

Sarah Reeves (Sydney LHD)

From: Genevieve Wallace (Sydney LHD)
Sent: Friday, 30 June 2023 8:58 AM
To: Sarah Reeves (Sydney LHD)
Subject: FW: CRGH Additional MRI for Radiology - Ref: 113
Attachments: Brief CRGH MRI 15 Nov 2016.pdf; CRGH MRI ADD REF 113 V1.0.pdf

Dr Genevieve Wallace

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From: Teneille Bridgewood (Sydney LHD) <[REDACTED]>
Sent: Thursday, October 17, 2019 8:03 AM
To: Genevieve Wallace (Sydney LHD) <[REDACTED]>
Subject: FW: CRGH Additional MRI for Radiology - Ref: 113

Kind regards

Teneille BridgewoodA/Executive Assistant to the General Manager and Operations Manager | **CRGH**

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From: Pravindra Singh
Sent: Thursday, 15 February 2018 9:49 AM
To: Tim Sinclair <[REDACTED]>
Cc: Denise Moore <[REDACTED]>; John O'Connor <[REDACTED]>
Subject: CRGH Additional MRI for Radiology - Ref: 113

Hi Tim

I refer to your discussions with Jon Gowdy regarding status of Additional MRI for CRGH Hospital and our meeting with Radiology Department in October 2017.

During the meeting it was agreed that allocation plan/drawing for Capital Works is required which will be incorporated in the Business Case.

Currently we are waiting for the approved location plan/drawing for the additional MRI. We will finalise the Business Case financial information upon receipt of plan/drawing and estimated Capital Works cost.

Attached please find the draft Business Case and a brief.

Should you require any further information, please let me know.

Regards

Pravindra Singh

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Health In Brief for Major Procurement Committee SLHD

SF11 | 20102 (Facility)
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TITLE

Purchase and installation of a second MRI scanner at CRGH

PURPOSE

To gain approval for the development of a project brief for the purchase and installation of a second magnetic resonance imaging (MRI) scanner at CRGH.

RECOMMENDATION

That the Major Procurement Committee approve the preparation of a project brief for the purchase and installation of a second MRI scanner at CRGH.

IMPACT OF RECOMMENDATIONS

On Patient(s): Reduced patient waiting times, improved efficiency of workflow, reduced inpatient length of stay. Access to new MRI techniques and models of care leading to improved patient outcomes.

Eliminates current requirement to transfer patients to RPAH during MRI down times and replacement.

On Staff: Additional staffing will be required to operate a 9 to 5 weekday service viz. MRS 2.2 FTE, Clerical 1.1 FTE and Nursing 0.5 FTE.

On Regional NSW: N/A

On Finances: Capital funding will be from the Radiology Department trust fund 513696. The capital expenditure for the purchase will be from \$1.5 to \$3.5 million. Service contract cost, paid by the Radiology general fund, will be \$140K to \$220K per annum. The cost to the general fund of additional staff, excluding radiologist(s), will be approximately \$302K per annum. Consumable costs will be approximately \$70K. Revenue, based on freeing up MBS rebatable slots on the licensed scanner and billable non-rebatable studies on the new scanner, will be approximately \$900K per annum (utilizing 50% of available slots on the new scanner. This conservative approach has been taken as referrals for non Medicare rebatable items have been promised by clinicians but are not guaranteed).

KEY ISSUES – CRGH currently has one 3T MRI unit and scans approximately 5000 patients per year, of which approximately 80% are billable. The scanner operates 65 hours per week including Saturdays.

- The current waiting time for outpatient scans is approximately 6 weeks, with inpatient waiting times being up to 48 hours, depending on demand.

-During the recent replacement of this scanner, for over a month, up to 3 CRGH inpatients per day had to be transferred to RPAH for scans. During MRI down times, CRGH relies on RPAH for urgent MRI scans, adversely impacting both CRGH and RPAH.

-Increasingly models of care are incorporating MRI studies in patient diagnosis and management. The MBS does not rebate all of these new indications. These include, but are not limited to, myocardial viability studies and multiparametric MRI for prostate cancer. There is substantial unmet demand at CRGH for these two studies alone. As access to MRI becomes less restricted it is likely that further models of care involving MRI will be developed and employed.

-Non MBS rebatable outpatients and inpatients will be able to be scanned on the non-licensed MRI, freeing up slots on the licensed scanner for MBS rebatable patients. Slots on the unlicensed scanner will be available for billable, non MBS rebatable indications and research studies, many of which are billable.

