

**Counties Manukau  
District Health Board**

**Clinical Haematology  
Health Services Plan**

**February 2008**

## 1.0 Current Services

A comprehensive secondary care level Clinical Haematology service is provided at CMDHB with links to the Auckland Regional Cancer Service. The CMDHB service has gradually expanded over the last 20 years as a result of an increased demand for haematological services above population growth. All haematological care apart from the treatment of acute leukaemia in younger patients, bone marrow transplantation, and the treatment of haemophilia is provided for the adult CMDHB population at CMDHB.

There are two aspects to the Haematology service - Clinical Haematology Services (part of the Division of Medicine), and Laboratory Haematology and Transfusion Services (part of the Department of Laboratory Service). This workstream focuses on the Clinical Haematology service only, but recognises the strong links with Laboratory Haematology.

The Clinical Haematology Service located at Middlemore Hospital consists of:

- Outpatient clinics (new referrals and follow-ups) and a telephone consultation service for hospital medical staff and general practitioners. A number of community patients are followed with respect to regular blood test results, especially those on chemotherapy or with life-threatening conditions.
- An acute and elective Haematology inpatient/day patient service based on the Middlemore site. There is a nine chair/bed day ward located in the Medical Specialities Unit and there are six speciality inpatient beds in Ward 5 at Middlemore Hospital.
- An inpatient consulting service is provided to all services.

Service HAEMATOLOGY	Location	Who & Workforce	Volume Information (2006/07)	Service Linkages
Outpatients	Haematology clinics Building 15 Medical Specialities Unit	SMOs for Clinical Haematology 1 x Registrar 1 x House officer Nurse led haemochromatosis clinics	455 New Patients  1682 Follow Up Patients	The clinics are co-located with the Day Ward and scheduling and reception support provided within the service. Laboratory and Radiology services available at both MMH Cultural Support Services Translation services Dedicated Haematology Social Worker covering inpatients and outpatients. Pharmacy
Day patients	Haematology Day Ward Building 15 Medical Specialities Unit	SMO, RMO, Nurses, Social worker, Pharmacist & Clerical	600 Discharges per Annum  Nurse consult prior to chemotherapy.	Elective admissions for chemotherapy and other procedures These patients also require a range of support and diagnostic services including dietician, social work, pharmacy, laboratory, radiology, palliative care, and physio (on call).
Inpatients	Six speciality inpatient beds on Ward 5 in the AMC	SMO, RMO, Nurses, Social worker, Pharmacist, Physio, OT & Clerical	Approximately 260 inpatients were admitted under the haematology speciality in 2006/07	Elective Acute admissions through EC & direct admissions Full range of support and diagnostic services, and sub specialty referral service available
Clinical transfusion	Haematology Day ward and wards throughout the hospital.	SMO & RMO	635 Blood transfusions in the Day Ward	Haematology Laboratory service and blood bank.

Thrombosis /anticoagulation and thrombophilia service	Inpatient, Outpatient and liaison with Community	SMOs and CNS		All inpatient specialties, GPs, laboratories and community
---	--	--------------	--	--

- Comprehensive management of patients with haematological malignancies (diagnosis, surveillance and treatment, especially chemotherapy). This is delivered mainly in the day ward, although some patients are treated when they are inpatients on Ward 5. As well as providing chemotherapy for patients with malignant haematological conditions, the Day Ward staff deliver chemotherapy to patients with non-malignant haematological conditions and also to patients from other specialties (particularly rheumatology and renal medicine).
- A hospital-wide clinical transfusion consultation service providing advice and support. High users of blood transfusion services include ICU, National Burns Unit (NBC), Trauma Services, General Surgery and Orthopaedic Surgery. Because of limited facility space, an ambulatory transfusion service is not currently offered to patients from other departments.
- A venesection service for patients with polycythaemia and haemochromatosis.
- A hospital wide and community anti-coagulation service (inpatient and outpatient) for the management of patients with thromboembolism and patients with congenital and acquired bleeding disorders, as well as thrombophilia. Patients on heparin are supervised until their warfarin dose is stable, before handing them over to the GP.

