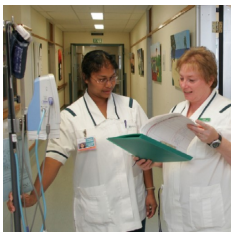
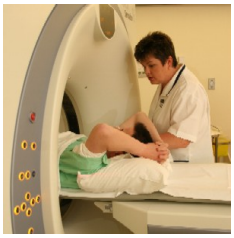
Secondary Care Services Strategy





September 2005

MidCentral District Health Board
Te Pae Hauora o Ruahine o Tararua

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The future does not belong to those who are content with today, apathetic toward common problems .... timid and fearful in the face of bold projects and new ideas. Rather, it will belong to those who can blend passion, reason and courage in a personal commitment to great enterprises and ideals.

Robert Kennedy

1. THE STRATEGY IN CONTEXT

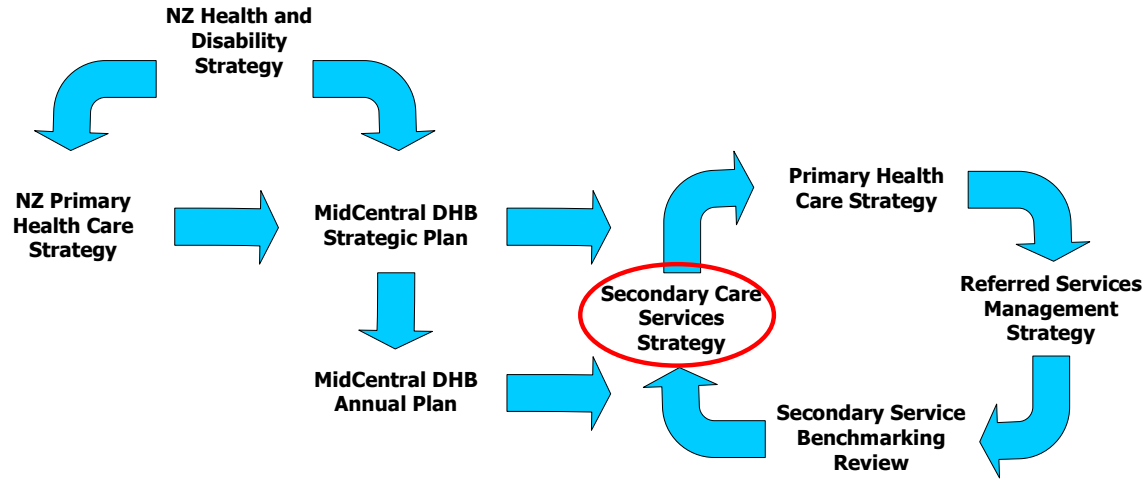
The health sector is prone to change and reorganisation and those with many years experience will have seen many things turn full circle. What should remain constant through these periods of change are an organisation's purpose (its reason for existing), vision and objectives.

MidCentral District Health Board, through its provider division, operates MidCentral Health which provides hospital and associated services. The key purpose of this document is to outline a strategy and high level implementation path for MidCentral Health's provision of secondary care services.

1.1 Background

Developing a Secondary Care Services Strategy was a key area of focus for MidCentral District Health Board (MidCentral). It followed on from the Primary Health Care Strategy which focused on addressing health services in the primary setting, the Referred Services Management Strategy which looked at maximising health outcomes from referred services expenditure, and the Secondary Service Benchmarking Review which compared the performance of MidCentral Health against a peer group of hospitals.

Figure 1. Logical planning flow



MidCentral finds itself having to make focused, economic decisions as to what services to provide locally and what services are best sourced externally. This strategy provides a path for MidCentral Health's transition to delivering the ideal configuration of secondary and tertiary services in the future.

1.2 Purpose

The purpose of developing this strategy was:

> *To create a **simple and shared** strategy to guide the funding of secondary and tertiary health services for the MidCentral district population in the next three to five years.*

The timeframe for the strategy has been aimed at the next 3-5 years with the realisation that the potential for change make accurate planning past this point problematic.

1.3 The Scope of the Strategy

This strategy is a collaborative effort on behalf of the Funding Division and MidCentral Health. The main focus is the future positioning of MidCentral Health to provide cost effective acute and specialist services to meet the future needs of MidCentral District.

Services Included	Services Not included
Regional Cancer Treatment	ATR
Internal medicine lines	Nursing, District Nursing
Surgical service lines	Allied Health
Child health	Public Health (except sexual health)
Woman's health	Mental Health
Emergency	Primary Health
Sexual Health	
Tertiary Referred Services	

The scope of the strategy development was to look at:

- MidCentral Health at an organisational level
- Services currently offered and how to position them in the future
- The key drivers for change at a macro level
- The current strengths and weaknesses of services provided by MidCentral Health
- New/enhanced services that should be developed
- Services that could be more effectively sourced elsewhere.

Specifically not included in the scope of strategy development were:

- Services provided in a primary setting
- The development of service line specific strategies

- Support services including Assessment, Treatment and Rehabilitation (ATR) services
- The Public Health service except for the Sexual Health service–primarily funded by the Ministry of Health
- Mental Health services–these are the subject of a separate strategy.

1.4 MidCentral District's Population

MidCentral District covers four whole territorial local authorities: Horowhenua District, Manawatu District, Palmerston North City, Tararua District; and part of a fifth –the Otaki Ward of Kapiti Coast District.

MidCentral Population by Territorial Authority 1991, 1996, and 2001

	1991	1996	2001
Palmerston North	69519	73170	72069
Horowhenua	29796	30138	29808
Manawatu	27156	28074	27468
Tararua	19851	19011	17811
Kapiti (MidCentral portion)	7026	7551	7764
MidCentral	153348	157944	154920

Palmerston North is the most urban of MidCentral's territorial local authorities.

MidCentral Proportion of Rural Population by Territorial Authority 2001

	Proportion rural
Palmerston North	2%
Horowhenua	14%
Manawatu	36%
Tararua	44%
Kapiti (MidCentral portion)	19%
MidCentral	16%

The main ethnicities in MidCentral District are New Zealand European, Maori and Asian and Pacific peoples. Maori made up 15.3% of the population at the 2001 census, slightly higher than the New Zealand average of 14.1%. Asian peoples made up 3.5% of MidCentral's population (approximately 5 300); and 2% of MidCentral's population were Pacific peoples (approximately 3 000 people).

MidCentral Territorial Authorities Population by Ethnicities 2001

	Maori		Pacific		Asian		Other ethnicities (excludes Asian)		Total	
	No.	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*
Palmerston North	9,420	13.1%	1,743	2.4%	4,131	5.7%	56,715	78.8%	72,009	100%
Horowhenua	5,793	19.4%	783	2.6%	621	2.1%	22,650	75.9%	29,847	100%
Manawatu	3,366	12.2%	231	0.8%	237	0.9%	23,658	86.1%	27,492	100%
Tararua	3,186	17.8%	132	0.7%	162	0.9%	14,415	80.6%	17,895	100%
Kapiti (MidCentral portion)	1,881	24.2%	144	1.9%	231	3.0%	5,508	70.9%	7,764	100%
MidCentral	23,646	15.3%	3,033	2.0%	5,382	3.5%	122,946	79.3%	155,007	100%
New Zealand	526,311	14.1%	200,283	5.4%	226,587	6.1%	2,783,883	74.5%	3,737,064	100%

The percentage of MidCentral people aged 65 and older is 13.4% and for New Zealand 12.1%. The distribution of older people is not even, with higher percentages in the Horowhenua (18.6%) and Kapiti Coast (MidCentral portion) (19.8%).

MidCentral Territorial Authorities Population 65+ Years 2001			
Territorial Authority	No. all age groups	No. people 65+ years	Percentage 65+ years
Palmerston North	72069	8109	11.3%
Horowhenua	29808	5538	18.6%
Manawatu	27468	3303	12.0%
Tararua	17811	2331	13.1%
Kapiti (MidCentral portion)	7764	1539	19.8%
MidCentral	154920	20820	13.4%
New Zealand	3736551	450369	12.1%

1.5 The Secondary Care Services Environment

In order for any strategy to be robust it must be framed within the context of both the current and predicted future environment. It is an unsafe assumption that the next 3-5 years will be a continuation of the current environment. The following PESTE[1] (Political, Economic, Societal, Technological, and Environmental) analysis identifies some of the key drivers in the current environment and their anticipated future effect.

Table 1. PESTE analysis

	Observation	Anticipated effect
Political	The growing awareness of the effect of population flows between districts	• DHBs will look to retain volumes (and hence revenue) within their own DHB. Both Whanganui and Wairarapa have signalled an intention to retain volumes in recent documents
	Focus on increasing capability and capacity in primary health care	• Greater resources in primary health care to promote wellness and treat patients. General upskilling of the primary health care workforce
	Ability of hospitals to alter services offered will continue to be difficult	• To add or exit services requires Ministry approval and long lead times. This will result in service provision remaining fairly constant across NZ
	Growth in regional collaboration	• Clinical collaboration increases both formally and informally • Little progress in non clinical collaboration although there maybe greater progress in technology collaboration
	Closer primary, secondary and tertiary collaboration	• Continuum of care model develops further • Greater ability to integrate resources for promoting wellness and treating patients

[1] The PESTE is looking forward into the next 3-5 year time frame

	Observation	Anticipated effect
Political cont	Pressure on waiting list management	• Exploration of purchasing arrangements with other DHBs and local private hospitals
	Change of government	• A change in government would need the new policies to be analysed as a separate project
Economic	Continued financial limitations	• Providers will look at ways to gain economies and look at the service mix they are able to offer • Greater collaboration between DHBs
	MidCentral receives increased funding due to population based funding	• Enhanced capacity and capability in primary health care
	Centralisation of services to gain economies of scale will effect services in rural areas	• Rural areas will continue to find retention of staff and access to services difficult
	Cost growth through processes such as industrial action and introduction of new technology	• Providers will look at ways to gain economies and look at the service mix they are able to offer • Greater collaboration between DHBs
	Workforce shortages across the continuum continue	• The potential for service disruption and service gaps. Will result in more collaboration to maintain service provision • Specialist and rural areas most at risk
Societal	Ageing population	• Slow increase in the type of services required. Not anticipated to be significant within this project's timeline
	Increasing level of health awareness due to information accessibility	• Consumers will self diagnose and be more informed about their condition and treatment options • Demand for newer treatments and interventions
	The move to address inequalities increases	• Services will develop and enhance to focus on reducing equalities
	Increasing consumer expectations and rights	• Demand for all services to be provided without delay or limitation. eg Renal dialysis
	Increasing burden on health systems due to diabetes and other common diseases	• A move to health promotion and prevention. In the short term will create pressure points in the service delivery and providers will look to rationalise service delivery

	Observation	Anticipated effect
Technological	Continued introduction of new technological innovations in health	• Changes to methods of treating patients with primary care and ambulatory care replacing treatments currently delivered as inpatients • Cost drivers both up and down • New equipment likely to require greater volumes to achieve economies of scale
	Continued growth of digital and communication technology	• Remote clinical involvement will mature and increase. More outsourcing of services will be possible though in the short term this will be limited to areas such as radiology
	Information access increases	• Consumers will self diagnose and be more informed about their condition and treatment options • Demand for newer treatments and interventions
	Nationwide move to collaborate more in information management	• Information management starts to deliver some of its promised benefits
	Growth of technology facilitated self care	• The ability of people to interact with healthcare systems remotely will increase as the technology matures and acceptance grows. Unlikely to have a major impact within the next 3-5 years in MidCentral
Environmental	Geographical barriers continue to diminish	• Growth in the ability to access non local health resources. This area is being driven by technology advances
	Alternative treatments and medicines will gain popularity	• Pressure will come to fund alternative treatments and medicines. The "Green Prescription" will grow in importance and will work in conjunction with prevention efforts
	Mobility of populations grow	• Likelihood of SARS type disease outbreaks increases
	Green/healthy image continues to gain momentum	• More expenditure channelled into health promotion and prevention

1.6 Issues in Secondary Care Services

The following SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis focuses on the service lines of MidCentral Health. The areas documented here are those that affect MidCentral Health as an organisation as opposed to individual service lines.

