

APPENDIX 1

Business Case Interim Site Redevelopment

Draft v0.1
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1 Approvals

Insert appropriate (based on \$ value) approvers. Physical signoff should be obtained on final version.

Name	Position	Signature

2 Version History

Keep version history here.

Final version for signoff should be version 1.0. Changes after signed off should be 2.0, 3.0 etc.

Version	Description	Author
0.1	Initial Draft	

3 Summary

The redevelopment of Nelson Hospital is being undertaken in a staged way. Preparatory work has been undertaken for the second stage of this project to the extent of reviewing Master Planning and the development of an overall master plan and concept for the campus.

While approval has been given from the National Capital Committee for the project to proceed to the Options analysis stage, the economic circumstance under which this planning is occurring has changed. The availability of national funding to invest in health capital projects is reduced. With limited population growth and a high proportion of older persons NMDHB may not be seen as a national priority. There is therefore an imperative to find an affordable way to meet, in the interim, the growing demand for hospital delivered services.

To address the deficiencies identified within the scope of the Strategic Case tabled to the National Capital Committee (September 2008) would require an investment in the order of \$45.9 million. In the process of developing a total solution an interim solution has been identified at a cost of \$7.9 million that will enable the increasing demand to be met until 2016, is readily implemented and does not hinder later development as it becomes necessary.

Such a solution allows implementation of changes to the model of care identified as a part of the overall solution.

4 Project Description

This project involves new build in 2 areas

- **ICCU**, Intensive/Coronary Care and
- **SOPD**, Surgical Outpatients Department,

And the reinstatement or refurbishment of inpatient areas in George Manson

- **INPATIENT WARDS, Levels 5 (Ward 9) and 6 (Ward 10)**, light refurbishment, construction of 1 to 2 ensuites on Level 6 and completion of outstanding deferred maintenance and capital improvements. Appendix 1.

The new build will cover:

- Extending the ICCU area to allow for a further 12 beds and a change in model of care to an ITU or Intensive Treatment Unit.
- Extending the SOPD area to accommodate 3 procedure rooms and 7 additional consulting rooms and associated support services. The remainder of the surgical outpatients would be reconfigured to best utilize the existing area.

The need for this work has been identified through the process of examination of the models of care for Nelson Hospital Site Stage 2 Redevelopment. ICU/CCU and SOPD are discreet areas of the hospital and work could be undertaken independently of each other.

Economies will be achieved through parallel implementation by engaging external consultants to work synchronously on both areas. The change management arising from the two parts could be concentrated to avoid change fatigue and maintain engagement.

5 Background

NMDHB is committed to the redevelopment of the Nelson Hospital site.

The 2009/10 DAP sets out the following:

Project Title and Ref. No.	1.1.5 Nelson Hospital Redevelopment		
Description	To provide the best environment for DHB services, obtain best efficiency and ensure high quality care delivery to patients/consumers/clients.		
Linkages	All programmes utilising Hospital services		
Benefits	The site promotes clinical, patient and efficiency-focused objectives Is adaptable to changes in best practice without costly alterations to the layout and fabric of structures		
Timeframe	Actions / Projects / Initiatives	SLT Champion	Measures of Success / Milestones
2009/2010	Business case for Nelson Hospital Redevelopment Stage 2	Board Secretary	Completed 30/06/09
2012/2014	Nelson Hospital Redevelopment	Board Secretary	Completed 31/12/12
Risks		Mitigations	
Running two major redevelopment projects and initiatives concurrently may impact on resource availability and the overall timeframe for the business case		External consultants engaged to project manage the three stages of the business case process. Internal resources identified	
Scope of redevelopment is not affordable		Identify in the master plan the stages that could be followed to achieve the overall redevelopment	

The scope of this project and 5 key drivers were agreed to be

1. *Surgical inpatient facilities are non compliant, inefficient and outdated for the provision of contemporary surgical practice.*
2. *Development and retention of appropriately skilled and motivated staff requires an ability to readily access and participate in ongoing learning and consultation without necessarily leaving the workplace.*
3. *Changing demographics will result in increased demand for health services which in turn will require changing facilities requirements and additional beds*
 - a. *An ability to respond to fluctuating acute medical demand without impeding the delivery of other services.*
4. *Psychogeriatric ATR services are not sustainable in their current model where they are delivered from a not fit for purpose, clinically and physically isolated facility in Richmond.*
5. *Carparking and other access issues resultant from the increased concentration of clinical services on one site require to be addressed.*

As work on the models of care progressed it became apparent that an additional driver needed to be added to the architectural/health planning team brief

- 6 *Surgical outpatient facilities and support are inadequate to effectively and efficiently meet the needs of this important interface between primary and secondary care services.*

Guidelines from the Ministry of Health are clear that Clinical Service planning must underpin requests for National Capital borrowing. The master planning for the site recognizes the need to have flexibility in the future use of existing buildings, new buildings or relationships with other providers both locally or regionally.

Currently there is uncertainty for the planning environment. Recent signals have indicated changes to how regional and national planning is to be undertaken in the future. These signals together with the move to Alliance Contracting and national initiatives in Aged Care, Chronic Conditions and Workforce Development all need to be considered in NMDHB's journey for continuum of care service delivery. Having an interim solution gives NMDHB time to allow the introduction and bedding in of a new way to working. The current fiscal environment necessitates that capital planning and the effect that this may have on the organisation's bottom line is thoroughly considered before any significant borrowing occurs.

In April 2010 the NHB Director advised that for the Nelson Project the CIC was aware of the intention to submit a business case for the conceptual design by 30 September. The Director also noted that the business case was to address:

- Clear workforce and information technology requirements

- Assessment of the impact of the primary care proposal
- Evidence of alignment with regional services plan
- Financial analysis to support affordability
- Measurable key performance indicators for a benefits realisation plan
- Impact assessment on service delivery arising from the delay of construction

5.1 Master Plan

To ascertain what level of development was required projections of bed numbers were undertaken by the Planning and Funding team to inform the Strategic Stage planning.

Table 1: Projected Bed Number Requirements for Nelson Hospital 1

Bed Numbers By Service	2006	2009 (Present)	2011	2016	2021	2026
Surgical Wards - Excluding ICU	55	55	58	62	67	73
Medical Wards - Excluding CCU	30	30	33	39	45	51
ICU *	5	5	5	7	7	7
CCU	4	4	4	6	6	6
AT&R	20	20	24	29	34	39
Psycho-geriatric [currently at Alexandra Hospital]	3	7	7	7	7	7
Day Stay **	30	35	35	35	37	39
Paediatric	12	12	12	12	12	12
Obstetrics & Delivery (14+4 Delivery)	18	18	18	18	18	18
SCBU	6	6	6	6	6	6
Total Bed Numbers	183	192	202	221	239	258
Additional Beds required	0	9	19	38	56	75

- * ICU has 2 bed spaces occupied by 4 in-centre dialysis chairs.
- **Day stay contains 15 beds, 9 trolleys and 11 Lazyboy chairs. Counting of treatment spaces has been variable for this area due to pure descriptions being used where all of the above provide treatment spaces and are counted as such.

These numbers have been validated against bed modeling undertaken by SISSAL working co-operatively, with the Ministry of Health on the agreed modeling.

5.2 Planning To Date

To ensure that clinical planning drives facility development a review of the models of care has been undertaken with the staff groups identified to have impact on these areas of service. Nelson Hospital performs favourably when compared nationally via the Health Benchmarking Information supplied by the Ministry of Health however there will still need to be changes made when the challenges of a reducing workforce and increasing population of both older persons and those with chronic conditions are considered.

Key changes to the model of care can be grouped under the Provider arm principles of:

- Patient Centred
- Staff Supportive
- Evidence Based
- System Minded, and
- Funding Fit.

These principles are acknowledged in the following ways:

Patient Centred

- Care will be delivered in the most appropriate environment recognising the imperatives of closer, sooner, more convenient
- Functional status, patient autonomy and independence will be maintained wherever possible during the period of hospitalisation
- The involvement of whanau/family
- The establishment of multidisciplinary clinical networks to establish accountability structures for patient outcomes
- The pre-admission process for elective surgery is efficient and effective
- Improved focus on care of the elderly
- Patient initiated booking
- Care targeted to address health disparities.

Staff Supportive

- Clinical leadership
- A collaborative model of nursing care
- Skilled and specialist staff working across settings of care
- Clearer accountability for discharge planning and preparedness throughout an admission
- Strong generalist skills for the majority of patients
- Active succession planning
- Positive recruitment for minority groups
- Acute rostering respects the need for a level of work/life balance.

Evidence Based

- An enhanced recovery based model in colorectal surgery
- Skills to care for patients with dementia
- Optimising the patient journey will continue as a cornerstone of service improvement across the continuum
- Shared patient pathways across the continuum
- Facilities to accommodate obese people
- Care targeted to address persons of low income, Maori and Pacific people who are disproportionately affected by chronic conditions.

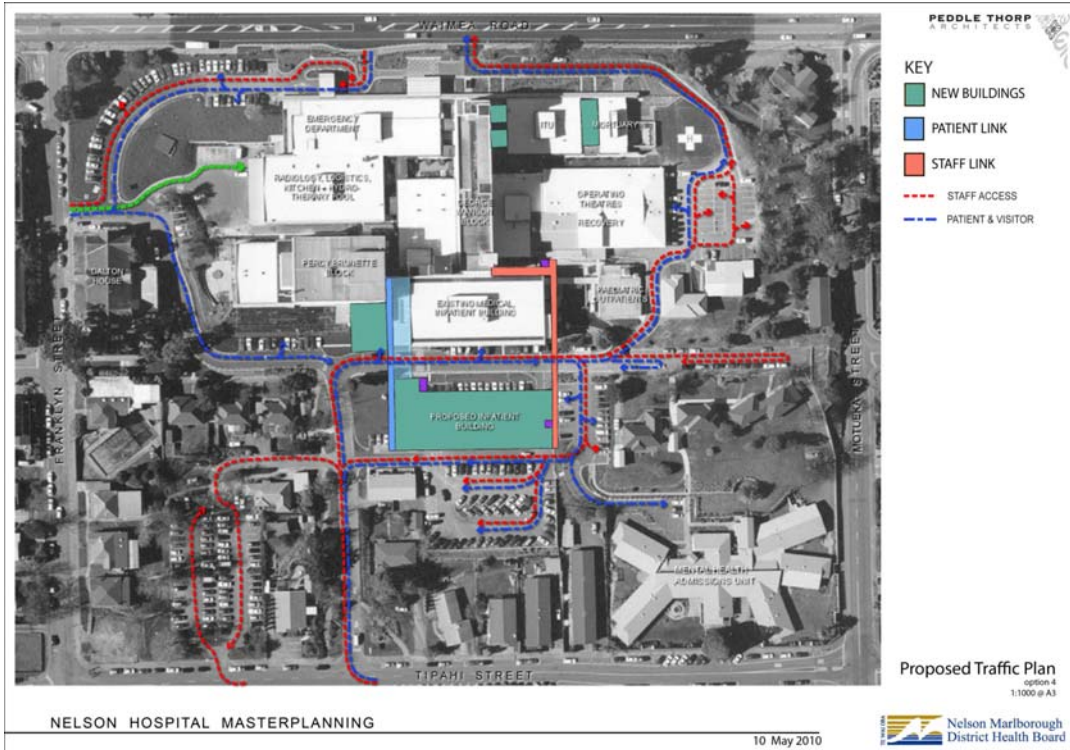
System Minded

- All information collected will be relevant, appropriate for the purpose it is collected and collected only once, the “single truth”.
- Availability of enabling technology
- Self care technology
- Workload tools are used to aid resource allocation.
- Service organisation that enables a smoother patient journey
- Ambulatory services that support the patient journey
- Supportive and supported administration staff
- Standardisation of process.

Funding Fit

- The movement to a capacity funding model
- Services are right sized
- The potential for efficiencies through changes in role delineation.
- An alliance contracting model.
- Services will be provided in the least expensive environment to meet the clinical need.
- Additional capacity used to increase revenue
- Inefficiencies are removed

The health planning process resulted in a revised master plan (endorsed at the July 2010 Board meeting) and the concept phase was extended to assist in addressing the more immediate needs of higher intensity services and the deficient surgical outpatients environment. This approach will assist in the deferral of a more significant capital investment.



5.3 Current Issues

The two areas where a more immediate investment is likely to significantly influence the patient journey and provide efficiency are

**High or intensive therapy
Surgical outpatients.**

In examining the key drivers for the project the impact of the cardiology service on day stay and general medical services was highlighted. Flows to other areas as patients are outlied from medicine to allow for incoming cardiology are being regularly impacted following the introduction of Interventional cardiology in February 2007. Acute general medicine demand has also resulted in a regular pattern of overflows impacting both surgical and ATR areas.

High or intensive therapy

Interviews with medicine, cardiology, day stay and the major surgical departments have identified that the unplanned characteristic of acute medicine inclusive of cardiology was taking priority and disrupting other clinical flows.

The Cardiology service has mapped their patient journey and flows. Their current and future state maps are attached (Appendix A & B). They show a convoluted path with variable care and the involvement of a number of clinicians.

Cardiology volumes into day stay are relatively unpredictable as the decision is made while they are in theatre as to whether they will have diagnostic angiography or proceed to PCI. For those who proceed to PCI their flow changes from the day stay unit to ICCU/CCU. This means the staff engaged in day stay to care for them are effectively no longer required. Similarly any beds set aside for them post procedure in medical unit are no longer required. To make these beds available usually requires other medical patients to have already been moved or discharged in anticipation, usually to a surgical or ATR environment. It is well accepted that a patient's length of stay is extended when they are cared for outside of their designated area.

"The establishment of the onsite PCI service, and the improvements made in the treatment of cardiology patients over the last 24 months at Nelson Hospital has identified a number of issues that are now beginning to impact on the provision and organisation of the broader cardiological service within the NMDHB. While the original 'business case' did acknowledge a flow on consequence of providing PCI locally, the impact was not fully understood particularly with regard the capacity of the service to respond to treatment of particularly acute presentations. The impact is manageable but it will require a more structured environment upon which to manage the staffing coverage, arrangements within physiology, day stay, ICCU and the Medical Unit, and support from Radiology, Transport and Administrative Services and the need for cardiology rehabilitation services." Source :Cardiology Review

Demand for interventional cardiology has been such that volumes being delivered now are the numbers that were predicted for Year 5 and originally planned as an elective service 70% of patients are acute. Of note 34% of admissions into the general medical ward are cardiological in nature.

A meeting of physicians, cardiology and surgical representatives agreed an approach using ICCU to the problem identified.

The surgical view is that patients were being managed in the inpatient wards that required an HDU environment. There is no step down between ICCU and the inpatient ward, or for major surgical cases between recovery and the inpatient ward. They considered that due to the increased pressure of interventional cardiology, surgical patients were being discharged or returned to the surgical wards who required a level of higher intensity nursing than they were currently set up to provide. The current physical environment and staffing establishment inclusive of skill levels was not arranged to provide this level of care.

There are also other interventional procedures, e.g. endoscopic arterial repair being completed that would benefit from a more rigorous period of monitoring post procedure. With the increasing complexity of these procedures the busy environment of day stay is not the appropriate place for the correct level of monitoring.

The surgical view is that they would need 4-8 HDU beds in the new inpatient development. The physical structure² does not allow an HDU environment to be developed due to the room sizes, an inability to penetrate the shear walls, insufficient

² The George Manson building has a solid concrete construction with parallel shear walls forming the corridor running parallel the length of the building.

circulation, and inappropriate bathroom facilities. This has been identified in certification audits and is evidenced as attached in the recent surveillance audit, Appendix C.

The conclusion from the discussions with the surgeons is that their overall concerns regarding inpatient areas are bed availability, development of an HDU and the condition of the surgical wards.