CONSULTATION

Mr Po Cheng
Mr Tat Poon
Dr David Rowe

 15/11/16
 15/11/16
 15/11/16

Chief Radiographer
Deputy Chief Radiographer
Director CRGH Radiology

Author (or contact): DAVID ROWE

Tel: 76495

Date: 15/11/16.

Approved by:

1. Dr Tim Sinclair, General Manager CRGH



Date: 16/11/16.

2. Dr Teresa Anderson Chief Executive SLHD

 18-11-16
Dase Rls 91023

This business case has been developed for Concord Repatriation General Hospital to assess the benefits, risks and options associated with the additional MRI machine and necessary room upgrades.

Business Case:

Additional MRI – Concord Repatriation General Hospital

Draft



Prepared for:

Dr David Rowe

Director of Radiology

Concord Repatriation General Hospital

Document Approval and Control

Document Owner

Name	Title
Mr Pravindra Singh	Acting Manager, Business Case Unit

Project Sponsor

Name	Title
Dr David Rowe	Director of Radiology, CRGH
Dr Lloyd Ridley	Staff Specialist, Radiology, CRGH

Project Owners

Name	Title
Mr Po Cheng	Chief Radiographer, CRGH
Mr Tat Poon	Assistant Chief Radiographer, CRGH
Ms Joyce Wu	Assistant Chief Radiographer, CRGH

Revision History

Version	Date Issued	Issued to	Description
1.0	26 October 2017	Dr David Rowe	For comment and review

Endorsed by

Name	Position	Signature & Date
Mr Tim Sinclair	General Manager	
Mr John O'Connor	A/Director, Strategic Financial Projects	
Mr Jon Gowdy	Acting Director, Capital Asset & Engineering- SLHD	
Ms Jacquie Ferguson	Director of Finance	

Approved by

Name	Signature & Date
Dr Teresa Anderson – Chief Executive	

Contents

EXECUTIVE SUMMARY	4
1. BACKGROUND	7
1.1. Overview	7
1.2. Current Service	7
1.3. Program for preferred option	8
1.4. Case for change	8
2. OPTIONS ANALYSIS	9
2.1. Overview	9
2.2. Option 1 – Retain status quo (Do nothing)	9
2.3. Option 2 – Purchase additional MRI via an Operating Lease	9
2.4. Option 3 – Purchase additional MRI via a direct capital purchase procurement process	9
2.5. Options assessment	9
3. FINANCIAL ANALYSIS – RECURRENT COST IMPACTS	10
3.1. Overview	10
3.2. Financial impact of additional equipment replacement	10
4. RISKS	10
5. RECOMMENDATIONS	12
ATTACHEMENTS	13
1.0 Sydney Local Health District Locally Funded Initiative for 2017/18	13
2.0 Sydney Local Health District Financial Impact Statements (FIS)	13

 List of Acronyms

ACRONYM	DETAILS
CONCORD	Concord Repatriation General Hospital
CRGH	Concord Repatriation General Hospital
DR	Digital Radiography
ED	Emergency Department
ETC	Estimated Total Cost
FIS	Financial Impact Statement
GF	General Fund
LHD	Local Health District
MOH	Ministry of Health
RFA	Restricted Financial Assets
RPAH	Royal Prince Alfred Hospital
RFQ	Request for Quotation
SLHD	Sydney Local Health District
SOA	Standing Offer Agreement
SP&T	Special Purpose & Trust
MRI	Magnetic Resonance Imaging

EXECUTIVE SUMMARY

OVERVIEW

This business case has been prepared to support the purchase of new additional Magnetic Resonance Imaging (MRI) equipment for Radiology Department at Concord Repatriation General Hospital (CRGH).

Concord Repatriation General Hospital (CRGH) is an A1 principal referral hospital in the Sydney Local Health District (SLHD). The hospital has approximately 450 inpatient beds and provides a wide range of medical, surgical and procedural services and is a centre of excellence for burns, aged care and haematology.

The project includes the necessary building works to facilitate the installation and commissioning of this additional MRI equipment. The MRI in-scope for this project is the:

- Additional MRI Suite (Second MRI Room)

CRGH has identified a range of expected benefits that will be derived from this project, including:

- Improve the turnaround times for all patients, especially inpatients;
- Decreased risk of downtime and insufficient capacity;
- Advance clinical capability of the equipment to address complex clinical needs;
- Advanced MRI machines will assist in leading clinical research, training and studies;
- New additional MRI will address patients lists, and facilitate compliance with National and Internal Quality and Safety Standards;
- Objective to be able to provide Best Practice quality patient service; and
- Use of space for MRI to generate additional revenue for facility.

