

**Counties Manukau
District Health Board**

**Cardiothoracic
Health Services Plan**

February 2008

1.0 Current Services

Cardiothoracic Surgical Services for the people of Counties Manukau are provided by the Auckland District Health Board (ADHB) Cardiothoracic Service. The Cardiothoracic Surgical Unit at (CTSU) ADHB provides secondary, tertiary and quaternary services for the New Zealand population. CTSU is a regional referral centre for secondary services, a major national cardiac centre, and provides heart and lung transplant services for all New Zealanders. CTSU has a specialised Intensive Care Unit and adjacent High Dependency Unit which also supports the regional vascular services and provides intensive care support to cardiology services. The Intensive Care Unit Supports heart and lung transplant services both pre and postoperatively and acts as a regional referral centre for massive pulmonary embolism and the adult Extra Corporeal Membrane Oxygenation (ECMO) centre.

CTSU provides secondary and tertiary services to the catchment of metro-Auckland, as well as specialist tertiary services to other DHBs in New Zealand. CTSU provides the full range of elective and acute, inpatient and outpatient, cardiothoracic services including:

- Cardiothoracic services – this is a national service including elective cardiac surgery (cardiopulmonary bypass), emergency cardiac (mitral valvotomy), emergency thoracic and emergency cardiothoracic procedures (such as pulmonary embolectomy)
- National heart and lung transplantation service including recipient co-ordination
- Lung volume reduction surgery
- Pulmonary Thromboendarectomy
- Spinal Cord Stimulator implants
- Inherited disease registry for hypertrophic cardiomyopathy (HOCM) and long QT syndrome – this is a regional service
- The Recipient Coordination Unit also manages “Hearty Tower” accommodation and support programme for patients awaiting receipt of a new organ
- Endovascular aortic stenting
- Arrhythmia surgery

These surgical procedures and full cardiothoracic diagnostic investigations are performed by an expert team of surgeons, anaesthetists and technical staff. The Cardiothoracic service is also supported by specialist theatre nursing, ICU nursing and junior medical staff with registrars training in cardiothoracic surgery.

Facilities include:

- Cardiovascular Intensive Care Unit (16 physical and 12 budgeted)
- High Dependency Unit (8 physical and 6 budgeted)
- Administration area
- Inpatient ward (43 physical beds 31 budgeted)
- Hearty Towers (based at Greenlane Clinical Centre)
- Perfusion services

Services are consistent with Level 6 of the New South Wales Delineation Model. Details of current service volumes are attached as an appendix to this workstream.

2.0 Trends and Future Direction

Close and collaborative relationships exist between CMDHB referring clinicians and the ADHB unit. While increase in service volume is forecast as the result of population growth, services for CMDHB will remain at ADHB during the period of the Health Services Plan. This is contingent on ADHB being able to develop the required capacity to provide prompt acute and elective access.

Development of multidisciplinary clinics at the Manukau Campus for lung cancer (respiratory physicians and oncologists) and cardiac disease (cardiologists) will be developed to improve the patient pathway.

3.0 Key Directions

- ✓ *Cardiothoracic Surgery for people of Counties Manukau will continue to be provided by ADHB at ADHB facilities.*
- ✓ *Participation of Cardiothoracic Surgeons in multidisciplinary clinics at Manukau SuperClinic.*

APPENDIX ONE: CURRENT VOLUMES CARDIOTHORACIC SERVICES

1.0 INPATIENT ACTIVITY BY SERVICE RELATED GROUP: CASEWEIGHT AND DRG

BY SRG													
				2004/05			2005/06			2006/07			
Patient Type		Day/Inpatient	Agency code	Discharges	Caseweights	acw	Discharges	Caseweights	acw	Discharges	Caseweights	acw	
Adult	Acute	Daypatient	Auckland Counties Manukau	4	1.84	0.46	2	3.18	1.59	2	2.04	1.02	
				4	1.84	0.46	4	15.44	3.86	4	3.79	0.95	
		Daypatient Total			4	1.84	0.46	6	18.62	3.10	6	5.84	0.97
		Inpatient	Northland	1	3.09	3.09							
			Auckland Counties Manukau	233	1834.34	7.87	230	1897.58	8.25	233	1936.72	8.31	
	Non Northern Region		111	263.05	2.37	38	139.84	3.68	40	148.41	3.71		
	Inpatient Total			2	12.15	6.07	1	12.53	12.53	1	5.36	5.36	
	Acute Total				351	2114.47	6.02	275	2068.57	7.52	280	2096.32	7.49
	Elective Total	Daypatient	Waitemata	1	0.36	0.36							
			Auckland Counties Manukau	1	0.36	0.36	1	0.56	0.56	2	1.13	0.56	
				2	0.72	0.36	1	1.48	1.48	7	4.46	0.64	
		Daypatient Total			4	1.44	0.36	2	2.04	1.02	9	5.59	0.62
		Inpatient	Auckland Counties Manukau	45	291.71	6.48	94	616.67	6.56	91	595.56	6.54	
	Non Northern Region		14	24.62	1.76	10	11.25	1.13	28	120.63	4.31		
			2	26.03	13.02				2	6.39	3.20		
Inpatient Total			61	342.37	5.61	104	627.92	6.04	121	722.58	5.97		
Elective Total				65	343.80	5.29	106	629.96	5.94	130	728.17	5.60	
Adult Total				416	2458.27	5.91	381	2698.54	7.08	410	2824.49	6.89	