Surgical Inpatients

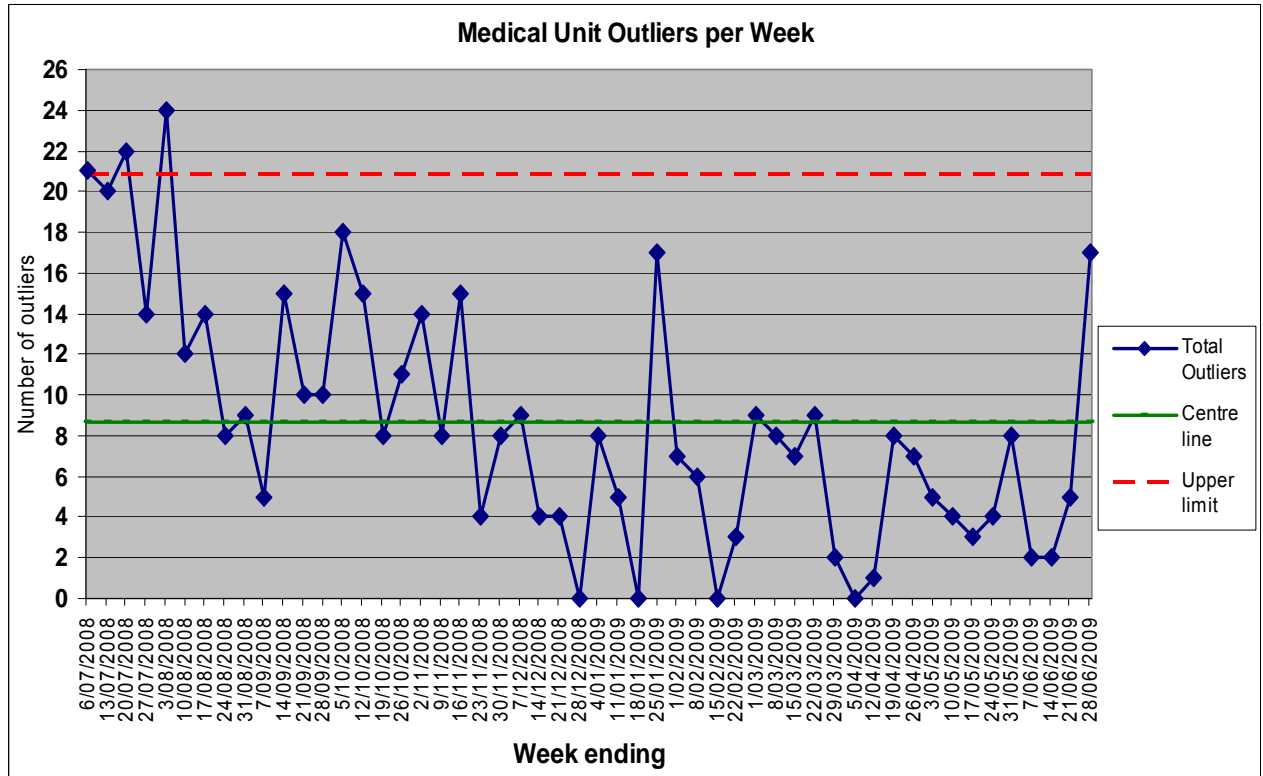
These are a 1950's built environment with communal bathrooms, deficient staff accommodation, crowded inefficient staff areas and small (under AHFG) patient accommodation.

Medical Inpatients

This area was completed as a part of Stage 1 in 2003. The 30 beds are now insufficient to service demand and overflow is as illustrated above. Additional beds are required as advised in the Strategic stage analysis table included above, Table 1 (pg 5).

The inpatient surgical wards have a very high occupancy Monday to Friday but when weekend occupancy is included the overall result shows lower occupancy. This gives a distorted impression of occupancy and Trendcare information is appended to support this statement. Appendix D.

It is difficult to accurately determine the proportion of occupancy driven by medical overflows (referred to as outliers) due to LOS being calculated on the basis of the discharge department. Data collected over the 07/08 financial year indicates that medical overflows are significant.



The below table displays the number of individuals admitted to the Surgical and ATR wards by their admitting department.

	Department Groups	2006/2007	2007/2008	2008/2009
10 Surgical	Medical	46	110	91
	Rehab			1
	Surgical	1747	1689	1877
10 Total		1793	1799	1969
9 Surgical	Medical	97	139	187
	Other	2	4	3
	Paed Medicine			1
	Rehab	35	18	25
	Surgical	1952	1920	1998
9 Total		2086	2081	2214
A&R	Medical	93	124	165
	Rehab	355	385	384
	Surgical	45	52	57
9 Total		493	561	606

Surgical outpatients.

The surgical outpatients environment in the second floor of the Percy Brunette building was raised by all members of the surgical services as an area that required to be addressed.

Particular concerns were the

- The overall state of the environment
- Leaking and unsightly windows, the applied treatment to these windows in unsightly and extremely shabby
- Rooms not fit for purpose
- Pre-admissions being operated from a different site and not contiguous with the outpatient visit

Further investigation revealed

- Procedures being undertaken in day stay or theatre lessening the efficiency of both of these areas that could be completed in a procedural room
- Poor accommodation of clinical services with makeshift arrangements
- A poor environment for urology services
- A colposcopy service not meeting certification standards
- Services that had outgrown their clinical areas within SOPD
- Limited accommodation for specialty nurses
- Congested waiting
- A universal request for clerical support in SOPD by their own specialty secretarial staff.

5.4 Options Identified

Possible solutions were examined,

1. AAU. An acute assessment unit, located adjacent to the ED, 14 beds staffed by the general medical staff. This was not supported by the general medical team due to the following reasons
 - The current average length of stay in the medical unit is 3.05 days. Anticipating that the AAU would have a length of stay of 24 hours as at Wairau there are a considerable number of patients with very short lengths of stay in the medical unit. Unspecified chest pain is the leading diagnosis by number of patients admitted to the medical unit with stays under 36 hours.
 - The physician's considered that given this length of stay there would be little benefit in splitting this patient group away from those currently admitted into the general medical stream and being geographically separate it was likely to result in an extended length of stay for both groups.
 - The surgical team preferred to have their patient's requiring admission in one area and considered that the decision for admission made via ED did not necessitate an additional step or venue for evaluation.
2. A Short Stay Unit. Located close to the ED and managed by ED physicians. This would require that the number of ED physicians were increased and the unit would be tightly driven using protocols set by the specialty groups admitting

patients. This was not supported by the general medical team due to the following reason,

- It was considered by the physician's that this would be a mechanism for managing the length of stay in ED but would not clearly benefit patients and add another step to the journey. Currently the length of stay in ED is well managed but the compounding effect is admissions to inpatients

Cardiology preferred this model but would require that the cardiac patients in this area were managed by cardiology. The surgical view was that this would be dominated by medicine, surgical patients required admission to receive surgical technical skill for appropriate management.

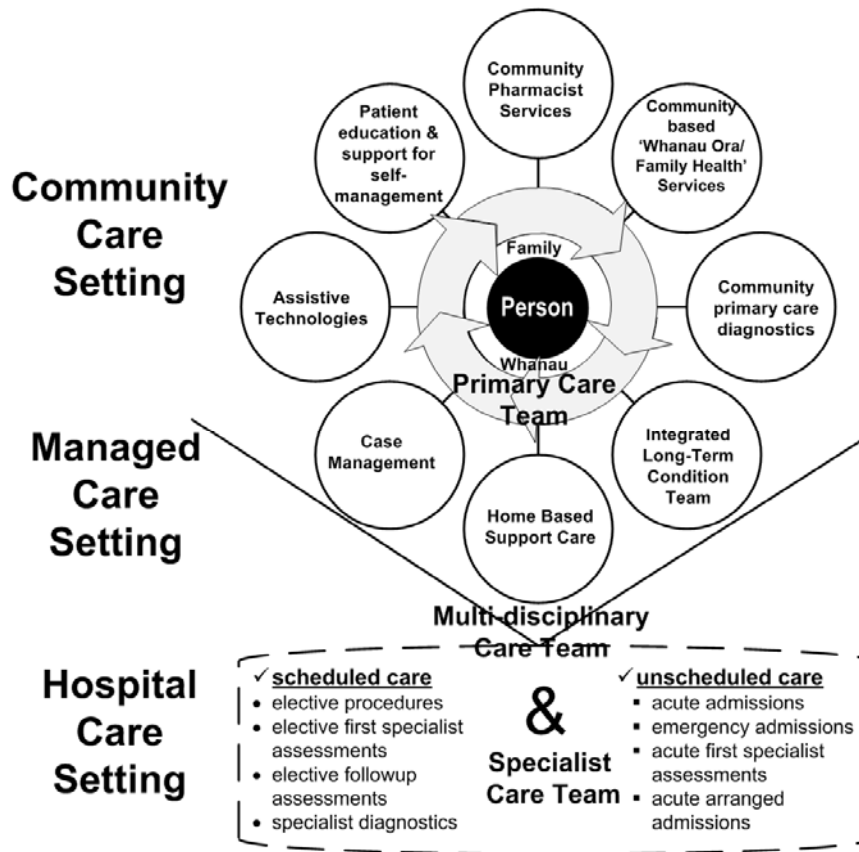
3. A high or intensive therapy area being established as an extension to the current ICCU. This would include 12 additional beds to create an ITU consisting of
 - 1) 6 Cardiac Care Beds, 3 of which would close at night
 - 2) 6 High Dependency Beds
 - 3) 3 CCU beds -existing
 - 4) 4 ICCU beds - existing
 - 5) 4 Dialysis Chairs- existing.

The 6 Cardiac Care beds would accommodate the flow for the interventional cardiac service. Acute cardiac admissions would see planned cardiology cases deferred rather than patients from other services.

The HDU beds would meet the requirements of surgical services for those patients requiring lower levels of observation or nurse to patient ratio than in the ICCU beds but higher levels of observation or intervention than in the general wards. .

6 Business Drivers

This business case is closely aligned with the DHB strategies of delivery of care in the most appropriate setting.



Ref: NMDHB DAP 2010/2011

Patients accessing the ITU environment will clearly require specialist care, unstable or post – procedure requiring a level of care unable to be delivered in a less intensive environment.

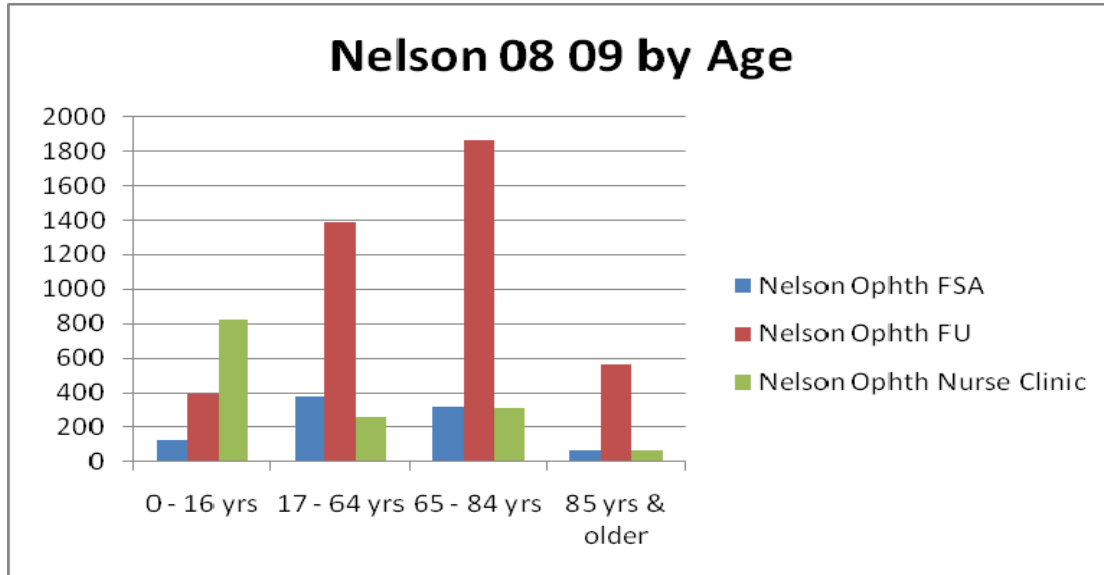
By using referral guidelines and active triaging it is anticipated that patients attending the SOPD area will be for those services not provided in a primary setting.

NMDHB is required to meet certification standards and where these are not met funding is at risk. To continue operating a provider must therefore meet the appropriate standards or face funding being withdrawn. This is particularly relevant to colposcopy standards for gynaecology where the standards require the ability to perform Lletz procedures outside of an operating room environment. (Funding of \$285,000 for the 09/10 year).

Specialist urology services currently provide a flexible cystoscopy list on a weekly basis through theatre; this is a routine diagnostic for persons with haematuria and can be easily performed as an outpatient procedure in the right environment. The patient is therefore saved a repeat visit and the administration activity associated with a second visit is saved.

Avastin injections provided for macular degeneration are an age related ophthalmology condition which are undertaken in theatre. Following an outpatient attendance the

patient is required to attend for a further visit which can be performed in the correct clean or procedural room environment. The requirement for this facility rather than using a full theatre has been repeatedly raised in credentialing and certainly fits within a capacity funding model. Avastin treatment once started must be repeated for life so these volumes are growing substantially with the aging population.



The acute services review conducted in 2009 identified that the inpatient population was admitted appropriately and would not be significantly different using an AAU model. Admission rates from ED reference well with other hospitals at 22 % (09 10 year) it can therefore concluded that the patients required admission for specialist services.

7 Project Organisation

Appendix E

8 Options Examined

ITU Beds

1. No change. Current acute activity is an average of 15 admissions per day to Nelson Hospital. Based on normal bed turnover 9 elective surgical cases can be admitted that require a bed night stay in ICCU. With 5 theatres operating 2 sessions per day this capacity is less than one major case requiring admission per theatre list. Acute general medical/cardiology growth is impacting all areas of elective activity.
2. Redevelop Level 4 into inpatient beds as a cardiology zone. This would provide the necessary bed volumes however the structural limitations of the building do not allow the issues already identified eg limited space, communal bathrooms, and insufficient staff accommodation to be addressed.

The key relationships for the staff caring for these patients are CCU and the cardiac laboratory sited in radiology. The separation from the “hot floor” of ED, radiology and ICCU may result in some patients being held in this “hot floor” area in preference to transfer.

Any significant investment in this area will in time become a sunk cost as the George Manson building is not a suitable building for inpatient services in the longer term due to its inflexibility to meet modern clinical standards.

3. Segregate an area within the medical unit. While desirable to ensure a focus of care on the less stable cardiac population it will not alleviate the pressure in the medical unit. It may increase that pressure with demand already exceeding available beds. This does not address the concerns about the “inappropriate” patients being treated in ICCU and blocking the use of these beds for complex surgical cases.

There is a level of administration and re-work associated with the inability to book a case due to the lack of an ICCU bed being available. When these cases are rebooked they do not appear as a theatre cancellation so this re-work and patient inconvenience is not evident.

4. Develop beds in the ICCU area to provide a cardiac zone and HDU. Given the change in complexity the overall area to be deemed an ITU or Intensive Therapy Unit.

Projections in the Strategic Stage indicated that the number of beds in ICCU would increase over the period to 2026 from 9 to 13. Following the recent work on the models of care it is seen that an investment in this area at this time will bring forward the planned development and will therefore not be a sunk cost.

This option gives the ability to concentrate cardiology skills within the “hot floor” and support the key relationships of catheter lab, CCU and ED. With the intention that patients with acute coronary syndrome from Wairau are transferred directly from Wairau ED this will increase service demand. By utilizing an ITU there will be a concentration of staff skills and flexibility across the cardiac service. The need to have specialized cardiac staff in the DSU will be avoided.

SOPD

1. No change. Making no changes in SOPD will:
 - Not meet the compliance standards for the provision of colposcopy, which will place this revenue line from the Ministry of Health at risk. Privacy and other deterrents to the service will result in high levels of DNA continuing which is inefficient and clinically inappropriate for the women using this service.
 - Disrupt the pathway for patients requiring flexible cystoscopy and require a second attendance
 - Result in the theatre continuing to be used for procedures that can be done in a lower cost environment
 - Not meet the recommendations of several credentialing committees
 - Limit the development of an enhanced pre-admission programme seen as critical in enhancing surgical effectiveness.

2. Alternative arrangements utilizing the existing building footprint for SPOD would require the decanting of other services to new or different arrangements. If as recommended by the health planners inpatient and outpatient services are kept separated then logically an increase in service size of SOPD would require the use of an additional floor of the Percy Brunette Floor. This would entail an alternative capital investment to relocate the existing users of that floor space and lead to duplication of administrative support and processes. No area has been identified where relocation can occur without downstream effects. The George Manson building being long, narrow and inflexible is not suitable.

Inpatient Environments

1. Do nothing. This would mean these areas will remain as currently outdated, cramped, 1950's design and construction. While the bathroom condition has recently been addressed at the time of this business case being prepared, the number of bathrooms is unchanged.
2. Redevelop Level 4 with 17 beds and reduce the number of beds on the upper floors to address the cramped clinical and staff areas. This provides a net increase of bed numbers by 3. The resultant wards would be inefficient from a staffing perspective and the net bed number gain is minimal.
3. Refurbish Levels 5 and 6, retaining current bed numbers and redevelop Level 4 into clinical bed spaces. The reticulated services in Level 4 are currently capped and can be reconnected. A heavy refurbishment will result in an additional 17-27 beds being reinstated.
4. Refurbish Levels 5 and 6, inclusive of light refurbishment, construction of 1 to 2 ensuites on Level 6 and completion of outstanding deferred maintenance and capital improvements.