Table 2. SWOT analysis

Internal Focus	External Focus
Strengths • Regional Cancer Treatment Service (RCTS) • Sub regional service provision, eg Urology • Clinical capability • Diagnostic services	*Opportunities* • Regional collaboration • Service planning and delivery in partnership with primary providers • Tertiary back up facility • New/enhanced services • Reduce inequalities
Weaknesses • Service line access to support services • Cardiology, chronic pain management, dermatology • Collaborative planning processes • Clinical information management • Funder/Corporate/MCH emerging • Waiting lists • Infrastructure capacity • Funding alignment	*Threats* • Workforce issues • Inter district flows (IDFs)

Strengths

Regional cancer treatment service

The Regional Cancer Treatment Service (RCTS) provides MidCentral with a genuine tertiary level and regional service that provides strengths in terms of prestige, revenue generation, workforce and other associated benefits for MidCentral Health. With the move to use the technical prices to more accurately reflect the cost of this type of service, RCTS accounts for 18% ($23m) of the revenue received from the Personal Health budget; importantly approximately 60% of this ($14m) is earned from other District Health Boards (DHBs) as inter district flows (IDFs).

In addition to being a strength, RCTS offers considerable opportunity for further development of the service and also complementary services. The development of a clear strategy to take advantage of the distinctiveness, unique expertise and investment in technology and facilities will help realise the potential RCTS offers MidCentral Health.

Sub-regional service provision, eg urology

A number of MidCentral Health service lines already provide services on a smaller regional basis, the majority providing services for Whanganui DHB. In particular the recent joint urology service for MidCentral, Whanganui and Wairarapa DHBs is a very positive move, one which drew a compliment from the Minister of Health. The economies gained by the regional nature of the service will provide benefits for not only MidCentral but also for Whanganui and Wairarapa DHBs who should be able to expect a reliable future service.

Other service lines currently have significant volumes of patients from other DHBs, most predominantly from Whanganui. Services that are provided on a formalised (ie contractual) basis offer the security of being able to count on these volumes when service planning. Services provided on an ad hoc basis run the risk of losing the volumes if the DHB of domicile decides to alter its service delivery.

The following table documents the splits of local and IDF volumes by service line based on 2003/2004 figures. IDFs account for approximately 21% of MidCentral Health volumes though when the RCTS volumes are removed this lowers to 12%.

Table 3. IDF volumes

Service	MidCentral %	IDF %
RCTS	41	59
Renal	74	26
Urology	81	19
Otorhinolaryngology	83	17
Neurology	85	15
Neonatal	85	15
Orthopaedics	87	13
Dermatology	87	13
Respiratory	87	13
Emergency	88	12
General Surgery	89	11
Gastroenterology	89	11
Paediatric	89	11
Rheumatology	91	9
Cardiology	91	9
General Medical	91	9
Endocrinology	92	8
Emergency/General Medicine	92	8
Gynaecology	93	7
Ophthalmology	93	7
Grand Total	**79**	**21**
Grand Total (minus RCTS)	**88**	**12**

Clinical capability

MidCentral Health is in a very strong position with regard to clinical quality and capability. It was noted in the RCTS review of contracting options that "the RCTS service and staff delivering the service are highly regarded by DHBs who use it". Anecdotal evidence suggests that this is also the case in a number of other service lines.

The ability to maintain and enhance clinical capability is a key requirement for the long term viability of services. In addition, a service's ability to broaden in terms of the regional service provision will need to be recognised by other District Health Boards as having both the capability and capacity to deliver quality service.

Although outside the scope of this strategy, it is important to recognise the capability of the support services is a key factor in the overall clinical capability of MidCentral Health.

Diagnostic services

MidCentral Health is also in a very strong position with regard to the diagnostic services that directly support clinical service provision. In particular the laboratory facilities and service are generally regarded exemplary. The provision of clinical imaging services is currently experiencing some difficulties though the radiology industry is currently transitioning to a digital based service which will both assist with current issues and provide future opportunities.

Weaknesses

Service line access to support services

It was noted on several occasions that some services lines did not have sufficient access to internal support services such as occupational therapy, psychology, physiotherapy and social services. This factor was seen as a limitation on the ability of the service lines to maximise the health outcomes from the primary contact and often would result in repeat visits to the service.

From the table below the majority of the Support Service lines were above contracted volume for 2003/2004. NB–the actual volume delivered cannot be used as an implied indicator of demand.

Table 4. Support service actual versus contract

	Actual Vol 2003/2004	Contract Vol 2003/2004
Dietician	1 064	1 100
Occupational Therapy	1 104	950
Physiotherapy	13 576	13 950
Social Work	2 467	2 060
Speech Therapy	377	215

Cardiology, chronic pain management, dermatology

These three services for differing reasons were perceived as a current weakness. The reasons for this are detailed in the section "Determine the optimal service mix for MidCentral Health".

Collaborative planning processes

In the important area of service planning, there often appeared to be a greater focus on the requirements of individual service lines at the expense of the wider organisational context. This results in plans that, whilst being effective for each individual service line, do not create the optimal overall organisational environment thus limiting the ability for the benefits of a collaborative approach.

The MidCentral Health Service Planning project identified that "critical codependencies exist between a number of MidCentral Health services." These codependencies need to be effective and efficient as a precursor to the implementation of clinical pathways. A focus on collaborative planning would result in an improvement in overall system efficiency and effectiveness.

Clinical information management

Clinical information is critical to maximising health outcomes and resource usage. This area has been documented in a number of publications, commencing with the 2001 WAVE report, and although advances have been made, they have been relatively minor and the majority of the key issues remain.

Funder/Corporate/MidCentral Health emerging relationship

The DHB model, with separate divisions, is still relatively new and this "newness" is a factor in the lack of synergy between these three divisions. It is recognised that the split between funder and provider was established to create an arm's length relationship and it is possible for this to be maintained whilst working in a close, collaborative manner.

There is a clear desire for greater collaboration and to maximise the potential of the DHB structure lies in creating an environment to facilitate this.

Waiting lists

The waiting lists for a number of specialties have been growing and several currently sit outside the Government's stated policy goal that, unless clinically justified, no one should be waiting for their publicly funded elective service for longer than 6 months. Waiting list improvements would not only be of patient benefit but would also mitigate the risk of negative publicity. The following tables set out the waiting lists to December 2004.

Table 5. **Outpatient wait lists to March 2005 (Source: Report to Hospital Advisory Committee May 2005)**

Speciality	Total	> 6 months
Cardiology	784	395
Dermatology	417	127
Endoscopy	312	139
Otorhinolaryngology	523	18
Gastroenterology	166	82
General Surgery	539	39
Gynaecology	376	35
Neurology	722	414
Oral Maxillofacial	87	5
Ophthalmology	288	4
Orthopaedics	486	27
Respiratory	147	67
Rheumatology	70	0
Urology	476	241
Total	**5 393**	**1 593**

Table 6. **Elective surgery wait lists to December 2004 (Source: Report to Hospital Advisory Committee May 2005)**

	Active review		Given Certainty		
Speciality	**Total**	**> 6 months**	**Total**	**> 6 months**	**Total**
Otorhinolaryngology	105	8	176	55	281
General Surgery	132	79	266	44	398
Gynaecology	165	37	194	68	359
Oral Maxillofacial	101	4	165	69	266
Ophthalmology	46	6	112	3	158
Orthopaedics	389	39	164	24	553
Urology	124	100	170	59	294
Total	**1 062**	**273**	**1 247**	**322**	**2 309**

The recent proposal to fund elective services noted:

> *"MidCentral Health is facing a number of constraints that are limiting its ability to increase the provision of clinical services and thus reduce the number of people on waiting lists. The key constraints include:*
>
> - *Number and availability of Senior Medical Officers (medical and surgical specialists)*
> - *Hospital bed numbers (especially in the winter months)*

- *Operating theatre capacity*
- *Number and availability of anaesthetists and theatre nurses*
- *Physical space in the Outpatients facility."*

It may be through collaboration with other DHBs or local private hospitals that sufficient capacity is utilised to keep within the DHB targets. There are two private hospitals in Palmerston North and their facilities have been used in the past for the provision of publicly funded elective surgical procedures, as well as providing an 'overflow' capacity for acute medical services.

Infrastructure capacity

The ability for services to provide to their capacity today and grow in the future may be limited by the current capacity of the infrastructure. This issue is the subject of the Reconfiguration Project. Several services indicated they were adversely affected by both the availability and physical size of the facilities.

Without some form of reconfiguration of the physical facilities within the Palmerston North hospital site it is unlikely that any future growth, planned or unplanned, will be able to be catered for appropriately.

Funding alignment

The model of funding employed, though internationally a common approach, is not well aligned to the activities and changes currently taking part within MidCentral Health. The options available are more fully detailed in the section "Develop appropriate funding mechanisms to underpin the Strategy's implementation."

Opportunities

Regional collaboration

Possibly the biggest opportunity that will add significantly to health outcomes is the provision of regional and sub regional services. The relative scale of regional DHBs make the long term viable provision of some services problematic with service disruptions likely to occur. Regionally provided services will help mitigate against this as well as adding significantly to the ability to maintain technology and the appropriate skill mix required to provide a long term, quality and efficient service.

Service planning and delivery in partnership with primary providers

MidCentral Health is uniquely placed to take a partnering role with primary providers in the transition to a continuum of care model. This area is explored in greater details in the section "In partnership with other health care providers, develop and implement patient/clinical pathways across the continuum of care."

Tertiary back up facility

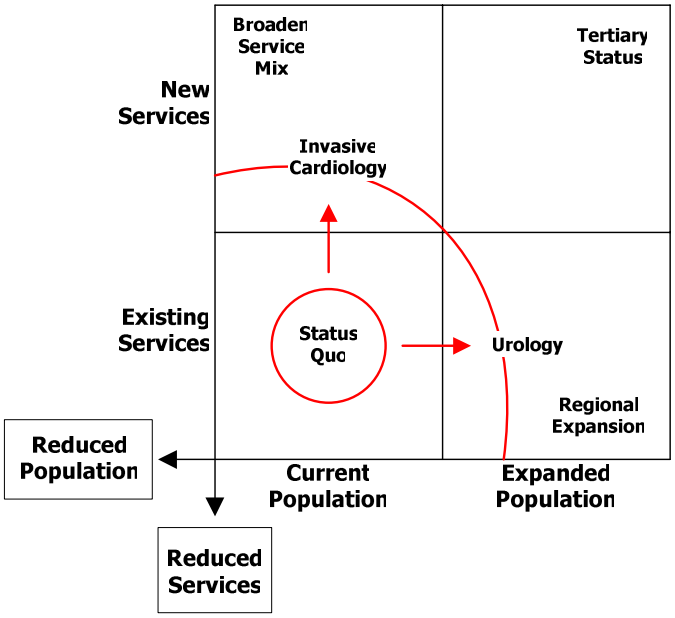
There is an opportunity for MidCentral Health to support Capital & Coast DHB as a tertiary back up facility. It is well positioned for this both in terms of clinical capability and geography.

Events	Opportunities
• Rapid increase in demand for services • Investment in new services • Capacity issues • Loss of clinical capability • Disaster	• Overflow facility • Joint service development • Joint service delivery • Facility for longer term provision of some tertiary services

New/enhanced services

There is considerable opportunity in developing new services or enhancing existing services. The following framework was used to look at the possible strategic options available for MidCentral Health as an organisation as well as individual service lines.

Figure 2. Service option matrix



Please note: Invasive Cardiology and Urology are used to illustrate the framework only

The major opportunities for new and enhanced services are documented in "The Secondary Care Services Strategy" section of this document.

Reduce Inequalities

MidCentral's 2001 Health Needs Assessment indicated that Maori have the highest needs of any ethnic group in the District. The most significant causes of death for Maori in MidCentral District were disease related to the circulatory system (heart

related), cancer and the respiratory system. There is evidence of under utilisation by Maori of secondary care services despite likely higher incidence of illness in the community.

There is an opportunity to change the mode of service delivery that will address the under utilisation and ultimately start to reduce the gap in health outcomes experienced. This will involve areas such as:

- Improving access to key services
- Influencing patient discharge patterns and working collaboratively with local health providers regarding follow up care
- Strategies to reduce the DNA (did not attend) rate
- Ensuring the continuum of care model is flexible to suit different ethnic groups.

Threats

Workforce issues

Arguably the single biggest threat in the environment today is the ability to recruit and retain staff. Many services are operating with reduced staff levels and a number of services are reliant on one or two key staff.