CASE FOR CHANGE

The case for change is based on the:

- Need to deliver improved clinical and diagnostic care to patients;
- Improve the turnaround times for all patients, especially inpatients;
- Meet catchment population growth needs while meeting increasing demand for services;
- New MRI equipment with advanced clinical applications will provide better quality MRI images with no radiation dose to patients; and
- Minimal cost of the investment required to achieve the benefits that can be derived from Digital technology.

OPTIONS ANALYSIS

The following options have been identified and analysed in the business case:

Option 1: Retain Status Quo (**Do nothing**).

Option 2: Purchase additional MRI via an Operating Lease.

Option 3: Purchase additional MRI via a direct capital purchase procurement process.

Based on the analysis in the business case the preferred option is, **Option 3:** 'Purchase additional MRI via a direct capital purchase procurement process.

RECOMMENDATIONS

It is recommended that the Chief Executive approves the Concord Hospital additional MRI equipment project which is part of CRGH's Locally Funded Initiatives (LFIs) for 2017/18.

The estimated capital costs of the project are Equipment cost \$ 3.0 millions with other cost \$4,431M. The additional recurrent costs will be absorbed by CRGH General Fund and funded through internal efficiencies. The estimated total capital cost of the project comprising of the following components:

Table 1: Capital Cost Summary

Description	Quantity	Unit Cost	Total Cost
Equipment cost	1	\$3,000,000	\$3,000,000
Building Works	1	Please adjust as required)\$435,000	\$435,000
Furniture, Fixtures, Fitting	4	Please adjust as required)\$135,000	\$540,000
Contingency – 20%	4	Please adjust as required)\$114,000	\$456,000
Total Project Cost			Please adjust as required)\$4,431,000

The funding source of this project is from the following Restricted Financial Assets (RFA) CRGH Computerised Radiology Fund Cost Centre 513696. As at the date of this business case (November 2017) there are sufficient funds in the identified RFA cost centres to deliver of the preferred option in 2017/18.

Table 2: Project Funding from RFA Cost Centres

Cost Centre	Cost Centre Name	Trustees	Agreed Funding
513696	Computerised Radiology Fund	Dr Teresa Anderson and Dr David Rowe	Please adjust as required)\$4,431,000

Recurrent cost impacts

During the installation period of additional MRI at Concord, there is minimal risk anticipated to staff and patients as services will be conducted in usual business manner. It is not anticipated that any additional staffing or goods and services costs will be incurred during the installation period. The additional MRI project is expected to have any impact on activity once it is completed.

The Net Cost of Service (NCoS) impact is estimated to be an increase **\$0.308million** per annum (**\$0.120million** excluding Depreciation). This reflects the impact of depreciation and the service contracts associated with the replacement equipment. This additional recurrent cost will be funded from the CRGH Radiology Cost Centre (CC458753).

1. BACKGROUND

1.1. Overview

This business case has been prepared to support the purchase of an additional Magnetic Resonance Imaging (MRI) at Concord Repatriation General Hospital (CRGH). The project includes the necessary building works to facilitate the installation and commissioning of the MRI replacement equipment. The MRI equipment in-scope for this project is the:

Additional MRI Suite (Second MRI Room) Concord Repatriation General Hospital (CRGH) is an A1 principal referral hospital in the Sydney Local Health District (SLHD). The hospital has approximately 450 inpatient beds and provides a wide range of medical, surgical and procedural services and is a centre of excellence for burns, aged care and haematology.

This project proposes the purchase of equipment in 2017/18, in a single direct capital purchase procurement process. The procurement process will be via a Request for Quotation (RFQ) under the NSW Public Works Electromedical Period Contract Standing Offer Agreement No. MRI1611 for MRI Equipment.

The CRGH Radiology Department has identified a range of benefits associated with the purchase of the new MRI units, the expected benefits include:

- Improve the turnaround times for all patients, especially inpatients.
- Decreased risk of downtime and insufficient capacity.
- Advance clinical capability of the equipment to address complex clinical needs.
- Advanced MRI machines will assist in leading clinical research, training and studies.
- Use of space for MRI to generate additional revenue for facility.

The additional MRI will enable models of care incorporating MRI studies in patient diagnosis and management. The MBS does not rebate all new indications. These include, but are not limited to, myocardial viability studies and multiparametric MRI for prostate cancer, for which there is substantial unmet demand at CRGH. As access to MRI becomes less restricted, it is likely that further models of care involving MRI will be developed and employed.

A Non MBS rebatable outpatients and inpatients will be able to be scanned on the non-licensed MRI, freeing up slots on the licensed scanner for MBS rebatable patients. Slots on the unlicensed scanner will be available for billable, non MBS rebatable indications and research studies, many of which are billable.