9 Scope

9.1 In Scope

ITU

This business case proposes the provision of 6 additional HDU and 6 cardiology/monitoring beds.

It is intended that of the 6 cardiology beds 3 would be used for day interventional work and closed at night. Should acute demand be such that these beds are filled with incoming acute cardiology work then this would impact elective cardiology but not other streams of work. This would improve the predictability of elective surgical throughput.

The addition of 6 HDU beds to accommodate surgical patients currently being returned to an environment where staffing and the physical facility are not configured to accommodate them.

SOPD

The Surgical Outpatients area would be extended to provide 3 procedural rooms and supporting services as well as 7 additional consulting rooms. No additional staff are envisaged being required for this facility extension.

Some rebuilding of the existing spaces would be undertaken to enhance the functionality of those spaces. Remaining surgical OPD would be subject to a light level of refurbishment with attention to the windows and some internal walls relocated. The orthotics service would be relocated to an alternative site as yet not defined but subject to an alternative business case, having no clear functional relationship with other parties in surgical SOPD. The preferred option is in close proximity to orthopaedic outpatients.

Inpatient Beds

Levels 5 and 6 would be subject to light refurbishment, installation of identified possible ensembles, completion of outstanding deferred maintenance and capital improvements and remain inpatient environments, accreditation issues identified with respect to the number of bathrooms, privacy, size of rooms would remain. The refurbishment will need to be staged. Identified areas of deferred maintenance and clinical upgrade, i.e. call bells, bed head panels and lighting would be addressed.

9.2 Out of Scope

ITU

This business case does not include any increases in staff beyond those to staff the increased bed numbers. Additional cardiology staff associated with service growth are subject to their own justification. Provision in this business model reflects on the beds supporting the current planned cardiology service.

SOPD

Redevelopment beyond the level indicated in the concept planning completed as a part of master site planning. Changes following the completion of concept design are subject to a formal variation processes.

Inpatient Wards

Any reconfiguring beyond the stated light or heavy refurbishment is eliminated unless a variation process is completed post design submission.

10 Time Frames

	Design & Tender		Time Mths	Construction		Time Mths	Cost
	Commence	Complete		Commence	Complete		
ITU/HDU,	Sept 10	Feb 10	6	March 11	Nov11	8	\$2.250m
SOPD (new build)	Sept 10	Feb 10	6	March 11	Nov11	8	\$2.725m
GM Levels 5 & 6 Refurbish	Oct 10	Nov 10	2	Dec 10	Aug11	8	\$0.8m

NB Cost Summary above includes estimated FF&E as per Rider Levett Bucknell

10.1 Inpatient Bed Refurbishment

Levels 5-6.

Levels 5 and 6 require an agreed staging plan to minimize the impact on surgical work, this needs to be agreed prior to this activity commencing. As this interim programme was not signaled in the current 2010/2011 DAP the Board agreed on 6 July 2010 that the master plan (option 4) be endorsed and planning for an interim solution continue. Other approvals include the Regional Capital Committee.

11 Benefits

11.1 Tangible Benefits

This business case is being prepared in consultation with the Rutherford process, every effort has been made to avoid double counting of identified benefits.

ITU

The inclusion of the beds in the current ICCU/CCU fits with the master plan and would not result in sunk costs when the rest of the capital development takes place.

Because of the multifaceted role of day stay cardiology patients are being sent there post procedure which requires the use of a femoral stop device (\$200 value). This would not be used in a cardiology specific zone.

The transaction cost of outlying patients would be reduced with less time taken up transferring patients between resources or taking resources to patients. This coincides with a review being undertaken to ensure that appropriate staffing levels are set across clinical areas. The current practice of staffing to capacity for interventional cardiology would change and additional staff being engaged to care for overflow would reduce.

Additional bed capacity provides an opportunity to use a small part of the capacity to perform interventional cardiology for fee paying private patients. This business case recognizes benefits of \$44,000 for such patients. Ministerial approval will be required before this opportunity can be fully implemented.

SOPD

Reduction in transaction costs from a one stop approach these include administrative costs associated with a second attendance, booking, clerking and second letter.

Establishing procedural capacity in SOPD will enable some procedures currently completed in theatre to be moved to the SOPD area. This will create the flexibility to front load the week in theatre for more complex procedures which will result in needing fewer weekend staff in the surgical areas at lower cost. This is part of the roster re-engineering work being undertaken via the Rutherford process. Benefits will be recognised via Rutherford and are dependent upon this capacity being created.

11.2 Intangible Benefits

The provision of a higher acuity zone inclusive of patient monitoring would enhance the provision of care by concentrating clinical skills in one area thus creating a more sustainable clinical environment for the more physiologically unstable patient.

The addition of 12 additional beds at this time will assist in meeting the additional 13 beds indicated as required by 2026 in the projections for ICCU/CCU. Having higher acuity patients cared for in a discreet unit enhances patient flow, reduces the incidence of patients being cared in inappropriate wards and provide better patient outcomes.

Using such a unit would reduce the stress on staff being required to provide care for patients out of their specialty. It also would assist in retention of staff and have a beneficial effect on the “churn” experienced particularly in the medical ward where matters of bed management at times dominate ward activity.

The grouping of all SOPD activities together would smooth the path for pre-admission which is crucial for the smooth flow of patients through the surgical service. Currently patients are having numerous visits and long waits to attend all aspects of the service and this is inefficient for all concerned.

The “one stop shop” for procedural and outpatient activity is also more efficient for a number of services and patient flows.

The addressing of deferred maintenance issues within Levels 5 and 6 will address a number of issues identified and anticipated to be corrected through a major rebuild, alleviating some of the health and safety issues. These include safety issues with inadequate bed head panels, insufficient task lighting and an inadequate call bell system. 1 or 2 ensembles in Level 6 will enable isolation of the adjoining bed spaces.

Level 4 remaining unaltered will enable changes in demand arising from future recommendations e.g. possible changes arising from the Rutherford or regional planning to be able to respond/reconfigure quickly but avoid at this time the associated costs.

12 Costs

12.1 Tangible Costs

Outline expected tangible costs. Full financial analysis should be in Appendix F.

12.2 Intangible Costs

In discussion with the Maori reference group it was identified that the “human spaces” should be maintained to allow connection with the outside world, i.e the courtyards. Although some building will take place in these areas which were previously deemed expansion zones, this will not be done in such a way that the human element is lost. The issue will be addressed with the rebuilding of the family room as a part of the ITU solution with the process of design consulting this group.

The George Manson wards do not adequately meet the needs of the Maori or Pacific community with particular issues being the communal bathrooms, an absence of privacy and no whanau facilities.

The expectation of surgical staff that they were due a new built environment but are having their current environment refurbished may result in a lowering of staff morale.

Redevelopment of the surgical inpatient environments does not create an environment that is contemporary for the provision of surgical care and while certification may be possible it will become increasingly more difficult to obtain accreditation.

13 Risks

RISK DESCRIPTION	CONSEQUENCES	RISK MITIGATION ACTIONS & UPDATES
<i>Unforeseen changes to projected service demand.</i>	<i>Inability to fund proposed models of service delivery. Full implementation of improved Models of Care deferred. Loss of organisational credibility with staff, community and government. Facilities may be too small. May be insufficient headcount budgeted</i>	<i>Projections based on DAP revenue streams. Alignment with SIRHSP and also Central DHB's. Identify material implications of movement in actual vs planning assumptions using financial projections model. Areas for potential physical expansion identified should it be required.</i>
<i>Capital costs are underestimated.</i>	<i>Need for additional capital.</i>	<i>Estimates have allowed for all foreseeable areas of escalation. Attention has been drawn to the high capital cost of an ITU service. Engage MoH in design review where possible. Review and test all designs and design assumptions with staff and experts.</i>
<i>Key Stakeholder (i.e. Board, clinical and non-clinical staff, Iwi, Community, other health providers, local and national government, unions and professional colleges) expectation of service and campus redevelopment are not met.</i>	<i>Staff unwilling to practice within environment. Poor morale, recruitment and retention. Iwi/Maori unwilling to access health and disability services and/or support other NMDHB led initiatives. Other providers who use Nelson Hospital will look for other providers. Loss of credibility in the community. Embarrassment of ELT, Board and Ministry.</i>	<i>Ensure all key stakeholders' expectations are managed within the range of possibility. Facilitate key stakeholders' participation during detailed design and implementation phases. Continue to inform and consult with key stakeholders on a regular basis.</i>
<i>The political environment changes.</i>	<i>Expectations regarding service design and</i>	<i>To remain connected with processes</i>

RISK DESCRIPTION	CONSEQUENCES	RISK MITIGATION ACTIONS & UPDATES
	<i>delivery resulting in delays to project.</i>	<i>within the NCC and RCC and reflect in project development and implementation.</i>
<i>Implementation is under-resourced or resources do not have the appropriate skills.</i>	<i>Delays in timetabled progress. Partial or complete project failure. Lack of attention to ongoing operational activities through staff being diverted from other activities.</i>	<i>Identify and plan required project resources for each phase and type of work. Recognise impact of activity over and above business as usual and allow for appropriate resources. Do not compromise on team quality.</i>
<i>Lack of staff understanding or engagement in service provision as defined by the Models of Care.</i>	<i>Inability to implement new Models of Care.</i>	<i>Clear strategic direction Continuation of the policy of having the service redevelopment driven by clinical staff members, by involving all levels of staff in both design and review of the Pathways.</i>
<i>Appropriate skills are not available to implement and deliver the improved models of services delivery.</i>	<i>Implementation of improved service delivery deferred. Loss of organisational credibility with staff, community and government.</i>	<i>Change management processes to include:</i> <ul style="list-style-type: none"> • <i>Early identification of skills required</i> • <i>Alignment of workforce skills with requirements through training and development as well a clear recruitment and retention plan.</i>
<i>Timing of campus and service redevelopment are not aligned appropriately.</i>	<i>Services not functioning.</i>	<i>Any service changes that are not campus dependent be undertaken at the earliest juncture. Appointment of a dedicated Change Manager responsible for both streams of work aligning.</i>
<i>Loss of support of clinical leaders who want to see change occur, through delays and inability to make envisaged changes.</i>	<i>Loss of thought leaders in the staff. Loss of clinical credibility. Inability to achieve improved models of</i>	<i>Work with identified clinical leaders and involve them heavily in project governance and management structures.</i>

RISK DESCRIPTION	CONSEQUENCES	RISK MITIGATION ACTIONS & UPDATES
	<i>service delivery.</i>	<i>Acquire sufficient resources to facilitate clinical participation in implementation.</i>
<i>Improved Models of Care are outdated before full implementation occurs.</i>	<i>Changes to models of service delivery required, leading to delays to implementation.</i>	<i>Programme ongoing review of Best Practice and adopt as appropriate during implementation. Flexibility of facility design to accommodate flexible assignment of areas.</i>
Design Services Procurement <i>Selection of Design Consultants Risk of selecting design consultants without the experience, capability and competence to deliver the quality of work required.</i>	<i>Service delivery outcomes will be jeopardised.</i>	<i>Selection of design services consultants conforms to Building and Construction Industry ACEA/IPEWNZ selection criteria. Establish appropriate standards of Quality Management systems and procedures for project type, size and scope to be applied across design and construction disciplines.</i>
Design Input <i>Risk of not ensuring adequacy and coverage in documentation of the design brief.</i>	<i>Detrimental impact on operating efficiency through failure to capture key aspects of the design plan.</i>	<i>Installation of formal procedures to capture the full range of NMDHB brief requirement through formal design reports, data sheets, design proposals, models and prototypes, etc.</i>
Design Verification <i>Risk of not ensuring that the briefing proposals and criteria conform to statutory obligations.</i>	<i>Inadequate definition in terms of detailed requirement not formally captured by the project brief process.</i>	<i>Use of referenced approval/acceptance criteria and system to cover crucial regulatory, function and safety aspects of the project. Peer Review by third parties.</i>
Design Output <i>Risk that the quality of the output of the design process fails to meet requirements and may in turn be deficient for tender and construction purposes.</i>	<i>At greatest potential where time frames for brief formulation, documented design production are compressed so that design standards inevitably slip.</i>	<i>Documentation Release programmes. Installation of accepted standards of design production throughout the project delivery process. Installation of quality systems for design change and acceptance by NMDHB.</i>

RISK DESCRIPTION	CONSEQUENCES	RISK MITIGATION ACTIONS & UPDATES
<p>Design Changes Risk that Legislative requirements change. Risk of NMDHB changing operating requirements during design and/or construction process.</p>	<p>Issue of design documentation for approval and construction is disrupted or delayed during design, which may result in additional onsite costs and delays to work.</p>	<p>Ensure as far as practicable that any proposed changes in the regulatory environment are telegraphed in Brief. Ensure rigour in project briefing processes relative to adequacy of briefing requirements and continuity of NMDHB management input.</p>
<p>Selection of Consultants Risk involved where capability, experience and resource in cost planning do not match previous similar projects in part or whole.</p>	<p>Reliability and accuracy of cost estimates creates uncertainty as to funding capability and assumptions in Services Financial Modeling.</p>	<p>Undertake careful selection review (with references) of people, track record and experience of proposed firm for the type of project being delivered.</p>
<p>Cost Planning Adequacy Risk involved in early concept planning as to the adequacy of Provisional and Contingent cost assumptions.</p>	<p>Balance between conservatism and optimism, impacting unfavourably on project financial model viability.</p>	<p>Initiate third party reviews of specific decision making hold points as to financial sensitivity of cost assumptions.</p>
<p>Contractor Selection Risk involved in obtaining construction services after all major design decisions relating to buildability and value for money options have been made.</p>	<p>Entering by default into the traditional adversarial contract relationship on a project while delivery requirements are complex. Ensures that price for the work is substantially fixed which is unrelated to obtaining value for money outcomes, cost effective design.</p>	<p>Seek and install more collaborative working arrangements between design and construction disciplines. Appropriate alliance/partnering contractual arrangements to lower total constructed cost.</p>
<p>Disruption to Site Access and Services Risk involved in respect to operating the NMDHB's service delivery requirements throughout the redevelopment programme. Risk involved where, to maintain service delivery requirements, the NMDHB</p>	<p>Business delivery costs and revenue generation requirements are compromised through noise, nuisance or lack of building services. NMDHB effectively breaches its contractual obligations to third parties, potentially incurring claims for recovery of</p>	<p>Provide appropriate contractual processes in the Conditions of Contract to allow co-operative flexibility in working arrangement likely to threaten the commercial viability of the project participants.</p>

RISK DESCRIPTION	CONSEQUENCES	RISK MITIGATION ACTIONS & UPDATES
<i>disrupts the contractually binding performance obligations of the Contractor.</i>	<i>time and cost.</i>	
Construction contributing to clinical risks. <i>Where construction is immediately adjacent to areas occupied by patients there is a risk that dust, activity can contribute a heightened infection risk.</i>	<i>Additional project costs to create decanting zones or temporary facilities. Heightened infection risk.</i>	<i>Phasing of critical works in clinical areas with staffing elevated to manage risks, involvement of infection control expertise in assessment of decanting or shielding processes. Planned slowdown of clinical activity at critical times Scheduling construction during January when volumes are usually lower</i>
Unanticipated Subsoil and Site Conditions <i>Risk in the unknown state or condition of the site or its founding capability or the project structural requirements.</i>	<i>Significant escalation in time and cost aspects of the project at the very commencement of the onsite process.</i>	<i>Maximise investment in site and subsoil investigation before designing substructure systems to minimise any residual risk in this area.</i>
Dealing with Hazardous Substances <i>Risk involved where Hazardous materials are evident or site may be contaminated.</i>	<i>Delays to the project and unquantifiable costs are incurred as hazardous substances and/or materials are removed under OSH mandatory disposal requirement.</i>	<i>Initiate through investigation at the site, its history, use etc prior to entering into contractual arrangements which remain silent on such eventualities.</i>
Delays and Costs Incurred by Industrial Action Affecting NMDHB and Contractor	<i>Costly and crippling delays may be incurred where industrial relations environment is fragile.</i>	<i>Seek appropriate advice, legal and otherwise on consultation procedures appropriate to the NMDHB's or Contractors' industrial relations record in handling and resolving disputes.</i>
Delays in Milestone Handover <i>Risks to maintaining operational and business continuity. Risk involved in project delays of any type.</i>	<i>Damaging delays in commissioning and implementing new services impacting on operating efficiency and costs in a negative manner.</i>	<i>Installation of competent planning and programming systems and resource on the project covering NMDHB, consultant and contractor activities.</i>

RISK DESCRIPTION	CONSEQUENCES	RISK MITIGATION ACTIONS & UPDATES
<p>Completion Formalities for Access by NMDHB Risk involved in NMDHB requiring early occupancy, disrupting contractually binding performance obligations of the contractor.</p>	<p>Tactical problem due to delays on projects (regardless of fault or blame) where completion at handover of work sections can be still achieved. Breach of OSH Regulations in terms of unauthorised persons entering site area designated as a construction workspace.</p>	<p>Ensure contractual arrangements have the necessary flexibility to allow co-operation within statutory/regulatory obligations of the contracted parties.</p>
<p>Practical Completion Risk involved in handover dates for partial or full access for occupancy not being achieved.</p>	<p>Service Delivery expectations, including viability are compromised dependent on extent of delays. Additional costs may be incurred which may or may not be recoverable from third parties.</p>	<p>Initiate well written Conditions of Contract to deal with time recovery expediting options. Ensure programme time management and activity sequencing are resourced in detail to guarantee programme delivery achievability. Recognition of time requirements for certification formalities prior to occupation.</p>

14 Workforce Planning and Development

ITU

This area currently has a small and flexible team who readily change shifts and working hours to accommodate fluctuating work loads. It is expected that the occupancy of this area will have a higher level of predictability with the additional beds and more scheduled use both by cardiology and surgery.