Workforce issues create two potential situations for MidCentral Health. Firstly, the risk of service disruption due to staffing shortages and changes. Secondly, there is the risk of service disruption in a neighbouring DHB, should it experience recruitment and retention difficulties and refer patients to MidCentral Health. This would result in an increase in short term patient volumes for MidCentral Health. This type of occurrence is often hard to manage as the increased capacity required is difficult to obtain quickly and may not be required in the longer term.

MidCentral Health is also affected by recruitment and retention in primary health care. Currently in the District, the number of General Practitioners and the pay disparity between secondary and primary nursing services could present major difficulties.

Inter district flows

Inter district flows (IDFs) represent a major threat to MidCentral Health as they are a demand driven financial commitment that needs to be well managed. IDFs are either washed up six monthly as is the case with inpatients or washed up by an increase or decrease in future funding envelopes.

MidCentral Health has experienced a $2.2m decline in its inpatient IDF position in 2003/04. Table 7 displays the major IDF flows for MidCentral Health with negative figures indicating a net outflow of funds. Table 8 shows that the increase in outflows to Capital & Coast DHB was very significant.

Table 7. Major IDF comparison

DHB	2002-2003 $	2003-2004 $	Difference $
Auckland	-1 455 434	-878 312	577 123
Canterbury	-68 504	-229 528	-161 024
Capital & Coast	-5 371 412	-7 341 889	-1 970 478
Counties-Manukau	-74 824	-177 775	-102 951
Hawke's Bay	962 511	638 028	-324 483
Hutt Valley	-1 024 902	-1 374 297	-349 395
Tairawhiti	382 112	218 231	-163 882
Taranaki	485 162	628 230	143 069
Waikato	73 795	-135 879	-209 673
Whanganui	3 264 567	3 765 753	501 186
Others	190 163	40 386	-150 077
Total (All DHBs)	**-$2 636 466**	**-$4 847 052**	**-$2 210 586**

The following tables breaks down this difference by service line where it can be seen that there were large negative changes in Cardiology, Cardiothoracic and Neonatal services.

Table 8. Inpatient outflows to Capital & Coast DHB by service line

Speciality	2002-2003 $	2003-2004 $	Increase $
Dental treatment	2 488	5 449	2 961
General Internal Medical Services	192 361	337 782	145 421
Cardiology	1 131 180	1 605 942	474 762
Gastroenterology	6 591	262	-6 330
Haematology	66 509	78 720	12 211
Neurology	11 244	60 310	49 066
Oncology	17 817	52 943	35 126
Specialist Paediatric Oncology	45 130	146 994	101 864
Paediatric Medical	71 374	60 484	-10 890
Renal Medicine	27 025	20 492	-6 532
Respiratory	9 503	0	-9 503
General Surgery	173 557	242 917	69 361
Cardiothoracic	2 160 995	2 478 936	317 941
Ear, Nose and Throat	27 722	75 743	48 021
Gynaecology	245 889	123 725	-122 163
Neurosurgery	696 638	882 331	185 692
Ophthalmology	149 291	232 130	82 839
Orthopaedics	231 815	374 210	142 395
Paediatric Surgical Services	111 595	176 154	64 559
Urology	38 256	21 530	-16 725
Vascular Surgery	371 406	494 562	123 157
Neonatal	330 920	695 107	364 187
Total	**$6 119 306**	**$8 166 723**	**$2 047 418**

2. THE SECONDARY CARE SERVICES STRATEGY

"Without an awareness of the whole, there can be no strategy. Without strategy, there is only drift."

Thomas Freidman

MidCentral Health exists to:

Provide expertise and services to prevent and resolve healthcare problems for the MidCentral District population.

Over the next three to five years MidCentral District Health Board will strive to achieve the following vision:

MidCentral Health will be the leading regional provider of high quality, cost effective acute and specialist services. This will be achieved by:

Continued investment in our staff
Superior coordination and collaboration within MidCentral Health and in partnership with primary, other secondary and tertiary providers

and thus allow the population of our District to enjoy the best possible health and independence.

The table below shows in high level terms some of the **key differences** between the existing arrangements and those of the future vision:

Old		New
Individual service line focus	➢	MidCentral Health focus
Providing services within MidCentral Health	➢	Working collaboratively with primary providers and other DHBs to provide services
Focus on secondary services	➢	Focus on coordination of services across the continuum
Relationship with Capital & Coast DHB on a service by service basis	➢	Coordinated relationship with Capital & Coast DHB
Funding production targets	➢	Funding outcomes, innovation and quality
Limited nursing involvement in clinical settings	➢	Enhanced capacity of nursing to contribute to service development
Recruitment and retention difficulties	➢	MidCentral Health as an attractive clinical centre

The six key objectives for achieving the vision are:

- Strengthen and develop the Regional Cancer Treatment Service (RCTS) and complementary services
- Determine the optimal service mix for MidCentral Health
- In conjunction with other health care providers, develop and implement patient/clinical pathways across the continuum of care
- Develop close and effective working relationships with other DHBs
- Enhance the capability of MidCentral Health
- Develop appropriate funding mechanisms to underpin the strategy's implementation.

These are discussed in detail in the following sections.

2.1 Strengthen and Develop the Regional Cancer Treatment Service and Complementary Services

The Regional Cancer Treatment Service is a unique point of difference for MidCentral Health. The future development of this service is a key aspect of the future development of MidCentral Health as an organisation.

With annual revenues in excess of $20m, RCTS is a large venture in its own right. It is appropriate to consider what is the optimal environment for RCTS to further develop into a leading provider of cancer treatment services in New Zealand. The two main options available are:

- Retain RCTS within MidCentral Health
- Separate RCTS as a separate Division akin to Enable New Zealand[2] with its own governance structure.

There are advantages and disadvantages with both options but, in either case, RCTS needs its own well developed strategic plan to ensure the investment decisions being made will position the service appropriately in the future.

Areas that need to be considered in RCTS's strategic plan include: Plastics, Brachytherapy, Clinical haematology, Oral maxillofacial, Palliative Care, the Clinical trials unit, and implementation of the New Zealand Cancer Control Strategy.

Plastics

MidCentral Health is the only provider of cancer treatment services that does not provide plastic surgery on site. The current process is to send patients requiring this

[2] Enable New Zealand, a Provider Arm of MidCentral DHB, provides disability information, support and assessment services

service to Hutt Valley DHB. In the 2003/2004 financial year there was an outflow of $950 000 in 2003/2004 and $1 200 000 in 2005/2006 to Hutt DHB[3] for plastic surgery including the RCTS referrals. The steady growth in cancer treatment services will result in a steady growth in the volumes for this service.

Table 9. Cost of plastic and burns provided by Hutt Valley DHB

PU	PU_name	2004-2005	2005-2006	Increase
S60.01	Plastic & Burns - Inpatient Services	$959 458	$1 234 843	$275 384

It is understood the plastics service provided at Hutt Valley DHB is at, or near to, capacity and the creation of an additional plastics service in MidCentral Health is likely to receive support from Hutt Valley DHB.

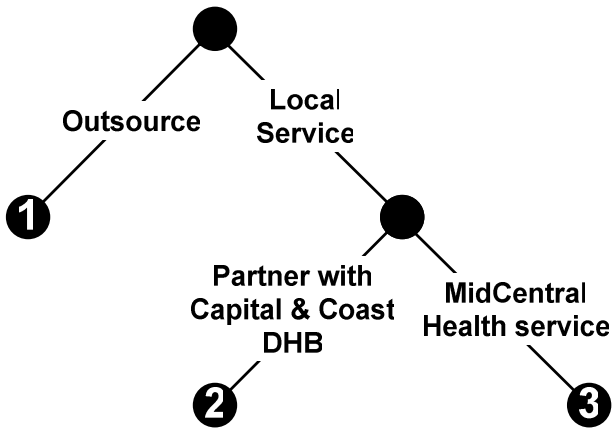
Brachytherapy

Brachytherapy is a minimally invasive procedure that treats a range of cancers including: Prostate, Breast, Lung, Oesophageal, Cervix, Uterine, Anal tumours, Bile duct, Sarcomas, Neck tumours, Tongue, Nasopharnx. It is estimated that three brachytherapy units are required to service New Zealand's population.

The publication "Improving Non-Surgical Cancer Treatment Services in New Zealand" (MoH, July 2001) noted as one of its key principles that, "Clinical alliances should be developed among major oncology centres to enhance effective coordination of service delivery, particularly for highly specialised cancer treatments".

RCTS needs to consider its position in relation to future provision of brachytherapy. If it will form a major part of leading cancer treatment services in the future then how it is to be delivered by MidCentral Health needs to be determined. The following decision tree displays the high level options.

Figure 3. Decision tree



❶ **Outsource**
Source the supply of brachytherapy services from another cancer treatment service, logically Capital & Coast DHB if they supplied this service.

❷ **Partner with Capital & Coast DHB**
This option would see a joint service developed between MidCentral Health and Capital & Coast DHB.

❸ **MidCentral Service**
Develop a local brachytherapy service for the lower half of the North Island.

[3] RCTS referrals are included with all other referrals for plastic surgery

Clinical haematology

As there are several strategic options for clinical haematology its future position and the services offered need to be examined. There is the possibility to concentrate its services at a more tertiary level devolving some of the current services to other service lines within MidCentral Health.

Clinical trials unit

A high involvement in clinical trials offers benefit for clinical expertise, attractiveness for clinicians as a learning centre and an additional source of revenue. Advantages can include:

- Benefits for patients
- Strong linkages with clinical trials units in other cancer treatment centres emphasised
- Possible funding partnerships
- Opportunity for other hospital services to run trials.

Palliative care

MidCentral's Cancer Service Plan supports the development of an integrated Palliative Care service. It is envisaged it will be led by Arohanui Hospice and key partnerships will be further established and maintained across Secondary and Tertiary Care, Community Health Services, Primary Health Organisations, General Practice Teams and Maori Health providers.

Implementation of the cancer control strategy

The New Zealand Cancer Control Strategy is the first phase in the development and implementation of a comprehensive and coordinated programme to control cancer in New Zealand. The strategy includes purposes, principles and goals to guide existing and future actions to control cancer.

The goals of the New Zealand Cancer Control Strategy are to:

- reduce the incidence of cancer through primary prevention
- ensure effective screening and early detection to reduce cancer incidence and mortality
- ensure effective diagnosis and treatment to reduce cancer morbidity and mortality
- improve the quality of life for those with cancer, their family and whanau through support, rehabilitation and palliative care
- improve the delivery of services across the continuum of cancer control through effective planning, coordination and integration of resources and

activity, monitoring and evaluation

- improve the effectiveness of cancer control in New Zealand through research and surveillance.

Oral maxillofacial

There are two reasons why the future positioning and development of the oral maxillofacial service could be reviewed within the context of the RCTS:

- oral cancer represents approximately 3% of all cancers and diagnosis and pre cancer treatment often require an oral maxillofacial surgeon.
- the current shortage of oral maxillofacial surgeons in the area currently serviced by RCTS. Hawke's Bay has one, Taranaki has been actively recruiting and Whanganui, Wairarapa, and Tairawhiti have none. MidCentral has two currently practicing in both public (each at 0.3 FTE) and private capacities.

The service is very specialist intensive with the surgeons often being called in when not actually on call. An on call roster is run in conjunction with Hawke's Bay and Hutt Valley DHBs but often proximity of the surgeon is the determining factor in them being utilised.

There is an opportunity to develop the service in conjunction with the developments in RCTS and, potentially, with the development of a plastics service. Issues to consider include:

- Ability to recruit and retain specialists
- Training and development, succession planning
- Volume of work required
- Ability to provide outreach service if required
- Additional services that can be provided
- The current staffing issues require attention to ensure continuation of current service levels.

Next Steps	Timeframe	Who
Develop a strategic plan for RCTS which includes the identification of future services and investment strategy	Q2 2005/06	RCTS
Develop business cases to support investment strategy	Q4 2005/06	RCTS

2.2 Determine the Optimal Service Mix for MidCentral Health

This direction is focussed on answering the question of what services should be delivered by MidCentral Health and what services should be sourced externally from outside MidCentral District. MidCentral Health needs to ensure the services it elects to provide can be done in a sustainable manner into the future. Some of the factors that need to be considered are:

- Ability to recruit and retain the appropriate skill mix
- Ability to maintain investment in technology
- Sufficiency of volumes to maintain the service (including other DHBs if required)
- Capability of out of district providers to provide the appropriate range of services.

