



Full Business Case

Adult Level 3 ICU Project:
Glenfield Imaging Enabler

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Building Caring at its best

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Glossary of Terms

Abbreviation	Full Heading
BCT	Better Care Together
CCG	Clinical Commissioning Group
CHUGGS	Cancer, Haematology, Urology, Gastroenterology and General Surgery
CIP	Cost Improvement Programme
CMG	Clinical Management Group
CRL	Capital Resource Limit
CSI	Clinical Supporting and Imaging
DCCM	Department of Critical Care Medicine
EFL	External Financing Limit
ELC	Emergency laparoscopic cholecystectomy
ERCP	Endoscopic retrograde cholangiopancreatography
ESAC	Emergency Surgical Ambulatory Care
ESB	Executive Strategy Board
ESM	Emergency and Specialist Medicine
FBC	Full Business Case
FM	Facilities Management
GH	Glenfield Hospital
HDU	High Dependency Unit
HPB Unit	Hepato-Pancreato-Biliary unit
IBD	Interest Bearing Debt
ICNARC	Intensive Care National Audit & Research Centre
ICU	Intensive Care Unit

Abbreviation	Full Heading
IFPIC	Integrated Finance Performance and Investment Committee
IM&T	Information Management & Technology
IR	Interventional Radiology
ITAPS	Critical Care, Theatre, Anaesthetic, Pain and Sleep
ITFF	Independent Trust Financing Facility
I&E	Income & Expenditure
JSNA	Joint Strategic Needs Assessment
LGH	Leicester General Hospital
LiA	Local Infiltration Analgesia
LRI	Leicester Royal Infirmary
LTFM	Long-Term Financial Model
MSS	Musculoskeletal and Specialist Surgery
PDC	Public Dividend Capital
RRCV	Renal, Respiratory, Cardiac and Vascular
SMART	Specific, Measurable, Achievable, Realistic, Time-related
SRO	Senior Responsible Officer
UHL	University Hospitals of Leicester
USS	Ultrasound Scan
VAT	Value Added Tax
VFM	Value For Money
W&C	Women's & Children's
WTE	Whole Time Equivalent

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1 | Executive Summary

1.1 Introduction

This Full Business Case (FBC) is for the reconfiguration of University Hospitals Leicester (UHL) imaging services and proposes the expansion of Interventional Radiology (IR) capacity on the Trust's Glenfield Hospital (GH) site.

The FBC is presented in the context of the immediate clinical imperative to remove Adult Level 3¹ Critical Care from Leicester General Hospital (LGH) to the Leicester Royal Infirmary (LRI) and GH by July 2016. The requirement to move Adult Level 3 Critical Care services from LGH will lead to the requirement for IR services on all three of the Trust's hospital sites so as to provide a truly cross-site service. IR provision is currently only present at LGH and LRI. The approved Vascular business case plans to add vascular surgery-specific IR cover at GH by April 2016.

Without the investment proposed in this business case, Adult Level 3 Critical Care cannot be moved from LGH, as specialties such as Hepato-Pancreato-Biliary (HPB) and Renal Transplant (both planned to be located on the GH site from July 2016) are dependent upon IR to deliver their services. Substantial elements of patient care are provided away from the bed bases of those specialties. The only practicable alternative to this proposed investment would be for the Trust to cease provision of those activities planned to be located at GH due to the lack of suitable on-site IR provision.

1.1.1. A key enabler

The proposal is for a capital scheme that will increase IR capacity at GH as a key enabler to support those specialties moving from LGH to GH (due to the necessary removal of the Adult Level 3 ICU services from LGH), and includes enabling moves of medical records, offices, on call and doctors' mess facilities.

The proposed investment will provide the estate that will enable the Trust to transfer from LGH to GH the capability for:

- ▶ IR for HPB services to deliver Endoscopic Retrograde Cholangio-Pancreatography (ERCP) procedures
- ▶ Comprehensive IR support for Vascular Access (carried out by Renal Transplant surgeons)

The benefits of this investment business case will include:

¹ See Appendix 1 for details of Levels of Care – definitions used throughout this document.

- ▶ The co-location of additional capacity alongside the existing GH imaging department, which will allow for an optimally efficient flow of patients
- ▶ The expansion of imaging so that interventional procedures can be carried out for HPB, Renal Transplant and Nephrology at GH
- ▶ Ensuring critical physical adjacencies at GH (in terms of availability of urgent radiological response to emergencies)
- ▶ Making the most effective use of resources, staffing and equipment within the GH Imaging department
- ▶ The provision of imaging services following the major ICU reconfiguration currently underway that will enable the associated relocation of services (specifically HPB and Renal) to benefit from the same quality and capacity offered by current facilities in their new locations
- ▶ Support for the Trust's longer term strategy to become smaller while expanding its provision of specialised, co-located services

It is noted that the changes put forward within this case will require not only the level of investment set out, but will also rely heavily upon changes in the way imaging staff deliver their services in future. The overall transformation will ensure that the GH Imaging department will sustainably provide safe and effective support for specialties transferring to GH.

1.2 Strategic Case

1.2.1 Why is immediate change necessary?

In order to support the relocation of Adult Level 3 Critical Care and affected services from the LGH by July 2016 there is an immediate requirement to reconfigure imaging services offered across UHL (but specifically on the GH site). This will be a key enabler for HPB and Renal Transplant to move onto the GH site as, although Vascular Interventional Radiology will exist on site by April 2016, the capacity to provide support for HPB and Renal Transplant will not otherwise be available by July 2016.

1.2.2 What benefits will it bring?

The proposed investment will bring the following benefits.

- ▶ Co-location of additional capacity alongside the existing imaging department will allow for efficient flow of patients
- ▶ The expansion of GH imaging facilities will allow interventional procedures to be carried out for HPB, Renal Transplant and Nephrology
- ▶ Critical adjacencies will be met to allow urgent response in the case of emergencies
- ▶ Effective use of UHL resources, staffing and equipment

- ▶ Following reconfiguration of UHL Adult Level 3 Critical Care services, provision of support services that provide the same quality and capacity as the current facilities – in the right place at the right time
- ▶ Essential adjacency of the IR suite to ICU Level 3 for patients undergoing Endoscopic retrograde cholangiopancreatography (ERCP)
- ▶ HPB co-location with Level 3 care, which is vital for safe and efficient services. Interventions by GI radiologists are frequently required for HPB patients
- ▶ Avoidance of patient transfer to another site – which would be necessary if GH did not provide the requisite imaging services. Thus the investment will deliver more optimal patient pathways and an improved patient experience – the right care in the right locations at the right times

1.3 Economic Case

This FBC sets out the details for the preferred option for the build. The options initially explored for each site are as follows (see Appendix 3 for site map with locations demonstrated):

Table 1 GH site options explored

Option	Description
A New Build Outside of Imaging	Construction of new capacity outside of the main entrance to GH
B New Build at Ivydene House	Construction of new capacity on the site of Ivydene House at GH
C New Build in South Entrance Staff Car Park	Construction of new capacity in the Car Park adjacent to the South Entrance at GH
D1 Refurbishment of Medical Records & Offices – courtyard space unutilised	Conversion of Medical Records and Office space, adjacent to existing Imaging space
D2 Refurbishment of Medical Records & Offices – courtyard space utilised	Conversion of Medical Records and Office space, adjacent to existing Imaging space, utilising a courtyard area

The benefits were scored by potential location.

Table 2 Options Scores – Imaging Expansion at GH

Criteria/ Scores		A	B	C	D1	D2
A	Clinical Quality and Configuration	8	6	6	10	10
B	Efficiency & Effectiveness	5	5	5	5	5
C	Staffing	3	1	1	5	5
D	Quality of the Patient Environment	14	12	12	15	15
E	Achievability	3	2	1	5	4
F	Accessibility	9	6	3	15	15

OVERALL SCORES	42	32	28	55	54
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These scores were then weighted as follows:

Table 3 Option Scores – Weighted

Criteria/Weighted Scores		A	B	C	D1	D2
A	Clinical Quality and Configuration	0.4	0.3	0.3	0.5	0.5
B	Efficiency & Effectiveness	0.3	0.3	0.3	0.3	0.3
C	Staffing	0.6	0.2	0.2	1.0	1.0
D	Quality of the Patient Environment	1.4	1.2	1.2	1.5	1.5
E	Achievability	1.5	1.0	0.5	2.5	2.0
F	Accessibility	0.9	0.6	0.3	1.5	1.5
OVERALL WEIGHTED SCORES		5.1	3.55	2.75	7.25	6.75
RANK		3			1	2

The option appraisal process evolved as a result of timescales and funding available. A summary of the final options appraised:

Table 4 Summary of Final Options Appraised

Option	NPC £'000	Benefit Score	Cost (£'000) per benefit Score	Rank
Option A	676,086	5.10	132,566	3
Option D1	671,610	7.25	92,636	1
Option D2	673,495	6.75	99,777	2

Preferred option

Cost-benefit analysis shows that by combining the financial and non-financial scores, option D1 scores best on both the financial and non-financial appraisals. As per the undertaking of the qualitative and quantitative benefits analysis, the preferred option for expansion of IR space at GH is therefore:

- ▶ **D1 – Refurbishment of Medical Records & Offices – courtyard space unutilised**

1.4 Commercial Case

The project requires the provision of, and procurement of the following key services:

- ▶ Reconfiguration of facilities for GH imaging services as a key enabler for the transfer of specialties and Level 3 care from LGH to GH; this will entail conversion of medical records and office space adjacent to the existing GH imaging space

1.4.1 Procurement Approach

The capital works could be procured traditionally through competition; however, the desired programme end date of July 2016 could not be achieved through this procurement approach: time taken for competitive tendering would delay the completion of construction activities from end July to October 2016. This in turn would have a knock-on effect on the operational commissioning process that would have to be undertaken by the operational team before the facilities could be used.

The best alternative to the traditional competitive approach is procurement of the contractor through a framework agreement – there are a number of suitable framework agreements available in the public sector. Due to time constraints as described above, this is the preferred approach for this investment business case.

UHL has a framework agreement with Interserve FM (IFM) for the provision of various services. IFM has assigned Interserve Construction Limited (ICL) to deliver UHL capital projects on request. ICL is thus the principle contractor for the delivery of UHL projects commissioned through the framework. Commercial arrangements and contracts are pre-agreed to cover commencement of a business case through to final delivery of the asset using an NEC3 Option C form of contract. Any cost savings generated through the development of the project are split between the contractor and the Trust, based on agreed rates/percentages.

The aim of this procurement approach is to engender a spirit of partnering and collaboration across the project team through to the contractor and subsequent supply chain. The risk of any cost increases over and above the agreed Guaranteed Maximum Price (GMP) after the GMP has been agreed and the construction has commenced sits solely with the contractor. The approach therefore leads to a proactive approach to risk management throughout the supply chain.

1.5 Financial Case

The financial position of this business case shows an additional operational cost of £373,000 per annum. This is shown in the following table.

Table 5 Financial Position of the Business Case

	2015/16 £'000	2016/17 £'000	2017/18 £'000	2018/19 £'000
Operating Costs				
IR Nursing above Vascular case		27	41	41
Non-IR Modalities		58	77	77
On Call costs		10	15	15
IR Consultants		120	180	180

	2015/16 £'000	2016/17 £'000	2017/18 £'000	2018/19 £'000
Medical Records	6	12		
Rentalisation of move costs		40	60	60
Total Operating Costs	6	267	373	373
Capital Charges				
Interest	14	70	109	104
ROA	0	(78)	(152)	(146)
Depreciation	0	5	9	9
Total Capital Charges	14	(3)	(34)	(32)
Total Impact on I&E	20	264	339	341

Non-operating costs have been allowed for in the Trust's Long-Term Financial Model (LTFM), leaving the additional operating costs of circa £267,000 in 2016/17 and £373,000 in 2017/18 and 2018/19 outside the LTFM. The Trust needs to maintain the deficit reduction trajectory described in its Financial Strategy. The operating cost revenue impact of this proposed enabling development is only affordable if the development is funded by the £4m per annum allowance made in the Financial Strategy for annual operating cost pressures. This approach has been supported by the Trust Board.

1.5.1 Capital Costs

The capital costs of the development total £4,550,479. The table below shows an analysis of the total costs.

Table 6 Capital Costs of GH Imaging Reconfiguration

Capital Costs	£
Departmental Costs	1,755,449
On Costs	947,414
Works cost	2,702,863
Provisional Location Adjustment	(111,114)
Sub total	2,591,748
Fees	571,293
Non Works Cost	0
Equipment Cost	95,297
Planning Contingency	677,005
Total For Approval Purposes	3,935,344
Optimism Bias	205,513
Sub Total	4,140,857

Inflation	409,622
Total Outturn	4,550,479

1.6 Management Case

The programme anticipating completion is set out below.

Table 7 Project Programme

Description	Activity / Milestone	Start date	End date
Stage 3 Design and Generation of the GMP	Activity	October 2015	December 2015
Conversion of Treatment Centre into Medical Records Space	Activity	19-Oct-15	28-Dec-15
Creation of site based implementation groups	Milestone	26-Oct-15	26-Oct-15
Fortnightly Meeting of Implementation Groups and ICU Programme Board	Activity	26-Oct-15	30-Jul-16
Re-Engage with OSC	Activity	01-Nov-15	31-Nov-15
Identify staff in scope for MoC	Activity	01-Dec-15	31-Dec-15
Business Case signed off at ESB	Milestone	10-Nov-15	17-Nov-15
Business Case signed off at CMIC	Milestone	13-Nov-15	20-Nov-15
Business Case signed off at IFPIC	Milestone	26-Nov-15	26-Nov-15
Business Case signed off at Trust Board	Milestone	03-Dec-15	03-Dec-15
Vacation of Medical Records, office space and on-call rooms at GH	Milestone	28-Dec-15	28-Dec-15
Conversion of vacated areas for Interventional Radiology	Activity	29-Dec-15	29-Jul-16
Update on PTE Capital Costs	Activity	31-Dec-15	07-Jan-16
LIA events at CMG/Specialty Level	Activity	01-Jan-16	31-Jan-16
Construction Activities (including 5 weeks to relocate equipment).	Activity	January 2016	July 2016
Draft MoC paper and undertake pre-consultation with staff side	Activity	01-Feb-16	28-Feb-16
Expanded Interventional Radiology space operational	Milestone	29-Jul-16	29-Jul-16

1.7 Conclusion

- ▶ This business case is a key enabler to the immediate clinical imperative to remove Adult Level 3 care from LGH to the LRI and GH by July 2016, delivering the requisite additional imaging capacity at the GH site to support the resultant transfer of specialist tertiary services to that location;
- ▶ It supports the Trust's longer term strategy to become smaller while expanding its provision of specialised, co-located services.