Staffing levels will be set using accepted benchmarks and the staffing competencies established to ensure that there are both sufficient and adequately skilled staff to work in this environment. Rosters will be structured to ensure that the periods of highest need have appropriate staffing. Variability in roster setting will be minimised through having a clear staffing establishment thereby minimising unanticipated penal payments.

Using standing orders will enable an appropriate level of decision making. The staff establishment will need to recognise the valuable role these staff make to both the flight escort and the resuscitation service.

To get consistent bed utilisation and clinical input for this larger unit it is proposed that this would become a closed unit with a recognised clinical lead. The roster for medical cover inclusive of anaesthetics will be re-worked to enhance the clinical service.

Currently the ICCU is without clerical support. A position needs to be considered, by reallocating from a back office area, to relieve non-clinical duties from other staff within the unit. The position may contribute clerical support/typing for other clinical areas via the digital dictation system.

SOPD

A management position is required to optimise the utilisation of this area and bring together the multiple clinical services who use this area. This position has previously been indicated as required but not appointed through other cost containment.

Such a specific management function will enable specialist nursing services to provide more effective services and influence practice across the continuum to assist in the management of demand. Ongoing review of practice will increase the nurse only component of services to enhance the efficacy and efficiency of clinical delivery. Any changes to establishment will be separately justified.

As much of the work to be done in this area will be a re-allocation from other environments it is not envisaged that additional staff would be employed apart from those already factored for service growth.

Inpatient Wards

Staffing in these areas is currently being examined via the Rutherford process and any changes are to be recognized through this process. Areas for consideration include those where nursing skills are converged into a single area so that patients receiving similar procedures are co-located.

The flexibility conferred by the reinstatement of Level 4 would need to be accommodated by revised staffing and revenue plans.

15 Implementation and Change Management

NMDHB has signaled an intention to redevelop services on the Nelson Hospital site and has sought the contribution of key stakeholders regarding Models of Care and plans to work actively with these parties through any ensuing changes.

Change is necessary in order to ensure the effective and efficient delivery of health services. In recognition of the mutual interests NMDHB seeks to work with its staff and maintain a co-operative working relationship with the various industrial partners as bargaining agents for their members. NMDHB participates in regular forum's for this purpose, these include the JUCC(joint union consultative committee)and Bipartite Forum, (NZNO and PSA). NMDHB values the contribution of the employees and their representatives in assisting in the positive management of change.

Consultation provides an opportunity for meaningful engagement and contribution to a proposal as it is developed. Changes will not be made until this requirement is met. Information is being made available and opportunities provided for responses both verbally and in writing. Consultation requires neither agreement nor consensus but the parties in acknowledging their mutual interest accept that consensus is a desirable outcome.

“Lean thinking” and “Optimising the Patient Journey” has already introduced an opportunity for staff to action a number of long standing issues within departments and across the continuum that disrupt the patient flow. Site redevelopment will work alongside of this to optimize the outcome for service delivery.

Nelson Hospital through the development of new facilities will be providing an environment where the patient journey is smoother and services are provided in environments more suited to purpose. Through clear change management accountability and the appointment of a change management function, facility and service changes will be aligned.

It is recognised that change impacts individuals differently and effective change management is integral to the successful outcome of this redevelopment. Change management requires two perspectives – an individual perspective (how people experience and transition through change) and an organisational perspective (how groups can be managed through a change process). People will be supported to deal with change, understanding their own response to change and how to manage this.

While many changes can be accommodated within the current workforce those changes that constitute significant changes for the personnel involved will be undertaken in accordance with the relevant employment agreements.

Change management and communication plans have been developed and these outline the approach to managing the change process.

The change principles are:-

- Establishing a clear vision for the service delivery from the new or changed facilities at Nelson Hospital with committed leadership and sponsorship. This is expected to coincide with the bedding in of the clinical leadership model.
- Having clearly identified and articulated milestones.
- Using processes that allow staff to be both involved and participating in the change.
- Evaluate and assess the impact of changes and be flexible

The change process will

- Generate a high level of staff ownership and involvement so that facilities deliver the required outcomes
- Work in conjunction with the Rutherford process.
- Ensure that the Redevelopment Project supports NMDHB business strategies for a viable and sustainable future.
- Develop and maintain effective relationships with unions and delegates with two-way communication.
- Implement as many changes as possible prior to the move to new facilities.
- Consistently provide a wide range of information to the range of stakeholders.

Specific Change Management Issues

- Defining & implementing new models of care across a continuum inclusive of primary sector partners
- Defining and implementing any practice and service changes as a result of the opportunities presented by facility changes
- Evaluating and re-evaluating the operating environment with reference to influences external to the project and accommodating these either as variations or separate matters.
- Defining a management structure to support an optimisation of outcomes.
- Managing a complex change programme while maintaining business as usual.
- Celebrating success to assist in the management of change fatigue.

16 Assumptions

NMDHB will continue to provide an interventional cardiology service within a Regional Service planning framework.

No technological or clinical advances have been recognized that will dramatically change the clinical practice as currently being applied. This does not negate such advances being made and adopted rather advises that none have been identified that can be recognized at this point.

17 Information Systems and Technology

The current Patient Management System (PMS), Oracare, is a dated system and fails to adequately capture patient interactions as they utilise hospital services. This creates difficulties co-ordinating all aspects of care. NMDHB is currently planning the replacement of the application, in line with the National Health IT Plan.

A modern PMS is expected to allow improvement in administration processes and data quality.

The recent changes to the DHB clinical intranet provides improved access to information to support some clinical processes. Further development of the clinical intranet and the implementation of a modern PMS will enhance care and services.

Remote monitoring linked with increased self care offers an alternative home based cost-effective approach in the management of a number of conditions. This is an area of further exploration for the DHB. Wireless technology enables access to all relevant patient information at the bedside and networked monitoring is likely to become the expected standard.

Technological advances have in many cases enabled less invasive procedures and significantly changed the patient experience with simplified post operative care and a more rapid convalescence, e.g. laparoscopic techniques. From the perspective of an ITU environment the patient may still be physiologically challenged post procedure but the surgical trauma is reduced, this does not lessen the need for closer monitoring post procedure, but impacts on the task of wound management.

In the outpatients area technology solutions will be investigated for patient initiated booking and to call patients through to clinic venues. A scheduling system is being investigated to better co-ordinate resource allocation.

It is key that new facilities allow for sufficient and accessible work stations and that design does not prohibit the use of emerging technologies and that there is sufficient infrastructural capacity to accommodate anticipated applications and technologies.

18 Consultation and Communication

18.1 Communications Plan Summary

Goal

To engage stakeholders and keep them informed and engaged through the stages of redevelopment so that they are informed, engaged and enthused to contribute to a positive outcome.

Objectives

To engage relevant stakeholders at required times to ensure stakeholders expectations are met.

To keep stakeholders informed of the progress of the project.

To provide a no surprises environment for all stakeholders.

To manage identified risks through clear and effective communication.

To provide a forum for input and feedback into the project.

To provide transparency to the scope of the project.

Background

Redevelopment of Nelson site has been phased to meet financial constraints. The original intent of the earlier master planning (2008) was to have been considered by the National Capital Committee in August of 2009. Changes to the national capital expenditure process meant that the project, along with others from other DHBs, was deferred to at least September 2010.

Prior to going through the national capital expenditure process a business case for the Site Redevelopment needs to reflect the latest clinical service planning (local, regional and national) in the preparation of the models of care. The models of care would then drive the design of the facilities.

During this process it was identified that the impact of the introduction of an interventional cardiology service and demand for more medical beds was distorting the impact in surgery. In addition work was being done in theatres that could be undertaken in procedural rooms which was impacting on the efficiency of both day stay and theatre. Moving this work to a procedural environment would allow more flexibility in scheduling in theatre, assist with front loading of the weekly schedules to have a more flexible working pattern later in the week and ease weekend staffing.

The fiscal environment has moved and the indication from central government is that there is very limited national capital money available in the foreseeable future. There is the potential that NMDHB will need to wait 5-7 years for consideration. On this basis the Board agreed on 6 July 2010 that planning should proceed on the basis of the Options presented through master planning to

- **Add 12 beds to the ICCU area for both cardiology and HDU, re designate this area for all higher monitoring ITU**
- **Extend the surgical OPD to ensure all procedurally based work can be completed in this environment and relieve pressure of day stay and theatre**
- **Refurbish levels 5 and 6 George Manson**

- **Reinstate level 4 as clinical beds with up to 27 being redeveloped on this basis as demand requires.**

Clinical engagement and leadership is identified as pivotal and on the basis of the feedback provided confidence needs to be given that NMDHB has committed to the project through appropriate resourcing, consultation and application.

<p>Strategies</p> <p>The strategies to achieve the above objectives include:</p> <ul style="list-style-type: none"> Developing a set of key messages to avoid misunderstanding and provide a shared vision. Consulting with stakeholders Provide regular information to engender a “no surprises” process. Using a number of communication methods to enable broader project participation. 	<p>Key Messages</p> <p>This project has the support of the Board, Chief Executive and Strategic Leadership Team. It is articulated through the accountability documents of the District Strategic Plan, District Annual Plan and Statement of Intent.</p> <p>This project is endorsed by and is consistent with regional initiatives for the delivery of service and asset management planning.</p> <p>This project is evidence based, based on the best available information at the time of writing.</p> <p>This project has been subject to external expert critique and has been constructed on that basis.</p> <p>The redevelopment it proposes will fit the values of the provider division being</p> <ul style="list-style-type: none"> Patient Centric Evidenced Based Staff Supportive System Minded Funding Fit
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19 Project Rank

Using ranking criteria, outline rank that project should be assigned to.

Category	Factor	Description
1	High Risk/Regulatory	Direct patient or staff risk Regulatory or industrial risk Mandated or regulatory requirements
2	Strategic	Part of DHB or Information Strategy
3	Strong Return	Payback period under 12 months
4	Efficiency Gains	High degree of efficiency achievable - higher patient throughput for example
5	General	General Project

Ranking 1-4

This project is clearly strategic in nature. As identified through the master planning process bringing this work forward will address identified areas of risk and fits with the overall site redevelopment plans. It also addresses the inconsistent pathway of care for cardiac patients and those requiring ITU as well as meeting various clinical standards. It can be completed independently of the other parts identified in site master planning and provides an opportunity through the early introduction of some facility change to facilitate broader efficiencies in process. This has a potential flow on benefit of matching capital requirements for facility changes at Nelson Hospital to current predicted utilization rates.

Nelson Marlborough
District Health Board*Property Management
Braemar Campus,
Nelson*

MEMO

To: Rosey Wilson
From: Durham Quigley, Manager Property & Facilities
Ext. 7924 email: durham.quigley@nmhs.govt.nz
Date: 30 July 2010
Subject: **Nelson Hospital Redevelopment, Refurb GMB L4,5,6**

As part of disclosed in the Board resolution there is a proposal to redevelop L4, L5, L6 as Wards until the new block is built in approximately 5+ years. L5 & 6 are currently configured with 28 beds per level. This memo is to indicate some issues that need to be addressed as part of the refurbishment of these 3 levels:

Bathrooms L4

The bathrooms on L5&6 have been altered to address audit issues regarding patient privacy which would address the need over the next 5+ years.

One bathroom on L4 has been removed and would need to be reinstated. The other bathroom would need to be reconfigured to meet the user's requirements.

Excessive Heat Level 4

The heat is generated from solar gain and reflection off the lower roofs outside the windows. This is also not helped by the OSH opening restrictions on the windows. Air-con was installed for L5 & 6 in 2009 for the north facing exterior rooms. This system has been successful and could be extended to include air-con for L4.

Cost to install in L4 is estimated at \$140K.

Medical Service Panels (MSPs) L4, 5, 6

The current MSPs are dated and poorly positioned restricting access by staff and patients. The panels should be replaced or reinstated with the type and model as installed during Wairau site redevelopment. This will address most of the issues regarding access and standardised fittings.

Factors effecting MSPs:

1. The existing wiring in the walls and ceiling is old and restrictive and may need replacing
2. Some gas fittings may need upgrading
3. Where MSPs have been removed, the gas lines are capped off and still located behind the walls

Cost to install per level (28 beds) is estimated at \$62K.

Call Bells

The current call bell system needs updating. Upgrade is recommended to the current site Austco system including:

- Nurse Call
- Nurse Assistance
- Emergency Call

Cost to install per level is estimated at \$75K.

Lighting

Issues have been raised by users about the lighting in general, location of patient lighting switches on the improvised MSP. Outline of the issues are:

- General room lighting is insufficient
- Insufficient patient lighting including bed lighting at night

Lighting alterations are required to provide the following:

- Install patient halogen down lights on dimmer (control on pendant)
- Install new general room lighting (fluro T5 with dual switching near door and at MSPs)

Factors effecting lighting options:

1. The existing wiring in the walls and ceiling is old and restrictive and may need replacing for new lighting

Cost to install new General lighting per level is estimated at \$20K.

Cost to install new patient halogen down lights per level is estimated at \$8K.

Cost to install per level is estimated at \$28K.

Lifts/Elevators

There are three elevators servicing the GM Block, two are for general use visitors/staff (east end of the block) and the third is located in the centre of the building and is used exclusively for the transfer of patients to and from the theatre suite to the Wards above. All three elevators were installed and commissioned in 1960 and since that time, all that has been done to them apart from routine maintenance, is that carpet has been fitted to the walls of the cars and infrared door sensors fitted in 2009.

The lifts would require upgrading work consisting of fitting modern hallway position indicators, new operating panels/controls, suspended ceilings, repainting doors, new wall paneling, lighting upgrade and bumper rails. This work would bring the elevators up to the standard of the new elevators in the IPB and the Percy Brunette Block.

Cost of the upgrade work is estimated at \$63,000 for Theatre lift, \$93,000 for visitor/staff lifts equaling a total sum of \$156,000 for all three lifts.