The project has an estimated capital cost of (Please adjust as required) \$4,431M. This will be funded from Restricted Financial Assets (RFA) CRGH Computerised Radiology Fund Cost Centre 513696.

1.2. Current Service

This section describes the issues with the current equipment and the adverse impact the equipment is having on the effectiveness and operational efficiency of the CRGH Radiology Department.

ISSUES

The current issues with the existing MRI services are:

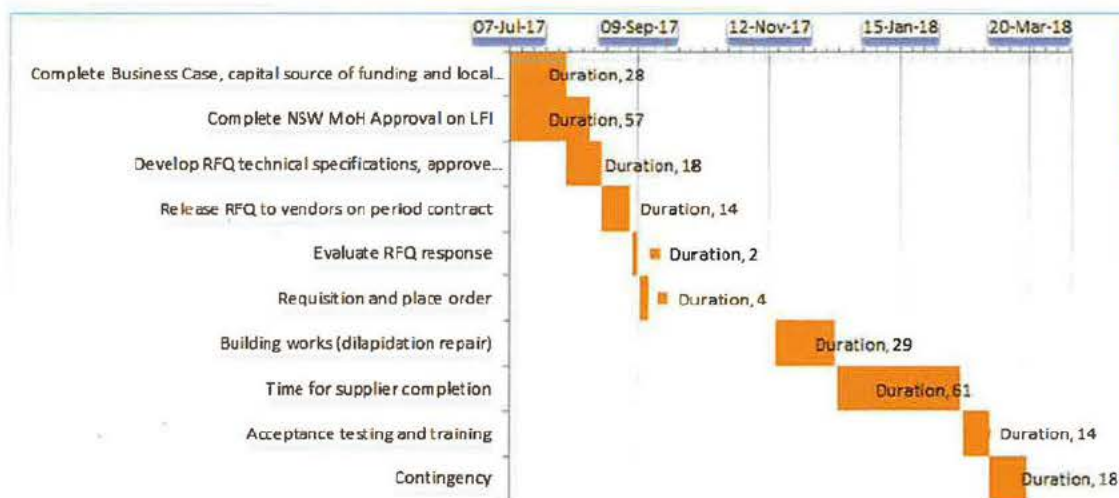
- **Single MRI at CRGH:** The current equipment is 3T MRI unit and which scans approximately 5,000 patients per year, of which approximately 80% are billable. The scanner operates 70 hours per week including Saturdays.
- **During breakdowns:** During the MRI machine breakdowns, the patients are sent to RPAH for urgent MRI scans. The continued breakdowns affect MoH KPIs for MRI utilisation and patient waiting list.
- **Compromised Revenue during breakdown:** As CRGH has a single MRI machine, during MRI machine breakdowns, the revenue generated can be compromise.
- **Compromised turnaround times for patients, especially inpatients:** The current waiting time for outpatient scans is approximately 8-10weeks, with inpatient waiting times being up to 48 hours, depending on demand.

1.3. Program for preferred option

The Gantt chart below sets out the major project stages in days and tasks and the envisaged timeframes. The Project is expected to complete by end of February 2018 with a contingency plan to March 2018. The proposed equipment is within the District's Asset Strategic Plan, future innovation and being included on the current Locally Funded Initiatives planning.

The project program plan as per Gantt chart is shown below:

Table 1: Gantt Chart.



1.4. Case for change

The case for change is based on the:

- Need to deliver improved clinical and diagnostic care to patients;
- Improve the turnaround times for all patients, especially inpatients;

- Meet catchment population growth needs while meeting increasing demand for services;
- New MRI equipment with advanced clinical applications will provide better quality MRI images with no radiation dose to patients; and
- Minimal cost of the investment required to achieve the benefits that can be derived from DR technology.

2. OPTIONS ANALYSIS

2.1. Overview

This section provides an overview of the key features of each of the options considered as part of the business case. The following options have been identified and as described in detail in this section

Option 1: Retain Status Quo (**Do nothing**).

Option 2: Purchase additional MRI via an Operating Lease.

Option 3: Purchase additional MRI via a direct capital purchase procurement process.

2.2. Option 1 – Retain status quo (Do nothing)

This option would not involve any changes to the current service or the purchase of any new equipment. This option does not address the Business Requirements identified in [Section 1.4](#) above and was not considered further.

2.3. Option 2 – Purchase additional MRI via an Operating Lease

The new equipment would be funded using an operating lease rather than a direct capital purchase. The operating lease would be based on the existing NSW Contract MRI1611 for MRI Equipment. The estimated annual lease cost is approximately \$0.276M.