1.8 Recommendation

The Trust Board is recommended to approve this investment business case.

2 | The Strategic Case

2.1 Structure & Content of the Document

This business case has been prepared using the agreed standards and format for business cases, as set out in Department of Health guidance and HM Treasury Green Book. The case comprises the following key components:

- ▶ **The Strategic Case** | Sets out the strategic context and the case for change, together with the supporting investment objectives for the scheme
- ▶ **The Economic Case** | Demonstrates that the organisation has selected the choice for investment which best meets the existing and future needs of the service and optimises value for money (VFM)
- ▶ **The Commercial Case** | Outlines the content and structure of the proposed deal
- ▶ **The Financial Case** | Confirms funding arrangements and affordability and explains any impact on the balance sheet of the organisation
- ▶ **The Management Case** | Demonstrates that the scheme is achievable and can be delivered successfully to cost, time and quality

This FBC is for the reconfiguration of UHL Imaging services and proposes the expansion of Interventional Radiology (IR) capacity on the Trust's GH site. Provision on the LRI site will continue to be provided as it is at present.

The FBC is presented in the context of the immediate clinical imperative to remove Adult Level 3 Critical Care from LGH to LRI and GH by July 2016. The requirement to move Adult Level 3 care services from LGH will lead to the need for IR services on all three of the Trust's hospital sites to provide a truly cross-site service. This provision is currently only present at LGH and LRI (with the approved Vascular business case providing vascular surgery-specific IR cover at GH by April 2016).

Without this proposed investment, Adult Level 3 Critical Care cannot be moved from LGH, as specialties such as Hepato-Pancreato-Biliary (HPB) and Renal Transplant (planned to be located on the GH site from July 2016) are dependent upon IR to deliver their services. Substantial elements of patient care are provided away from the bed bases of those specialties. The only realistic alternative to this proposed investment would be for the Trust to cease provision of those activities planned to be located at GH due to the lack of suitable on-site IR provision.

The reconfiguration of UHL ICU services forms part of a much larger transformation programme that will deliver sustainable health and social care across Leicester, Leicestershire & Rutland (LLR). The 'Better Care Together' (BCT) programme is managed in partnership with NHS commissioners and providers, local councils and a variety of non-statutory services. To deliver the goals of the BCT Programme, the Trust has developed a five-year strategic plan underpinned by an estates strategy. These

articulate that to ensure future sustainability and affordability, UHL needs to relocate acute services from LGH to LRI and GH. A sum of £327m has been identified to fund the capital reconfiguration programme at UHL.

The outcomes of the BCT programme for UHL will include:

- ▶ Providing a greater focus on specialised care, teaching and research
- ▶ Significantly smaller acute hospitals overall and fewer acute hospital beds, offering improved care and facilities
- ▶ Concentrating acute services on two sites rather than three

2.1.1 Clinical objectives

The clinical objectives of the project overall are as follows:

- ▶ To expand IR capacity at GH, thus enabling the movement of activity reliant on Adult Level 3 ICU from LGH to GH by July 2016
- ▶ To support a Critical Care service with the continuing capacity for imaging to enable provision of high-quality care that improves patient outcomes
- ▶ To enable the Trust to move to Level 3 care on two sites rather than three – and in turn offer better access to diagnostics, physiotherapy, imaging and pharmacy
- ▶ To enable the rationalisation of ICU beds in UHL to two sites, improving the quality and safety of care provided
- ▶ To enable the two-site strategy to sustainably provide an improved patient experience and quality of care, maintaining the in-house critical skills required for the care of the most acute ICU patients
- ▶ To act as an enabler to ensure that the Trust has the capacity to provide 24/7 consultant cover
- ▶ To enable the Trust to attract the next generation of intensivists, offering more training opportunities and improving UHL's recruitment and retention capability
- ▶ To provide the necessary facilities to support the Trust's ability to keep ICU-driven cancellations for inpatient treatment to the bare minimum

Part A: The Case for Change

2.2 Introduction

The purpose of this section of the business case is to outline the strategic case for change.

2.3 Clinical Drivers for Change

The biggest risk to the delivery of a high quality ICU services offered by the Trust was identified as the lack of a suitably qualified workforce to maintain safe Level 3 ICU services at the LGH site. Lead clinicians from within Critical Care identified a number of key risks that require immediate action in addressing the long term sustainability of Critical Care across UHL. These risks were presented to a number of clinicians and managers from a range of affected specialties and formed the basis of the case for change. The risks raised were:

- ▶ A gradual movement of high dependency patients from LGH to GH and LRI sites and changes in patient flows restricts opportunities for critical care staff to maintain experience in providing care for critically ill patients. An erosion of skill base presents further risk to the most vulnerable patients in the future. This impacts on both the consultant workforce and the middle grade workforce who cannot gain suitable experiences at the LGH site
- ▶ In addition to eroding the skill base at the LGH site, efforts to recruit Consultant Intensivists have failed to attract suitably qualified clinicians in an already 'difficult to recruit' market. It is predicted this issue will be compounded when three Consultant Intensivists are due to retire in the summer of 2016. In 2014 advertisements for Consultant Intensivists at LGH were re-advertised and attracted a limited pool of applicants. Much greater levels of success are experienced for posts advertised at the LRI and GH sites
- ▶ A shortage of suitably qualified staff is replicated in the nursing workforce who can elect to work from the GH and LRI sites or alternative local hospitals offering more extensive critical care experience

If the sustainability of ICU provision across UHL is not addressed by July 2016, then the Adult Level 3 ICU service on the LGH site will cease to be provided. This course of action will lead to the cancellation of all surgery and emergency activity at the LGH site which is predicted to require level three critical care support. This reduction in activity, whilst unavoidable on the grounds of clinical quality and safety, will see a resultant loss of quality of care for Leicester patients, damaged reputation for the Trust and loss of future income.

It was agreed by the Trust Board, and in discussion with the Overview and Scrutiny Committee (OSC), that responding to the clinical concerns raised above was of paramount importance and warranted the immediate commencement of work to deliver the relocation of adult Level 3 Critical Care services from LGH.

Upon commencement of the project the Adult Level 3 ICU service was anticipated to be viable until December 2015. However, due to the complexity of the solutions required and the sheer number of stakeholders that required involvement, the project delivery date was revised to July 2016. This has only been possible due to the flexibility and co-operation of staff within ICU at UHL.

It must be noted that until July 2016, interim staffing arrangements are in place to ensure that the ICU provision at the LGH continues to be a safe and high quality service.

While set in the context of the above clinical need, the specific clinical driver for the changes proposed by this business case is:

- ▶ The requirement to move adult Level 3 Critical Care services from LGH will lead to the requirement for IR services on all three of the Trust's hospital sites to provide a truly cross-site service. This provision is currently only present at LGH and LRI (with the approved Vascular business case providing vascular surgery-specific IR cover at GH by April 2016)

The investment required is in keeping with the Trust's longer term strategic objectives. UHL's Five Year Strategy envisages that HPB, Nephrology and Renal Transplant services would all move to the GH site. There will be a requirement for full access to all modalities of imaging including IR for both vascular access and abdominal procedures in July 2016 and later for any other specialties that require such input. The investment proposed by this business case will ensure that future GH imaging services will fully support specialties such as the HPB unit. (The HPB unit is planned to move to the GH site, enabling the unit to run as a "stand alone" service providing consultant-led care for patients presenting with emergency biliary pathology with emergency laparoscopic cholecystectomy undertaken on index admission.)

Part B: The Strategic Context

2.4 Introduction

This section provides an overview of the context in which the Trust provides its services and the strategic guiding principles, directives and policies that ensure clinical quality standards are met.

The intention is to provide an overview of the Trust and its strategic objectives, to highlight current imaging services delivery and set the context for this business case. It also provides an overview of the policy drivers and technical guidance documents at national, regional and local levels.

2.5 Organisational Overview & Background

2.5.1 University Hospital Leicester NHS Trust

UHL is one of the largest teaching hospitals in the country and operates across three main sites (LRI, LGH, and GH). It is the only acute Trust serving the diverse local population of Leicester, Leicestershire and Rutland (LLR); totalling approximately one million residents.

The nationally and internationally-renowned specialist treatment and services in cardio-respiratory diseases, cancer and renal disorders reach a further two to three million patients from the rest of the country.

2.5.2 Clinical Management

Clinical management within the Trust is provided by seven clinical management groups (CMGs), each led by clinical director who in turn reports to UHL's Chief Operating Officer Richard Mitchell. All seven CMGs will be affected by the proposed redevelopment. The groups are as follows:

- ▶ Critical Care, Theatre, Anaesthesia, Pain and Sleep (ITAPS)
- ▶ Cancer, Haematology, Urology, Gastroenterology and General Surgery (CHUGGS)
- ▶ Clinical Supporting and Imaging (CSI)
- ▶ Emergency and Specialist Medicine (ESM)
- ▶ Musculoskeletal and Specialist Surgery (MSS)
- ▶ Renal, Respiratory, Cardiac and Vascular (RRCV)
- ▶ Women's and Children's (W&C)

The CMGs comprise clinicians, nurses, allied health professionals and managers; each one has developed strategies to deliver the Trust's strategic objectives.

2.5.3 Activity & Finance

UHL provides hospital- and community-based healthcare services to patients across LLR. It also provides specialist services to patients throughout the UK. The Trust is actively engaged with key stakeholders to implement NHS policy to improve health services through a range of formal and informal partnerships. The UHL team consists of more than 10,000 staff providing healthcare primarily for the one million-plus LLR residents it serves. The nationally and internationally-renowned specialist treatment and services in cardio-respiratory diseases, cancer and renal disorders reach a further two to three million patients from the rest of the country.

The Trust's main sources of income are derived from:

- ▶ Clinical Commissioning Groups
- ▶ NHS England
- ▶ Education and training levies

The Trust was formed in April 2000 and successfully met its financial targets for the first 12 years. Financial results for 2011/12 and 2012/13 show that the Trust made a surplus of £88k and £91k respectively. However 2013/14 was a challenging year both operationally and financially and the Trust reported a deficit for the first time since the organisation was formed. In 2014/15 there was a £40.6 million deficit against a plan of £40.7 million.

2.5.3.1 Financial review for the year ended 31 March 2015

UHL did not meet all of its financial and performance duties for 2014/15; it failed to break even. This was expected, however, and mitigated by a deficit reduction plan. In respect of the Trust's formal duties:

- ▶ **Balancing the books** – delivery of an income and expenditure deficit of £40.6m
- ▶ **Managing cash** – UHL delivered both the External Financing Limit (EFL) and Capital Resource Limit (CRL)
- ▶ **Investment in buildings, equipment and technology** – the Trust invested £46.2 million in capital developments

2.5.4 Key National Strategies

Key national strategies, programmes and policies relevant to this project are summarised in the following table.

Table 8 National Strategies, Programmes and Policies

Strategy	Aims
<p>DH report “Comprehensive Critical Care: a Review of Adult Critical Care Services” 2000</p>	<p>The report recommends the establishment of adult critical care networks. (It was published in response to national concerns regarding critical care capacity, equity of access and quality of care.)</p>
<p>National Adult Critical Care Stakeholder Forum document, “Quality Critical Care – Beyond Comprehensive Critical Care” 2005</p>	<p>The document recommends that <i>“critical care networks be retained, strengthened and fully developed in line with local priorities and needs”</i>.</p>
<p>Operational Delivery Networks (ODN) established 1st April 2013</p>	<p>From the 1st April 2013 adult Critical Care services across NHS England have been required to be delivered through integrated Operational Delivery Networks (ODN) with services delivered across providers in a pre-determined geographical area.</p>
<p>NHS England Service Specification No. D16 Adult Critical Care 2014</p>	<p>The Service Specification for Adult Critical Care states:</p> <p>“Interdependencies with other services/providers <i>The management of critically ill patients whether commissioned by NHS England or CCGs requires the input of a number of medical and non-medical specialties, and other agencies. Ultimately the nature of core supporting services will be dependent on the patient case mix of the critical care unit but the following shall be considered as minimum interdependencies:</i></p> <p>Co-located Services – to be provided on the same site and to be immediately available 24/7:</p> <ul style="list-style-type: none"> • <i>Competent resident medical practitioner with</i> • <i>advanced airway skills (anaesthetist/Intensive Care Medicine)</i> • <i>General Internal Medicine</i> • <i>Endoscopy</i> • <i>Radiology: CT, Ultrasound, plain x-ray</i> • <i>Echocardiography/ECG</i> • <i>General Surgery for any site with unselected medical admissions.</i> • <i>Access to Theatres</i> • <i>Transfusion Services</i> • <i>Essential haematology/biochemistry service and point of care</i>

Strategy	Aims
	<p>service</p> <ul style="list-style-type: none"> • <i>Speciality Intensive Care Units must have their speciality specific surgical service co-located with other interdependent services e.g. Vascular surgery with interventional vascular radiology, nephrology and interventional cardiology; obstetrics with general surgery</i> • <i>Informatics support</i> • <i>Physiotherapy</i> • <i>Pharmacy</i> • <i>Medical Engineering Services</i> <p>Interdependent Services, available 24/7 <i>The response time to these specialities will depend on the case mix of the patient population and will range from available within 30mins to a maximum of 4 hours. For services not immediately available on site service level agreements need to specify response times.</i></p> <ul style="list-style-type: none"> • <i>Interventional Vascular and non-vascular Radiology</i> • <i>Neurosurgery</i> • <i>Vascular Surgery</i> • <i>General Surgery</i> • <i>Nephrology</i> • <i>Coronary Angiography</i> • <i>Cardiothoracic Surgery</i> • <i>Trauma and Orthopaedic Surgery</i> • <i>Plastic Surgery</i> • <i>Maxillo-facial Surgery</i> • <i>Ear, Nose and Throat Surgery</i> • <i>Obstetrics and Gynaecology</i> • <i>Organ Donation Services</i> • <i>Acute/Early Phase Rehabilitation Services</i> • <i>Additional laboratory diagnostic services”</i>
<p>NHS England guidance</p> <p>“NHS Commissioning: Specialised services: National Programmes of Care and Clinical Reference Groups Internal Medicine – Group A A15 Interventional Radiology”</p>	<p><i>“The service specifications are important in clearly defining what NHS England expects to be in place for providers to offer evidence-based, safe and effective services. They have been developed by specialised clinicians, commissioners, expert patients and public health representatives to describe core and developmental service standards. Core standards are those that any reasonable provider of safe and effective services should be able to demonstrate, with developmental standards being those that really stretch services over time to provide excellence in the field.</i></p> <p><i>Documents will be published online shortly at https://www.england.nhs.uk/commissioning/spec-services/npc-crg/group-a/a15/”</i></p>