Electrical Reticulation

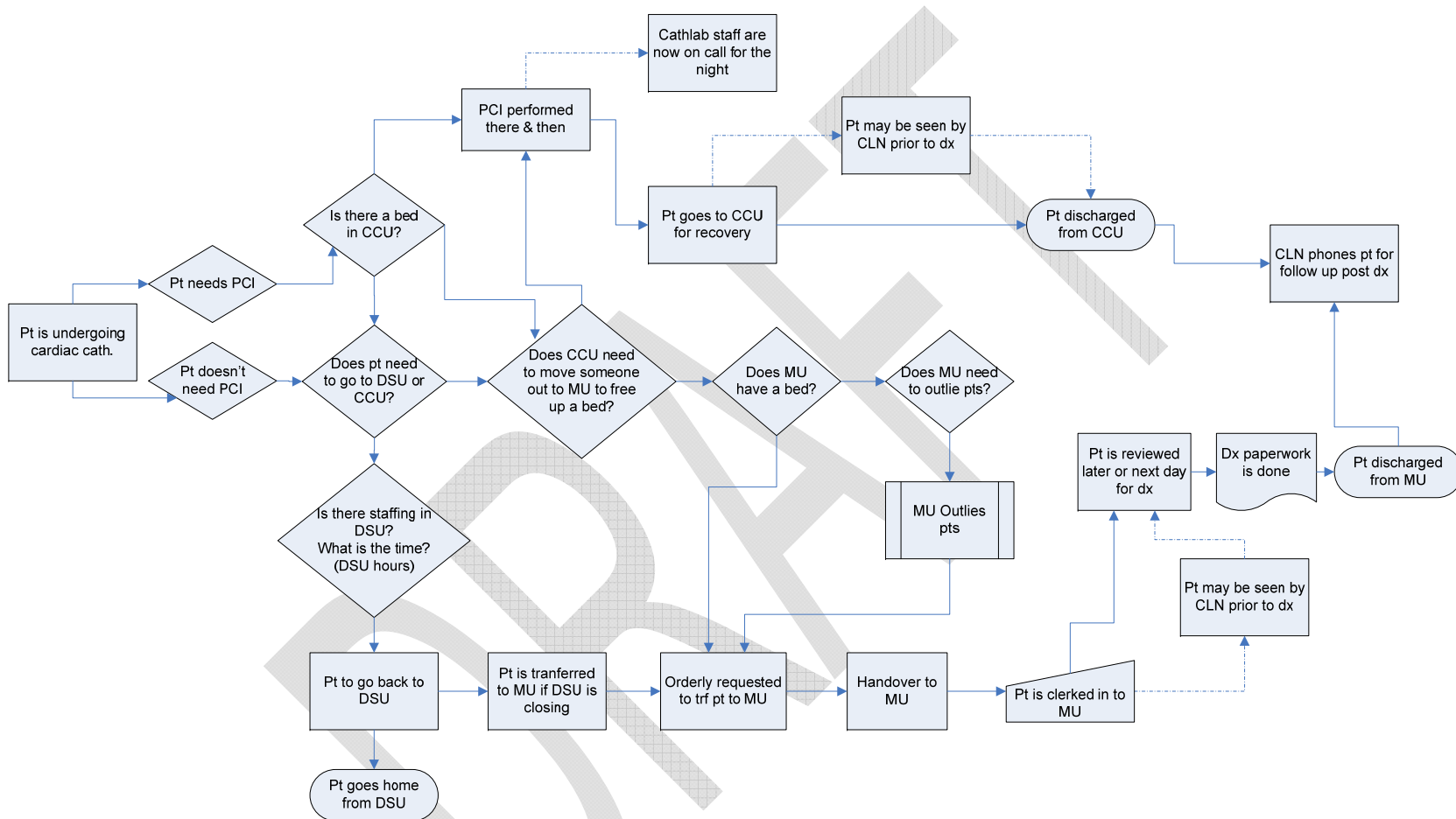
The electrical reticulation including main cable, level distribution boards and internal cabling needs upgrading/replacement. It is recommended these are completed in Stage 4 to accommodate increased load for new users (office accommodation).

Cost to upgrade for GMB is estimated at \$120K.

General

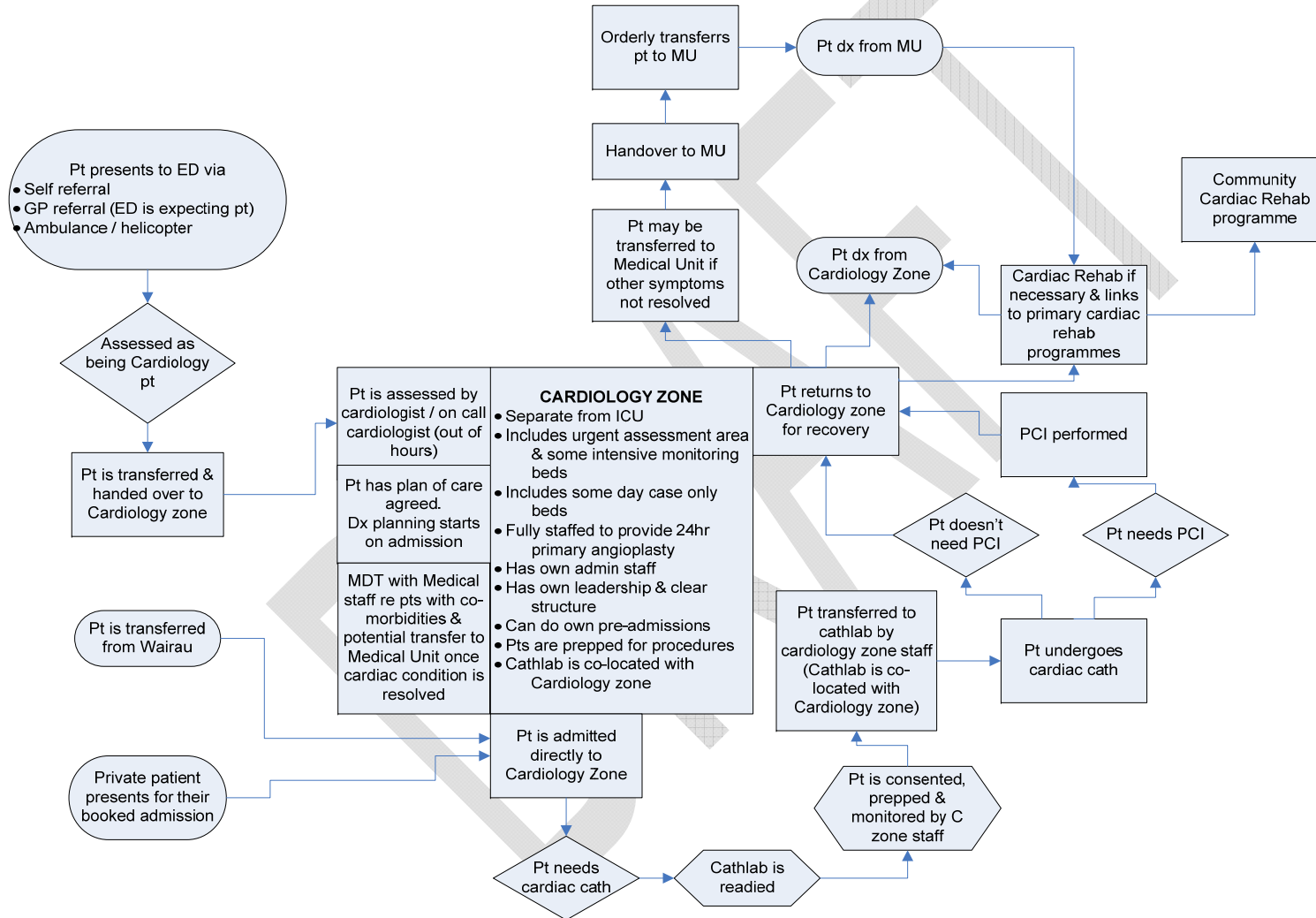
The levels would need a general refurbishment including some floor coverings, some window dressings and general electrical fittings. Painting is on a maintenance painting and would not need to be part of the capital project.

Replacement of the old metal ceiling tiles should be considered to improve the sound retention, and address the damage of retro fitted ceiling fans and lighting. It is recommended this is completed in Stage 4 to accommodate new users (office accommodation).



Appendix C

ACS Future State Map



Appendix D Surveillance Audit

Nelson Marlborough District Health Board Surveillance Audit Report

Audit Date: 19-April 2010

1.3 Continuum of Service Delivery

Surgical

Surgical services are actively working on improving the patient journey as part of the OPJ (Optimising the Patient Journey) project that has been rolled out DHB-wide. This has improved the organisation's focus and communication of key performance indicators, and given particular attention to theatre utilisation, ward efficiency, and clinical indicators, such as falls and pressure areas. A revised Assessment and Care Planning format has recently been developed.

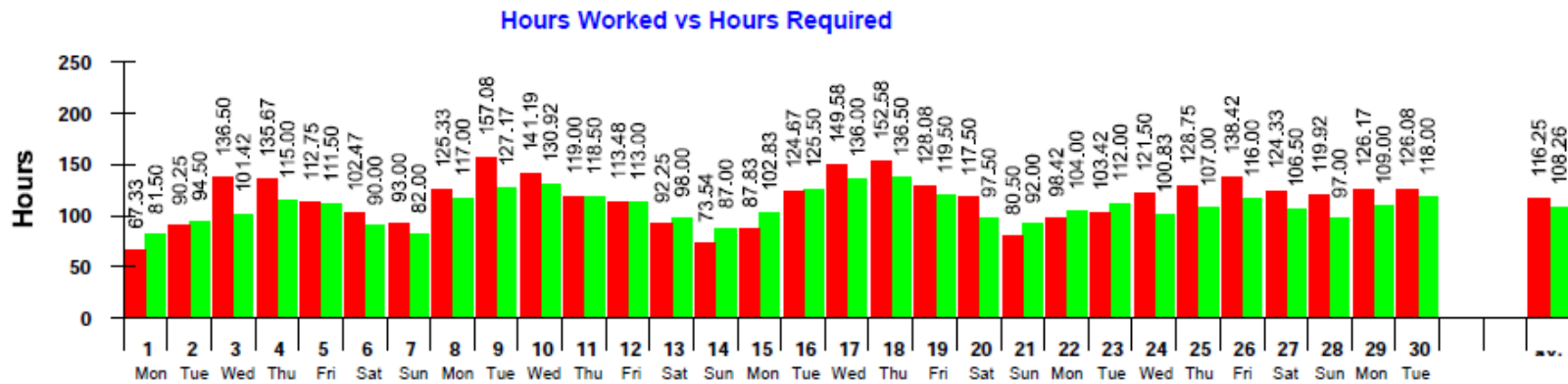
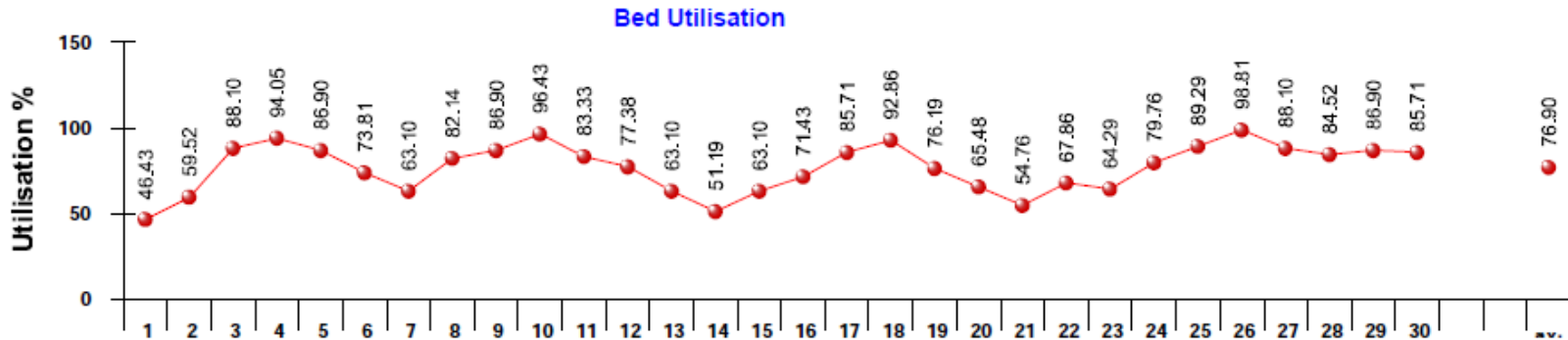
Whilst surgical services are being provided in line with current standards, constraints of the current aged Nelson hospital inpatient facility pose a challenge for staff and less than ideal conditions for patient privacy and recovery. Despite the layout and limited number of the bathing/toilet facilities, the rate of surgical site infection is low, and there is an active infection control programme in place to mitigate any risks that the facilities impose. The corrective action from the last audit in relation to the showers in the surgical wards remains open, however at the time of the audit, the work was scheduled to be undertaken within a matter of weeks.

Appendix E TrendCare Wards 9 & 10

TrendCare - Ward Daily Hours Detail Graph

Printed: 22/07/2010
14:50:05

Ward: **Ward 9 Nn (27 beds)**
Month: **June, 2009**



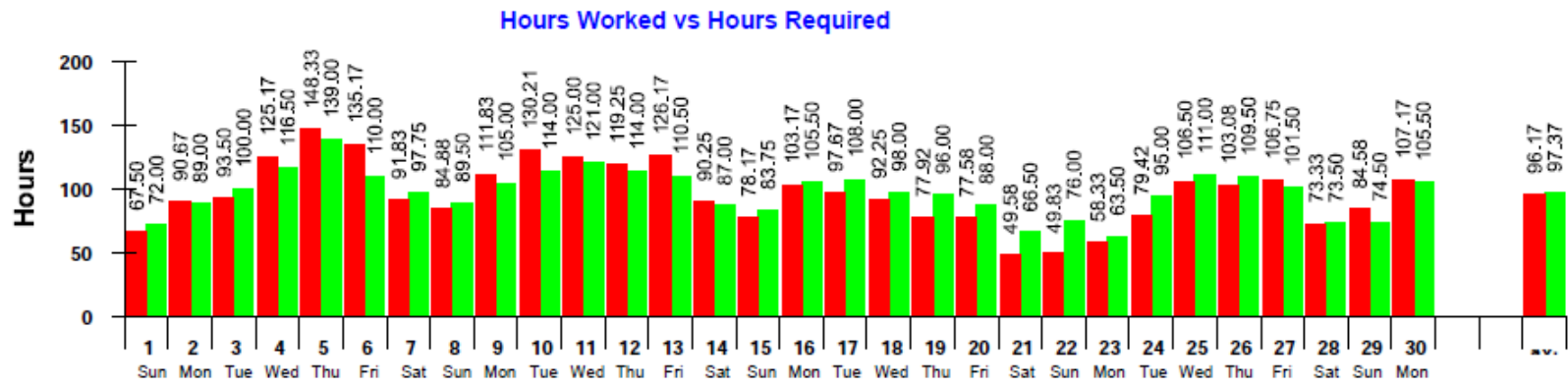
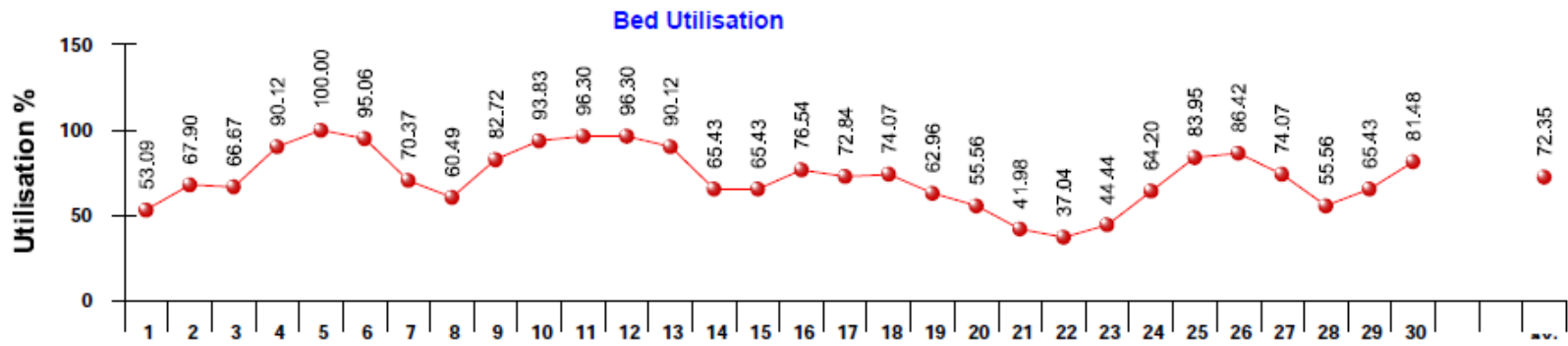
LEGEND

