

## CANCER SERVICES

### CHAPTER 28

Following the opening of the Liverpool Hospital Cancer Therapy Center in 1995 there has been a progressive movement towards the development of a Cancer Services network within SWSAHS. The formation of an Area Cancer Service, lead by an Area Director of Cancer Services is consistent with the recommendations from NSW Health documents such as “*A Cancer Care Model for NSW Optimising Cancer Management (1999)*”, and “*A Clinical Service Framework for Optimising Cancer Care in NSW(2003)*”.

The focus of cancer care is to attempt to prevent pain, suffering and death from cancer. The majority of care is provided on an outpatient basis in collaboration with general practitioners, community nurses and cancer-care coordinators. Apart from Radiation and Medical Oncologists, cancer care is predominantly delivered by surgeons and consultative physicians, nursing and allied health staff.

The majority of patients referred to the South Western Cancer Services are residents of the SWSAHS. Patients are predominantly privately referred non-inpatients with a small percentage requiring inpatient care related to complications of their disease or treatment. Surgeons constitute the main referral source, but patients may access cancer services via their General Practitioner, other specialists, Emergency Departments or via in-hospital consultation (Bankstown, Liverpool, Campbelltown).

There is one comprehensive cancer care centre in SWSAHS, Liverpool Cancer Therapy Centre (LCTC) and a newly built Cancer Unit at Macarthur. Bankstown also functions as a Cancer Unit with on site surgery, medical oncology, access to palliative care consultation services and access to radiation oncology through the Liverpool CTC.

There are approximately 3,600 new cancer diagnoses in SWSAHS residents each year. However it is estimated there were 11,960 inpatient episodes of care in SWSAHS hospitals in 2002/03, occupying approximately 61,000 bed days. Non-inpatient occasions of services were in the order of 100,000 per year.

There is an increasing workload related to population growth and a substantial workload related to the management of patients with recurrent/metastatic disease (previously treated for primary disease in SWSAHS or elsewhere).

It is estimated that 30% of separations/bed days for cancer DRGs from SWSAHS residents occur outside SWSAHS. Data from the NSW Radiation Management Information System 2002 showed SWS treated 730 of 1057 new patients resident in SWS (i.e. 31% were treated in other Area Health Services). It is a major challenge to redress these outflows so as to reduce travel and to meet the increased demand for treatment in Radiation/Medical Oncology (typically 2% per annum).

At present, 34% of all cancer patients in SWSAHS receive radiation during the course of their illness. Approximately one third of these patients receive this treatment outside SWSAHS. The evidence-based benchmark used by NSW Health is 52%.

It is estimated that the new caseload for Radiation Oncology will be 2,160 patients per year and for Medical Oncology 1,600 patients per year 2004/06.

In 2006, at a planned 85% occupancy, assuming no changes in flows that for adult patients there will be a need for approximately 23 beds for medical oncology in SWSAHS hospitals. The demand for inpatient medical oncology services is projected to increase by 11.6% to 2006 and by 10.6% to 2011.

## Current Services

Medical Oncology including chemotherapy is delivered at four sites: Liverpool, Bankstown and Campbelltown Hospitals plus in Bowral Day Surgery in the town of Bowral.

Allocated inpatient medical oncology beds are currently available at Bankstown and Liverpool Hospitals.

Radiation Oncology is provided across two sites (Liverpool and Campbelltown). Liverpool CTC has a total of three linear accelerators and provides specialty treatments such as brachytherapy. The Campbelltown service commenced treatment with one linear accelerator in 2003. Consultative services are also provided at Bankstown and Bowral with future plans to include Fairfield.

Accredited cancer surgeons are appointed across multiple sites depending on the discipline. Key co-ordinating mechanisms are the multi-disciplinary tumour clinics, and, for sites without radiation oncology on site, the radiation oncology clinic. These clinics aim to provide comprehensive cancer care for patients, which is a planned effort between surgeons, medical oncologists and radiation oncologists. The patient may move between hospital sites for different treatment modalities at different stages of treatment.