Anecdotal evidence suggests that where services are not provided locally, the local population tends to be under serviced. This does not make a good rationale for maintaining services locally if they cannot be run optimally. Instead strategies should be developed to ensure that the local population is not disadvantaged by services provided by out of district providers.

The majority of current services lines are not presently at major decision points. This is not meant to imply that these services do not have opportunities and that future options do not need to be explored. In fact the majority of service lines within MidCentral Health are of sufficient size that they should have well developed strategies, congruent with the overall strategic direction. These service lines are:

Child Health	Oral Maxillofacial	Respiratory	General Surgery
Elder Health	Rheumatology	Urology	Otorhinolaryngology
Women's Health	General Medicine	Orthopaedics	Emergency department
Gastroenterology	Ophthalmology	Sexual Health	
Endocrinology	Neurology	Dental Services	

A smaller group of services are currently at a point where MidCentral Health needs to determine if it wants to provide these services itself or source the services from other out of district providers. Services in this situation are:

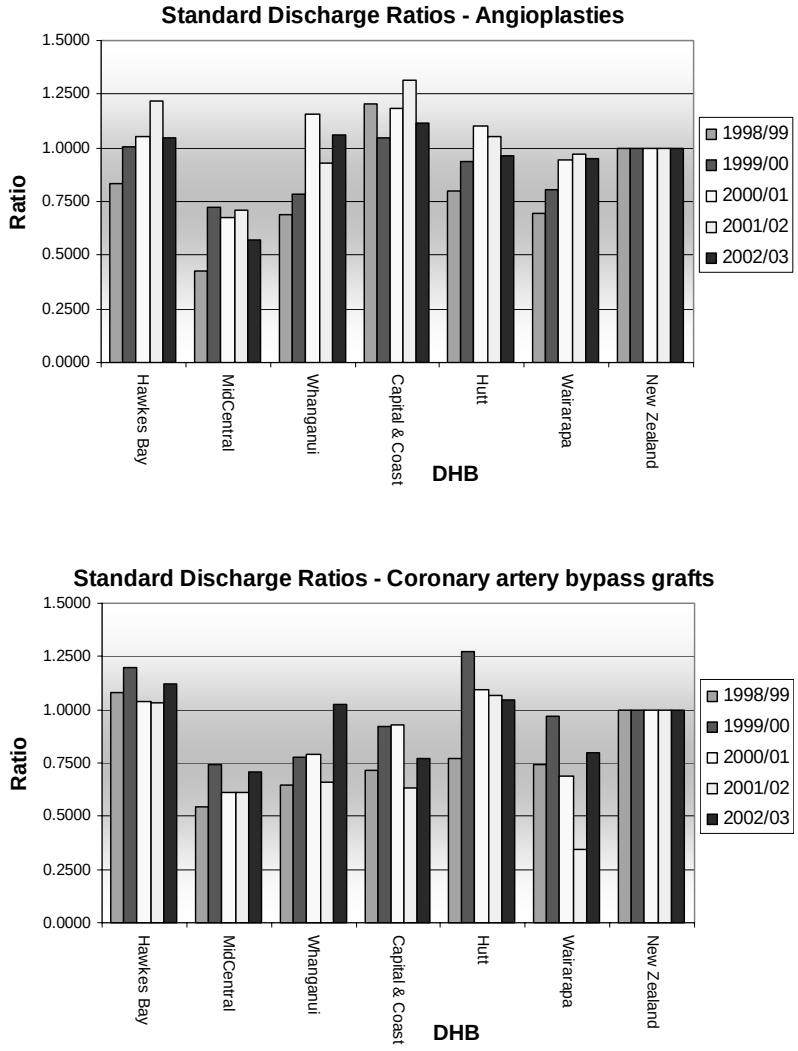
- Cardiology
- Renal Medicine
- Peripheral Vascular Surgery
- Dermatology
- Chronic pain management.

These services are discussed in more detailed in the following sections.

Cardiology

The current cardiology intervention rates show that MidCentral District is being significantly disadvantaged compared to other Central Region DHBs. The following graphs show the standard discharge ratios for angioplasties and coronary artery bypass grafts for Central Region DHBs.

Figure 4. Cardiology discharge ratios



Of note is Hawke's Bay DHB; whilst providing less cardiology services locally, it has higher intervention rates to MidCentral. This is a case where the lack of service provision locally does not necessarily result in the local population being under serviced.

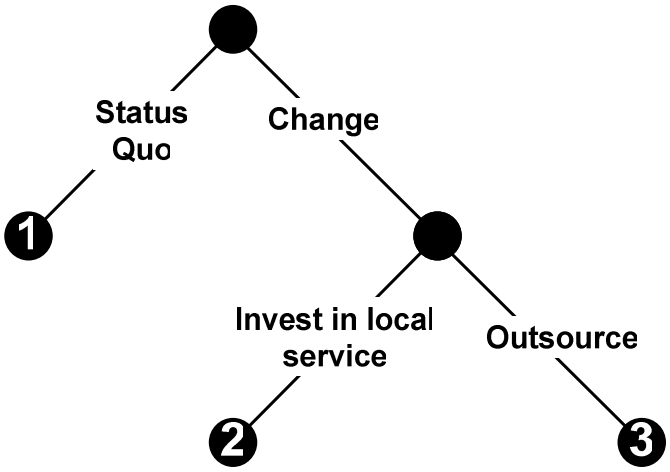
MidCentral Health purchased approximately $4m of cardiology services in 2003/2004. This was higher than in previous years due to an extended period of equipment breakdown. Some of these services purchased from Capital & Coast DHB could be provided locally though Capital & Coast DHB provides tertiary level services that MidCentral would unlikely want to provide itself.

Table 10. Cardiology inpatient expenditure 2003/2004

		DHB_service							
DHB_domicile	PU_name	Auckland	Capital and Coast	Hawkes Bay	Hutt	MidCentral	Taranaki	Waikato	Grand Total
Capital and Coast	Cardiology	$ 95,242	$ 6,656,218		$ 158,726				$ 6,944,887
	Cardiothoracic	$ 152,097	$ 3,500,802						$ 3,652,899
Hawkes Bay	Cardiology	$ 650,801	$ 2,133,080	$ 380,533					$ 3,187,365
	Cardiothoracic	$ 694,624	$ 2,115,334						$ 2,811,669
Hutt	Cardiology		$ 1,846,852		$4,570,287				$ 6,445,391
	Cardiothoracic		$ 2,000,794						$ 2,013,588
MidCentral	Cardiology		$ 1,534,298			$ 960,027			$ 2,574,223
	Cardiothoracic		$ 2,338,714					$ 51,387	$ 2,421,370
Taranaki	Cardiology	$ 70,704	$ 37,550				$1,177,924	$1,080,639	$ 2,366,817
	Cardiothoracic	$ 75,538	$ 24,522					$ 943,179	$ 1,043,238
Wairarapa	Cardiology		$ 467,464						$ 483,501
	Cardiothoracic		$ 468,404						$ 468,404
Whanganui	Cardiology		$ 1,002,710			$ 61,918		$ 73,878	$ 1,154,794
	Cardiothoracic		$ 949,668						$ 990,049

The following decision tree displays the high level options available.

Figure 5. Cardiology decision tree



❶ **Status Quo**
This is in effect an exit strategy over time. Without investment in invasive interventional procedures it is unlikely that MidCentral Health will be able to recruit and retain a suitable skill mix to operate a viable cardiology service in the future.

❷ **Invest in local service**
This option would commit MidCentral Health to investing in the cardiology service to position it in the future to be able to provide the full range of secondary care cardiology services. It is estimated a $2m investment is required.

❸ **Outsource**
This option takes the position that MidCentral Health will not be able to sustain a cardiology service in the long term and the future provision of this service will be either in conjunction with or provided by a out of district cardiology centres.

Next Steps	Timeframe	Who
Independent review of service options including developing a business case to determine appropriate future direction of the service	Q1 2005/06	MidCentral Health

Renal medicine

Renal disease is an important cause of morbidity and mortality in New Zealand. In the United States the two main causes, hypertension and Type 2 diabetes, are at epidemic levels causing the incidence of renal disease to rise. In 1995, 275 000 US citizens were on renal replacement therapy (RRT) by either means of dialysis or transplantation.

This was at a cost of $13 billion per year and the projections are that by the year 2010 there will be 1.1 million US citizens on RRT at a cost exceeding $50 billion per year. New Zealand can expect to see a similar increase.

Previously there was only one qualified renal physician servicing the combined Taranaki, Whanganui and MidCentral Districts. The physician was located in Taranaki and provided MidCentral with clinical leadership and strategic direction for the renal service. MidCentral Health has recently appointed a fulltime nephrologist which will add considerably to the renal service. It is recognised that the shortage of renal physicians is an international issue.

Key to delivering the renal service, haemodialysis units are currently located in Palmerston North (servicing MidCentral and Whanganui DHBs) and New Plymouth. In order to deliver an effective renal service for people in MidCentral District it is important to be able to deliver appropriate renal services locally.

As stated, demand for renal services is rising and the current population and disease trends will exacerbate this. In addition more effort is required in the area of detection and prevention where there is a level of unmet need. This will add to the workload of the MidCentral Health renal service which has been under pressure to keep pace with the current demand.

The following tables details inpatient renal services and where services are provided.

Table 11. Renal inpatient services by DHB

		DHB_service		
DHB_domicile	PU_name	Capital and Coast	MidCentral	Taranaki
Capital and Coast	Renal Medicine (DRGs)	$ 1,292,120		
Hawkes Bay	Renal Medicine (DRGs)	$ 210,729		
Hutt	Renal Medicine (DRGs)	$ 698,378		
MidCentral	Renal Medicine (DRGs)		$ 271,678	
Taranaki	Renal Medicine (DRGs)			$ 134,226
Wairarapa	Renal Medicine (DRGs)	$ 143,606		
Whanganui	Renal Medicine (DRGs)		$ 100,349	

The renal service at Taranaki DHB is nearing capacity and this combined with increasing costs is leading them to review the future options for providing renal services. Discussions have commenced between Taranaki, Whanganui and MidCentral provider arms regarding possibilities for regional collaboration. With the current scarcity of resources combined with increasing demand, a collaborative approach to this service has considerable merit.

Suggested Next Steps	Timeframe	Who
Review service options including developing a business case to determine appropriate future direction of the service	Q2 2005/06	MidCentral Health

Peripheral vascular surgery

> *"The emergence of peripheral vascular surgery (PVS) as a distinct specialty has been associated with formation of a separate division within the Royal Australasian College of Surgeons together with a distinct training program and qualification. Together with credentialing and accreditation requirements this will inevitably lead to greater centralisation of PVS services to tertiary institutions. The days of the general surgeon with an interest in vascular surgery appear to be numbered and the recent changes to training make it difficult to see this type of practice outlasting the current generation of specialists."*
>
> **Journal of the New Zealand Medical Association**
> **21 June 2002, Vol 115 No 1156**

MidCentral Health needs to determine if it should provide a peripheral vascular surgery service or whether to source the service from outside MidCentral District. Three of MidCentral Health's six general surgeons currently perform peripheral vascular surgery for MidCentral and Whanganui Districts. In addition approximately $375 000 of tertiary level vascular surgery was purchased from Capital & Coast DHB in the 2002/2003 financial year. This increased to $500 000 in 2003/2004.

Issues that need to be considered include:

- To remain viable a vascular accredited surgeon is required
- Ability to recruit and retain surgeons
- Potential for regional service provision
- Service interdependence with radiology
- The volumes required to operate and maintain the service
- The loss of vascular surgery may impact on the role of interventional radiology and other areas.