- Required Inpatient Clinical Hours
- Actual inpatient Clinical Hours Worked

TrendCare - Ward Daily Hours Detail Graph

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11:55:55

Ward: **Ward 9 Nn (27 beds)**
Month: **November, 2009**

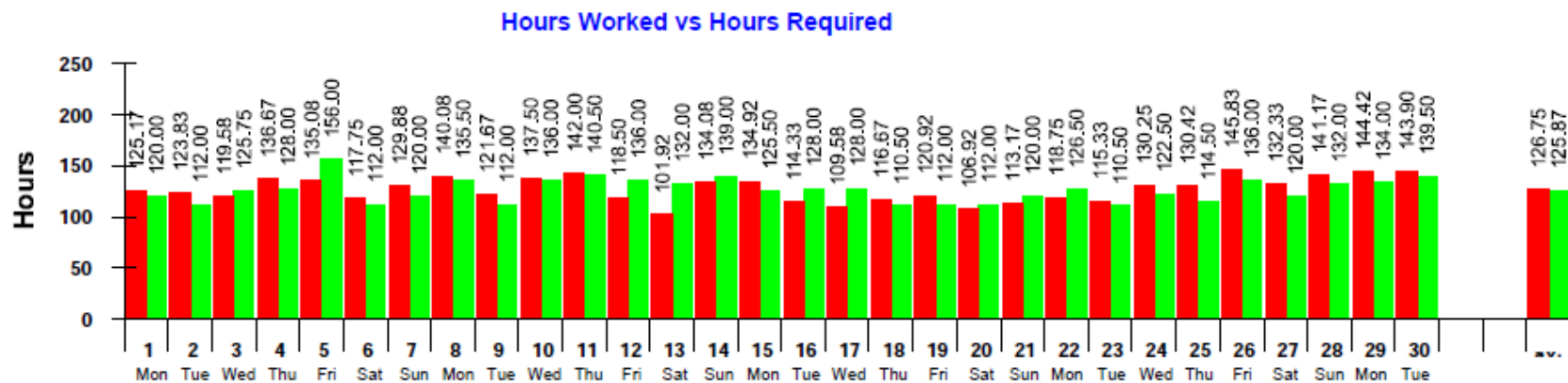
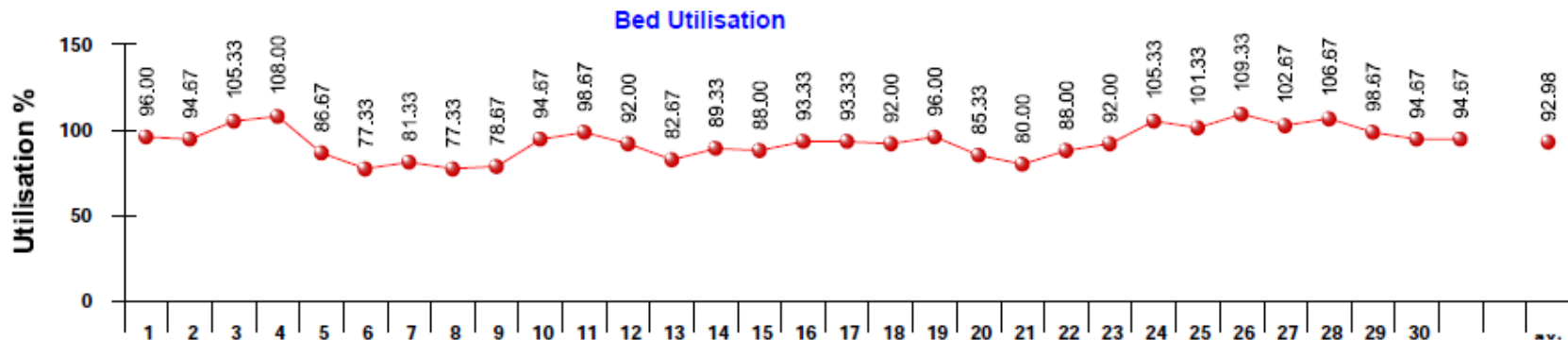


LEGEND
■ Required Inpatient Clinical Hours
■ Actual inpatient Clinical Hours Worked

TrendCare - Ward Daily Hours Detail Graph

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08:07:44

Ward: **Ward 10 Nn (25 beds)**
Month: **June, 2009**

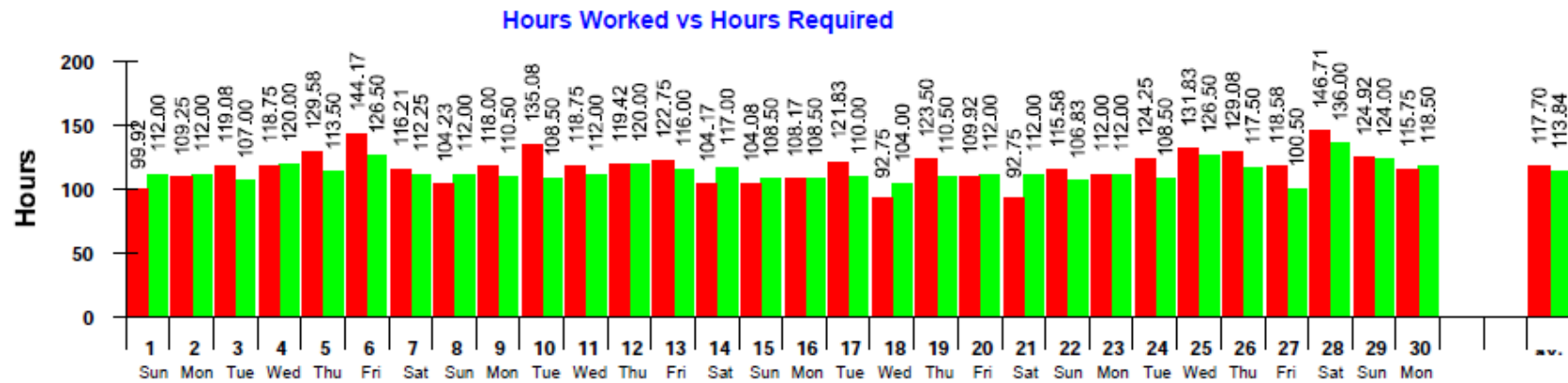
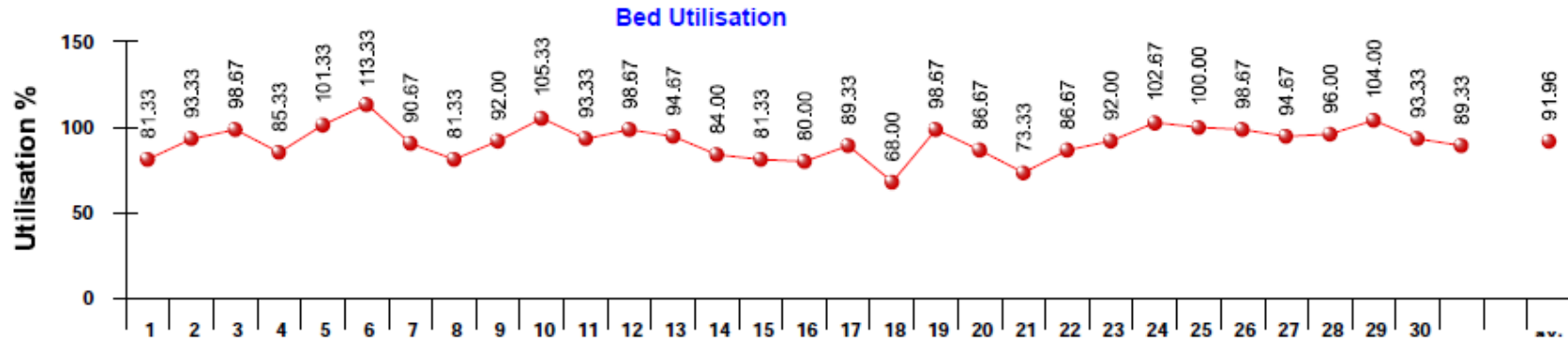


LEGEND
■ Required Inpatient Clinical Hours
■ Actual inpatient Clinical Hours Worked

TrendCare - Ward Daily Hours Detail Graph

Printed: 22/07/2010
08:09:42

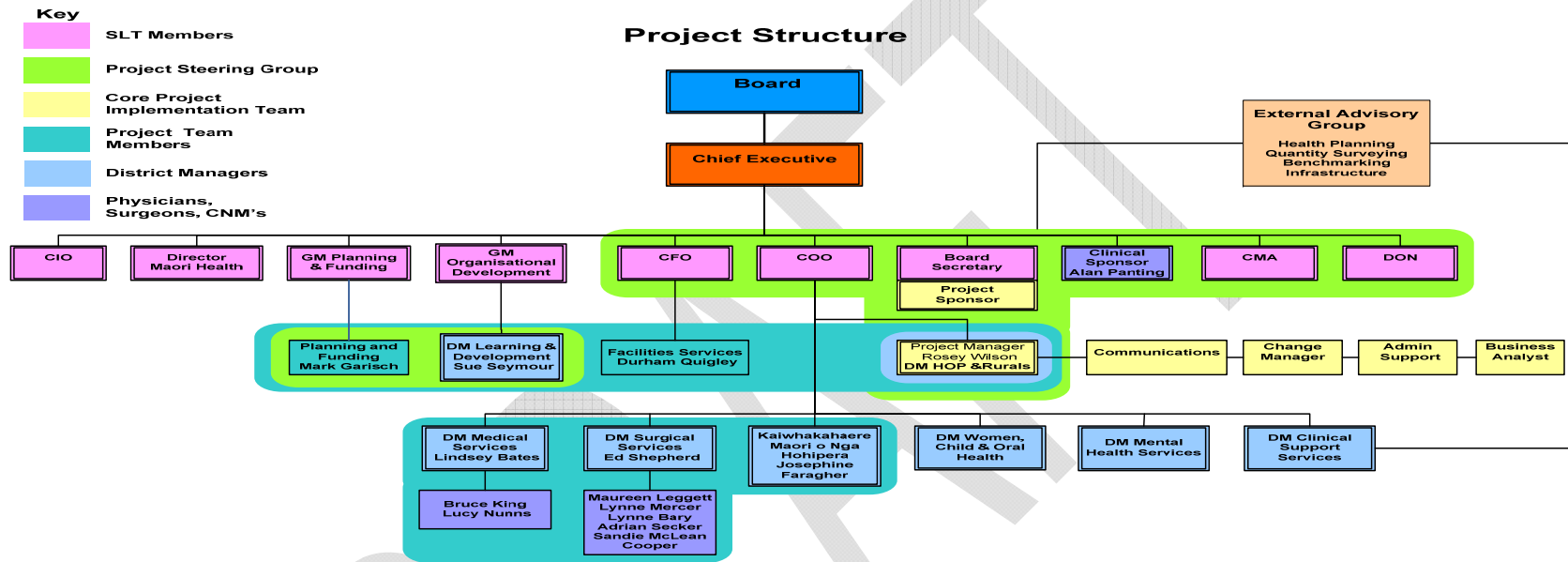
Ward: **Ward 10 Nn (25 beds)**
Month: **November, 2009**



LEGEND

■	Required Inpatient Clinical Hours
■	Actual inpatient Clinical Hours Worked

Appendix F Project Structure



Appendix G
To be completed

Financial Analysis

DRAFT

Appendix H Estimated FTE Requirements Site Redevelopment – Phase 1

Based on NMDHB TrendCare data 1 July 2009 to 14 June 2010, current ICU configuration

Area	Number of beds	÷ Actual Utilisation %	=	Estimated Average No patients	X 365 days	=	Total patients days per year	X	HPPD Acuity (based on 12 months TrendCare acuity data)	=	total hours required per year	÷	2086 hours (1.0 FTE)	=	FTE no leave loading	Leave Loading	Total FTE	Current FTE	Movement +/-
ICU	7	84%	=	5.91	X 365 days	=	2158.21	X	12.33	=	26611	÷	2086	=	12.76	1.21	15.44	15.51	-0.07
HDU day cardiac	0	36%	=	0.00	X 365 days	=	0.00	X	2.29	=	0	÷	2086	=	0.00	1.21	0.00	0.50	-0.50
HDU inpatients	0	80%	=	0.00	X 365 days	=	0.00	X	7.64	=	0	÷	2086	=	0.00	1.21	0.00	0.00	0.00
TOTAL FTE REQUIRED															12.76		15.44	16.01	-0.57
HDU day based on 3 days per week 44 weeks PA HDU based on average HPPD Med 8.21 + Surg 7.06 = 7.64 (Reasonable WR HDU = 7.5) HDU PCI occupancy based at 100% for 3 days/week to give overall occupancy of 36%. HDU Inpatients based on 80% benchmark																			

Estimated FTE Requirements for Site Redevelopment - Phase 1

Based on TrendCare Bench marks, current ICU configuration

Area	Number of beds	÷ Estimated Utilisation %	=	Estimated Average No patients	X 365 days	=	Total patients days per year	X	HPPD Acuity (Based on TrendCare bench marks for main patient type)	=	total hours required per year	÷	2086 hours (1.0 FTE)	=	FTE no leave loading	Leave Loading	Total FTE	Current FTE	Movement +/-
ICU	7	84%	=	5.91	X 365 days	=	2158.21	X	13.68	=	29524	÷	2086	=	14.15	1.21	17.13	15.51	1.62
HDU day cardiac	0	36%	=	0.00	X 365 days	=	0.00	X	8.90	=	0	÷	2086	=	0.00	1.21	0.00	0.50	-0.50
HDU inpatients	0	80%	=	0.00	X 365 days	=	0.00	X	7.15	=	0	÷	2086	=	0.00	1.21	0.00	0.00	0.00
TOTAL FTE REQUIRED															14.15		17.13	16.01	1.12
HDU day cases within range for CCU beds, 8.9-12.2, immediately pre and post stent HDU day cases high end of HDU surgical 4.35 - 7.15 Medical inclusive of complex oncology 1:1																			

Estimated FTE Requirements for Site Redevelopment - Phase 1
Based on Trendcare Bench marks, recommended occupancy

Area	Number of beds	÷ Estimated Utilisation %	=	Estimated Average No patients	X 365 days	=	Total patients days per year	X	HPPD Acuity (Based on TrendCare bench marks for main patient type)	=	total hours required per year	÷	2086 hours (1.0 FTE)	=	FTE no leave loading	Leave Loading	Total FTE	Current FTE	Movement +/-
ICU	7	75%	=	5.25	X 365 days	=	1916.25	X	13.68	=	26214	÷	2086	=	12.57	1.21	15.21	15.51	-0.30
HDU day cardiac	3	36%	=	1.08	X 365 days	=	394.20	X	3.82	=	1506	÷	2086	=	0.72	1.21	0.87	0.50	0.37
HDU inpatients	9	80%	=	7.20	X 365 days	=	2628.00	X	7.15	=	18790	÷	2086	=	9.01	1.21	10.90	0.00	10.90
TOTAL FTE REQUIRED															22.30		26.98	16.01	10.97
HDU day cases within range for CCU beds, 8.9-12.2, immediately pre and post stent HDU day cases high end of HDU surgical 4.35 - 7.15 HDU PCI occupancy based at 100% for 3 days/week. HDU Inpatients based on 80% benchmark																			

Estimated FTE Requirements for Site Redevelopment - Phase 1
Based on Bissett Bench marks, recommended occupancy

Area	Number of beds	÷ Estimated Utilisation %	=	Estimated Average No patients	X 365 days	=	Total patients days per year	X	HPPD Acuity (Based on TrendCare bench marks for main patient type)	=	total hours required per year	÷	2086 hours (1.0 FTE)	=	FTE no leave loading	Leave Loading	Total FTE	Current FTE	Movement +/-
ICU	7	75%	=	5.25	X 365 days	=	1916.25	X	12.39	=	23742	÷	2086	=	11.38	1.17	13.32	15.51	-2.19
HDU day cardiac	3	36%	=	1.08	X 365 days	=	394.20	X	4.00	=	1577	÷	2086	=	0.76	1.17	0.88	0.50	0.38
HDU inpatients	9	80%	=	7.20	X 365 days	=	2628.00	X	8.00	=	21024	÷	2086	=	10.08	1.17	11.79	0.00	11.79
TOTAL FTE REQUIRED															22.22		25.99	16.01	9.98
Average HDU Day Cardiac used Cardiology 3.82. NB This is for a 24 hr period Average HDU Inpatients Med 6.57 + Surg 5.69 = 6.13 HDU PCI occupancy based at 100% for 3 days/week. HDU Inpatients based on 80% benchmark **** Benchmark for Psycho AT&R used Mental Health Geriatric = 3.37																			

All models require an additional 0.5 to be factored for the flight escort responsibility covered from within the ITU environment. This has been factored as 0.5 FTE

Other Staffing

Clinical Support Functions.

Pharmacy

Pharmacy FTE are based on the attached guideline. Currently they provide 0.3 FTE on a daily basis to this area. The introduction of additional beds would see an increase in required FTE to 0.7. It is not envisaged that additional technical pharmacy staff would be required for either drug stocktaking or ordering.