Strategy	Aims
<p data-bbox="244 353 443 589"> Intensive Care Society “Guidelines for the provision of intensive care services” 2015 </p>	<p data-bbox="491 353 1362 409">The guidelines include the following guidance pertinent to this business case:</p> <p data-bbox="491 443 906 477">“Interactions with other services</p> <p data-bbox="491 510 1362 656"><i>Intensive Care Medicine presents an interesting paradox. It owns few, if any, unique therapies or interventions; it has an impressive track record of negative clinical trials; and yet ... there has been an inexorable improvement in case-mix adjusted mortality rates from critical illness over the years.</i></p> <p data-bbox="491 689 1362 936"><i>Broad inspection of the research literature suggests that most gains are to be made from interventions which facilitate earlier diagnosis and treatment, minimise the harmful effects of organ support, enhance communication, and promote a proactive system-wide approach to the care of patients at risk of critical illness. The ‘art’ of intensive care therefore lies more in integrating multi-professional care and complex interventions over time, across locations and between teams, than in the delivery of any single treatment.</i></p> <p data-bbox="491 969 1362 1552"><i>Consequently, intensivists must be systems experts, both in terms of physiology and of healthcare delivery. Interaction with ‘other services’ starts with the multi-professional teams in the Intensive Care unit: doctors, nurses, advanced Critical Care practitioners, physiotherapists, dietitians, infection control and microbiology, and pharmacists; with further input by occupational therapy, speech and language therapy, and clinical psychology. The morning and evening rounds are key opportunities to draw together information about the patients, to establish daily goals and determine main risks and communication tasks, using a standardised data collection sheet or an electronic equivalent. Given the size of the ICU team, and the impact of staff rotations and shift-working, it helps cohesion and flattens hierarchies if the morning round starts with each member introducing themselves by name and rank, including the consultants. Interaction with microbiology is best conducted with relevant laboratory data available and at a consistent time each day. The appropriateness, dose, and duration of antimicrobial therapies may be reviewed, together with the ecology of the ICU, screening practices, and patterns of resistance. Ideally a senior member of the nursing staff should also be present.</i></p> <p data-bbox="491 1585 1362 1944"><i>The timing of interactions with visiting medical or surgical teams will need to accommodate their other commitments. One approach is to establish, as a routine, a brief early morning case review with a trainee member of the visiting team (to determine dischargeability for example) which may then be followed in the middle of the day by consultant-to-consultant discussion, informed by available laboratory or imaging tests. Continuity of care between teams and over time is essential. Radiological investigations should be planned in discussion with the radiologist performing the procedure. Ideally the consultant intensivist should review imaging results directly with the radiologist rather than receiving the report at a later stage, particularly if interventional radiology is a possibility.”</i></p>

2.5.5 Key Regional Strategies

2.5.5.1 The Leicester Joint Strategic Needs Assessment (JSNA)

A Joint Strategic Needs Assessment (JSNA) is a statutory requirement (Health & Social Care Act 2012) placed upon the Directors of Public Health, Adult and Children's Services in all local authorities to guide the commissioning of local health, well-being and social care services. The JSNA provides a systematic method for reviewing the short and long term health and well-being needs of a local population. This JSNA is an important starting point for strategy development and commissioning decisions.

The latest available JSNA for Leicester (2012) states that:

"People in the city die early, particularly from circulatory diseases, cancers and respiratory disease. Poor health is largely driven by deprivation and exacerbated by lifestyle factors embedded within communities. The inequalities gap in health between Leicester and England is not narrowing and the gap between the more deprived and the more affluent communities within Leicester has remained a stubborn inequality. We want to improve the health and wellbeing of the poorest fastest."

Leicester is ranked 25th worst out of 326 local authority areas in England on the national Index of Deprivation (2010). There are also areas of deprivation outside the city – notably certain wards of North West Leicestershire.

In general, the next 20 years is forecast to see an increasingly ageing population, particularly in the county areas. Of the total population growth of 32,000 to 2019, 22,000 will be in the over-65 group. This is largely a challenge in the county areas. By contrast, the key challenge in Leicester City will continue to be premature preventable death and disability.

As people grow older, there is a higher preponderance of long term illness and disability. The number of people living with long term conditions will grow as a population ages. Furthermore, many people will have multiple conditions, meaning their care needs are more complex. From a health need perspective there is a marked variation in life expectancy across LLR with the main factors contributing to mortality being cardio-vascular disease (CVD) and respiratory. Any plans for service improvement must respond to these challenges and make a significant contribution towards better outcomes.

2.5.6 Key Local Strategies

2.5.6.1 Better Care Together: A Blueprint for Health & Social Care in LLR 2014 - 2019

For LLR a Long Term System Model (the "Model") has been constructed to articulate what would happen when faced with the challenges described in the "A Call to Action" (published by NHS England). If no action were to be taken to improve the quality, outcomes and value for money of services currently provided to patients, or to develop

new services, then the model predicts a financial gap over the next five years that rises to £398m by 2018/19.

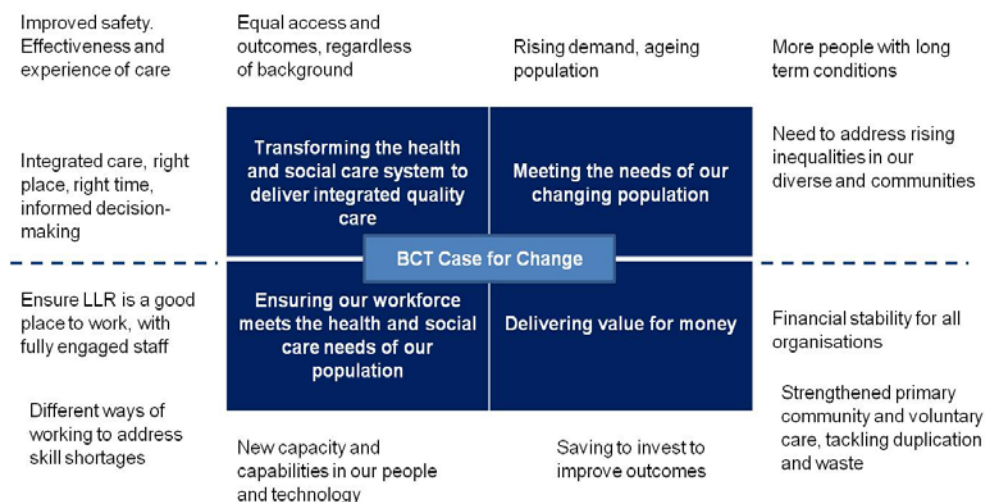
In response, the BCT programme represents the biggest ever review of health and social care across LLR. The programme represents a partnership of NHS organisations and local authorities across LLR, working together to achieve major transformation in the current and future delivery of services that are of the highest quality and are capable of meeting the future needs of local communities.

The programme is underpinned by a clear case for change with the aim of focusing on a significant increase in community based prevention and care and delivering only the most complex care from an acute hospital setting. As a consequence of the shift to community settings the Trust intends to consolidate acute services onto a smaller footprint and to grow its specialised, teaching and research portfolio, only providing in hospital the acute care that cannot be provided in the community. In doing this the Trust expects to significantly increase the efficiency, quality and, ultimately, the sustainability of key services; shrink the size of the required estate; significantly rebalance bed capacity between acute and community settings; provide alternative solutions to traditional in-patient care and thus reduce total costs. The impact of this on UHL could include:

- ▶ Delivering better care to fewer patients
- ▶ Making more of our specialist expertise available to primary and social care; and delivering more of our non-specialist services to the community
- ▶ Play a much bigger role in preventing illness and supporting patients before they reach a point of crisis
- ▶ A greater focus on specialised care, teaching and research
- ▶ Redevelopment of the Emergency Department at the LRI
- ▶ Significantly smaller acute hospitals overall
- ▶ Fewer acute hospital beds
- ▶ Concentrating acute services on two sites rather than three
- ▶ Reshaping services on the LGH site including community beds and the Diabetes Centre of Excellence
- ▶ Financially sustainable

The BCT case for change is summarised in the diagram below.

Figure 1 Better Care Together Case for Change



2.5.6.2 UHL's 'Caring at its Best' strategy

In the next five years, UHL will become a Trust that is internationally renowned for placing quality, safety and innovation at the centre of service provision.

The Trust will build on its strengths in specialised services, research and teaching, offer faster access to high quality care, develop its staff and improve patient experience.

UHL recognises the significant challenges it faces alongside others in the LLR health and social care system, including:

- ▶ The long-term financial pressures facing all public sector organisations
- ▶ Rigorous regulation of healthcare providers within a competitive landscape
- ▶ Changes in the wider health and political landscape
- ▶ Focus on choice
- ▶ Greater patient and community involvement
- ▶ The inherent inefficiency of the Trust's current physical configuration
- ▶ Fiscal drag of ageing estate reflecting incremental development over decades

The UHL team consists of more than 10,000 staff providing healthcare primarily for the one million-plus LLR residents it serves. The nationally and internationally-renowned specialist treatment and services in cardio-respiratory diseases, cancer and renal disorders reach a further two to three million patients from the rest of the country.

UHL works with partners at the University of Leicester and De Montfort University providing world-class teaching to nurture and develop the next generation of doctors, nurses and other healthcare professionals, many of whom go on to spend their working lives with the Trust.

The Trust focuses on being at the forefront of many research programmes and new surgical procedures, in areas such as diabetes, genetics, cancer and cardio-respiratory diseases. UHL is now the home of three National Institute of Health Research (NIHR) Biomedical Research Units and during the year carried out over 800 clinical trials, bringing further benefits to thousands of patients.

The heart centre at GH continues to lead the way in developing new and innovative research and techniques, such as TAVI (Trans-Catheter Aortic Valve Insertion) and the use of the suture-less valves in heart surgery.

UHL also has one of the best vascular services nationally, with more patients surviving longer after following an aneurysm repair (to fix a life threatening bulge in a blood vessel).

The Trust has some of the lowest rates of hospital-acquired infections, such as C. Difficile and MRSA, in the country; the hospital standardised mortality rates are very good, demonstrating a high clinical quality; with the provision of food has also been rated as 'excellent' by an independent panel.

UHL's purpose is to provide 'Caring at its Best' and staff have helped to create a set of values, which are:

Figure 2 *Caring at its Best*



UHL patients are at the heart of all that is done at the Trust. 'Caring at its Best' is not just about the treatments and services provided but about giving patients the best possible experience.

Each element of the objectives and supporting strategy are performance-managed through the Trust Board scorecard, regularly reported to Board through the Integrated Performance Report (IPR).

2.5.7 The Trust's Strategic Objectives

The strategic objectives of the Trust are to provide:

- ▶ Safe, high-quality, patient-centred healthcare

- ▶ An effective and integrated emergency care system
- ▶ Services which consistently meet national access standards
- ▶ Integrated care in partnership with others (local and specialised)
- ▶ Enhanced delivery in research, innovation and clinical education
- ▶ A caring, professional and engaged workforce
- ▶ A clinically sustainable configuration of services, operating from excellent facilities
- ▶ A financially sustainable NHS organisation
- ▶ Enabled by excellent IM&T

Figure 3 UHL's Strategic Objectives



2.5.8 UHL Five Year Integrated Business Plan 2014 – 2019

The Trust's Five Year Integrated Business Plan 2014-2019 was developed through four key phases: evidence gathering; analysis, synthesis; and planning. In developing the strategy, the Trust has identified that it operates predominantly in two core markets:

- ▶ Local services for LLR where it is the major provider of local secondary care services
- ▶ The wider Midlands and East regional economy where the Trust is a key provider of specialised adult and children's services
- ▶ In order to deliver financially sustainable, high quality services in the future, UHL's hospitals will need to become smaller and more specialised; whilst supporting delivery of care in the community

2.5.9 The Trust's Five Year Estate Strategy (June 2014)

The Trust's current Estate Strategy identifies the need for flexibility, to move property from being a constraint to being an enabler for change.

The Trust has undertaken an exercise to review the strategic future of its estate, with a view to creating a development control plan that looks twenty years ahead, recognising that "The quality and fitness for purpose of the NHS Estate and the services that maintain it are integral to delivering high quality, safe and efficient care"². Of course the estate is also an area of significant spend: the budget for Estates and FM Services across the Trust in 2013/14 was £31m.

UHL has also developed a 'Hospitals Estate Transformation Plan', which is based on a strategy that consolidates the estate, develops new facilities, disposes of surplus land and buildings and encourages third party partnerships that will raise income for the Trust. This plan will be a cornerstone of service reconfiguration and improved utilisation of the Trust's estate. This must be balanced by organisational and public expectations about the provision of highly specialised services alongside local access to primary and secondary care, in the context of high levels of public support for the associated hospitals. It is in this context that any opportunities for significant and far-reaching estate transformation will be determined.

The Hospitals Estate Transformation Plan will:

- ▶ Underpin the strategic direction of the Trust through the transformation of the physical estate
- ▶ Support the clinical strategy to improve patient pathways and to improve the quality of care
- ▶ Support the Strategic Outline Case for reconfiguration across the sites
- ▶ Show a clear implementation programme over five years for transformation with tangible benefits
- ▶ Improve the patient and staff built environment, investing in improved facilities and infrastructure; greatly aiding recruitment and retention
- ▶ Identify capital developments that will unlock the embedded value of Trust assets
- ▶ Support the Trust's capability to deliver clinical transformation and achieve QIPP efficiency savings

Efficient estate solutions will improve frontline service provision as well as achieving improved utilisation of the estate. This will be achieved by delivering a high-quality

²Treasury Value for Money Update, 2009

clinical and working environment for patients and staff – resulting in better levels of recruitment and retention, productivity, flexibility and patient and staff satisfaction.

The Transformation Plan will also support cross-CMG strategies that maximise optimisation of the estate resources across UHL. It will set out detailed strategies for the Trust's three main hospital sites. The Estates Strategy will be updated during 2015/16.