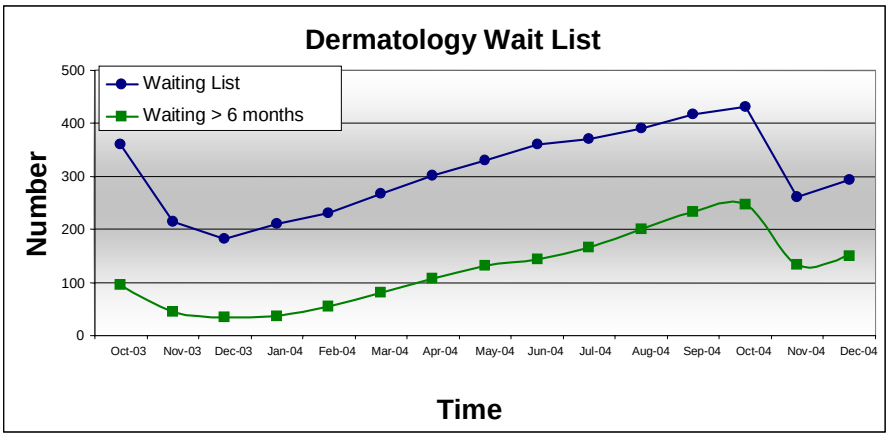
Next Steps	Timeframe	Who
Review service requirements and develop business case to support recommendations around potential investment in service	Q2 2005/06	MidCentral Health

Dermatology

The survey of General Practitioners and Practice Nurses undertaken as part of developing this strategy indicated that access to the dermatology service was one of the major issues they faced accessing specialist services at MidCentral Health. It can be seen from the following graph that the wait list for dermatology has been following a

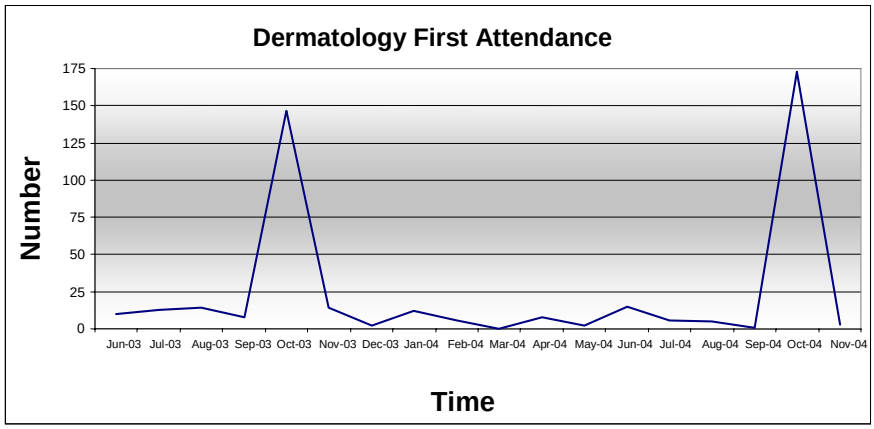
pattern of steady growth then rapid decline over the past 18 months.

Figure 6. Dermatology wait list



The steady growth was driven by a lack of available dermatologists to see patients, particularly for first specialist attendances. The rapid decline is due to the current process of using a visiting dermatologist to periodically reduce the backlog. This is evident by the following graph displaying the number of dermatology first attendances by month.

Figure 7. Dermatology volume of first attendance by month



Issues when reviewing the delivery of dermatology include:

- High referral rates to the service
- Opportunity for quick win
- Location of service
- Routine referrals (as classified in the National Guidelines) are not accepted and this raises the complexity of cases seen
- The shortage of dermatologists (a second dermatologist is now available)
- The dermatology service providing an internal service for other service lines

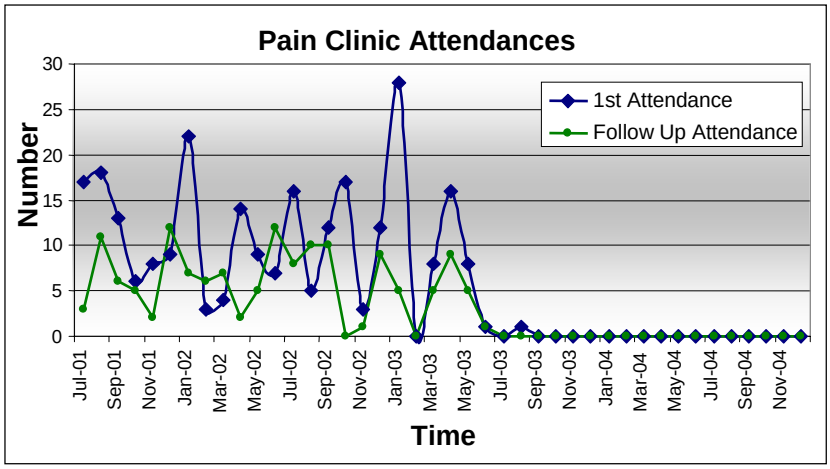
- Ability to source provide the service locally in the long term
- Ability to source a suitable outsourced service.

Next Steps	Timeframe	Who
Review service options including developing a business case to determine appropriate future direction of the service	Q1 2005/06	MidCentral Health

Chronic pain management

Volumes for first assessment (135) and follow up assessments (80) for pain clinics remain included in the price:volume schedule though the service has not been delivered since August 2003.

Figure 8. Chronic pain management volumes



The table below details the number of MidCentral District people who attended pain clinics delivered by Capital & Coast DHB in Wellington. These numbers are well below the contracted number indicating MidCentral District is being significantly disadvantaged in access to a chronic pain management service.

Table 12. Pain Clinic IDFs to Capital & Coast DHB

Capital and Coast delivered service - 2003/2004	MidCentral Attendences
Pain clinic 1st attendance -medical practitioner	30
Pain clinic - subsequent attendance - medical practitioner	16

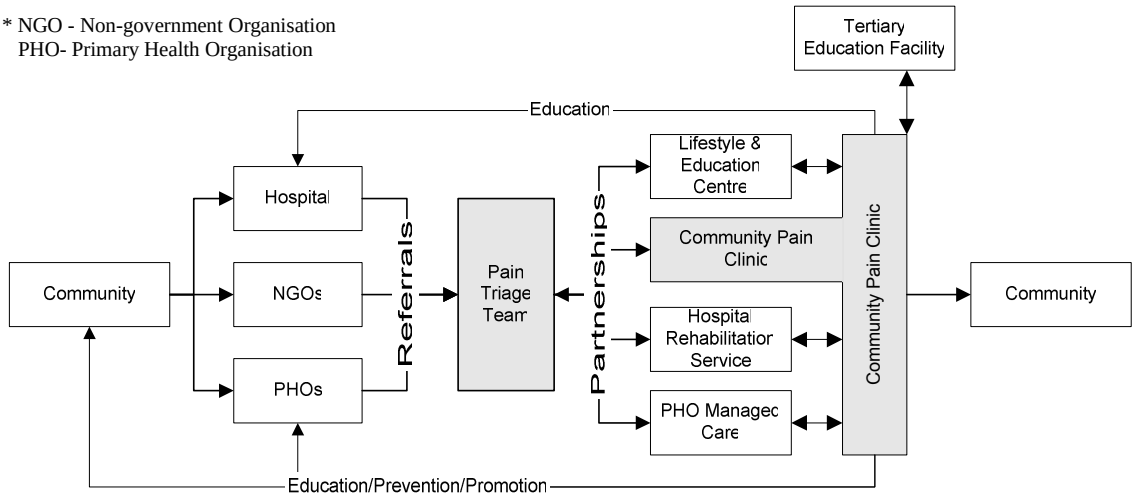
Complex combinations of physical and psychosocial factors influence the health of the person in pain. Any of these factors will/does result in further complications is inappropriately managed. These factors include but are not limited to:

- Inability to work or absenteeism leading to loss of employment
- Immobility and consequent wasting of muscles and joints etc resulting in

further pain and disability

- Depression of the immune system and increased susceptibility to disease resulting in increased incidence of infection and medication use
- Delayed healing
- Disturbed sleep with potential increase risk of accident and injury
- Poor appetite over an extended period of time may result in malnutrition, anaemia, cardiac complications, complications of diabetes and precipitation of respiratory conditions
- Dependence on medication (see Appendix 4)
- Over dependence/inappropriate dependence on family and other caregivers
- Overuse and inappropriate use of health care
- Isolation, progressive withdrawal from social interaction
- Anxiety, fear, bitterness, frustration, depression and suicide.

The following high level process has been developed to utilise resources across the continuum of care. It recognises the role of the service is to assist with early identification, treatment and rehabilitation of pain related conditions with a focus on returning people to the community.



It is proposed to establish an intersectoral approach to the development of a community pain clinic. Preliminary discussions with ACC and PHARMAC have been positive.

Next Steps	Timeframe	Who
Progress an intersectoral project including ACC and PHARMAC to establish a community chronic pain management service. First step to develop a business case for the service	Q1 2005/06	MidCentral Health/ Funding Division

2.3 In Partnership With Other Health Care Providers, Develop and Implement Patient/Clinical Pathways Across the Continuum of Care

Clinical pathways are evidence based multidisciplinary plans of care. They may be for patients who have been diagnosed with a specific condition (diagnosis based), who are having a particular procedure (procedure based), or who are presenting with a particular symptom (symptom based).

These time- and stage-oriented tools are used to synchronise the activities of every member of the health care team to achieve predetermined patient outcomes and provide a continuum of care for those patients whose outcomes are predictable 60 to 75 percent of the time. The aim of using a clinical pathway is to increase the probability that the required care will achieve predetermined clinical outcomes and will be provided in a timely way, minimising delays, omissions, cancellations and unnecessary costs…

Clinical pathways are best developed by the multidisciplinary team members who are directly or indirectly involved in the care of the patient. It is essential that sufficient flexibility be built into the pathway format so that it can be tailored to individual patient needs.

Toward Clinical Excellence – MoH April 2002

In order to move towards the vision, a number of paradigm shifts need to occur. The current paradigms and the new paradigms required are documented in the following table.

Table 13. Paradigm changes

Current Paradigms	New Paradigms
Reactive	Proactive
Fix it	Predict it, prevent it, fix it
Planning and delivery in silos	Collaborative planning and delivery
Primary, secondary or tertiary services	Integrated health services
Cost insensitive	Cost sensitive
One size fits all	Culturally appropriate pathways

MidCentral Health has been working on changing paradigms over the last few years. An excellent example is the work produced from the recently concluded service

planning project addressing this area. In one of the key findings, MidCentral Health recognised that it needs to partner with primary providers and be seen as a major contributor to services provided across the continuum. To facilitate the process, a template was developed that enabled a focus on service provision across the continuum and the issues and opportunities that were contained in this model. The result of using this template for the ElderHealth service is provided in Appendix 2. It is an example of what the process produced and how this information could be incorporated into the implementation process.

The area of clinical care pathways was also highlighted in the Ambulatory Care Review which recommended the need for "Outpatient care pathways that extend and include the rest of the health continuum/episode of care and are patient focused".

The continuum starts with promotion/prevention

It is important to ensure that the continuum of care model starts with wellness rather than illness. The knowledge and specialist expertise that MidCentral Health has access to have the potential to greatly enhance the health outcomes for people in MidCentral District and neighbouring districts. This is part of the transition from a "fix it" model to a "predict it, prevent it, fix it" paradigm.

Culturally acceptable pathways

The one size fits all approach to service delivery has lead to a situation where some groups and communities are disadvantaged. Dr Paparangi Reid, at her address to the Primary Focus 2 conference, advocated designing services and pathways for the minority rather then the majority as a way to ensure services reached those groups who most needed them. A key aspect of the implementation of this key direction will be on not only ensuring equity of access but also reducing current inequities.

Rural access

An important aspect to be incorporated into the model is ensuring access for those living in rural or remote areas. MidCentral Health has an important role in supporting and coordinating services in these areas.

Next Steps	Timeframe	Who
In conjunction with the implementation of the health priority plans, develop a methodology for developing and implementing clinical pathways	Q2 2005/06	MidCentral Health/ Funding Division

2.4 Develop Close and Effective Working Relationships with other DHBs

> *"Numerous studies show that when physicians or teams treat a high volume of patients who have a particular disease or condition, they create better outcomes and lower costs"*
>
> **Porter & Teisberg, HBR, June 2004**

The ability for the majority of smaller DHBs to maintain the volumes of patients required for many specialist services by themselves is questionable. The combined population of Whanganui, MidCentral and Wairarapa DHBs is roughly the same size as Capital & Coast DHB. It would be unlikely that Capital & Coast DHB would consider establishing three discrete operations for each service even if their geographical area was three times as large. Without the required economies of scale, maintaining investment in technology and the recruitment and retention of staff will become increasingly difficult.