Beds:Pharmacist	Beds	FTE of Pharmacist
30:1	11 cardiac (Category 4)	0.36
15:1	2 ICU (Category 6)	0.13
30:1	6 HDU (Category 4)	0.2
Total	19 beds	0.7 FTE

Dietetics

Current input in this area is approximately 0.1. An additional 12 beds would therefore on a per bed basis see this increase to 0.3 FTE. It is noted that this number is significantly reduced when considered against the benchmarks in the Allied Health Professionals (AHP) and Healthcare Scientists (HCS) Critical Care Staffing Guidance that recommends from 0.05 to 0.1 FTE per bed, 09 -1.8FTE. With the mixed utilization of beds somewhere between the 0.3 and 0.9 would be appropriate.

Physiotherapy

The current service is provided in a shared surgical ICCU role, approximately 0.3 FTE. The increased service would justify a 1.0 FTE Senior Therapist. It is noted that this number is significantly reduced when considered against the benchmarks in the Allied Health Professionals (AHP) and Healthcare Scientists (HCS) Critical Care Staffing Guidance. A considered option is that the additional FTE be made up from a mix of experienced and newer staff to enable an appropriate learning environment and support the succession planning for this area.

Speech Language Therapy

This service is provided on a referral only basis, additional services if needed in this ITU environment would result in persons of lower acuity losing access to services.

Household

Additional work will be done at hours not attracting night rate but will attract the relevant rates for weekend and public holidays.

ICCU

An increase of 8hours per week over 7 days will be required.

SOPD

An increase of 8 hours per week over 7 days will be required.

Inpatient Ward Redevelopment, Level 4

This is estimated on the current time required from Wards 9 and 10 to be 14 hours per day. Assuming that the staff currently on Level 4 are relocated it is likely that the hours currently attributed to this area will be needed where those staff are relocated.

Orderly Hours

These are not anticipated to increase on the basis that there is a Lamson tube system currently operating between ICCU and laboratory now and that the other areas are currently within the orderly work pattern.

Radiology

Currently ICCU contributes 1.2 examinations per bed day, on the basis of 80% occupancy of the new beds and the current level of examinations per FTE both additional radiography and radiology FTE can be anticipated. This requires further quantification.

Appendix I Theatre Utilisation by Specialty August 09

Sum of operation time by specialty (from theatre capacity - total report) (extras sessions have been allocated to correct specialty using SPEC CODE)			
Sum of OP TIME			
SPECIALTY	Total	Theatre Utilisation	100%
DENT	1989	92%	
EYE	1635	52%	
GEN	7283	71%	
GYN	3750	60%	
OBS	35		
ORL	4244	63%	
ORTH	8848	88%	
URO	2589	72%	
Grand Total	30373	69% utilisation	
Unused Capacity by Specialty			
DENT	8%		
EYE	48%		
GEN	29%		
GYN	40%		
OBS	0%		
ORL	37%		
ORTH	12%		
URO	28%	31% unused but available as per roster	

This clearly indicates those specialties where there is a short duration procedure with high patient volumes that the efficiency of theatre utilization is hampered by turnaround time.

Appendix J

Surgical Outpatients Model of Care

Clinical Scope of Service

The Surgical Outpatients area situated on the second floor of the Percy Brunette Building provides the venue for a number of both surgical and sub-specialties to undertake assessment, follow up and limited procedural work. The audiology department is located in this area.

Current Arrangements

The SOPD is a Monday to Friday environment and operates on a sessional basis from 0800 to 1700 with am and pm clinic schedules. Sessions may run over booked time to 1800 on occasions. While there is some consistency to scheduling there is flexibility to accommodate additional clinics when rooms are available and some of these are co-ordinated by a clinical nurse co-ordinator in the area. There are 3 reception points with ophthalmology and audiology providing this function for their services, while all other services have a common reception point. The medical photographer is also based in this area.

There are 7 general rooms, 2 ENT, one of which is the Ear Specialty Nurse's Office, 2 Urology rooms, 1 of which is the Urology Specialty Nurse's Office, a swing room between ENT and Dermatology. There are other supporting spaces inclusive of utilities etc.

The Ophthalmology Service is wholly housed in SOPD with their clerical staff, 3 clinic rooms and an orthoptist's room. The audiology service is wholly contained within the SOPD area. Both of these areas are co-ordinated within their service stream.

Rooms are accessed by a number of services outside of the surgical service including oncology, podiatry, dermatology and orthotics. Generally the consultants use 2 rooms per clinic and this is increased to 3 when a registrar is present.

Current Staffing

The nursing staff may be employed to the SOPD department or the specialty area. The main receptionist is employed to the SOPD from the surgical clerical team.

Nelson	
Designation	FTE
SOPD Nurses	5.6
SOPD Reception	1.0

Access

Access to services is determined by the particular specialties access criteria. Services are provided across the age spectrum although paediatric specific services are provided from the paediatric outpatient's area.

Issues with Current Arrangements

Scheduling across the week is inconsistent so there is inconsistent resource allocation to activity. This is complicated by other scheduling factors across the surgical environment including call, inpatient, pre-admission and theatre time. Specialist rooms are not available or suitable for some other uses. Office areas are doubling as clinical areas and are cramped.

There is no overall facility manager. The pattern of usage having twin rooms while favoured by clinician's does not overall increase throughput.

There are limited procedural environments.

The windows leak and are discoloured in streaks and dominate the physical environment which is tired and not fit for purpose, urology, gynaecology and orthotics are some services where this is clearly apparent.

Key Physical Relationships impacting Clinical Flows

- There are multiple issues. The lasers in ophthalmology are housed in a consulting room hindering their access. Waiting space is cramped at times due to scheduling issues. The storage is poorly arranged with orthotics storage through the clean utility, linen is stored in the clean utility room also. There is no wait area near ENT and sound proofing inhibits sub waits being created
- ENT is a fast turnover specialty but located away from the reception point so has an inherent reduction in efficiency.

Future Configuration / Description

The Future

- Procedural work for all specialties will be performed in adequately equipped and identified areas
- There is an overall facility plan and management process, utilization is smoothed
- There are increased nurse only clinics
- Activity is fully reported
- Reception is centralised
- Storage is re-organised and meets relevant standards
- Staff areas are separate from clinic spaces
- Staff are clearly identifiable in their designations
- Patient initiated bookings
- Pre-admission in this area so that the patient journey is smoothed and initiated in conjunction with OPD appointments.

Future Facility Design

- Sufficient waiting space
- Staff refreshment area
- Procedural rooms with close set up and utility rooms
- Specialist rooms are appropriately fitted, e.g. ENT urology
- Offices are separate from clinical space

- Staff change facilities to enable procedural work are included.

Future Staffing Considerations

Role of clinical and non-clinical staff

Change Considerations

A facility utilisation plan

Smoothing of schedules

Centralisation of reception

Access to facilities for non DHB agents

Pre-admission clinics are held in this area to give a smoother patient journey.

Gynaecology services in the new area.

Growing age related ophthalmology services

Clerical staff ophthalmology

Relationship with Wairau

Accommodation of Wairau patients in clinics due to unique clinical equipment being Nelson based and timing for out of town appointments.

Collaborative Partnerships

Hospital Specialty Services, GPs, Practice Nurses, Allied Health (Audiology, Orthotics), Oncology Services, Pain Service, Clinical support services (Laboratory, Radiology, Pharmacy), District Nurses, Wairau Hospital

Appendix K Current Work Schedule SOPD

Sample Schedule Week 1, SOPD operates on an 8 week cycle to accommodate ENT and Urology						
Week 1. AM		Monday	Tuesday	Wednesday	Thursday	Friday
	GEN	Pochin	Emanuel	Secker	Orthotist	Orthotist
	GEN	Pochin	Emanuel	Secker	Orthotist	Orthotist
	GEN	Reg	Reg	Reg	Podiatry	
	GEN	Oncology	Strang	Dermatology		
	GEN	Oncology	Strang	Dermatology		
	GEN	Oncology				
	GEN	Wounds				
	ENS		ENS	Chan	Chan	ENS
	ENT		PA General room		Hill	
					Hill	
	ORTHOP	Orthoptics	Orthoptics	Orthoptics		
	EYE	Suter	Davison	Suter	Optometrist	Suter
	EYE	Suter	Davison	Suter	Sherwood	Suter
	EYEN	Eye Nurse/HS	Eye Nurse/HS	Eye Nurse/HS	Eye Nurse/HS	Eye Nurse/HS
	UROL	Viv	Malcolm	Meffan	Viv	
	UROL		Malcolm	Meffan		
Week 1 PM		Monday	Tuesday	Wednesday	Thursday	Friday
	GEN	Oncology	Ogg	Deacon	Ogg	Orthotist
	GEN	Oncology	Ogg	Deacon	Ogg	Orthotist
	GEN	Oncology	Reg	Reg	Reg	Orthotist
	GEN	Wounds	Wounds	Pochin	Orthotist	
	GEN	Pain		Pochin	Orthotist	
	GEN			Strang	Podiatry	
	GEN			Strang		
	GEN			Dermatology		
	ENT	Roberts	Cleland	Hill	Cleland	
	ENS		ENS		ENS	
	ORTHOP	Orthoptics	Orthoptics	Orthoptics		
	EYE	Optometrist	Sherwood	Davison	Davison	
	EYE		Sherwood	Joint Clinic	Davison	
	EYEN	Eye Nurse/HS	Eye Nurse/HS	Eye Nurse/HS	Eye Nurse/HS	Eye Nurse/HS
	UROL	Meffan			Malcolm	
	UROL	Meffan			Malcolm	
		Other clinics ACC 4x per year, rents the room Haemophilia 2x per year 3 rooms				

UROL		DERM	
EYES		ORTHOTIST	
ONC		PODIATRY	
GEN SURG		ENT	
WOUNDS		PLASTICS	
PAIN			

Appendix L Future Work Schedule SOPD

Sample Schedule Week 1, SOPD operates on an 8 week cycle to accommodate ENT and Urology						
Week 1. AM		Monday	Tuesday	Wednesday	Thursday	Friday
	GEN	Pochin	Emanuel	Secker	Orthotist	Orthotist
	GEN	Pochin	Emanuel	Secker	Orthotist	Orthotist
	GEN	Reg	Reg	Reg	Podiatry	Oncology
	GEN	Wounds	Strang	Dermatology		Oncology
	GEN		Strang	Dermatology		Oncology
	GEN	Pre Admits	Pre Admits	Pre Admits	Pre Admits	Pre Admits
	GEN	Pre Admits	Pre Admits	Pre Admits	Pre Admits	Pre Admits
	GEN	Pre Anaes	Pre Anaes	Pre Anaes	Pre Anaes	Pre Anaes
	ENT		ENS	Chan	Chan	ENS
	ENT			Chan	Chan	
	ENS				Hill	
					Hill	
	ORTHOP	Orthoptics	Orthoptics	Orthoptics	Optometrist	Eye Nurse
	EYE	Suter	Davison	Suter	Sherwood	Suter
	EYE	Suter/EyeN	Davison/HS	Suter/HS	Sherwood/HS	Suter/HS
	EYEN	Eye Nurse/HS	Eye Nurse	Eye Nurse	Eye Nurse	Eye Nurse
	UROL	Viv	Malcolm	Meffan	Viv	
	UROL		Malcolm	Meffan		
	UROL		Beuk Cysto			
	UROL		Beuk Cysto			
	GYN	Gyn	Gyn	A/N	Gyn	
	GYN	Reg	Gyn	A/N	Reg	
	GYN	Gyn			Gyn	

Week 1 PM		Monday	Tuesday	Wednesday	Thursday	Friday
GEN	Wounds		Ogg	Deacon	Ogg	Oncology
GEN	Pain		Ogg	Deacon	Ogg	Oncology
GEN			Reg	Pochin	Reg	Oncology
GEN				Pochin	Orthotist	Orthotist
GEN				Reg	Orthotist	Orthotist
GEN				Strang	Podiatry	
GEN				Strang		
GEN				Dermatology		
GEN				Dermatology		
GEN	Pre Admits	Pre Admits	Pre Admits	Pre Admits	Pre Admits	Pre Admits
GEN	Pre Admits	Pre Admits	Pre Admits	Pre Admits	Pre Admits	Pre Admits
GEN	Pre Anaes	Pre Anaes	Pre Anaes	Pre Anaes	Pre Anaes	Pre Anaes
ENT	Roberts	Cleland	Hill	Cleland		ENS
ENT	Roberts	Cleland	Hill	Cleland		
ENS		ENS		ENS		
ORTHOP	Orthoptics	Orthoptics	Orthoptics			
EYE	Optometrist	Sherwood	Davison	Davison		
EYE		Sherwood	Joint Clinic	Davison		
EYEN	Eye Nurse/HS	Eye Nurse/HS	Eye Nurse/HS	Eye Nurse/HS	Eye Nurse/HS	Eye Nurse/HS
UROL	Meffan	Malcolm TRUS		Malcolm		
UROL	Meffan	Malcolm TRUS		Malcolm		
				Meff Cysto		
GYN	A/N	A/N				
GYN	Reg A/N	A/N				
Other clinics ACC 4x per year, rents the room Haemophilia 2x per year 3 rooms						

Appendix M ICCU Model of Care

Current Arrangements

THE ICCU is located on the 3rd floor, ground level Waimea Road. It's closest proximity is to the ED/Radiology/Angiography Suite – “Hot floor” concept. It has a straight line access from the helicopter pad located to the south of the building. The location is good with respect to its key relationships, it is away from other clinical inpatient wards located in the George Manson or Main Building. It has good proximity to the operating theatres and Day stay.

There are 7 beds, all of which have ventilator capacity. One room is set aside as an infection control area. In addition 2 bed bays are used to accommodate 4 in-centre dialysis chairs. These also have ventilator (invasive and non-invasive) capacity. All beds are cardiac protected. All bed spaces have full capacity to be fully monitored. An on site blood gas service is provided

Standing orders are in place for a number of situations and there is a high level of clinical decision making by the nursing staff.

Paediatric & ventilated are speacialed at all times in this predominantly adult environment.

An RN from ICCU attends all cardiac arrests across the hospital and is the constant element in this response.

Staff from ICCU provide the trained personnel for flight crewing.

Current Staffing

There is a minimum of 2 RN staff on every shift supported Mon-Fri by a CNM who will also take a clinical load depending on demand. The equivalent of 0.5 RN is used on a daily basis for attendance at resuscitation events and supporting patient flights. Flexible staff, change shifts to accommodate demand, stable workforce, 4 full timers with the majority part timers/casuals who are willing to flex their hours depending on demand.

		Mon	Tues	Wed	Thu	Fri	Sat	Sun
am	CNM	1	1	1	1	1		
	RN	4	4	4	4	4	4	3
pm	RN	3	3	3	3	3	3	3
nocte	RN	2	2	2	2	2	2	2

ACCESS

ADMISSION CRITERIA:

Coronary Care Unit:

1. Suspected or confirmed acute myocardial infarction.
2. Suspected or confirmed acute cardiac syndrome.
3. Suspected or confirmed cardiac arrhythmia.
4. Other – at the request of a specialist physician.

Intensive Care Unit:

1. Severe respiratory distress (mechanical or physiological) requiring artificial support.
2. Severe neurological deficit requiring close observation/intervention.
3. Multiple organ failure.
4. Metabolic disorders.
5. Severe trauma.
6. Major / prolonged surgery.
7. Renal disease requiring haemodialysis.
8. Severe (or cardio/respiratory-toxic) drug or chemical poisoning.
9. Persons receiving thrombolytic therapy.
10. Persons under active resuscitation or recently resuscitated.
11. Other – at the request of a specialist.

Criteria for refusing admission:

Ultimately it is a medical responsibility to refuse admission. The decision to do so should be via the on- call consultant. Some reasons for refusal may include:

1. Terminal disease.
2. Persons who are “not for resuscitation.”
3. Ischaemic cerebrovascular accidents.

There may be occasions where admission may be delayed as a result of insufficient bed space, nursing staff or monitoring equipment.

Sources of admissions:

1. Transfer from wards or departments.
2. Admission to hospital via the Emergency Department.
3. Arranged by consultant medical staff.
4. Pre-arranged “open” direct admissions.

Tertiary Relationships

Predominantly Wellington, occasionally to Christchurch and paediatrics to Starship. Transplant patients will go to the relevant centre, including. ECMO to Auckland.

Issues with Current Arrangements

Having an open unit there is only part time intensivist. This leads to a reduction in continuity of approach and level of care with multiple clinicians involved when a 24 hour service is considered. This is aggravated when the roster pattern for anaesthetists is considered and how their acute call is arranged. Bed management can be controversial with the multiple clinicians involved.

Bed numbers are causing interventional cardiology cases to be deferred with consideration having to be made for the overall population requiring the higher levels of care.