2.5.10 Stakeholder Engagement

Owing to the urgent clinical need to expedite the reconfiguration of UHL's Level 3 care, in the early part of 2014 the Trust's Overview and Scrutiny Committee was informed of the clinical need. It supported the Trust's intention to proceed with the programme at pace and without the need for public consultation.

The over-arching ICU project has seen a wide variety of engagement from across the Trust and also further reaching:

Over-arching ICU programme:

- ▶ Involvement of key service leads from all affected areas through planning
- ▶ Representation of Healthwatch patient representative on ICU Board
- ▶ Communication with OSC at key points within the project
- ▶ Site based communication events

The Trust's Clinical Support and Imaging CMG actively engages stakeholders in the design of its services. The strategy for 2015-17 will employ the following methods:

Patients and carers:

- ▶ Forensic Imaging / Post Mortem CT service development
- ▶ Post boxes
- ▶ Email survey
- ▶ iPad with information/survey in GH reception
- ▶ Kiosk with information/survey in LGH reception

Staff:

- ▶ Superintendent workforce review
- ▶ Ultrasound workforce review
- ▶ Extended Scope roles for radiographers
- ▶ Ultrasound local infiltration analgesia (LiA)
- ▶ CIP team workshops

The undertaking of such a wide ranging set of engagement activities has been crucial in ensuring that clinical staff have been heavily involved in planning, crucial in such a complex project. The input of patient representatives has also ensured that decisions taken have remained centred around the best interest of patients.

2.5.11 The Trust's Clinical Strategy

UHL is focused on delivering high-quality, patient-centred services in the most appropriate setting with excellent clinical outcomes. There is a process of continual quality improvement for clinical outcomes, morbidity and mortality rates and other clinical indicators to ensure that the Trust remain the provider of choice for patients.

The strategy reflects the changes in population demographics, placing the patient at the centre of service planning and design, ensuring that holistic, patient-centred care remains at the heart of everything we do. For example, services will be tailored to meet the challenges of a rising elderly population; ensuring integrated care is provided across primary, community and social care.

The Trust will work with partners to develop the infrastructure and networks to offer expertise across the health community to ensure that care for the older person is as seamless as possible, in the following ways:

- ▶ **Developing a more flexible and integrated workforce**
 - ▶ The model of clinical practice will be to provide consultant-delivered (rather than consultant-led) patient care
 - ▶ The Trust will seek and exploit opportunities for service integration across health and social care by removing the historical barriers to change
 - ▶ Training and education will play an integral part in ensuring staff have the right skills now and for the future. Training opportunities to support self-care in long-term condition management and carers will be explored
 - ▶ UHL will create a sustainable workforce for the delivery of responsive multi-disciplinary clinical services seven days a week that meets the needs of patients and clinicians
 - ▶ UHL will ensure that appropriate staffing is recruited and retained to achieve the identified standards

- ▶ **Consolidating and making better use of finite resources**
 - ▶ People are living longer, and the NHS' ability to treat and help to manage conditions that were previously life-threatening continues to improve. Alongside this, the NHS faces a potential funding gap of around £30 billion by 2020/21 meaning that the NHS will need to radically transform the way it has traditionally provided care to new and innovative models necessitating a significant shift in activity and resource from the hospital sector to the community
 - ▶ UHL will meet this funding gap by working collaboratively with its LLR Health and Social Care partners to re-design patient care pathways to ensure that they continue to provide high quality care, outcomes and patient experience whilst delivering value for money
 - ▶ The Trust has an on-going operating deficit in part related to the current configuration of its clinical services which do not optimise clinical adjacencies and patient pathways

- ▶ In order to deliver financially sustainable, high quality services in the future, UHL's hospitals will need to become smaller and more specialised whilst supporting delivery of care in the community
- ▶ As a consequence UHL has developed a clinical and estates strategy that optimises where and on which site its services are located as care pathways are changed to meet the financial challenge. The methodology about future location of services is clinically driven, evidence based, inclusive, open and transparent, and involve patients and the public in a meaningful way however will necessitate tough decisions for the health community if it is to meet the 'value for money' test
- ▶ The Trust is proactively responding to the national drive towards fewer regional centres of excellence for specialised services by ensuring its services deliver innovative, high quality patient care through robust research and development programmes that enable patients to benefit from leading edge developments in the care of specific conditions
- ▶ The Trust will specifically seek to ensure it remains as a national centre of excellence for its work in Cardiac, Respiratory, Vascular, Renal, Cancer and Diabetes and significantly strengthen its portfolio of other key services to ensure they are sustainable in the future

2.5.12 The Trust's ICU Strategy

The overarching strategy for delivering ICU care at UHL supports both the national and local imperatives identified above.

There is a recognised move towards using critical care beds at an earlier stage in a patient's treatment. On an international level the UK already has a low number of ICU beds compared to its population, and even within the UK UHL is notable as a Trust with a low provision of ICU beds per capita.

The Trust's five-year strategy for delivering critical care services is the creation of two super critical care units by 2019 at the LRI and GH. These will care for Level 2, 3 and 4 patients staffed and delivered to the national core standards to ensure that the local population and referrals for tertiary care have the highest quality care in the most appropriate environment. This will be supported by a robust tier of Level 1 care beds within specialties throughout the organisation which will, in turn, be supported by critical care outreach services delivering 24/7 service.

The first year of the strategy is underway, precipitated by the need to re-locate adult Level 3 ICU beds at the LGH due to on-going staffing issues. This has driven the need to provide an interim solution for an expansion of the adult Level 3 ICU beds at the LRI and the GH, pending implementation of the longer-term solutions to address the identified gap in capacity over the next ten years.

The imperative is to deliver the change as rapidly as possible; the realistic timescale sees delivery by July 2016.

2.5.13 The Trust's Imaging Strategy

Imaging services will be provided across all three UHL sites and to all referrers and patient groups. The aims are to meet both:

- ▶ National diagnostic waiting time targets
- ▶ Internal/local standards for inpatient and emergency imaging

The principal objectives of imaging services are to provide high-quality, safe, efficient and effective patient imaging at the right time and in the right place to facilitate timely decision-making and treatment planning throughout the patient journey. In essence, the objectives of the service are therefore to:

- ▶ Deliver high-quality, safe, efficient and effective care
- ▶ Improve patient experience by providing equality of access to the full range of diagnostics and interventions, ensuring that patients are receiving a high-quality service, with access to the most modern techniques
- ▶ Develop and sustain the resilience of imaging services in terms of facilities and workforce
- ▶ Assist in the improvement of mortality and morbidity rates for patients and to improve survival rates following hospitalisation
- ▶ Work collaboratively with other services to optimise care and enhance patient journeys
- ▶ Ensure that the right levels of accessibility to services and treatments are offered in conjunction with other services
- ▶ Support and enhance the academic components of the service, including development of UHL's workforce and other resources

This business case identifies the changes required within GH's imaging services in order to support the immediate clinical need to re-locate Adult Level 3 Critical Care activity from the LGH by July 2016. It proposes the preferred option for investment in imaging services that will ensure optimal clinical outcomes while maintaining efficiency and value for money.

The benefits of this business case will include:

- ▶ Co-location of additional capacity alongside the existing imaging department will allow for efficient flow of patients
- ▶ The expansion of imaging will allow interventional procedures to be carried out for HPB, Renal Transplant and Nephrology
- ▶ Critical adjacencies will be met to facilitate urgent response in case of emergencies
- ▶ Effective use of resources, staffing and equipment

- ▶ Provision of support services that provide the same quality and capacity as the current facilities in the right place at the right time
- ▶ Essential adjacency of the IR suite to ICU Level 3 for patients undergoing Endoscopic retrograde cholangiopancreatography (ERCP)
- ▶ HPB co-location with Level 3 care is vital. Interventions by GI radiologists are frequent for HPB patients
- ▶ Avoidance of patient transfer to another site – which would be necessary if GH did not provide the requisite imaging services. Thus the investment will deliver safer patient pathways and an improved patient experience – the right care in the right location at the right time

There are a number of efficiencies for the Imaging department that can be made through the transfer of IR work to GH as detailed below (along with the measures to demonstrate their achievement):

Table 9 Imaging Services: Efficiencies Summary

Nature of efficiency	Basis of measurement
Reduced average length of stay (including pre and post-op LOS)	Activity Data
Increased ability to complete multiple procedures and diagnostics in one hospital visit	Activity Data / Consultant Information
Increase in minimally invasive procedures reduces time spent in Critical Care beds	Activity Data
Building a sustainable workforce through reduced site base for interventions	Reduced turnover, increased skill mix, reduced overtime
Increased day-case procedures within interventions	Maximises income reduces LOS
Reduction in cancelled procedures through dedicated bed base & reduced competition for critical care beds	Activity Data
Dedicated recovery beds for Angiography day cases will reduce cancellation rates for patients as well as relieving pressure on inpatient beds	Activity Data
Better patient experience through improved and optimised pathways including reductions in readmissions	Patient Satisfaction / Friends & Family Test
Centre of excellence for interventional radiology	Improve reputation and gain national recognition

2.5.14 UHL Clinical Support and Imaging CMG Service Level Objectives 2015/16 and 2016/17

The UHL Clinical Support and Imaging CMG Service Level Objectives relevant to this investment business case include:

Table 10 Clinical and Imaging CMG Service Level Objectives

Trust objective	Service objective	CMG service initiative	KPI / Outcome	Risks to achievement / interdependencies*
Provide safe, high quality, patient centred health care	Identify existing gap and develop workforce plans / new models of working to deliver required standards	Develop and implement consistent 7-day working models	Delivery of 10 Keogh Standards, reduced incidents & complaints, increased uptake of 'Nerve Centre'	Financial affordability, ability to recruit to vacancies
Consolidate our status as provider of choice	Build on existing specialist expertise to develop international reputation, enhance research profile	Establish Forensic Imaging / Post Mortem CT service	Improve patient / carer experience & choice, increased market share, CIP delivery, increased research trials / income	Subject to agreement on funding by Councils, demand for a private patient service unknown
Provide safe, high quality, patient centred health care	Respond to increasing activity demands with sustainable solutions	Expand Imaging Consultant Workforce	Reduced waiting times, delivery of targets, Improved turnaround times, improved quality, reduced premium spend	Ability to recruit to vacancies in specialist areas, pace of demand outstrips recruitment

These objectives have provided an over-arching framework as developments within this business case have been constructed and remain deliverable in the context of the overall ICU project.

2.5.15 UHL Imaging Services: Current Activity and Demand

Imaging services are provided across all three UHL sites and to all referrers and patient groups. Specialised imaging services are offered to all referrers and patient groups at the locations where the clinical services are based/in line with agreed patient pathways.

GP and out-patient activity for all modalities are provided on each site. The only restrictions are for examinations requiring specific machine specifications and/or clinical supervision. (These are normally aligned to the inpatient services provided on the site in question.)

Inpatient imaging services are provided on each site. They are supported by radiologists with specific specialist interests (e.g. cardiac radiologists based at GH, GI radiologists split between LRI and LGH).

Radiographic, nursing and support staffing is based upon machine opening hours and is dependent on:

- The complexities of procedures

- ▶ The demand for individual modalities

Imaging services are provided in all the main specialties at the Trust's Hospitals, for both adults and paediatrics, plus all sub-specialty services (including stress cardiac MR, vascular and renal interventional radiology and forensic CT). Services (except Breast Imaging and Nuclear Medicine) operate on a 24/7 basis depending on clinical urgency. At present Interventional Radiology is not provided on the GH site. This will change in April 2016 when Vascular Surgery Imaging commences. However capacity to provide intervention for HPB and Renal Transplant will not exist on GH outside of the developments suggested within this business case.

UHL imaging medical equipment includes:

- ▶ seven multi-detector CT scanners
- ▶ six magnetic resonance scanners
- ▶ six cardiac catheter rooms
- ▶ four interventional radiology rooms

There are also ultrasound, plain film (both computed (CR) and digital (DR) radiography), nuclear medicine and general fluoroscopy equipment at all three sites. Equipment support and the replacement programme is covered by the Managed Equipment Service (MES), provided by Asterol, until 2025/26.

Breast imaging supports screening and symptomatic services for Leicestershire. Mobile PET-CT facilities are provided under the Department of Health (DH), independent sector initiative.

UHL imaging services adhere to Royal College of Radiologists (RCR) guidance, ionising radiation legislation including IR(ME)R and IRR regulations. The department has passed recent inspections from HSE and DH in the compliance of these regulations, and aspires towards UKAS accreditation.

2.5.15.1 Demand and Capacity Modelling for current activity and demand

Models of care take into account factors including patient type, specialty and modality. A detailed piece of work was undertaken by the Imaging team to determine the future state of activity across all three sites at an early stage in the project business case. The following considerations were:

- ▶ Access to all imaging sites and services ensures that all patient types from all referrers and locations have equal access to imaging services
- ▶ Patients range from the fully ambulant to the clinically unstable. Access for out-patients including GP referrals is readily available
- ▶ UHL ensures that reception areas can cope with any peaks in demand for imaging

- ▶ Easy access to the main entrance and/or patients/visitor car parking facilities is important. Where possible, inpatients approach the department through separate access and have appropriate waiting areas to accommodate both ambulant and bed patients
- ▶ There needs to be 24 hour access which is restricted for security purposes at night
- ▶ The design solution is sensitive to differing cultural and religious requirements of the population, especially in terms of maintaining privacy and dignity

2.5.16 UHL Imaging Services: Future Activity and Demand

Detailed capacity and demand planning was undertaken at an early stage in this project to assess the impact of moving Level 3 reliant activity between sites (and particularly what activity requiring Radiological Intervention) would move to GH.

The provision of IR on the GH site is required to support the move of HPB and Vascular Access inpatient services. Each service has a different requirement in terms of IR due to the variance of procedures undertaken across specialities.

Monitoring will continue to ensure that activities are performed at the relevant sites so as to meet clinical and organisational waiting times (independent of specialty sites except where supervised scanning/procedures are performed). The capacity being provided through this business case represents re-provision of existing capacity – the key change proposed is the site of the IR rooms. There is no proposed increase in IR provision.

The following facilities will be developed on the GH site:

- ▶ 3 IR rooms
- ▶ 1 Interventional USS Room

In summary, two IR rooms relocate from LGH to the GH site, with one of the rooms receiving new equipment as part of the Managed Equipment Service (MES) in existence; one room on the GH site relocates to the new IR department (Room 3). The existing USS area becomes an Interventional USS room.