The boundary lines between DHBs are not physical barriers; the cross boundary or inter district flows are people accessing the most appropriate health services to meet their needs. It is most likely that the optimal configuration of health services to provide the best health outcomes will be developed without the limitations of DHB boundary lines. This is a challenge for clinicians and management alike.

Currently there is the real opportunity to create genuine win-win relationships for patients and services among Central Region DHBs. An early adopter to this model is the Urology Service which is currently implementing a subregional based service for MidCentral, Whanganui and Wairarapa DHBs. This initiative recently drew a compliment from the Minister of Health.

Advantages that regional and sub regional service provision can bring include:

- Enhanced patient care
- Increased long term service viability
- Improved recruitment and retention
- Ability to create centres of excellence
- Greater collegial involvement
- Enhanced ability to maintain levels of technology
- Training and research opportunities
- Reduced service cost and greater cost effectiveness.

Different models can be developed on a service by service basis depending on issues such as resource availability, resource location, technology, geography and demand. A centralised model may be appropriate where technology is expensive and difficult to

move. A distributed model may suit more mobile services or where resources are located in multiple locations.

The participating DHBs can change depending on the environment and needs of the service. It may be logical to form partnerships with neighbouring DHBs for some services but in others it may equally be logical to form partnerships with DHBs from elsewhere in New Zealand. The relative ease of travel to the majority of New Zealand destinations allows both a greater ability to provide outreach services or have services provided locally from relatively distant DHBs.

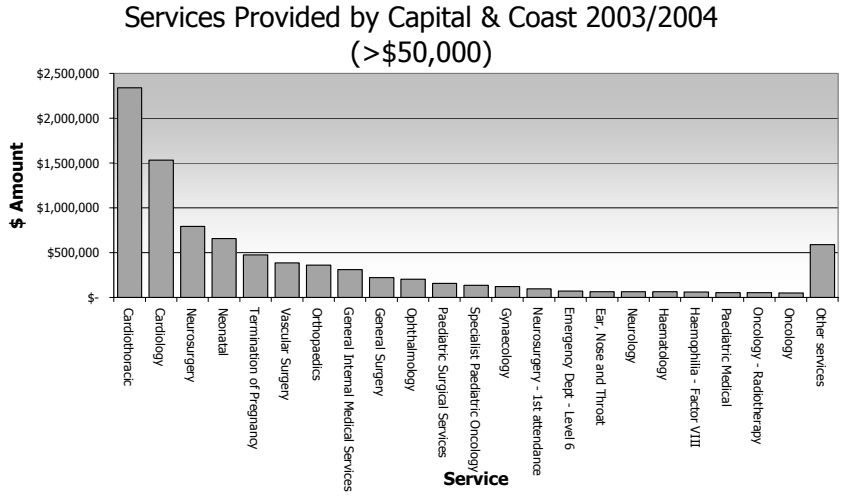
The MidCentral Health service planning project noted in its recommendations the services that might benefit from a regional approach include (but are not limited to):

Neonatal	Renal
Child Health	Respiratory
Women's Health	Neurology
Cardiology	Gastroenterology
Urology	Endocrinology
Psycho-Geriatrics	Chronic pain management

Capital & Coast DHB

MidCentral Health must have an integrated and close relationship with its major tertiary provider. This is currently Capital & Coast DHB as the closest and most frequently referred to tertiary provider. In the 2003/2004 financial year, Capital & Coast DHB provided over $8m of services for MidCentral District residents with the majority of these being referred by MidCentral Health.

Figure 9. Tertiary services provided by Capital & Coast DHB



Anecdotal evidence has suggested the current relationship has developed over time on a service by service basis. A more formal relationship would allow MidCentral Health and its tertiary provider to work collaboratively in the future in areas such as service planning and delivery. In addition there are future options that could be explored such as:

- Joint venture partnerships in new service development and/or delivery
- Economies of scale for clinical trials
- MidCentral Health as a tertiary back up facility (capacity for overflow).

Next Steps	Timeframe	Who
Create a team to engage with targeted DHBs and/or service lines	Q2 2005/06	MidCentral Health
Create a team to work with Capital & Coast DHB	Q2 2005/06	MidCentral DHB

2.5 Enhance the Capability of MidCentral Health

"If you always do what you've always done, you'll always get what you've always got."

Anon

The following five key areas were identified by a number of service lines during the strategy development:

- Invest in the advancement of nursing and allied health expertise, leadership and capacity
- Develop a best of class clinical human resources strategy
- Enhance planning and coordination of services
- Enhance collaboration with sector partners
- Information management.

Invest in the advancement of nursing and allied health expertise, leadership and capacity

An investment in nursing and allied health expertise would have both an immediate benefit for service provision as well as assisting with the long term viability of service delivery. With specialist recruitment and retention likely to remain a key issue in the future, the enhanced use of nursing and allied health expertise will both increase the capacity of service lines while maximising the use specialist time.

In addition as the move to a continuum of care model develops, there are specific

disease management areas where treatment would be enhanced by the development of nursing and allied health specialists.

Next Steps	Timeframe	Who
Work with Director of Nursing and Allied Health Reference Group to establish an approach to advance this area	Q2 2005/06	MidCentral Health/ Funding Division

Develop a best of class human resource strategy

Workforce recruitment and retention is a key issue for the majority of service lines. It is clear the ability to have long term sustainable services will rely on developing MidCentral Health as an attractive organisation to staff.

A best of class Human Resources (HR) strategy will provide a focus on the ideal environment to make MidCentral Health an attractive place for staff to work. Focus will need to be on traditional HR areas as well as other areas specific to clinicians; these could include:

- Recruitment and retention
- Flexible employment policies
- Rewarding clinical quality
- Succession planning
- Training and development
- Collegial relationships
- Career paths
- Technology requirements
- Private business environment.

Next Steps	Timeframe	Who
Commence a project to develop the HR strategy	Q3 2005/06	MCH (HR)

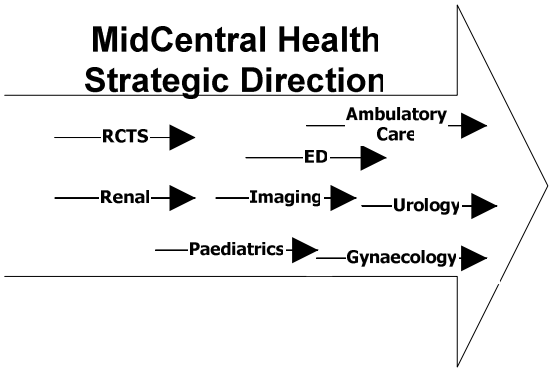
Enhance planning and coordination of services

What do Postit® notes and the Littmann® Model 4000 Electronic Stethoscope have in common? They are both made by the same company, 3M. 3M is a good example of a company with a diverse array of products, markets and cultures yet manage to keep it all moving in the same direction and often a lot faster than the competition.

MidCentral Health has the same challenge–to ensure all service lines and support lines operate collaboratively to achieve the organisational goals.

MidCentral Health is currently made up of discrete service groups the majority of which could function as medium sized organisations in their own right. This level of organisation requires well established strategic and organisational planning processes to ensure the operation can deliver the maximum benefits. The recently released "Ambulatory Care Report" recommended the ambulatory care centre should have a patient focussed strategic direction.

Figure 10. Strategic alignment map



Next Steps	Timeframe	Who
In association with key internal stakeholders, develop a simple and shared planning process	Q2 2005/06	MidCentral Health

Enhance collaboration with sector partners

> *Poor health status for some groups is bound up in a complex web of social and economic issues. These issues can best be addressed by taking a holistic approach. If the Government is to deliver on its social policy objectives, and make progress in the identified health gain priority areas, health services need to work constructively with other social services for those at risk. Intersectoral co-ordination is key to this. For community groups and others on the ground delivering services, lack of co-ordination among sectors, public agencies and providers has been a source of endless frustration.*
>
> **Intersectoral collaboration between agencies and providers to achieve social policy objectives - MoH 1999**

There is great potential that could be realised by working more collaboratively with other organisations operating in the health sector. Organisations such as ACC,

PHARMAC and WINZ to name a few all have overlapping areas of interest and are often trying to achieve similar ends via different means.

Next Steps	Timeframe	Who
Develop an approach to engage with sector partners to identify opportunities for collaboration	Q2 2005/06	Funding Division

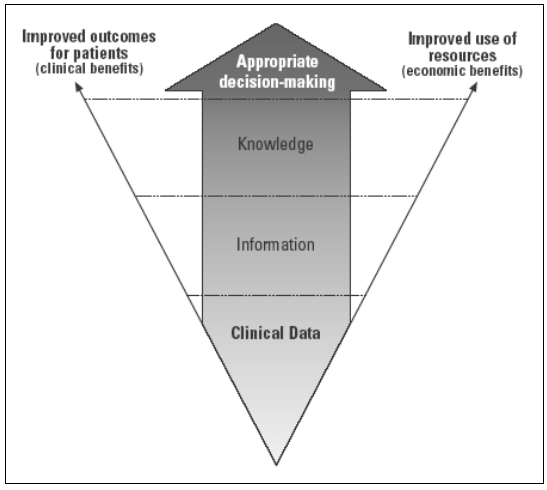
Information management

Clinical information management was raised as an issue during discussions with clinicians. An information revolution has been taking place for a number of years bringing technology examples of email, the internet and cell phones from a zero base to tools almost inconceivable to be without for the majority of people.

Unfortunately health information management and processes have not enjoyed such spectacular growth with non patient centric systems, paper based processes and disparate systems remaining the rule rather than the exception. The following diagram, taken from the Ministry of Health publication (Apr 2002)–Towards Clinical Excellence–displays the two ultimate benefits of the enhanced use of clinical information:

- Improved health outcomes for patients
- Improved use of resources (which will also result in improved health outcomes).

Figure 11. Data to knowledge



Enhanced information management and the use of technology also has the potential to help shrink the access and support issues associated with rural and remote locations.

A possible solution to facilitate progress in this area was proposed in the Technology Best Practice Report (MidCentral DHB, 2003).

> *In order to achieve the technology vision it is important to set up a collaborative environment where the key stakeholders in the district can work together. This will enable a solid network to be built and will create an environment where collaboration can flourish. It is proposed this group is called the Information Management Forum (IMF).*
>
> *The IMF would be initially made up of a small group of key stakeholders from throughout the district and its membership would be reviewed after the IMF had become well established.*
>
> *The IMF should:*
>
> - *Promote the Information Management/Technology Vision in line with the Information Systems Strategic Plan (ISSP) Framework*
> - *Promote the District Information Management/Technology Strategic Plan in line with the Information Systems Strategic Plan (ISSP) Framework*
> - *Support the Implementation of the Strategic Plan*
> - *Promote Solutions to Identified Quick Wins*
> - *Provide a Forum for Innovation and Best Practice.*

Next Steps	Timeframe	Who
Develop a process within the ISSP to advance the clinical information requirements of MidCentral Health	Q2 2005/06	MidCentral Health/ Corporate Services
Create a district wide information management forum	Q1 2005/06	Funding Division

2.6 Develop Appropriate Funding Mechanisms to Underpin the Strategy's Implementation

In June 2000, a report from the Quebec Department of Health[4] included a section reviewing budgeting of hospitals in the US, UK, France, Belgium and Norway. Several interesting observations were made:

- Population based approaches are widely used and recognised as an equitable mode for funding hospitals

[4] The Health of Canadians–The Federal Role http://www.parl.gc.ca 2 March 2005

- There is a move away from global budgeting and a trend towards deploying information systems based on the Diagnostic Related Group (DRG) model
- Countries are looking at mechanisms that can link information on hospital use and hospital delivery of services
- There is a trend toward the development of more sophisticated methods for assessing hospitals' financial performance
- More emphasis is placed on quality of care in the delivery of hospital services.

MidCentral Health, along with other New Zealand DHB provider arms, is funded for inpatient services under the caseweight (DRG) model. Outpatient services are funded under a similar model though the fee is based on attendance rather than complexity.

How services are funded and the associated consequences are a strong driver of behaviour. A frequently used management article[5] entitled "On the folly of rewarding A, while hoping for B" summarised the problems that can, and in most circumstances do, develop when what is rewarded (A) is not what is really wanted (B).

In the case of the current funding mechanism, the table below shows the behaviours and activities rewarded versus what is really wanted. Note that the fact that the system rewards the behaviours listed does not necessarily indicate that these behaviours are practiced.