### SWOT Analysis – Clinical Haematology

<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• Experienced Staff</li> <li>• Flexibility</li> <li>• Patient Focused</li> <li>• Strong senior nurse leadership</li> <li>• Strong research programme</li> <li>• Ambulatory Focus</li> <li>• Co-located Day Ward and Clinics</li> <li>• Supportive environment</li> <li>• Good Communication</li> <li>• Strong links with laboratory and excellent services provided at CMDHB, Diagnostic Laboratory and LabPlus</li> <li>• Excellent computer programmes (Concerto, WebEclair)</li> </ul>	<p><b>Weaknesses:</b></p> <ul style="list-style-type: none"> <li>• No system for maintaining and accessing web based protocols</li> <li>• Poor IT links across the Region and lack of a clinical database.</li> <li>• Inadequate support staff (social work, dietician, secretarial)</li> <li>• National work force issues</li> <li>• High turnover of staff on inpatient ward</li> <li>• No compounding pharmacy on site</li> <li>• Nationwide difficulty recruiting RMOs Day ward not covered on SMOs day off (cross cover) inadequate FTEs</li> <li>• Large population with poor economic resources</li> <li>• Progesa Blood Service clinical reporting</li> <li>• Parking and transport for patients</li> <li>• Inadequate pathologists in NZ</li> <li>• Poorly resourced South Auckland School of Medicine</li> <li>• Support of patients in homes</li> </ul>
<p><b>Opportunities:</b></p> <ul style="list-style-type: none"> <li>• Potential to develop Clinical Nurse Specialist roles and evolving nurse practitioner roles</li> <li>• Expanding coagulation service</li> <li>• Developing the role of nurse co-ordinator in Haematology</li> <li>• Developing a purpose built unit based at Middlemore Hospital with links to laboratory services and inpatient wards.</li> <li>• Further development of a clinical database</li> </ul>	<p><b>Threats:</b></p> <ul style="list-style-type: none"> <li>• High cost of new drug therapies</li> <li>• Availability of emerging drug therapies in NZ</li> <li>• Pharmac systems and decision processes with little input from Haematologists</li> <li>• Facilities to meet growth</li> <li>• Facilities which are not purpose built</li> <li>• Workforce to meet demand – especially medical and nursing</li> <li>• Workforce with the right set of skills</li> <li>• Funding to support demand above demographic growth</li> </ul>

<ul style="list-style-type: none"> <li>• Haematology Research fellow to be appointed</li> <li>• Increasing research programme with the help of CCREP</li> <li>• Increasing patient involvement and education</li> <li>• Increasing teaching requirement</li> </ul>	<ul style="list-style-type: none"> <li>• Aging population</li> <li>• High number of co morbidities in patient population, including obesity and diabetes</li> <li>• Increasing incidence of diseases such as lymphoma and leukaemia</li> <li>• Patients surviving longer</li> <li>• Increasing separation of resources between Australia and NZ</li> </ul>
--	--

## 2.0 Key Issues

### Growth in demand

'Cancer trends and projections' projected a 47% increase in the total cancer registrations between 1996 and 2011 while the population was projected to grow 15% (source: Statistics NZ). Data for the NZ cancer registry 1999-2004 have shown an increase of 1.6% across all types of cancer. The largest average increase is in leukaemia at 5.8% per annum. Non-Hodgkins lymphoma has increased by 2.6% and Hodgkins disease by 3.9%. This would indicate a substantial increase in the incidence of Hodgkin and non-Hodgkin lymphoma and leukaemia.

The draft Cancer Capacity and Capability study provides the basis for modelling the likely capacity requirements over the next 5 – 10 years. The most notable trend is the very large growth in chemotherapy attendances. Taken together oncology and haematology chemotherapy attendances have increased by an estimated 40% over the four years from 2001/02 to 2005/06. Initial and subsequent attendances for assessment by clinical haematologists have seen increases of 4.1 and 5.5% per annum.