Specialty-specific pathways have been developed for HPB, Urology, Renal and Vascular to support the changes set out in this business case, which can be found in the respective Operational Policies (Appendix 4). See Appendix 5 for the Interventional Procedures Patient Pathway.

2.5.17 Critical physical adjacencies

It is important that physical adjacencies ensure cross cover, benefits of skill mix and the provision of resilient services. Accessibility including linkages to the internal hospital street network is particularly important, to ensure rapid and appropriate access to wards and other departments. A significant number of patients will require urgent and emergency access; therefore access is required at all times.

Adjacencies should allow a positive culture to develop, so as to build relationships with users and to provide easy access to all modalities (e.g. CT-guided biopsy) and above all to enable a flexible approach to diagnosis and treatment. Critical adjacencies include:

- ▶ High-user and critical areas (e.g. outpatients, ITU, Assessment units)
- ▶ Adjacencies for IR – vascular, urology, renal, HPB wards

Reference must be made to relevant standards and guidance including DH Health Building Notes³. Any derogations will need to be approved by the Project Board. All accommodation must enable flexible use and allow for changes in models of care and or service delivery.

Where possible general rooms will be designed to a generic specification to allow for multifunctional service use. However, it must be noted that imaging equipment requires specific conditions and the equipment manufacturers will be required to support the design process via the Trust's MES suppliers.

Patient flows will come from both inpatient and outpatient sources. These will be kept separate. The department at GH already deals with large numbers of outpatients and IR out-patients can mirror these flows through the department. All waiting areas will be made compliant with current privacy and dignity guidance for same sex changed and unchanged patient waiting.

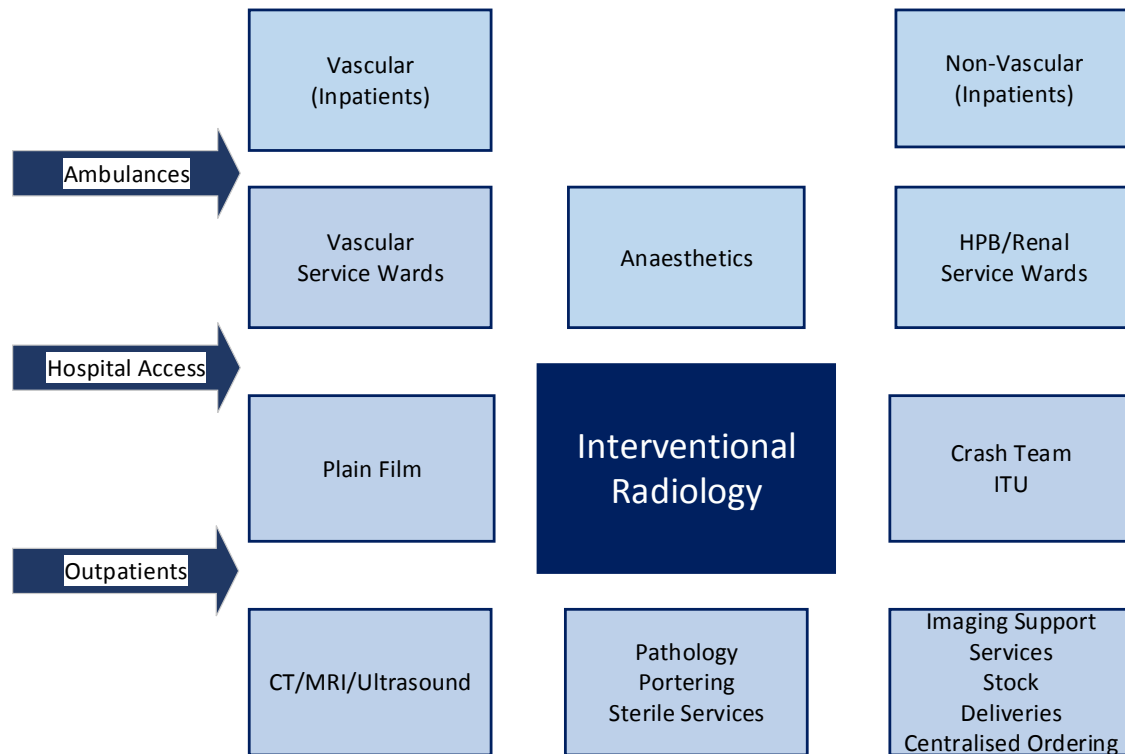
The radiology department at the GH already operates an out of hours on call service which take into account lone working practices for staff. The additional interventional on-call will follow the local process to ensure that staff are supported out of hours, and risk assessments will be reviewed.

The new IR department has been designed with patient flow through the department being a top priority. Areas are positioned adjacent to each other to ensure a natural flow for the patient through the department whilst being supported by the appropriate staff. The numbers of IR patients in the department at any one time is limited by the space available and the length of the procedures, therefore, staff will be able to ensure privacy and dignity are maintained at all times.

The diagram below highlights the critical adjacencies for imaging that have been considered during the formulation of this business case.

³ See DH Health Building Notes – in particular, HBN 00-01 General Design Guidance for Healthcare Buildings (2013), HBN 04-02 Critical Care Units (2012) HBN 06-01 Diagnostic Imaging (2001) – it is noted that the last requires updating

Figure 4 Critical Departmental Adjacencies



2.5.17.1 Imaging facilities

A full breakdown of physical requirements for the imaging department can be seen within the Design Brief which forms part of the Estates Annex (Appendix 6).

2.6 Workforce Considerations

Each interventional procedure requires consultant approval, patient consent and preparation. Each stage of the process requires input from the IR team. Once the referral is made and authorised the ward staff are contacted to inform the nursing staff of the preparation the patient requires and the time and date of the appointment. When the patient arrives in the department they are checked in using safe site documentation and the consent completed by the consultant. This is then re-checked before the start of the procedure. The patient is then monitored throughout the procedure and given analgesia as required. The patient is recovered post procedure within the department before being handed by to trained staff to escort them back to the wards.

All procedures are fully documented on CRIS and reported or entries made into patients' notes. IR also has a fully integrated stock system (H Tracks), which is used to record all the consumables used within each procedure.

IR is supported by an MDT consisting of the following:

- ▶ Radiographers – band 5 and band 6 and 7
- ▶ Nursing staff – band 5 and band 6 and 7
- ▶ Support staff – Radiology department assistants and scrub assistants band 3
- ▶ Porter staff – band 2
- ▶ Clerical staff and service coordinators

Each team's work is integral to the others, taking the patient through the process and interchanging roles along the way. There are also distinct roles for each staff group to ensure consistency and continuity in patient care.

The CSI CMG has recently had success with International recruitment of Italian Radiographers and such resource will be used to meet the radiographer requirements of this business case.

There is some risk in the recruitment of Interventional radiographers as these are difficult to recruit. The CMG will produce adverts proactively in January when ST6s will be eligible to apply for consultant posts (i.e. 6 months prior to the CCT).

Any constraints involving workforce have been listed in the constraints and dependencies section (2.9) of this document.

2.7 UHL Quality Commitments

The Trust is committed to improving the quality and safety of care for all the patients it serves. The quality commitment articulates three key aims:

- ▶ **To provide effective care – to improve patient outcomes**
“To deliver evidence based care/best practice and effective pathways and to improve clinician and patient reported outcomes.”
- ▶ **To improve safety – to reduce harm**
“To reduce avoidable death and injury, to improve patient safety culture and leadership and to reduce the risk of error and adverse incidents.”
- ▶ **Care and Compassion – to improve the patient experience**
“To listen and learn from patient feedback and to improve patient experience of care.”

2.8 Investment Objectives, Key Deliverables & Benefit Criteria

In the context of the above and in line with the Trust's corporate objectives, the 'SMART' investment objectives for this project, as part of the ICU strategy, are detailed below. They form part of the Trust's overarching Benefits Realisation Plan.

- ▶ To move Level 3 care from the LGH site, still providing the ability to stabilise and transfer where this is required
- ▶ To increase capacity for Level 3 care at both LRI and the GH. Modelling has built in the ability to provide enough physical bed spaces for known growth at GH and also ICU-driven cancellations and still provides some physical capacity to allow for further future growth
- ▶ To improve the clinical adjacencies of ICU and dependent specialties to optimise clinical safety and reduce clinical risk
- ▶ To develop a centre of excellence, enhancing the Trust's reputation for training, service delivery and treatment through the provision of a more streamlined ICU service
- ▶ To deliver the development with minimal disruption to the current provision of service to current ICU areas

The particular benefits of this investment business case will include:

- ▶ Co-location of additional capacity alongside the existing imaging department will allow for efficient flow of patients
- ▶ The expansion of imaging at GH will allow interventional procedures to be carried out for HPB, Renal Transplant and Nephrology
- ▶ Critical adjacencies will be met to facilitate urgent response in case of emergencies
- ▶ Effective use of resources, staffing and equipment
- ▶ Provision of support services that provide the same quality and capacity as the current facilities and support the movement of Level 3 ICU dependant activity across sites
- ▶ Essential adjacency of the IR suite to ICU Level 3 for patients undergoing Endoscopic retrograde cholangiopancreatography (ERCP)
- ▶ HPB co-location with Level 3 care is vital. Interventions by GI radiologists are frequent for HPB patients
- ▶ Avoidance of patient transfer to another site – which would be necessary if GH did not provide the requisite imaging services. Thus the investment will deliver safer patient pathways and an improved patient experience – the right care in the right location at the right time

2.9 Constraints and Dependencies

The following table highlights the key constraints and dependencies of this investment business case.

Table 11 Constraints and Dependencies

Dependency	Relies upon the relocation of Office Space, Medical Records and On-Call rooms by December 2015 to create required space
	Agreement of the clinical service expected from IR including acute and on call cover
	Recruiting all posts in staffing model
	Car parking availability for staff working across site under the new model
	Releasing of funding for recruitment of IR staff to allow training of specialist team prior to go-live
Constraint	The number of staff requested at both Nursing, Imaging and Consultant level will only allow delivery of a 3 day per week service on GH and LGH (with out of hours on-call on all 3 sites) the service at the LRI will remain as it is presently.
	Physical space at GH
	Location of room 17 outside the interventional suite (as part of the Vascular Surgery Business Case). Physical separation has meant that the most efficient staffing models cannot be realised.
	Requirement for staff from other specialties that will be using the service to adhere to operational procedures (perhaps more of a dependency)

2.10 Summary

This investment business case addresses the immediate clinical need to provide IR support for those elements of Adult Level 3 ICU-dependent activity that will move from the LGH by July 2016. The developments set out are compliant with the Trust's strategic guiding principles and the directives and policies in place to ensure that clinical quality standards are met.

The strategic context for the proposal to expand IR services at GH is of the ongoing transformation of the Trust's three main hospital sites, responding to the significant challenges it faces.

The investment project to expand IR services at GH fits not only the key clinical drivers at national, regional and local level but also the Trust's vision for 'Caring at its Best'.

3 | The Economic Case

3.1 Introduction

This chapter describes the options for delivering additional Interventional Radiology (IR) capacity on the GH site in terms of their relative benefits and costs. The preferred option is demonstrated.

3.2 Overall Economic position for Critical Care

The Trust has reviewed its overall position in respect of transferring all services related to the LGH Critical Care services to the LRI and GH. It has run a high-level economic appraisal that compares:

- ▶ A 'Do Nothing' scenario with respect to the Critical Care facilities at the LGH
- ▶ A scenario that moves Critical Care beds and associated services from the LGH and the associated moves between other hospitals

Given the fact that the reconfiguration of Vascular Services has already been approved it examines the costs including the Vascular move and excluding the Vascular move. (Even if the Vascular moves weren't taking place, this Critical Care move would still be preferred over the Do Nothing option.)

The result of this appraisal is as follows:

Table 12 Net Present Cost of Each Option Appraised

Option	NPC £'000
Do Nothing	409,795
Critical Care and Vascular moves	321,758
Critical Care moves only	302,256

The 'do nothing' option is significantly more expensive than the proposed developments for Critical Care – both including and excluding Vascular moves.

3.3 Benefits appraisal process

Each of the above options has been subjected to an option appraisal process based on pre-determined non-financial benefit criteria. The benefit criteria applied within this assessment were as follows:

Table 13 Benefits Criteria

Objectives		Measurement (the degree to which an option is likely to result in...)
A	To provide a solution that maximises clinical quality and safety whilst remaining consistent with future configuration	An acute configuration of services that maximises clinical affinities and critical adjacencies minimises clinical risk
B	To provide an efficient and effective solution for the expansion of IR at GH	Extra imaging capacity to enable Level 2 and Level 3 activity moving from other sites
C	To allow staffing pressures to be minimised in delivering the solution	Ease of effective staffing cover
D	To ensure that the quality of the patient environment and experience remains a priority	Enhanced patient experience, safety in terms of infection control and prevention and improvement in the quality of the patient environment; privacy & dignity; single sex areas; single rooms
E	To deliver a solution that is achievable and delivers the required capacity within the timescale of July 2016	Achievement of timescale of conversion works/interdependencies
F	To deliver a solution that ensures accessibility to patients	Clinical adjacencies and an acceptable overall patient journey

The project team met to determine the relative importance of each of these categories. The results of the weighting exercise are as follows.

Table 14 Weighting of Criteria

Criterion	Weighting	Points Available	Maximum Weighted Points
A Clinical Quality and Configuration	5%	10	0.5
B Efficiency & Effectiveness	5%	5	0.3
C Staffing	20%	5	1.0
D Quality of the Patient Environment	10%	15	1.5
E Achievability	50%	5	2.5
F Accessibility	10%	15	1.5

As it was agreed that clinical safety and quality would necessarily be central to the project's aim, the greatest weightings were attributed to those factors that maximised achievability of a suitable option in line by the absolute deadline of July 2016.

Each of these key categories contained a number of sub-elements to ensure robust decision-making.

Participants then scored the options against each of the criteria, applying the measurement criteria as described in the table above. Each option was scored as detailed in section 3.5.

3.4 Options development

A number of options exist for the delivery of the proposed reconfiguration. Options were first generated through a detailed analysis of the GHGH site, these options were then assessed with Imaging and Estates staff to ensure that a full qualitative benefits appraisal was undertaken. A key constraint in reviewing these options was ensuring continuity between this appraisal and the longer term site reconfiguration, both in terms of capital cost and strategic location.