2.4. Option 3 – Purchase additional MRI via a direct capital purchase procurement process

The new equipment would be funded by an existing Restricted Financial Assets cost centre. This option addresses the Case for Change and the service need.

2.5. Options assessment

Summary of three (3) options were assessed to meet the identified service need are as follows:

Table 2: Option Assessment

Option	Description	Issues	Recommendation
Option 1	Base Case – Do Nothing	<ul style="list-style-type: none"> ▪ Does not address the service need. 	Not Recommended
Option 2	Lease MRI equipment	<ul style="list-style-type: none"> ▪ Addresses the service need. ▪ Financial assessment was that this option was the not the most viable. 	Not Recommended
Option 3	Purchase additional MRI equipment	<ul style="list-style-type: none"> ▪ Addresses the service need. ▪ Financial assessment was 	Recommended

Option	Description	Issues	Recommendation
		that this option was the most viable.	

3. FINANCIAL ANALYSIS – RECURRENT COST IMPACTS

3.1. Overview

This section summarises the recurrent financial impacts of **Option 3 – Purchase additional MRI via a direct capital purchase procurement process.**

3.2. Financial impact of additional equipment replacement

The table below reflects the additional recurrent costs associated with the preferred option.

Table 3: Financial impact

Expenditure	Base – 2016/17 FY \$,000	Projected – 2018/19 FY \$,000	Movement – \$,000
Expenditure			
Employee Related Expenses	(Please update the data as required)8,448	8,448	0
Goods & Services	989	989	0
RMR	708	931	223
VMO	361	361	0
Depreciation	0	188	188
Total Expenditure	10,506	10,917	411
Revenue			
User Charges	21	124	-103
Net Cost of Service	10,485	10,793	308

It is noted that there will be additional recurrent cost impacts incurred by CRGH on Employee Related Expenses, Good & Services and VMO as a result of this project. The estimated additional costing for radiographer, nursing and clerical staffs is \$302,000 excluding the salary of radiologist costing.

4. RISKS

Overview

The CRGH Executive has assessed the risks associated with this projected and has identified a number of risks associated with:

- Not proceeding with the additional MRI machine purchase.
- Not achieving surgical KPIs and NEST targets.
- Not achieving activity targets as a result of reduced capacity.
- The works required.

Risks associated with not proceeding with the additional MRI machine purchase

The major risks associated with not proceeding with the purchase of additional MRI machine are the impact on quality and standard of patient care, specifically:

Improved clinical and diagnostic care to patients

There is only one 3T MRI machine in Concord Hospital. In cases of machine breakdown, the urgent cases of MRI patients are transferred to RPA Hospital for services. There are ongoing issues with the current MRI machine with affects services to inpatients.

Turnaround times for all patients, especially inpatients

CRGH currently has one 3T MRI unit and scans approximately 5,000 patients per year, of which approximately 80% are billable. The scanner operates 70 hours per week including Saturdays.

The current waiting time for outpatient scans is approximately 8-10weeks, with inpatient waiting times being up to 48 hours, depending on demand.

Compromised Revenue during breakdown

During MRI machine down times, CRGH relies on RPAH for urgent MRI scans, and this adversely impacting both CRGH and RPAH activity and revenue.

Risk associated with not achieving surgical KPIs and NEST targets

The current service condition and combined with increasing growth and patient demand, there is increasing risk of cancellation and/or delay lists which could impact on surgical KPIs and NEST targets.

Risks during the renovation to the building

Increased noise levels

The increased noise associated with renovations may impact staff and patients in adjacent to Radiology building.

Infection control

There is a risk of contamination of sterile areas from workmen and dust associated with renovations. This risk will be managed by Concord Hospital project team.

Disruption to other services

If there are disruptions to services, such as electrical work, during renovations this may impact waiting lists.

5. RECOMMENDATIONS

It is recommended that the Chief Executive approves the Concord Hospital additional MRI equipment purchase project which is part of CRGH's Locally Funded Initiatives (LFIs) for 2017/18.

The estimated capital costs of the project are (Please adjust as required) \$4,431M which will be funded from Restricted Financial Assets (RFA) CRGH Computerised Radiology Fund Cost Centre 513696. The additional recurrent costs will be absorbed by CRGH and funded through internal efficiencies.

ATTACHEMENTS

- 1.0 Sydney Local Health District Locally Funded Initiative for 2017/18.
- 2.0 Sydney Local Health District Financial Impact Statements (FIS).