Cancer Services in 2004 aim to deliver integrated tumour programs. The following table indicates tumour program activity:

Ref No	Tumour Program	Cancer Related Inpatient Episodes			Bed Days
		Number	% Emergency	% Surgical Procedures	
1	Unallocated	3631	56%	43%	19,125
2	Colorectal	1267	21%	84%	6008
3	Haematological	1066	73%	15%	6347
4	Upper GI	739	63%	45%	5376
5	Gynaecological	861	22%	81%	2861
6	Genito-Urinary	796+	30%	62%	2526
7	Other Cancers	457	51%	50%	2557
8	Lung	511	71%	29%	3055
9	Skin	993	5%	94%	1194
10	Neurological	243	78%	38%	2435
11	Breast	549	19%	76%	1607
12	Head and Neck	257	30%	53%	1137
13	Non-Site Specific	50	78%	66%	260

### Bankstown Hospital

There is currently 1.0 medical oncologist at Bankstown. In terms of inpatient beds, inpatient caseload is currently up to 8 medical oncology patients at one time in Bankstown.

It needs to be noted that the majority of chemotherapy treatments are provided on a non-inpatient basis and therefore will not be reported in the medical oncology service related grouping the FlowInfo data utilised by NSW Health.

For inpatient activity in 2002/03, there were 450 separations; average LOS was 4.2 days (6.3 days excluding day only). At 95% occupancy this is equivalent to 5.5 beds.

In 2002 total activity for medical oncology (inpatients and non-inpatients) there were 239 new patients, 2,169 follow-up visits and 3,979 chemotherapy treatments.

Sub-specialist surgeons, in Upper GI, Colo-rectal, Breast, Urology and Endocrine surgery, currently undertake Cancer Surgery at Bankstown Hospital. Surgeons are linked into multidisciplinary care through multidisciplinary tumour clinics. Comprehensive cancer care for patients remains a planned effort between surgeons at Bankstown, medical oncologists at Bankstown and radiation oncologists at Liverpool to ensure cohesion between these services for the patient. There is an opportunity to increase the cancer surgical role at Bankstown in genito-urinary, thoracic surgery and gynaecological cancer surgery to utilise the operating theatre capacity and respond to local population ageing.

### **Liverpool Hospital**

Liverpool Cancer Therapy Centre (LCTC) offers the complete range of medical oncology, radiation oncology, haematological oncology and palliative care services. There are three linear accelerators. In addition, Liverpool Hospital provides a PET (positron emission tomography) service, which is increasingly used in cancer diagnosis.

#### *Medical Oncology*

There are 3.6 FTE medical oncologists at any one time at Liverpool. In terms of inpatient beds there are 4-12 medical oncology patients. It needs to be noted that the majority of chemotherapy treatments are provided on a non-inpatient basis. Therefore this activity will not be reflected in the FlowInfo data utilised by NSW Health.

In 2002/03 there were 6,770 non-inpatient chemotherapy occasions of service. Ambulatory care also provided many occasions of service for non-chemotherapy intravenous treatments.

In 2002/03, there were 367 separations for medical oncology; average LOS was 8.4 days (9.4 days excluding day only). At 95% occupancy this is equivalent to 5.5 beds.

#### *Radiation Oncology*

There are 5.4 FTE radiation oncology positions at Liverpool. In terms of inpatient beds there can be up to 12 radiation oncology patients. However, the majority of radiation oncology treatment is provided on a non-inpatient basis. The LCTC has three external beam linear accelerators. The 2002 NSW Radiation Management Information System Report identified the following radiation oncology activity for LCTC:

- 19,051 attendances;
- 991 total courses;
- 818 new courses; and
- 173 retreatment courses.

In 2002/03 local reports identified 18,632 attendances for radiation oncology.

### **Campbelltown Hospital**

A newly built Cancer Centre has been established at Campbelltown with the forward capability to provide 2 linear accelerators. Chemotherapy commenced in early 2003 and radiation oncology commenced utilising one linear accelerator in September 2003.

### *Medical Oncology*

There is one FTE medical oncologist at Macarthur/Wingecarribee. From March 2003 – June 2003 there were a total of 353 chemotherapy treatments provided.