The options initially explored for each site are as follows (see Appendix 3 for site map with locations demonstrated):

Table 15 GH Site Options Explored

Option	Description
A New Build Outside of Imaging	Construction of new capacity outside of the main entrance to GH
B New Build at Ivydene House	Construction of new capacity on the site of Ivydene House at GH
C New Build in South Entrance Staff Car Park	Construction of new capacity in the Car Park adjacent to the South Entrance at GH
D1 Refurbishment of Medical Records & Offices – courtyard space unutilised	Conversion of Medical Records and Office space, adjacent to existing Imaging space
D2 Refurbishment of Medical Records & Offices – courtyard space utilised	Conversion of Medical Records and Office space, adjacent to existing Imaging space

3.5 Benefit Scoring by Potential Location

The benefits were scored by potential location.

Table 16 Options Scores for Imaging Expansion at GH

Criteria/ Scores		A	B	C	D1	D2
A	Clinical Quality and Configuration	8	6	6	10	10
B	Efficiency & Effectiveness	5	5	5	5	5
C	Staffing	3	1	1	5	5
D	Quality of the Patient Environment	14	12	12	15	15
E	Achievability	3	2	1	5	4
F	Accessibility	9	6	3	15	15
OVERALL SCORES		42	32	28	55	54

These scores were then weighted as follows:

Table 17 Weighted Options Scores for Imaging Expansion at GH

Criteria/Weighted Scores		A	B	C	D1	D2
A	Clinical Quality and Configuration	0.4	0.3	0.3	0.5	0.5
B	Efficiency & Effectiveness	0.3	0.3	0.3	0.3	0.3
C	Staffing	0.6	0.2	0.2	1.0	1.0
D	Quality of the Patient Environment	1.4	1.2	1.2	1.5	1.5
E	Achievability	1.5	1.0	0.5	2.5	2.0
F	Accessibility	0.9	0.6	0.3	1.5	1.5
OVERALL WEIGHTED SCORES		5.1	3.55	2.75	7.25	6.75
RANK		3			1	2

3.5.1 Preferred option

Cost-benefit analysis shows that by combining the financial and non-financial scores, option D1 scores best on both the financial and non-financial appraisals. As per the undertaking of the above qualitative and quantitative benefits analysis, the preferred option for expansion of IR space at GH is therefore:

► **D1 – Refurbishment of Medical Records & Offices – courtyard space unutilised.**

Subsequent enabling requirements

Option D1 requires the relocation of Medical Records, office space and on-call rooms. There are a number of sub-options that deal with this, as follows:

Medical Records

Option D1 requires the clearance of space currently used to operate the Medical Records library for the GH site. This equates to 80,000 regularly used sets of patient notes that required re-location.

Three options for the re-housing of this space were explored:

Option 1 – Bring forward the EDRM programme to digitise all patient notes on site, negating the need for storage

Option 2 – Contract an external company to store the notes and deliver them to the site as required

Option 3 – Conversion of existing estate to create a Medical Records store

Option 1 was immediately discounted after the project team received confirmation from the Trust's Chief Information Officer that the EDRM project would not be brought forward in line with the requirement to free space by December 2015 as is required to enable the conversion of space to expanded Imaging capacity.

Consequently options 2 and 3 became the focus of attention.

Option 2 – Contracting an External Company to provide Storage

This option would re-provide the medical records library offsite. While the majority of tasks that the medical records team undertake on site would remain relevant this option would allow the removal of records offsite in line with the given timescale of December 2015.

The major financial risk around this option was deemed to be Out of Hours requests by Trust staff. This service attracts a premium of £125 per request.

Based upon current usage the costs are shown below.

Table 18 Medical Records Offsite Storage Costs

	15/16 PYE cost £'000	16/17 recurrent cost £'000
Capital	0	0
Revenue	164	427

It should be noted that the 16/17 costs are for the full year. If EDRM becomes operational before the end of the year then a proportional decrease would be seen.

In mid-October the project team received confirmation that Storafire (the preferred provider with whom the Trust already has an established relationship through the EDRM project) would not be able to provide the service. This was largely due to Storafire's perception of the risk involved in the daily delivery of 650 sets of notes and the retrieval of 750 as well as Out of Hours provision and this not being a core part of their business.

Option 3 – Conversion of existing estate

The Estates team undertook a review of the GH site to determine whether any existing non-clinical space existed on site that could be converted to provide space.

The only area deemed suitable was a property known as the "Treatment Centre". The location of this property can be seen in Appendix 3. A specialist racking provider was contacted to provide a quote for the installation of racking for the building, allowing the transfer of medical records.

Health and Safety were also engaged to assess the impact on staff of the site chosen. A number of alterations to the site and access pathway were highlighted, all of which are built into the costing below.

Table 19 Cost of Site Alterations for Relocation of Medical Records

	15/16 £'000	16/17 £'000
Capital	563	0
Revenue	6	12

Conclusion

With confirmation that EDRM could not be brought forward to absorb the Glenfield Medical Records and the subsequent confirmation from Storafire that they would not be able to support an off-site solution the project was left with only one option and so the capital conversion of the Treatment Centre will proceed as the preferred option.

Office Space

The option for the creation of office space (equivalent to 20 offices) will rely on two elements. Firstly the Clinical Management Group responsible for these office areas (Renal, Respiratory, Cardiac and Vascular Surgery) will be required to apply the Trust's space utilisation policy to the best of its ability, thereby minimising the overall amount of office space that requires re-provision.

Part of this exercise will involve identification of staff who have an absolute need to remain in the current Glenfield building as opposed to another location on the site. The Trust's space utilisation team will then work to re-house any additional office space as required.

Further detail can be found in the Estates Annex at Appendix 6.

On-Call Rooms

The space that requires clearance will also displace nine on-call rooms from their current re-location.

An audit of room usage has been undertaken and those identified users will be heavily involved in the re-provision of a suitable number of on-call rooms.

Further detail can be found in the Estates Annex at Appendix 6.

3.6 Financial & economic appraisal

The options were then subjected to a financial appraisal. The options were considered over a period of 32 years reflecting 30 years post completion of construction.

The financial appraisal reflects the following:

- ▶ Capital costs excluding VAT for each option on each site including equipment
- ▶ Lifecycle costs
- ▶ Revenue workforce costs

3.6.1 Capital Costs

The option appraisal process evolved as a result of timescales and funding available. The final options appraised were options A, D1 and D2.

Capital costs for the final options appraised are shown below.

Table 20 Capital Costs

	Option A £	Option D1 £	Option D2 £
Departmental Costs	3,200,643	1,755,449	2,550,710
On Costs	1,326,446	947,414	1,563,991
Works cost	4,527,089	2,702,863	4,114,701
Provisional Location Adjustment	(175,084)	(111,114)	(158,588)
Sub total	4,352,005	2,591,748	3,956,114
Fees	820,023	571,293	817,343
Non Works Cost	0	0	0
Equipment Cost	461,984	95,297	607,186
Planning Contingency	723,675	677,005	702,602
Total For Approval Purposes	6,357,687	3,935,344	6,083,245
Optimism Bias	306,435	205,513	277,566
Sub Total	6,664,122	4,140,857	6,360,811
Inflation	449,017	409,622	496,018
Total Outturn	7,113,139	4,550,479	6,856,829

3.6.2 Lifecycle Costs

Lifecycle costs are derived from the capital costs reflecting replacement of individual elements of the capital scheme.

3.6.3 Revenue Costs

The assessed baseline of imaging expenditure across the Trust has been used in developing the revenue costs.

This has been calculated from the Trust's PLICS system, and reflects the imaging cost related to all activity delivered by the Trust. It therefore reflects the direct costs of imaging related to the provision activity in the Trust for 2014/15. The baseline costs assumed are £33,727,000.

Changes in revenue costs

The following changes in costs have been assessed as being necessary to deliver the scheme for each option.

Table 21 Changes in Revenue Costs

	Option A £'000	Option D1 £'000	Option D2 £'000
IR Staff	230	41	41
Non Interventional Radiology staff (out of hours)	77	77	77
On Call Costs	15	15	15
Radiologists	180	180	180
Total Direct Costs	502	313	313
Additional FM Costs	100		
Rentalised equipment movement costs and upgrade costs	60	60	60
Total	662	373	373

Option D1 will also incur £18,000 non recurrent costs as a result of the medical records relocation. The rentalised equipment movement costs relate to the cost of moving equipment to the Glenfield site spread across the remaining lives of the assets.

Additional staff are required in each option as a result of the provision of interventional radiology over three sites. The additional costs allowed for in Option A result from the disparate location of interventional radiology rooms and the consequent double running costs. The additional costs will not be incurred after 2019 when the Trust consolidates on to two sites.

The additional new build space in Option A will increase the need for FM costs. A sum of £100,000 has been allowed to cover these.

3.6.4 Results of economic appraisal

The result of the economic appraisal is as follows.

Table 22 Economic Appraisal Summary

	NPC £'000	Rank
Option A	676,622	3
Option D1	671,583	1
Option D2	674,031	2

3.6.5 Sensitivities/Switching Values

Option D1 and D2 have the same estimated additional recurrent revenue costs. It is therefore unlikely that any changes in revenue costs for Option D1 would not be the same for Option D2. However for D2 to be the preferred financial option. Capital costs for D1 would need to increase by 49% and D2 costs not to increase for D2 to be the preferred option. Revenue costs would need to increase by 339% in D1 for D2 to be the preferred option.

3.7 Cost-benefit analysis

The financial and non-financial scores were combined on a cost-per-benefit point basis. The results of this are as follows.

Table 23 Cost-benefit Analysis

Cost per benefit score	NPC £'000	Benefit Score	Cost per benefit Score £'000	Rank
Option A	676,622	5.10	132,671	3
Option D1	671,583	7.25	92,632	1
Option D2	674,031	6.75	99,856	2

Cost-benefit analysis shows that by combining the financial and non-financial scores, option D1 is the preferred option, scoring best on both the financial and non-financial appraisals.

3.8 Preferred option

The preferred option from both a financial and clinical perspective is Option D1. It scores circa 8% better than the next best option (D2).

4 | The Commercial Case

4.1 Introduction

This section of the FBC outlines the proposed procurement strategy in relation to the preferred option outlined in the Economic Case.

4.2 Procurement Strategy

Procurement strategies will be pursued to ensure efficiency and value for money.

The individual work packages associated with this scheme at the GH site are relatively minor in content. These will be procured within the requirements of standing financial institutions.

The capital works could be procured traditionally through competition; however, the desired programme end date of July 2016 could not be achieved through this procurement approach: time taken for competitive tendering would delay the completion of construction activities from end July to October 2016. This in turn would have a knock-on effect on the operational commissioning process that would have to be undertaken by the operational team before the facilities could be used.

The best alternative to the traditional competitive approach is procurement of the contractor through a framework agreement – there are a number of suitable framework agreements available in the public sector. Due to time constraints as described above, this is the preferred approach for this investment business case.

UHL has a framework agreement with Interserve FM (IFM) for the provision of various services. IFM has assigned Interserve Construction Limited (ICL) to deliver UHL capital projects on request. ICL is thus the principle contractor for the delivery of UHL projects commissioned through the framework. Commercial arrangements and contracts are pre-agreed to cover commencement of a business case through to final delivery of the asset using an NEC3 Option C form of contract. Any cost savings generated through the development of the project are split between the contractor and the Trust, based on agreed rates/percentages.

The aim of this procurement approach is to engender a spirit of partnering and collaboration across the project team through to the contractor and subsequent supply chain. The risk of any cost increases over and above the agreed Guaranteed Maximum Price (GMP) after the GMP has been agreed and the construction has commenced sits solely with the contractor. The approach therefore leads to a proactive approach to risk management throughout the supply chain.

4.3 Key Factors Affecting Outcomes

4.3.1 Planning Permission

As this interim scheme for improvements to the existing facilities at GH will be contained within the existing building envelope, planning permission will not be required.

4.3.2 Building Research Establishment Environmental Assessment Method (BREEAM)

The design solution has been developed to meet BREEAM Healthcare “Very Good” standard, meeting the highest achievable standard for a part refurbishment project.

4.4 Risk

All projects are subject to risk and uncertainty. Successful project management should ensure that major foreseeable risks are identified, their effects considered and actions taken to remove, or mitigate the risks concerned.

Risks will be classified as:

- ▶ Client – these will be the responsibility of the Project Board to manage and monitor
- ▶ Contractor – a project specific risk register will be set up for the Project. These will be the responsibility of the Contractor to monitor and will form part of the GMP

The qualification of the costs of identified risks will enable the calculation of a realistic client contingency.

A pro-active risk management regime will be employed throughout the project. It is essential on any project that the risk management process involves all key members of the project team including:

- ▶ Major Project Team – Part of UHL Estates
- ▶ Trust FM
- ▶ Project Consultant Team
- ▶ Contractor
- ▶ Designers

The design risk register can be found as part of the Estates Annex at Appendix 6.

