major project governance systems in place in Tasmania.

There will be a project control group established specifically for this project and this will have access as required to the other project control groups which are overseeing other elements of the capital works programs in progress across the state in order to share knowledge and learn how each group is dealing with difficult issues. The peak executive group receive regular reports from the appointed Program Manager and infrastructure-specific Program Managers at each site.

This project will also be accounted for and reported in the States Financial Management Information System, and subject to State Government policies and procedures.

It should also be noted that the intended Long-Term Comprehensive Maintenance arrangements that will be integrated in this Contract, will support quality construction and ensure that the buildings are maintained to a high level of operational efficiency.

## **RISK MANAGEMENT**

Risk identification, management and contingency planning for large capital investments are recognised by DHHS as key management skills. Participants have identified specific and general risks associated with the infrastructure needs as outlined in this application (refer Appendix D1). Common risks across the group have been aggregated to form generic risks.

As noted earlier DHHS is highly skilled in the management of large new infrastructure projects. The following five key risks have been identified that require special consideration beyond the Risk Management Plan:

1. Planning approvals, design and construction.
2. Financial risk.
3. Management and oversight of HHF RCC construction.
4. Accurate patient forecasts.

### **1. Planning approvals design and construction:**

With regard to planning approvals, the NWAHS construction is on a very large site that is owned by the Crown. The approvals required are from the Parliamentary Standing Committee on Public Works and from the local government authority in relation to urban planning and building approvals. Local government is known to be supportive of this application and there is very strong community support. In addition to the usual appointment of various consultants and contractors who provide technical expertise, the team will include a dedicated Program Manager, a Managing Contractor, an Operational Planning Group and a Project Control Group who will oversee and project manage the broader capital works program.

### **2. Financial:**

Financial risk has been considered from a number of perspectives. As already mentioned contractors and consultants used in the construction must be pre approved which includes a statement of financial viability.

The NWAHS must submit and report independently audited financial statements. These statements are included in the state's three-year forward estimates. The State has a AA+ Standard & Poors credit rating, the second highest available, and a AAA credit rating from Moody's, the highest available from the agency. This infrastructure initiative has the full support of the state Government.

Financial risk in construction can be managed effectively as the works will form part of an extensive investment program currently underway at not only the NWAHS but also the SAHS and NAHS. DHHS has a well-established track record in construction management and a strong team of major construction firms who can deliver within the required timeframes. All estimates have been reviewed by Quantity Surveyors and building costs for hospital and health facilities are well understood given the very substantial construction program already underway.

A key feature of DHHS project management ability and approach is the experienced gained from the current capital works project. As noted in the Risk Management Plan, a number of contingency plans have been put in place to help manage cost escalations. These strategies include cost escalations which have been built into budget forecasts. These have been estimated a 6% (or approximately \$608,000) as well as 1.6% (or \$175,000) construction phase cost escalation. The escalation rates for this project relate to historical rates experienced in the local industry and are based on Rawlinsons Construction Handbook.

### **3. Management and oversight of HHF RCC construction;**

The management and oversight of construction and implementation of the infrastructure program generally is a significant risk to be managed. As outlined in Governance arrangements above, DHHS will adopt a comprehensive and proven governance model.

Combined with the risk management plan, this will considerably reduce risks in this context.

**4. Accurate patient forecasts:**

The correlation between patient age and incidence of cancer is now well established. Demographic projections based on Census data show a significant likelihood that Tasmania will have a disproportionately aging population compared to other states. These inputs give the state a high degree of confidence in its forward growth estimates of cancer rates. Detailed patient forecasts have been estimated based on patient numbers which demonstrate the demand for radiation therapy services (refer Appendix A2).

## **ATTACHMENTS**

### **A Letters of Commitment and/or Support**

State Government of Tasmania

## **APPENDICIES**

### **A Projected Linac utilisation**

1. Linac utilisation forecasts (Northern Tasmania)
2. Linac utilisation forecasts (North West Area Health Service)

### **B Financial Plan Information**

1. Detailed Funding Summary

### **C Project plan**

1. Construction & fit out of Cancer Centre project plan
2. Key Activities Overview

### **D Risk Management Information**

1. Risk Management Plan
2. Maintenance Services Inclusions & Exclusions Plan

### **E Other Documentation**

1. Tasmanian Cancer Framework and Strategic Plan
2. Summary of Grants – Commonwealth & State
3. Project Resourcing Schedule

### **F Site and Construction Information**

1. NWAHS site drawings

## Health and Hospitals Fund – Regional Cancer Centres Initiative

### APPLICANT CHECKLIST

<b>Before you begin</b>	
Read all information in the Application Guidelines, particularly the Section 3 – Evaluation Criteria and Notes to Applicants, and the Funding Application Form.	
Ensure you understand the HHF Evaluation Criteria for the funding of regional cancer centres, and Regional Cancer Centres Guiding Principles, as specified in the Application Guidelines.	
Check the website <a href="http://www.health.gov/hhf">www.health.gov/hhf</a> and read the information on the regional cancer centres and the Questions and Answers.	
Check the following website for any addenda to the Application Guidelines and Funding Application Form: <a href="http://www.health.gov.au/tenders">www.health.gov.au/tenders</a>	
For private (including non-government organisations), read the Department of Health and Ageing's standard capital works funding agreement included with the application package, and understand that by submitting an application, your organisation is agreeing to abide by the terms of this agreement should you receive funding.	
<b>Completing your application</b>	
Have you named the organisation applying for funding?	
Have you nominated a contact officer in this organisation?	
Have you signed the declaration in the Application Form?	
Does your application address all the HHF Evaluation Criteria, taking into account the Regional Cancer Centres Guiding Principles and following the guidance provided in the Notes for Applicants?	
Does your application include an Executive Summary?	
Does your application include a business case (including implementation plan, financial plan and risk management strategy)?	
Have you attached one original and ten (10) copies of your application and attachments?	
Attach a CD-ROM of your complete application and attachments	
<b>Submitting your application</b>	
<b>For private (including non-government organisations):</b>	
Include one (1) copy of a Certificate of Incorporation.	
Include one (1) copy of an audited financial statement for the previous financial year	
OR one (1) copy of an audited profit/loss statement for the previous financial year	
<b>For organisations submitting a joint application:</b>	
Include letters of support from other organisation/s actively supporting the proposal	
<b>CHECK ALL INFORMATION!</b>	