Storage is restricted as technology and equipment advances.

Key Physical Relationships impacting Clinical Flows

ED/Radiology

Day stay and theatre.

Angiography Suite

Future Configuration / Description

The Future

Future Facility Design

The ICCU to be extended to provide a higher intensity of treatment to a broader group of patients with bed numbers increased to 19.

6 Cardiac beds, post and pre-procedural and unstable

7 ICCU for those most physiologically unstable, inclusive of those requiring ventilation

6 HDU for those with higher dependency needs, may be medical or surgical in nature

2 bed spaces would continue to provide 4 in-centre haemodialysis chairs.

Supporting elements would be increased nursing stations, storage, and monitoring.

Provision will also be made for administrative support to the unit.

Future Staffing Considerations

At some point there will need to be a fulltime intensivist and supporting roster.

Moving to a more cardiac focus there will need to be skill development to ensure adequate numbers of staff who can work across the new unit. This includes some overlap into angiography.

An administrative position should be considered to avoid clerical functions being completed by clinical staff. The equivalent of 0.5 RN is used on a daily basis for attendance at resuscitation events and supporting patient flights.

		Mon	Tues	Wed	Thu	Fri	Sat	Sun
am	CNM	1	1	1	1	1		
	RN	6.5	6.5	6.5	6.5	6.5	6	6
pm	RN	6	6	6	6	6	5	5
nocte	RN	5	5	5	5	5	5	5

Numbers of staff have increased by 2 cardiology and 2 for HDU over current figure for an am shift and 1 cardiology pm and 2 HDU with 1 cardiology and 2 HDU on a night shift.

Change Considerations

As it becomes a bigger unit there are likely to be changes in culture and practice. Current trading on goodwill for additional work and hours has the potential to require formalizing. The open status of the unit will require to be considered to ensure that continuity is created to support both the involved nurses and doctors and the multiple service streams.

Relationship with Wairau

Efforts are underway to develop a more cohesive relationship with Wairau. It has developed well with cardiology as a district wide service but some other services need more cohesion and a stronger district wide approach.

Collaborative Partnerships

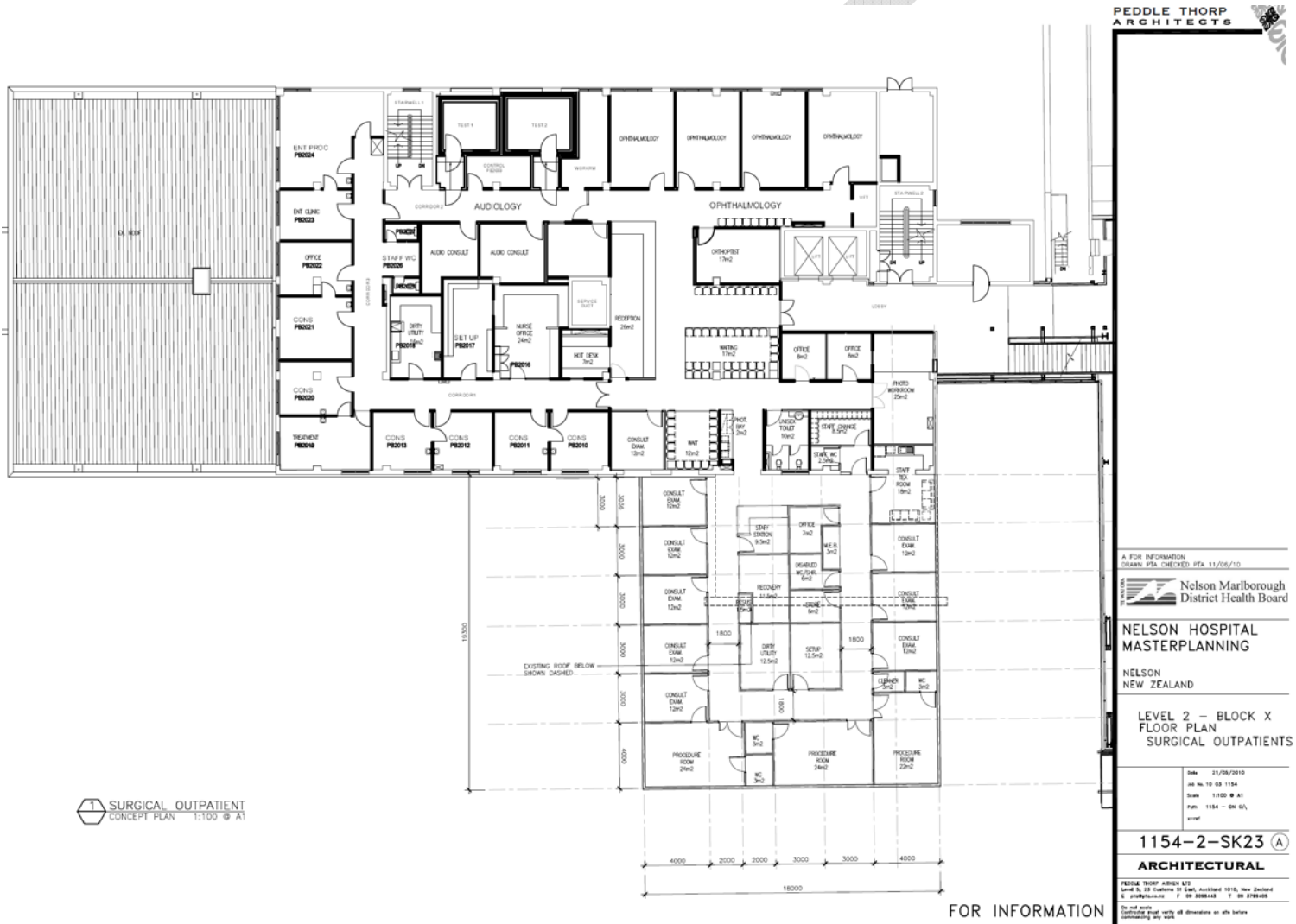
Other Hospital Specialists & staff, Regional DHBs, Tertiary Services, Allied Health (Physiotherapy, Social Work), Emergency Dept, Clinical support services (Laboratory, Radiology, Pharmacy), Wairau Hospital, Air Flight Services

Chapter 6 - Providing a Colposcopy Service

Providing an Adequate Clinical Environment

Standard number	612
Standard	<p>Colposcopy services provide adequate and appropriate space, equipment and facilities ensuring privacy and cultural appropriateness. This may include:</p> <ul style="list-style-type: none">• colposcopy clinic consult rooms / procedure rooms• toilet available for women within the unit• private space for women if they require private time prior to leaving the clinic• space for recovery post LLETZ / Laser treatment• adequate private office space for medical and nursing staff (not in an open plan reception area).
Target	100 % of colposcopy clinics will provide adequate and appropriate space, equipment and facilities ensuring privacy and cultural appropriateness.
Method of measurement	<p>The following method of measurement is used:</p> <ul style="list-style-type: none">• audit.

Appendix N Plans



1 SURGICAL OUTPATIENT
CONCEPT PLAN 1:100 © A1

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Nelson Marlborough District Health Board

**NELSON HOSPITAL
MASTERPLANNING**

NELSON
NEW ZEALAND

**LEVEL 2 - BLOCK X
FLOOR PLAN
SURGICAL OUTPATIENTS**

Date: 21/09/2010
Job No: 10 03 1154
Scale: 1:100 M A1
Plan: 1154 - ON GA,
- - - -

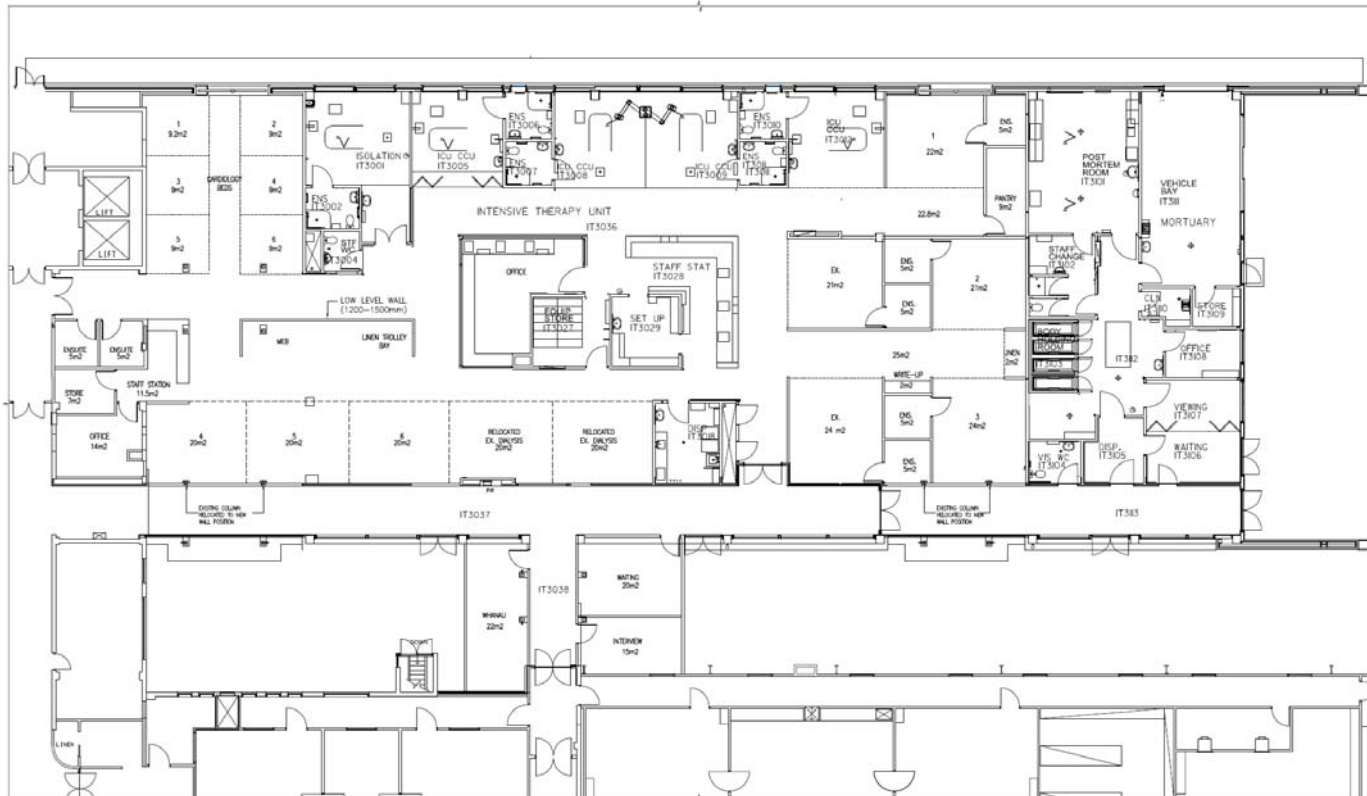
1154-2-SK23 (A)

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FOR INFORMATION



1 ITU FLOOR PLAN
LEVEL 3, BLOCK T 1:100 @ A1

A DRAFT DRAWING CHECKED XXXX

Nelson Marlborough District Health Board

NELSON HOSPITAL MASTERPLANNING

NELSON NEW ZEALAND

LEVEL 3 - BLOCK T FLOOR PLAN OPTION 1

Date: 31/05/2010
Job No: 10 03 1154
Scale: 1:100 @ A1
Plan: 1154 - ON 01, 1:100

1154-2-SK33A (A)

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Appendix O Glossary and Abbreviations

Term	Definition
Accreditation	Achievement against a national system of standards
After Hours Primary Health Care	After hours primary health care is designed to meet those needs which cannot be safely deferred until regular or local general practice services are next available
AHFG	Australasian Health Facility Guidelines
ALOS	Average Length of Stay
ATR	Assessment, Treatment and Rehabilitation
Audit	The verification of performance against predetermined standards or contracts by a process of inspections, interviews and appraisal of documentation
Benefit Realisation	Refers to the efficiencies and savings that will be achieved as a result of a project
Business Case	A document required to gain approval for funding for a project
BS	Board Secretary
Capex	Capital expenditure
CASP	Career and Salary Progression, Allied Health advanced practice recognition programme
CE / CEO	Chief Executive/ Chief Executive Officer
CFA	Crown Funding Agreement
Champion	A senior person taking leadership/sponsorship for a particular project or programme
CIO	Chief Information Officer
CMA	Chief Medical Advisor
CME	Continuing Medical Education
CNS	Clinical Nurse Specialist
Consultation	The process of seeking the views of individuals or groups. These include providers and users of health & support service.
COO	Chief Operating Officer
CPAC	Clinical Priority Access Criteria
Credentialing	Credentialing in the New Zealand context is defined as 'a process used to assign specific clinical responsibilities to health professionals on the basis of their training, qualifications, experience and current practice, within an organisational context. Credentialing is part of a wider organisational quality and risk management system designed primarily to protect the patient.
CQI	Continuous Quality Improvement
CWD	Cost Weighted Discharges - a measure of relative patients utilisation of resources
DAP	District Annual Plan
DHB	District Health Board
DHBNZ	District Health Boards New Zealand
DiSAC	Disability Support Advisory Committee
District Health Boards	District Health Boards are organisations established to protect, promote and improve the health and independence of a

Term	Definition
	geographically defined population. Each District Health Board will fund, provide and ensure the provision of services for its population
DMH	Director of Māori Health
DoN	Director of Nursing
DSP	District Strategic Plan
DSU	Day Stay Unit
ED	Emergency Department
ENT/ ORL-HN	Services relating to the Ears, Nose and Throat, technically referred to as Otorhinolaryngology and may be suffixed with H N for Head and Neck
FSA	First Specialist Assessment
FTE	Full Time Equivalent (relates to people)
Gap Analysis	A process for analysing the difference, tools, knowledge etc required to move to another stage in a project or service
GPSI	General Practitioner Special Interest
H/S	House Surgeon or may be known as RMO
ICC	Investment and Capital Committee
ICCU	Intensive Care /Coronary Care Unit
IDFs	Inter-District Flows: relates to the movement of patients between District Health Board areas
ITU	Intensive Treatment Unit
LA	Local Anaesthetic
Lean	The process of identifying the least wasteful way to provide value to our 'customers'
LOS	Length of Stay
MDT	Multidisciplinary Team
Med	Medical
Medical Credentialing	Refers to the process of permitting an individual physician to practice in a particular hospital, clinic or other medical practice setting
Model of Care / MOC	A Model of Care is a description of service delivery. They are patient focused and based on best practice. The Model of Care is a living document and will continue to develop and evolve.
MoH	Ministry of Health
MU	Medical Unit
NMDHB	Nelson Marlborough District Health Board
Ophthalmology	Services relating to the Eye
Orthopaedic	Services relating to the skeletal system and associated muscles, joints, and ligaments
Pacific Peoples	The population of Pacific Island ethnic origin incorporating people of Pacific Island ethnic origin born in New Zealand as well as overseas
Performance Indicator	A measure that shows the degree to which a strategy has been achieved
PHO	Primary Health Organisation

Term	Definition
Primary (Health) Care	Primary Health care means essential health care based on practical, scientifically sound, culturally appropriate and socially acceptable methods. It is universally accessible to people in their communities, involves community participation, is integral to, and a central function of, the country's health system, and is the first level of contact with the health system
Project	A temporary organisation that is created for the purpose of delivering one or more business products according to a specified Business Case
Project risk	Is an uncertain event or condition that, if it occurs, has a positive or a negative effect on a least one project objective. A risk may have more than one cause and, if it occurs, one or more impacts
Provider	An organisation that provides health services
RCC	Regional Capital Committee
Residual risk	A risk that remains after implementing a risk response strategy
RMO	Resident Medical Officer
Secondary care	Specialist care that is typically provided in a hospital setting.
SISSAL	South Island Shared Services Agency Limited
Specialist	Specialist care providers are health professionals trained in a specific area of health and who have completed recognised training programmes for specialist medical or nursing staff
SOPD	
Statement of Intent / SOI	This document is intended to outline for Parliament and the general public what will be delivered by the DHB and contains financial and non-financial information
Strategy	A course of action to achieve targets
SWOT	Strengths Weaknesses Opportunities Threats
Tertiary Care	Very specialised care often only provided in a smaller number of locations nationally.
The Minister	The Minister of Health
The Ministry	The Ministry of Health
The Office	The Office of the Health and Disability Commissioner
The Sector	The New Zealand health and disability sector
Triage	An assessment used to rate the urgency with which patients presenting with symptoms need to receive clinical care.
Urology	Services relating to diseases of the urinary tract and urogenital system

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