The following risks have been identified for this project:

Table 24 Identified Project Risks

Risk description	Likelihood (1-5)	Impact (1-5)	RAG	Risk mitigation	RAG post mitigation	Risk Owner
Tight nature of timescale means that any delays risk the project exceeding the deadline of July 2016. This will have a negative reputational impact on the Trust.	4	5	20 Red	Risks to timely delivery are escalated through ICU board and safe operational resolutions found as rapidly as possible	Amber	CA/JJ
Ability to staff vacancies and recruit/retain staff where split site coverage is required may make delivery of services more difficult	3	5	15 Red	There will be a need to go out to recruit to vacancies rapidly. This will be addressed through Workforce determining a critical path for recruitment and progressing high risk areas first	Amber	ICU Board/ Specialties concerned
Required staffing is costed at substantive rate. If there is an inability to recruit to vacancies then premium pay spend may be incurred above the originally agreed budget	3	5	15 Red	Early engagement of workforce team to build a clear workforce recruitment plan will be required to identify and target likely risk areas rapidly.	Amber	ICU Board/ Specialties concerned
Any additional increases in revenue costs, as a result of issues as yet undetected, may make the project unaffordable	3	5	15 Red	Rigorous application of the Trust Change control process will be required for any future alterations.	Amber	ICU Board
In the absence of a formal agreement the Trust will need to establish how the capital programme will be managed in order to keep the works to programme and achieve the tight delivery framework.	3	5	15 Red	This is managed through the capital monitoring & delivery group and ongoing discussions with the TDA. Failing this internal capital will be required to be re-prioritised to fund the ICU project.	Amber	ICU Board

Specialties utilising IR do not abide by agreed model of usage. This will result in unacceptable pressure being placed on the staff providing the service and would bring additional risks around quality and safety	3	5	15 Red	The Imaging Department Operational Policy will set out the hours of service. Specialties must be encouraged to live within these.	Amber	CSI and specialties utilising services
3-day service for GH and LGH during an interim period - no on site provision for 4 days a week (however out of hours on call on each site)	5	3	15 Red	Expansion of hours will come at an increased financial cost.	Amber	CSI and specialties utilising services
Recruitment and training requirements shortage of radiographers and nurses	3	4	12 Amber	Requires these to be matched up against risks, recruitment and training. Mitigation is to explore the market early on a national and international basis to ensure the largest possible talent pool is exploited.	Amber	Workforce/CSI Management Team
Further delay in ICU reconfiguration process meaning that the project is subsumed into BCT consultation	2	5	10 Amber	Any remaining issues to be escalated for decision by the trust as soon as practically possible. Clear communication required with HealthWatch throughout	Amber	ICU Board
Movement of existing equipment	3	3	9 Amber	Equipment will be moved through a specialist company who are experts in this field.	Amber	Imaging Team
It has been assumed that conversion of existing Trust-owned space for capital works will see any increase in residual asset value offset by a corresponding impairment. If this is not the case then capital charges will be higher than assumed within this business case.	2	4	8 Green	Early involvement of valuers will be required to ensure that UHL's case for impairment is understood and that any subsequent risk can be identified early in the process	Amber	ICU Board

4.5 Proposed Contract Lengths

A period of mobilisation will be required following approval of the business case.

4.6 Financial Reporting Standard 5 Accountancy Treatment

Any assets underpinning delivery of the service will be reflected on the Trust's balance sheet.

5 | The Financial Case

5.1 Introduction

The Financial Case examines the affordability of the preferred option and sets out the financial implications for the Trust in terms of capital expenditure and cash flow, income and expenditure account and borrowing.

The purpose of this section is to set out the forecast financial implications of the preferred option as set out in the Economic Case and the proposed procurement route (as described in the Commercial Case).

The financial position of this business case shows an additional operational cost of £373,000 per annum. This is shown in the following table:

Table 25 Financial Position of the Business Case

	2015/16 £'000	2016/17 £'000	2017/18 £'000	2018/19 £'000
Operating Costs				
IR Nursing above Vascular case		27	41	41
Non-IR Modalities		58	77	77
On Call costs		10	15	15
IR Consultants		120	180	180
Medical Records	6	12		
Rentalisation of move costs		40	60	60
Total Operating Costs	6	267	373	373
Capital Charges				
Interest	14	70	109	104
ROA	0	(78)	(152)	(146)
Depreciation	0	5	9	9
Total Capital Charges	14	(3)	(34)	(32)
Total Impact on I&E	20	264	339	341

Non-operating costs have been allowed for in the Trust's Long-Term Financial Model (LTFM), leaving the additional operating costs of circa £267,000 in 2016/17 and £373,000 in 2017/18 and 2018/19 outside the LTFM. If the Trust is to maintain the deficit reduction trajectory in the Financial Strategy, the operating cost revenue impact of this development is only affordable if the development is funded by the £4m per annum allowance made in the Financial Strategy for annual operating cost pressures. This approach has been supported by the Trust Board.

5.2 Capital Costs

Total costs are summarised in the following table.

Table 26 Summary of Capital Costs

	£
Departmental Costs	1,755,449
On Costs	947,414
Works cost	2,702,863
Provisional Location Adjustment	(111,114)
Sub total	2,591,748
Fees	571,293
Non Works Cost	0
Equipment Cost	95,297
Planning Contingency	677,005
Total For Approval Purposes	3,935,344
Optimism Bias	205,513
Sub Total	4,140,857
Inflation	409,622
Total Outturn	4,550,479

5.2.1 Financing

The Trust has assumed the scheme will be funded through Interim Capital Support Loan (ICSL) in line with DH guidance. (This assumption would not be the Trust's preferred option but guidance dictates that ICSL must be considered as the primary funding source in a business case.) The Trust requires funding in 2015/16 and 2016/17.

5.3 Income and Expenditure

5.3.1 Summary

The projected impact on the Trust's income and expenditure (I&E) position is summarised in the table below:

Table 27 Income and Expenditure Changes

	2015/16 £'000	2016/17 £'000	2017/18 £'000	2018/19 £'000
Operating Costs				
IR Nursing above Vascular case		27	41	41
Non-IR Modalities		58	77	77
On Call costs		10	15	15
IR Consultants		120	180	180
Medical Records	6	12		
Rentalisation of move costs		40	60	60
Total Operating Costs	6	267	373	373
Capital Charges				
Interest	14	70	109	104
ROA	0	(78)	(152)	(146)
Depreciation	0	5	9	9
Total Capital Charges	14	(3)	(34)	(32)
Total Impact on I&E	20	264	339	341

5.3.2 Methodology

The additional costs have been based on the proposed service reconfigurations reflecting restructure services and rotas. The workforce costs have all been through confirm and challenge process and they have been identified as legitimate increases in costs as a result of the reconfiguration. All these costs are deemed to be transitional costs incurred until the Trust consolidates on to two sites. The costs reflect nurse staffing at mid-point with appropriate on costs and enhancements. Consultant Radiologists have been assumed to cost £120,000 per WTE

A key assumption is that the Trust is able to recruit staff. If there is any difficulty in recruiting and there is a requirement for recruiting at premium rates. Then there would be an additional cost pressure. Currently the full year effect of the business case in workforce terms is £313,000; a 50% premium cost in relation to failure to recruit would be as much as £156,500 per annum.

No additional income has been assumed as a result of increasing critical care capacity. However a sensitivity has been run on the economics reflecting additional income.

5.3.3 Workforce

The capital investment will provide a sustainable physical solution for the provision of IR services at GH while still retaining a presence on the LGH site.

The workforce costs relate to additional consultant and radiography staff required at GH and LRI.

The basis of the costing has been the total radiography requirements for the Trust after the changes in services related to Critical Care provision.

Any increases in costs accounted for in the Vascular business cases have been netted off.

This is summarised as follows.

Table 28 Radiography Workforce Changes

	band 2	band 3	band 4	band 5	band 6	Subtotal Radiographers	Consultant	Total
Required WTE	0.00	13.54	0.00	17.11	20.14	50.78	1.50	52.28
Current WTE	0.00	9.76	0.00	12.71	16.09	38.56	0.00	38.56
Gap	0.00	3.78	0.00	4.40	4.05	12.22	1.50	13.72
Vascular case	0.00	3.62	0.00	3.65	3.65	10.91	0.00	10.91
Gap WTE	0.00	0.16	0.00	0.75	0.40	1.31	1.50	2.81
Gap £	0	3,514	0	22,472	14,775	40,761	180,000	220,761

The CSI CMG has recently had success with International recruitment of Italian Radiographers and such resource will be used to meet the radiographer requirements of this business case.

There is some risk in the recruitment of Interventional radiographers as these are difficult to recruit. The CMG will produce adverts proactively in January when ST6s will be eligible to apply for consultant posts (i.e. 6 months prior to the CCT).

5.3.4 Capital Related Revenue Costs

The other major cost element is the capital costs. The capital itself has been assumed to be funded through Interim Capital Support Loan (ICSL). The revenue consequences represent the interest on the loan provided and depreciation. However as the majority of the capital cost is based on a refurbished asset, it is unlikely to materially add to value, meaning that depreciation is low. Maintenance costs for ventilators are assumed to be allowed for in current budgets as the additional amount of equipment in the Trust does not increase.

The table below shows the basis of the capital charges calculation.

Table 29 Capital Charge Impact of Scheme (ICSL)

Imaging Capital Charges	2015/16 £'000	2016/17 £'000	2017/18 £'000	2018/19 £'000
Opening Balance		1,158	4,504	4,316
Drawdown	1,158	3,393		
Loan Repayments		(46)	(188)	(188)
Closing loan	1,158	4,504	4,316	4,129
Interest on loan (1 July 2015 rate 2.46%)	14	70	108	104
ROA	0	(77)	(151)	(145)
Depreciation		5	9	9
Total Capital Charges and interest	14	(3)	(33)	(32)

The Trust has modelled the use of Public Dividend Capital (PDC) to fund the development rather than IBD. The position using PDC is as follows:

Table 30 Capital Charge Impact of the Scheme (PDC)

ICU Capital Charges PDC	2015/16 £'000	2016/17 £'000	2017/18 £'000	2018/19 £'000
Return on Asset	20	22	3	3
Depreciation		5	9	9
Total Capital Charges (PDC)	20	27	12	12

This analysis assumes an impairment of £4.456 million relating to the whole of the capital investment refurbished buildings as the refurbishment work is unlikely to add to value of the buildings. As a result of this any Public Dividend Capital (PDC) funding would not generate any capital charges due to the asset value no increasing.

5.4 Impact on Trust Income, Cash Flow & Balance Sheet

The table below sets out the impact on the Trust's balance sheet.

Table 31 Impact on Trust's Balance Sheet

	2015/16 £'000	2016/17 £'000	2017/18 £'000	2018/19 £'000
Opening Balance		1,158	90	80
Capital Expenditure	1,158	3,393		
Impairment		(4,456)		
Depreciation		(5)	(9)	(9)

Closing Balance	1,158	90	80	71
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5.5 Affordability

The scheme identifies increases in recurrent revenue costs aside from capital charges and interest payments on the loan funding. All the workforce costs identified are viewed to be non-recurrent and will not be incurred after the Trust consolidates its acute services on to two sites.

The Trust Financial Strategy, approved by the Trust Board on 4th June 2015, assumes that the operating cost impact of site reconfiguration will be zero and the non-operating costs impact will be as per the capital programme.

Therefore, if the Trust is to maintain the deficit reduction trajectory in the Financial Strategy the operating cost revenue impact of this development is only affordable if either:

- ▶ CIP targets are increased to offset these costs;
- ▶ Transitional income is secured to offset these costs;
- ▶ The development is funded by the £4m per annum allowance made in the Financial Strategy for annual operating cost pressures.

5.5.1 Long Term Financial Model (LTFM)

The current five year LTFM which reflects the detail of the Financial Strategy approved by the Trust Board on the 4th June 2015 is constructed in a way which aggregates this development as part of the general site rationalisation service development. The assumptions regarding this service development include the premise that the operating costs impact of the developments will be zero.

As shown above, the case identifies additional operating costs of circa £267k in 2016/17 and £373k in 2017/18 and 2018/19. The revenue costs will need to be managed as described above and potentially reduced as a result of further investigation.

6 | The Management Case

6.1 Introduction

The Management Case provides a summary of the arrangements which have been put into place for the successful delivery of the GH Imaging Programme; the associated other service relocations required as a result of decanting moves; service operation changes; and to secure the benefits sought through the investment.

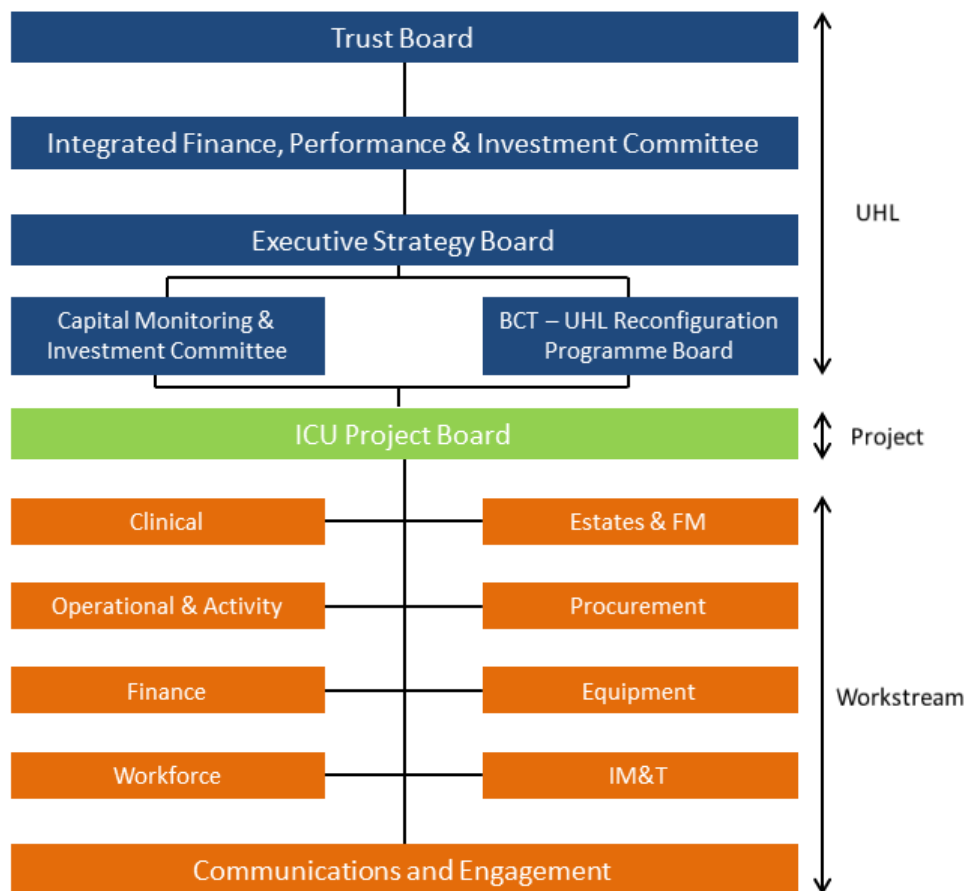
The project will be managed using PRINCE2 compliant methodology and project management tools such as Gantt charting and critical path analysis.

Project direction and management will be determined by the Project Board.