Table 14. Reward systems

Current rewards	Ideal rewards
Competition–our service line needs to win funding	Collaboration–how can we distribute funding most appropriately
Achieving targeted volumes	Maximum possible volumes + Promotion, Prevention, Services and Quality
Cost shifting	Cost management, waste reduction
Performing procedures that attract higher revenue (case weight discharge v outpatient)	Innovation, enhanced patient treatment, investment in new services
Service lines profitability	MidCentral Health profitability
Performing services to generate revenue	Performing services that are needed
Reviewing the wait lists	Less people waiting
Service line focus–what is best for us	MidCentral Health focus–what is best for the organisation

[5] Academy of Management Executive, 1995 Vol 9 No 1

Funding model options

Line by line or input based

This method involves negotiating amounts for specific line items (or inputs) such as inpatient nursing services or medical/surgical supplies. The total budget allocation for an individual hospital is simply the sum of the line items.

Population based

Population based methods use demographic information such as age, gender, socioeconomic status and mortality rates to forecast the demand for hospital services. Matching the predicted demand for certain health services with the estimated cost of providing these services yields a spending forecast for individual hospitals.

Global budget

Global budget methods adjust previous spending (such as last year's allocation) to derive a proposed funding level for the upcoming year. The focus is on the total provider arm budget rather than on individual service activities or cost centres. Adjustments can be made to the base amount using a multiplier (such as the rate of inflation) or a lump sum amount to establish the funding level for future periods.

Capacity funding

Similar to the global budget method but used at a service line level. Services that predominantly treat acute patients, or have to provide a 24x7 service are funded to provide the service irrespective of volumes. The Emergency Department is a good example where this could be applied.

Facility based

Facility based methods use characteristics of the hospital, such as size, amount of teaching activity, occupancy and distance from nearest tertiary facility (specialised care centres, etc), to estimate operating costs. This approach recognises that the structure of different hospitals can influence the cost of providing identical services.

Service based

Service based funding for hospital services is often referred to as a "case mix based approach" and is the current method used in New Zealand and is also very common internationally with the system used in both the USA and UK. In New Zealand national prices are set for particular services and funding is then dependent on volumes of each service provided.

A hybrid approach

All the funding models have advantages and disadvantages; a hybrid approach may result in a model best suited to MidCentral Health.

This approach would allow factoring in such areas as:

- Long term outcomes
- Innovation
- Quality and best practice
- Services provided in primary, private or tertiary settings
- 24x7 requirements
- Recruitment and retention
- Strategic direction.

Next Steps	Timeframe	Who
Commence a project to develop an appropriate funding methodology for MidCentral Health	Q2 2005/06	MidCentral DHB

3. OPTION SUMMARY

The Secondary Care Services Strategy features a number of future options for MidCentral Health. The majority of these will require further analysis before sufficient information is known to make informed decisions. The following table summarises the options in the strategy with identified next steps.

* MCH–MidCentral Health FD–Funding Division MDHB–MidCentral District Health Board

Option	Next Steps	Timeframe	Who
Strengthen and develop the Regional Cancer Treatment Service (RCTS) and complementary services	Develop a strategic plan for RCTS which includes the identification of future services and investment strategy	Q2 2005/06	MCH (RCTS)
	Develop business cases to support investment strategy	Q4 2005/06	MCH (RCTS)
Cardiology	Independent review of service options including developing a business case to determine appropriate future direction of the service	Q1 2005/06	MCH
Renal	Review service options including developing a business case to determine appropriate future direction of the service	Q2 2005/06	MCH
Peripheral vascular surgery	Review service requirements and develop business case to support recommendations around potential investment in service	Q2 2005/06	MCH
Dermatology	Review service options including developing a business case to determine appropriate future direction of the service	Q1 2005/06	MCH
Chronic pain management	Progress an intersectoral project including ACC and PHARMAC to establish a community chronic pain management service. First step to develop a business case for the service	Q1 2005/06	MCH/FD
In partnership with other health care providers, develop and implement patient/clinical pathways across the continuum of care	In conjunction with the implementation of the health priority plans, develop a methodology for developing and implementing clinical pathways	Q2 2005/06	MCH/FD

Option	Next Steps	Timeframe	Who
Develop close and effective working relationships with other DHBs	Create a team to engage with targeted DHBs and/or service lines	Q2 2005/06	MCH
	Create a team to work with Capital & Coast DHB	Q2 2005/06	MDHB
Invest in the advancement of nursing and allied health expertise, leadership and capacity	Work with Director of Nursing and Allied Health Reference Group to establish an approach to advance this area	Q2 2005/06	MCH/FD
Develop a best of class human resource (HR) strategy	Commence a project to develop the HR strategy	Q3 2005/06	HR
Enhance planning and coordination of services	In association with key internal stakeholders, develop a simple and shared planning process	Q2 2005/06	MCH
Enhance collaboration with sector partners	Develop an approach to engage with sector partners to identify opportunities for collaboration	Q2 2005/06	FD
Information management	Develop a process within the Information Systems Strategic Plan to advance the clinical information requirements of MidCentral Health	Q1 2005/06	MCH/ Corporate
	Create a district wide information management forum	Q2 2005/06	FD
Develop appropriate funding mechanisms to underpin the strategy's implementation	Commence a project to develop an appropriate funding methodology for MidCentral Health	Q2 2005/06	MDHB

4. IMPLEMENTATION ISSUES

The implementation of this strategy will require resources and time. The effort required during the development of a strategy, although vital, is small compared to the effort required during implementation. Strategy formulation is about working out where is the best destination (the vision) for the organisation. Strategy implementation is about turning a vision into a physical reality from which the organisation and those it is serving can benefit.

To achieve this vision will require a programme of projects stepped out over the next three to five years. Each of these projects should logically fit within the strategy and take the organisation one step further towards MidCentral's vision.

The strategy can also be used to assess new initiatives and ideas that are presented to ensure they fit within the overall strategic direction. Ideas that seem to be heading in the opposite direction need to be carefully considered as they either are not appropriate or indicate a change in strategic direction is required.

4.1 Investment and Capital Allocations

A key area to any strategy implementation is the organisation's ability to support it financially. The majority of initiatives identified will require a level of financial commitment. The three main options for funding these initiatives are discussed below.

Capital expenditure budget

Over the next three year planning period, indications are that MidCentral is wanting to spend in excess of 100% of the accumulated depreciation charge. This capital expenditure over the next three years exceeds capital funding by $8m. The currently available capital expenditure will not support the implementation of the Secondary Care Services Strategy unless a capital planning and priority setting review alters the future capital expenditure allocations.

Table 15. Capital expenditure forecast as at 31 October 2004

	Requested Budget ($000's)		
Description	**2004/05**	**2005/06**	**2006/07**
Total Replacement Capex	$ 9,097	$ 8,218	$ 5,752
Total New Capex	$ 9,737	$ 17,364	$ 2,373
Demand for Capital Expenditure	$ 18,834	$ 25,582	$ 8,125
Available Capital Funding	$ 16,770	$ 19,700	$ 10,500
Annual Capex Variance	-$ 2,064	-$ 5,882	$ 2,375

Initiatives with positive returns

Several of the initiatives would mean reduced services outside of MidCentral District resulting in more revenue earned. If this revenue is greater than the increased operational costs then the initiative will pay for itself over time. These initiatives need to be carefully reviewed and business cases developed to assess the impact of changes in service delivery. Particular note needs to be taken of the flow on effects for MidCentral Health that service changes may bring, such as an increase or decrease in the use of other MidCentral Health services.

Alternative funding methods may be able to be used on initiatives that result in positive returns with short enough pay back periods.

New investment opportunities

The introduction of population based funding (PBF) has resulted in MidCentral receiving additional funds to move the District back to a position of equity. An additional $14m of sustainable funding was received for the 2004/2005 financial year. An investment strategy focused on priority health areas has been developed to utilise the additional funding.

This investment strategy allows for two potential methods for supporting aspects of the Secondary Care Services Strategy implementation. Firstly, funding is available for those services identified in the health priority areas such as diabetes and cancer. Services plans for the health priority areas have been developed and will help guide funding into both primary and secondary health care services in these areas. There is likely to be a high level of congruence in the goals of the health priority plans and secondary care aims which will allow secondary initiatives to progress.

Secondly, as it required time to develop appropriate health priority plans, a percentage of the additional funds was not spent in the 2004/2005 financial year creating a pool of funds. It was estimated that this will total approximately $7.5m and thus it has been signalled that this funding is available for one off projects such as infrastructure development and initiatives that assist in primary and secondary collaboration.

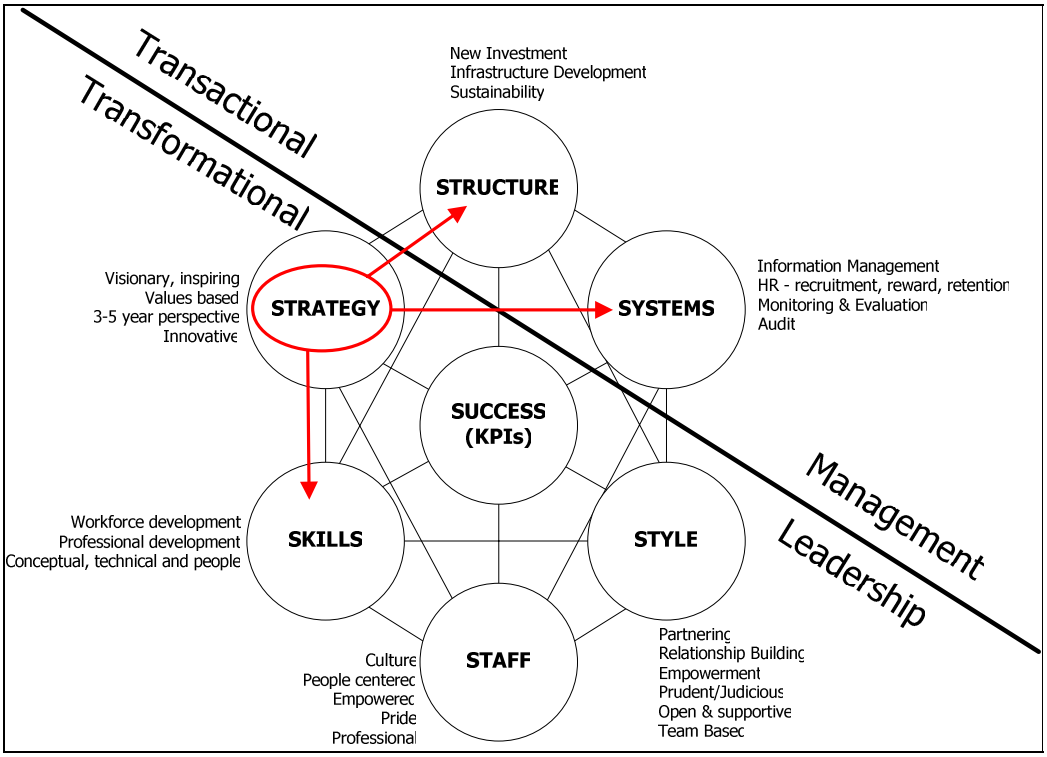
4.2 The 7-S Model

It is important if the implementation of the strategy is to be successful that a holistic approach is developed. A well established model[6], the 7-S model displays the factors that need to be taken into account for the successful implementation of any strategy– large or small. This model can be used as a guide during the strategy implementation to ensure all required factors are taken into account. The tight interdependencies

[6] The framework first appeared in "Structure Is Not Organization" (1980)

between the factors mean that a lack of focus on one aspect could affect the entire implementation effort.

Figure 12. Strategy implementation - the 7-S model



Appendix 1 - Previous Secondary Care Projects

There have been a number of recent projects looking at different aspects of MidCentral Health. The results of these projects provide a relevant input into the development of this strategy.

Those projects are:

- Secondary Service Benchmarking Review
- Assessment, Treatment and Rehabilitation Review
- MidCentral Health Service Planning Project
- Ambulatory Care Review
- Reconfiguration Project.

Secondary service benchmarking review

A joint project initiated as a collaborative effort by the General Managers of Funding, MidCentral Health and Corporate. Its purpose was to seek an independent review of MidCentral Health's relative efficiency including utilising a peer group of hospitals as a benchmark.