CURRENT ACTIVITY INPATIENT (CHILDREN)

BY SRG													
				2004/05			2005/06			2006/07			
Patient Type		Day/Inpatient	Agency code	Discharges	Caseweights	acw	Discharges	Caseweights	acw	Discharges	Caseweights	acw	
Child	Acute	Inpatient	Auckland Non Northern Region	21	211.03	10.05	13	137.36	10.57	16	189.67	11.85	
				1	2.96	2.96							
		Inpatient Total	21	211.03	10.05	13	137.36	10.57	17	192.63	11.33		
	Acute Total			21	211.03	10.05	13	137.36	10.57	17	192.63	11.33	
	Elective	Daypatient	Auckland Counties Manukau	1	0.36	0.36							
				2	0.72	0.36	2	1.13	0.56	7	4.46	0.64	
		Daypatient Total			3	1.08	0.36	2	1.13	0.56	7	4.46	0.64
		Inpatient	Auckland Counties Manukau	42	285.88	6.81	41	293.12	7.15	45	358.73	7.97	
				2	4.18	2.09	1	2.96	2.96				
	Inpatient Total			44	290.06	6.59	42	296.08	7.05	45	358.73	7.97	
Elective Total			47	291.14	6.19	44	297.20	6.75	52	363.20	6.98		
Child Total				68	502.16	7.38	57	434.56	7.62	69	555.83	8.06	
Grand Total				484	2960.44	6.12	438	3133.10	7.15	479	3380.32	7.06	

2.0 INPATIENT ACTIVITY BY PURCHASE UNIT CODE: CASEWEIGHT AND DRG

BY PURCHASE UNIT (\$15.01)												
			2004/05			2005/06			2006/07			
Patient Type		Day/Inpatient	Agency code	Discharges	Caseweights	acw	Discharges	Caseweights	acw	Discharges	Caseweights	acw
Adult	Acute	Daypatient	Auckland	8	3.06	0.38	2	0.70	0.35	3	1.10	0.37
		Daypatient Total		8	3.06	0.38	2	0.70	0.35	3	1.10	0.37
		Inpatient	Auckland Non Northern Region	234	1606.65	6.87	241	1799.80	7.47	239	1843.32	7.71
		Inpatient Total		237	1621.34	6.84	247	1836.42	7.43	241	1859.44	7.72
	Acute Total			245	1624.40	6.63	249	1837.12	7.38	244	1860.54	7.63
	Elective	Daypatient	Auckland	3	0.97	0.32	5	4.11	0.82	21	6.42	0.31
		Daypatient Total		3	0.97	0.32	5	4.11	0.82	21	6.42	0.31
		Inpatient	Auckland Non Northern Region	56	311.63	5.56	102	598.50	5.87	95	518.09	5.45
		Inpatient Total		57	322.69	5.66	102	598.50	5.87	97	524.48	5.41
	Elective Total			60	323.67	5.39	107	602.61	5.63	118	530.89	4.50
	Grand Total			305	1948.07	6.39	356	2439.73	6.85	362	2391.43	6.61

3.0 OUTPATIENT ACTIVITY BY PURCHASE UNIT CODE

	FSA			FU		
	2004/05	2005/06	2006/07	2004/05	2005/06	2006/07
DHB						
ADHB	29	19	22	115	80	83
Other DHBs	1	113	31	1	4	1
Grand Total	30	132	53	116	84	84