Haematology Chemotherapy Volumes at CMDHB <sup>1</sup>						
	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
Chemotherapy Neoplasm		148	243	346	588	435
Chemotherapy Other		150	75	30	30	87
Total	322	298	318	276	618	522

### Patient Population

The population of South Auckland is projected to grow at a rate of 8% between 2006 and 2011, against a national growth rate of 2%. Haematological malignancies are increasing at a rate significantly higher than population growth, largely due to the structural ageing of the population. At the same time the growth in mortality is flattening and survival is increasing. This can mean longer and more intensive periods of treatment and palliative care, although quality of life is a focus of modern care. There are a high number of co-morbidities in this patient population, particularly obesity and diabetes.

### Resources and facilities to meet demand

The current facilities are not a good fit-for-purpose. Based on the current projected growth in the number of chemotherapy patients CMDHB will need additional treatment stations in the day-ward/clinic, with an associated increase in the day ward workforce. The planned facility at Middlemore Hospital has 15 treatment stations and is due for completion in 2009/10.

### Workforce

Patients with Haematological conditions need effective multidisciplinary care with input from medical and nursing staff, social work, pharmacy, blood bank and the laboratory and palliative care. The

<sup>1</sup> Source: Decision Support

existing workforce is small and consultants are required to work across inpatient, outpatient and laboratory haematology services. Sustainability will be challenged by existing numbers of clinical staff with increases in patient numbers.

### **Drug cost and availability**

New expensive treatments are becoming available, particularly in the pharmaceutical arena. The availability of these emerging drug therapies in NZ is influenced by Pharmac systems and processes. A number of leading drug companies no longer operate in the NZ market. CMDHB no longer has an onsite compounding pharmaceutical service for chemotherapy drugs and this may limit some of the drug therapies (that have a short “use by time”) that can be given at CMDHB, particularly those that may need seven day administration.

## **3.0 Trends and Future Directions**

The demand for Haematology services will continue to grow above the rate of population growth, especially as lymphoma is one of the fastest growing cancers. It is likely that the service will continue to be an ambulatory one with patients attending daily for chemotherapy treatments. The chemotherapy treatments are becoming more sophisticated and it is likely that the number of oral or novel chemotherapy agents, including gene therapy, will increase. Alternatives to blood transfusion may become increasingly available.

There have been ongoing discussions at the national and regional level, with agreement after a Ministry of Health review, that there be eight haematology departments in the major NZ hospitals in contrast to the six national cancer centres. This difference is due to the requirement for haematology support for patients admitted to hospitals with non-haematology conditions requiring review of haematology tests (e.g. full blood counts, transfusions, operative bleeding etc).

Applying the NSW Role Delineation Model, the Haematology Service at CMDHB is a Level 6 service, with a medical registrar on site covering Haematology patients. There is a Haematology Department and Haematologist on-call 24 hours. There is a Haematology registrar and a teaching and research role. The service does not provide cell separation or perform bone marrow transplantation.

The Clinical Haematology service at CMDHB has gradually expanded since established 20 years ago as the demand for treatment has increased. A number of patients have been repatriated for treatment locally and it is envisaged that in the future almost all haematology services will be provided locally including the treatment of leukaemia in younger patients (currently provided in smaller centres such as Dunedin).and possibly autologous transplantation (currently provided in five NZ hospitals). The Haematology service is keen to consider providing some regional or out-of-DHB services for patients with rare conditions that could be best treated at CMDHB, or for patients when CMDHB clinicians are coordinating national trials in specific innovative treatments.

## **4.0 Key Directions**

- ✓ *Continued development of services at Middlemore Hospital to address demographic growth.*
- ✓ *Potential development of autologous bone marrow service at CMDHB within the HSP timeframe.*
- ✓ *Continued development of Clinical Haematology services on the Middlemore Hospital due to the small size of the service, and specialist commitment in both clinical haematology and laboratory haematology.*