The project concluded in November 2003 and made 14 recommendations under the headings:

- Clinical Support
- Patient care delivery process adoption
- Data Integrity
- Systems
- Projects and Protocols (specific issues uncovered from benchmarking study).

Assessment, treatment and rehabilitation review

Commenced as a result of a recommendation in the secondary service benchmarking review, the Assessment, Treatment and Rehabilitation (ATR) Review was released in September 2004. The project's key objectives were to:

- Review current utilisation and pathways of care requiring ATR services across the health continuum
- Analyse quantitative and qualitative data gathered from the review and feedback results and options for change

- Facilitate a strategic planning process that develops a vision, goals, agreed client pathway for ATR services and costed time-framed action plans for implementation.

The results from the review, which are too lengthy to repeat here, are available in the final document–"Report on the Review of MidCentral District Health Board's Assessment Treatment and Rehabilitation Service."

MidCentral Health service planning project

This project concluded late in 2004 and provided a solid base of clinical views and information and helped shape the development of this draft strategy. Its stated purpose was "to seek wide clinical opinion as to the current state of service delivery in Central Region and within MidCentral Health in particular, and opinion as to how services should be shaped if they are to deliver effectively to our population over the coming 10 years and beyond."

In addition to a set of key findings and recommendations, the project team also developed a continuum of care template to guide thinking and discussions. This template produced very good results as it was able to broaden service discussion from currently delivered services to future potential across the continuum.

Ambulatory care review

The main purpose of this review was to investigate and understand how resources in MidCentral Health are being used in ambulatory care and day patient services, and whether or not these are being used effectively and efficiently.

The broad goals within the review encompassed:

- Integration of ambulatory care provision across the health continuum, commencing with and based on primary and community care but inclusive of home based care, day stay/day surgery, Emergency Department and MidCentral Health Outpatient/Inpatient services where appropriate
- A patient focused approach with the development of multidisciplinary patient care pathways
- Development of a case management approach, based in MidCentral Health inpatient services that extends out into the community and primary health care for managing people who have complex and chronic conditions
- Promotion of a wellness focus and health promotion, health screening and disease prevention approach in MidCentral Health ambulatory care services
- Creation of an adequately resourced and skilled workforce in ambulatory care that delivers flexible ambulatory care by preventing unnecessary admissions to acute hospital.

Reconfiguration project

This project commenced in response to a request by MidCentral's Hospital Advisory Committee (HAC) to:

> *"Develop a brief scoping paper on an improved day procedure centre for discussion from a strategic perspective, on the assumption that it could be staffed".*

This request followed the presentation of the Clinical Decision Unit Project Team's May 2004 paper to the 1 June 2004 HAC meeting. That paper outlined MidCentral Health's Emergency Department current situation where there is:

- increasing demand in presentations
- higher patient acuity
- longer waiting times
- limited physical capacity.

This is impacting on the overall acute service delivery from within the Emergency Department and in the inpatient setting. In addition many service lines noted that both the physical area and availability was limiting their ability to deliver services to their potential.

This project is ongoing.

Appendix 2 - ElderHealth Template

The following is an example of the continuum of care model developed during the MidCentral Health Service Planning Project.

Over the next decade multidisciplinary teams, made up of clinicians from the primary and secondary sectors, will be placing increased emphasis on supporting and managing patients in their preferred community setting. An increase in the number of skilled clinicians, nurses in particular, will be required in the primary and secondary sector for this to occur. Providing care across the continuum will require greater integration of providers and a collaborative approach to delivering services. Nevertheless, clinical leadership needs to be provided to facilitate the change process. MidCentral Health, in partnership with the funder and other providers, will need to lead the change process. Specifically, they will need to facilitate the development of new models of care supporting 'ageing in place' and seamless integrated service delivery across the continuum of care as described in the Health of Older People Strategy and other Ministry of Health strategies. MidCentral Health proposes that a team of key stakeholders would be invited to form a steering committee to oversee the redesign of the models of care. The models of care would describe what, where, when, and how the proposed services are to be delivered, and also the role that MidCentral Health and other providers would play in delivering the redesigned services. Outlined in the table is a high level view of some of the initiatives/issues that would nee to be incorporated and or addressed in the revised the models of care for elderly people.

* MCH–MidCentral Health PHO–Primary Health Organisation NGO–Non-government organisation

Continuum of Care	**Community providers (PHOs, NGOs etc) responsibilities**	**Shared MCH/Community responsibilities "grey zone"[7]**	**MCH responsibilities**	**Tertiary provider and MCH regional responsibilities**
Promotion & Prevention				
Home	GPs and community based clinicians to provide care with specialist support coming from MCH's multidisciplinary teams (MDT).	More emphasis on supporting patients while in their home (Hospital in the Home–HITH). Support to come from both MCH and other community based multidisciplinary teams. Greater integration of providers across the continuum required.	MCH to provide specialist MDT support.	

[7] Responsibilities will be defined as models of care are developed

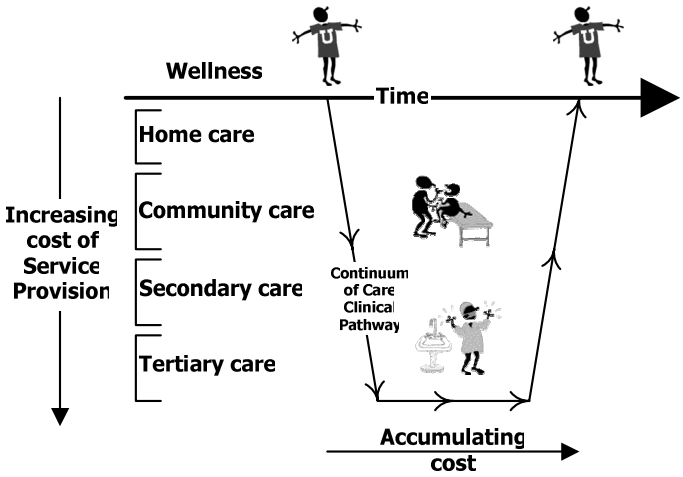
Continuum of Care	Community providers (PHOs, NGOs etc) responsibilities	Shared MCH/Community responsibilities "grey zone"[7]	MCH responsibilities	Tertiary provider and MCH regional responsibilities
Primary health care, PHOs	As above Greater primary provider services to avoid unnecessary admissions, permit earlier discharge' including intermediate options.	MCH to provide specialised support such as training and workforce development.	Development of and greater use of nurse practitioners, care coordinators, nurse educators, link, and other specialist generalist nurses.	
Community - Other			Maori providers require link nurses to work between primary and secondary providers.	
Secondary Care Community Service, Hospital in the Home	Greater acuity supported in a community setting. GPs to provide support in conjunction with MCH clinicians. Multidisciplinary teams linked with MCH clinicians in reaching into MCH	Enrolled skilled nurses likely to move out of MCH into the community settings.	Chronic disease management supported in rest home (Hospital in Rest Home, HIRH). Mobile response team to provide acute care in rest home/home setting. Increase support in the community eg, Rehab therapy, more acute patients supported in community settings. Provide highly skilled clinicians to work alongside primary health care teams. Introduce 7 day per week adequately resourced transfer service between Horowhenua and the Palmerston North campus. Multidisciplinary teams working in outreach settings.	

Continuum of Care	Community providers (PHOs, NGOs etc) responsibilities	Shared MCH/Community responsibilities "grey zone"[7]	MCH responsibilities	Tertiary provider and MCH regional responsibilities
Health education Chronic care management programmes Admission avoidance	Primary providers and PHOs in particular to work closely with MCH teams for specialist support.	Common patient record accessible by all providers, subject to agreed protocols.	Acute assessment teams for the community. These teams would link between primary, secondary, and MCH rehabilitation team. Increase pharmacy involvement to reduce poly pharmacy. Appointment of sufficient psycho geriatricians to provide a regional psycho geriatrician service and minimise risk associated with having a solo consultant providing this service. Establish a community geriatrician service. Day medicine/acute OPD including stroke service. Provide specialist pharmacy support.	MCH to lead the development of regional psycho geriatric service in conjunction with Whanganui and Wairarapa DHBs.
ED Admissions	Case managers and link nurses in PHOs providing care/monitoring across the continuum including chronic/complex disease states.		Care coordinators, based in Emergency Department, to undertake risk assessment of nominated patients such as frail elderly, and those frequently admitted.	
Inpatient treatment	Clinicians available to in reach into MCH to assist with discharge plan.	Discharge planners that integrate care across the continuum–flag complexity for case managers. Greater use of case managers, link nurses and Clinical Nurse Specialists.		

Continuum of Care	Community providers (PHOs, NGOs etc) responsibilities	Shared MCH/Community responsibilities "grey zone"[7]	MCH responsibilities	Tertiary provider and MCH regional responsibilities
Discharge/step down	Specialised rehabilitation service. Supported discharge also to involve primary care clinicians. Other services designed to support patients in the transition out of hospital into their preferred accommodation. Supportlinks (NASC).		Slow stream rehabilitation step up step down facility between home, rest home, or hospital.	

Appendix 3 - Costs and the Continuum of Care

The following diagram displays how costs interrelate with treatment provided across the continuum of care. Costs increase as a patient requires more specialised care and costs accumulate while patients require medical care.

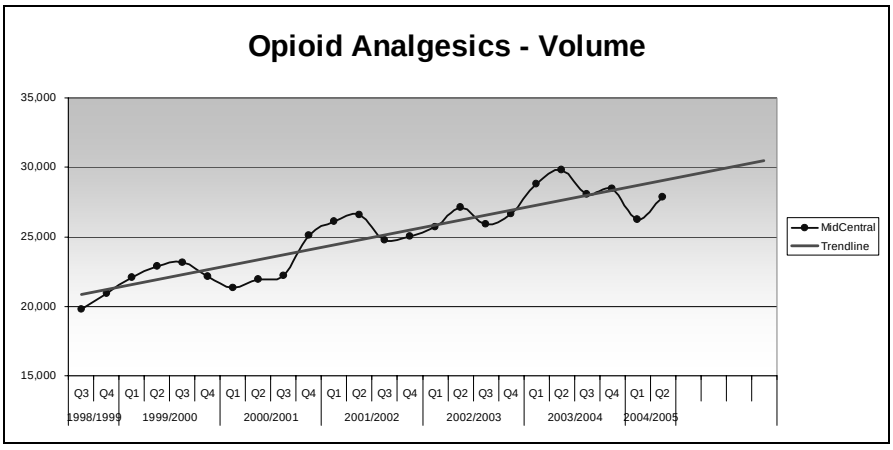


From a societal perspective, once a person requires medical care that impacts on their ability to contribute, there is a double cost. Firstly the cost of care provided and secondly the cost of lost productivity (whether paid or unpaid). It was noted at the 2001 Knowledge Wave Conference that due to the high level of government spending (40% of GDP) in order for New Zealand to maintain pace with comparable OECD[8] countries, a world class public sector is required.

[8] Organisation for Economic Co-operation and Development

Appendix 4 - Pharmaceutical Use for Chronic Pain Management

If no suitable alternative is available for treating pain and specifically chronic pain, pharmaceuticals are often prescribed. In New Zealand the volume of opioid analgesics, commonly prescribed for pain management, is increasing. The following graph shows the increasing volume of this class of drug in MidCentral District.



The cost of funded opioid analgesics for New Zealand was over $25m in 2003/2004 and the figures have been increasing on average 12.5% per annum. The growth in use of these drugs has been slightly slower in MidCentral District. The shaded figures indicated the level of expenditure that will be incurred if the trends continue.

Funded Opioid Analgesics - Cost

Financial Year	MidCentral	% increase	New Zealand	% increase
1999/2000	$884,966		$15,683,578	
2000/2001	$973,432	10.0%	$17,064,636	8.8%
2001/2002	$1,049,902	7.9%	$18,660,833	9.4%
2002/2003	$1,167,433	11.2%	$22,370,766	19.9%
2003/2004	$1,311,205	12.3%	$25,030,750	11.9%
2004/2005	$1,446,789	10.3%	$28,155,269	12.5%
2005/2006	$1,596,395	10.3%	$31,669,813	12.5%
2006/2007	$1,761,470	10.3%	$35,623,068	12.5%
2007/2008	$1,943,614	10.3%	$40,069,796	12.5%

Source: CRTAS Referred Services Management Information Cube (Data to Dec 2004)