APPENDIX TWO: FORECAST VOLUMES CARDIOTHORACIC SERVICES

1.0 FORECAST INPATIENT ACTIVITY BY SERVICE RELATED GROUP

BY SRG		Forecast Discharge Numbers @3.2% growth						Forecast WIES @ 3.2% growth				
Patient Type	Day/Inpatient	Agency code	2009/10	2011/12	20016/17	2026/27	2009/10	2011/12	20016/17	2026/27		
Adult	Acute	Daypatient	Auckland Counties Manukau	2	2	3	4	2.25	2.39	2.80	3.84	
				4	5	5	8	4.17	4.44	5.20	7.12	
		Daypatient Total			7	7	8	11	6.41	6.83	8.00	10.96
		Inpatient	Northland	0	0	0	0	0.00	0.00	0.00	0.00	
			Auckland Counties Manukau	256	273	319	437	2128.65	2267.07	2653.77	3636.30	
	Non Northern Region		44	47	55	75	163.12	173.72	203.36	278.65		
	Inpatient Total			301	321	375	514	2297.66	2447.06	2864.46	3925.00	
	Acute Total			308	328	384	526	2304.07	2453.89	2872.46	3935.96	
	Elective Total	Daypatient	Waitemata	0	0	0	0	0.00	0.00	0.00	0.00	
			Auckland Counties Manukau	2	2	3	4	1.24	1.32	1.55	2.12	
				8	8	10	13	4.91	5.22	6.12	8.38	
		Daypatient Total			10	11	12	17	6.15	6.55	7.66	10.50
		Inpatient	Auckland Counties Manukau	100	107	125	171	654.58	697.14	816.06	1118.20	
	Non Northern Region		31	33	38	53	132.59	141.21	165.29	226.49		
			2	2	3	4	7.03	7.48	8.76	12.00		
Inpatient Total			133	142	166	227	794.19	845.83	990.11	1356.69		
Elective Total			143	152	178	244	800.34	852.38	997.77	1367.19		
Adult Total			451	480	562	770	3104.41	3306.27	3870.23	5303.15		

FUTURE ACTIVITY INPATIENTS (CHILDREN)

BY SRG			Forecast Discharge Numbers @3.2% growth				Forecast WIES @ 3.2% growth					
Patient Type		Day/Inpatient	Agency code	2009/10	2011/12	2016/17	2026/27	2009/10	2011/12	2016/17	2026/27	
Child	Acute	Inpatient	Auckland	18	19	22	30	208.47	222.03	259.90	356.12	
			Non Northern Region	1	1	1	2	3.25	3.46	4.05	5.55	
		Inpatient Total		19	20	23	32	211.72	225.49	263.95	361.67	
	Acute Total			19	20	23	32	211.72	225.49	263.95	361.67	
	Elective	Daypatient	Auckland	0	0	0	0	0.00	0.00	0.00	0.00	
			Counties Manukau	8	8	10	13	4.91	5.22	6.12	8.38	
		Daypatient Total			8	8	10	13	4.91	5.22	6.12	8.38
		Inpatient	Auckland	49	53	62	84	394.29	419.92	491.55	673.54	
			Counties Manukau	0	0	0	0	0.00	0.00	0.00	0.00	
	Inpatient Total			49	53	62	84	394.29	419.92	491.55	673.54	
Elective Total			57	61	71	98	399.19	425.15	497.67	681.92		
Child Total				76	81	95	130	610.91	650.64	761.62	1043.60	
Grand Total				526	561	656	899	3715.32	3956.91	4631.85	6346.75	

2.0 FORECAST ACTIVITY INPATIENT BY PURCHASE UNIT CODE

BY PUC (\$15.01)			Forecast Discharge Numbers @3.2% growth				Forecast WIES @ 3.2% growth				
Patient Type	Day/Inpatient	Agency code	2009/10	2011/12	20016/17	2026/27	2009/10	2011/12	20016/17	2026/27	
Adult	Acute	Daypatient	Auckland	3	4	4	6	1.10	1.29	1.51	2.07
		Daypatient Total		3	4	4	6	1.10	1.29	1.51	2.07
		Inpatient	Auckland	239	280	327	449	1843.32	2157.74	2525.79	3460.95
			Non Northern Region	2	2	3	4	16.11	18.86	22.08	30.26
	Inpatient Total		241	282	330	452	1859.44	2176.60	2547.87	3491.20	
	Acute Total			244	286	334	458	1860.54	2177.90	2549.39	3493.27
	Elective	Daypatient	Auckland	21	25	29	39	6.42	7.51	8.79	12.04
		Daypatient Total		21	25	29	39	6.42	7.51	8.79	12.04
		Inpatient	Auckland	95	111	130	178	518.09	606.46	709.90	972.74
			Non Northern Region	2	2	3	4	6.39	7.48	8.76	12.00
Inpatient Total		97	114	133	182	524.48	613.94	718.66	984.74		
Elective Total			98	115	134	184	440.91	516.12	604.16	827.84	
Grand Total			99	116	136	186	654.01	765.57	896.15	1227.94	

3.0 FORECAST ACTIVITY OUTPATIENT BY PURCHASE UNIT CODE

	Forecast FSA Numbers @3.2% growth				Forecast FU Numbers @3.2% growth			
	2009/10	2011/12	20016/17	2026/27	2009/10	2011/12	20016/17	2026/27
DHB								
ADHB	24	26	30	41	91	97	114	156
Other DHBs	34	36	42	58	1	1	1	2
Grand Total	58	62	73	100	92	98	115	158