It needs to be noted that the majority of chemotherapy treatments are provided on a non-inpatient basis. Therefore this activity will not be reflected in the FlowInfo data utilised by NSW Health.

In 2002/03, there were 83 inpatient separations for medical oncology; average LOS was 5.8 days (7.3 days excluding day only). At 95% occupancy this is equivalent to 2 beds.

### **Radiation Oncology**

The MCTC has 1.6 FTE radiation oncologists. Since commencing operations in August 2003 there has been 2,029 attendances recorded.

### **Research and Teaching**

- Clinical trials research is conducted through Liverpool CTC, Macarthur CTC and Bankstown, with SWSCS being a leading recruitment site to a number of multi-institution/international studies.
- CCORE (Collaboration for Cancer Outcomes Research and Evaluation) has provided area, state, national and international research into health service provision in Oncology.
- The SWS Colorectal Cancer Laboratory was established by Dr. Eva Segelov between 1999/03 as a translational research laboratory. This service is to relocate to St. Vincent's Hospital in 2004.
- Research is also occurring in medical physics.
- There are undergraduate and postgraduate education programmes, in-service and allied health education programs, patient education and support groups, patient resource library and participation in the medical physics registrar training program.

### **Major Equipment**

A new Linear accelerator (LINAC) will be purchased for Macarthur Cancer Therapy Centre to take the total configuration to two by mid 2005. One of the 10-year-old LINACs at Liverpool will also be replaced with a new state of the art LINAC by 2005.

**RECOMMENDATIONS**

- An integrated Area Cancer Service, co-ordinated by an Area Clinical Director be further developed.
- The Area continue developing its Comprehensive Cancer Centre at Liverpool and Cancer Units at Campbelltown and Bankstown in accordance with *A Cancer Care Model for NSW Optimising Cancer Management (1999)*; *A Clinical Framework for Optimising Cancer Care in NSW* and *NSW Cancer Plan*.
- A Professor/Director of Medical Oncology be appointed consistent with the recommendation of the external review undertaken in 2003.
- Medical oncology departments at Campbelltown, Liverpool and Bankstown be enhanced with cross-credentialling of medical oncologists to provide for increasing subspecialisation within medical oncology. Chemotherapy treatment will continue at Bowral Day Surgery.
- By mid 2005 radiation oncology to have two linear accelerators operating at Campbelltown Cancer Therapy Centre. Liverpool will replace an older LINAC in 2005. The total Area configuration be five linear accelerators.
- Consultative services for radiotherapy and chemotherapy be available within each hospital in SWSAHS.
- The main locations for cancer surgery will be as follows:

<b>Campbelltown</b>	<b>Liverpool</b>	<b>Bankstown</b>
Genito-urinary	Thoracic Upper GI Genito-urinary Endocrine Neurological cancer Orthopaedic Head and Neck Reconstructive surgery after cancer	Thoracic Upper GI Genito-urinary Endocrine
Colorectal		Colorectal
Breast	Gynaecology	Breast (also at Fairfield) Gynaecology
Skin cancer surgery – all hospitals		

- Care coordinators for site-specific tumours be appointed to enhance timely access for patients’ initial consultation, unscheduled follow-up visits and to co-ordinate the care in community settings by GPs and other service providers.
- There be rotation of registrars in oncology between Liverpool, Bankstown and Campbelltown Hospitals.
- Inpatient beds and support staff be made available for admitting medical and radiation oncology patients at Campbelltown Hospital.
- Tumour stream leaders currently appointed develop research and standards and protocols for the management of tumour types.
- Enhancement of the numbers of inpatient beds for medical oncology at Liverpool Hospital.
- Significant enhancement of cancer research across the area with wet laboratories and medical physics research.
- Enhanced staffing in medical, nursing and allied health.
- An Area Cancer Registry be established.
- The provision of rural outreach services be planned as part of the statewide role of radiotherapy.
- A feasibility study be performed to evaluate the development of a “private” clinic in SWS for the delivery of chemotherapy.