6.2 Project Governance Arrangements

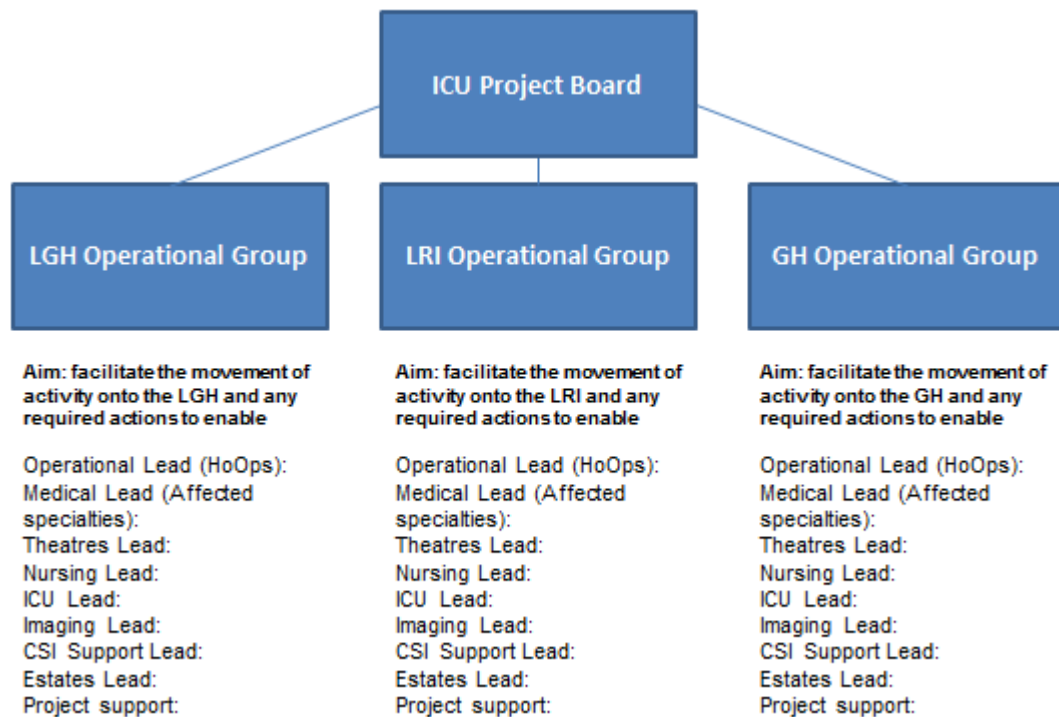
Project Governance arrangements have been established to reflect national best practice guidance and the Trust’s own Capital Governance Framework, as shown in the diagram below.

Figure 5 Project Governance Arrangements: Project Structure



This structure was used during the strategic planning phase of this investment business case and has ensured that all decisions have been made with appropriate due diligence and rigour. To enable operational delivery it will be changed to the site-based governance arrangements in the figure below.

Figure 6 Project Governance Arrangements: Site-based Delivery Structure



6.2.1 Project Roles and Responsibilities

The ICU Project Board

The project reports to the ICU Project Board. Key roles and responsibilities include:

- ▶ Responsibility for delivering the project within the parameters set within the business case
- ▶ Providing high level direction on stakeholder involvement and monitoring project level management of stakeholders
- ▶ Providing the strategic direction for the project
- ▶ Ensure continuing commitment of stakeholder support
- ▶ Key stage decisions
- ▶ Progress monitoring

The key project roles and responsibilities are outlined below.

Table 32 Project Board

Role	Name	Responsibilities
Senior Responsible Officer	Kate Shields, Director of Strategy	Responsibility to the Executive Trust Board for delivery of the project to meet their terms of reference. Chair of the Project Board.
Project Manager	Chris Green	Day to day responsibility for administration of the development of the project, within the delegated role permitted by Project Board.
Project Clinical Leads	Chris Allsager / John Jameson	Overall clinical responsibility for models produced and structures determined suitable for inclusion within relevant business cases
CSI Management Leads	Matthew Archer / Cathy Lea	Responsible for providing Management input and challenge into the Business Case
CSI Clinical Lead	Mosheir Elabassy	Responsibility for determining clinical requirements, reporting progress to the Project Board and providing clinical challenge to operational plans and designs
Estates Lead – Glenfield Imaging	Louise Naylor	Responsible for delivering design solution upon receipt of suitable project brief and offering Estates expertise to the project. Responsible for reporting to the project board and delivery of the build
Finance Lead	Tim Pearce	Responsible for translating plans into cost and benefits and maintaining financial challenge around assumptions. Responsible for reporting to the project board.
Workforce Lead	Louise Gallagher	Responsible for challenging workforce plans and assumptions and providing strategic workforce context. Responsible for reporting to the project board.

The Project Board is ultimately responsible for assuring that the project remains on course to deliver the end product or output in line with the Full Business Case. Throughout the life of the project, the Project Board is responsible for ensuring key elements of the project occur including:

- ▶ Sign off the Project Initiation Document
- ▶ Ensuring adequate resources are deployed into the project to enable delivery, inclusive of the appointment of a Project Manager and advisors as appropriate
- ▶ Receive reports from the Project Manager and monitor progress/ authorise slippage
- ▶ Review risks, issues and exceptions and determine appropriate course of action based on recommendations from the Project Manager
- ▶ Exercise functional and financial authority to support the project
- ▶ Sign off project stages / closure

Regular progress reports are also submitted to the UHL Reconfiguration Board for review and then onward reporting and management to the Executive Strategy Board.

The project will move rapidly towards the creation of a mobilisation team or teams. This will be constructed of suitable management and clinical representatives to allow the production of detailed implementation plan to operationally deliver the ICU Level 3 project. The team/s will operate within the existing governance of the project.

The end stage of the project will result in the completion, handover and commissioning of the new facilities. The Project Board is responsible for providing assurance that the project has been delivered in terms of product and quality in line with the business cases.

UHL Reconfiguration Board

This group is a designated committee appointed by the Trust Board, with responsibilities which in summary, include:

- ▶ Keeping overall responsibility for reconfiguration activities within the Trust
- ▶ Ensuring that developments are consistent with the Trust's strategic direction and BCT plans

The Executive Strategy Board (ESB)

This group is a designated committee appointed by the Trust Board, with responsibilities which in summary, include:

- ▶ To advise the Trust Board on formulating strategy for the organisation;
- ▶ To ensure accountability by holding each other to account for the delivery of the strategy and through seeking assurance that all systems of control are robust and reliable
- ▶ To lead the Trust executively, in accordance with our shared values, to deliver our vision and, in doing so, help shape a positive culture for the organisation

Integrated Finance, Performance and Investment Committee (IFPIC) and Capital Monitoring & Investment Committee (CMIC)

These groups are designated committees appointed by the Trust Board, with responsibilities which in summary, include:

- ▶ Ensure that strong financial governance and control is adhered to in business case preparation
- ▶ To ensure that capital and revenue implications of all business cases are fully understood
- ▶ To ensure that business cases represent best value for the Trust

6.2.2 Work Streams

A number of work streams have been set up to take responsibility for driving the key objectives and to report back to the Project Board on a regular basis.

Key roles and responsibilities will include:

- ▶ Day to day responsibility for the delivery of the project to meet the parameters described within the business case
- ▶ Provision of appropriate reports on status to the Project Manager
- ▶ Management of risks and issues and escalation of appropriate matters for executive direction/ approval
- ▶ Providing working groups with detailed briefs
- ▶ Monitoring, co-ordinating and controlling the work of the Working Groups
- ▶ Drawing together the outputs of the Working Groups
- ▶ Ensure continuing commitment of stakeholders, both internal and external

6.3 Project Plan

The project will be managed in accordance with the principles of PRINCE2 methodology. The project manager will have support from the capital projects team, and external consultants.

6.3.1 Project Programme

The Project Programme is intended to deliver the project by July 2016. The milestones for the whole ICU redevelopment programme are set out below:

Table 33 Project Milestones

Description	Activity / Milestone	Start date	End date
Stage 3 Design and Generation of the GMP	Activity	Oct 2015	Dec 2015
Conversion of Treatment Centre into Medical Records Space	Activity	19-Oct-15	28-Dec-15
Creation of site based implementation groups	Milestone	26-Oct-15	26-Oct-15
Fortnightly Meeting of Implementation Groups and ICU Programme Board	Activity	26-Oct-15	30-Jul-16
Re-Engage with OSC	Activity	01-Nov-15	31-Nov-15
Identify staff in scope for MoC	Activity	01-Dec-15	31-Dec-15
Business Case signed off at ESB	Milestone	10-Nov-15	17-Nov-15
Business Case signed off at CMIC	Milestone	13-Nov-15	20-Nov-15
Business Case signed off at IFPIC	Milestone	26-Nov-15	26-Nov-15
Business Case signed off at Trust Board	Milestone	03-Dec-15	03-Dec-15
Vacation of Medical Records, office space and on-call rooms at GH	Milestone	28-Dec-15	28-Dec-15

Description	Activity / Milestone	Start date	End date
Conversion of vacated areas for Interventional Radiology	Activity	29-Dec-15	29-Jul-16
Update on PTE Capital Costs	Activity	31-Dec-15	07-Jan-16
LIA events at CMG/Specialty Level	Activity	01-Jan-16	31-Jan-16
Construction Activities (including 5 weeks to relocate equipment).	Activity	January 2016	July 2016
Draft MoC paper and undertake pre-consultation with staff side	Activity	01-Feb-16	28-Feb-16
Expanded Interventional Radiology space operational	Milestone	29-Jul-16	29-Jul-16

6.4 Stakeholder Engagement

Methods of communicating information about the project to various stakeholders are listed below. See Appendix 7; 'Communications Strategy and Action Plan' for more information.

6.4.1 Internal

- ▶ Face to face briefings: used as the primary source of communication with staff
- ▶ INsite pages
- ▶ Display boards/ Hoardings around building work
- ▶ Hospital Hopper: Information can be displayed aboard and on the exterior of the Hospital Hopper buses, which travel between the three UHL hospital sites
- ▶ Factsheet-style newsletter
- ▶ Blueprint & Chief Executive's Briefings: Utilise Blueprint reconfiguration newsletter for staff (bi-monthly) to update staff on progress

6.4.2 External

- ▶ Social media: Utilising the Trust's Twitter and Facebook accounts
- ▶ Website: A section on the EMCHC project can be included on the UHL website, with a link from the homepage
- ▶ Local media
- ▶ Leicester Mercury Patient Panel: Panel made up of members of the public who provide comment on local issues
- ▶ Annual public meeting (September): Use this as an opportunity to share what has been accomplished and what is planned next
- ▶ Patient information leaflet

The over-arching ICU project has seen a wide variety of engagement from across the Trust and also further reaching communications activities:

- ▶ Involvement of key service leads from all affected areas through planning
- ▶ Representation of HealthWatch patient representative on ICU Board
- ▶ Communication with OSC at key points within the project
- ▶ Site-based communication events

The undertaking of this wide-ranging set of engagement activities has been crucial in ensuring that clinical staff have been heavily involved in planning, which is essential in such a complex project. The input of patient representatives has also ensured that decisions taken have remained centred around the best interest of patients.

6.4.3 Infection Prevention, Health & Safety, Fire and Privacy & Dignity

Representatives from UHL's Infection Prevention (IP) team have been fully engaged throughout the design development. IP representatives have provided guidance on all relevant aspects of the design.

Representatives from UHL's Health & Safety team are being thoroughly consulted on the project and design solution. The size and layout of rooms throughout were reviewed in specific detail to ensure compliance for patient and staff safety.

Infection Prevention, Health & Safety, Fire Officer and Privacy & Dignity teams will sign-off the detailed design and fully support the business case.

6.5 Outline Arrangements for Change & Contract Management

Change management associated with the project will be managed through Project Board, under the chairmanship of the Senior Responsible Owner (SRO). Day to day change management issues will be discussed at the Project Team level and any resultant contract and/or cost changes will need to be approved by the Project Board.

The Trust has introduced a new Change Management process to promote consistency and deter changes outside of the governance structure of each project. This will impact upon all business cases where there is a need to:

- ▶ Change assumptions in an approved business case
- ▶ Change costs impacting the capital plan
- ▶ Change the reconfiguration delivery programme
- ▶ Change scope which impacts upon another project

This process will require any changes detailed above to be authorised by the Project Board, Business Case team meeting and then the Reconfiguration Board.

6.6 Outline Arrangements for Benefits Realisation

The delivery of benefits will be managed through the Project Board. The Benefits Realisation Plan sets out who is responsible for the delivery of specific benefits, when they will be delivered, and how achievement of them will be measured. The key opportunity is presented by the new design for facilities, which will ensure capacity meeting demand, efficiencies in service delivery, compliance to standards and minimised disruption to overall Trust operations.

Work will be undertaken to identify and track any benefits that may arise from the LGH (in terms of reduced FM costs or efficiency benefits realised through a change in usage on the site). This will also be required on the GH and LRI sites where revised staffing models may offer initially unintended benefits.

6.7 Contingency Plans

The Trust has a framework for Business/Service Continuity. The Trust's framework ensures the Trust can comply with the business continuity provisions of the Civil Contingencies Act 2004. Contingency plans have been developed to ensure the Trust can continue to deliver an acceptable level of service of its critical activities in the event of any disruption.

In terms of financial contingency, the Financial Case highlights the planning contingency, including fees and equipment, for short-listed options.

6.8 Conclusion

This business case sets out the need to reconfigure the Imaging provision on the GH site in order to support the immediate clinical need to move Adult Level 3 Critical Care activity from the LGH by July 2016. It will also support delivery of a number of identified benefits, including to:

- ▶ Improve patient care
- ▶ Meet and aim to exceed national, regional and local policy objectives and standards
- ▶ Improve the Trust's environment and sustainability
- ▶ Provide equality of access, the necessary links and adjacencies, co-locations with other departments; manage flows into and out of departments (and achieve separation of clinical, public and FM flows)
- ▶ Provide flexibility of use to meet patient dependency (right patient, right place, right time) in a configuration that is capable of meeting changing demands in service
- ▶ Provide a long-term solution with future expansion/adaptability to change
- ▶ Provide a good strategic fit with the Trust's goals currently and in the future

- ▶ Provide a good strategic fit with planning for other departments and the Trust-wide reconfiguration programme
- ▶ Provide a practical physical and service-oriented solution with appropriate timescales for implementation including phasing, decants and incremental strategies

Appendices

Appendices are attached as separate documents and consist of the following:

Appendix 1	What is Intensive Care?
Appendix 2	What is Interventional Radiography?
Appendix 3	Options Appraisal Information
Appendix 4	Operational Policies
Appendix 5	Interventional Procedures Patient Pathway
Appendix 6	Estates Annex
Appendix 7	Communications Strategy and Action Plan

Appendix 6

Equipment Strategy

General Principles

The planning for equipment has been carried out under the following principles:

- ▶ Where equipment can be moved from LGH it will be;
- ▶ Where equipment due for asset replacement is still in a functional state it will be retained rather than disposed of;
- ▶ Where equipment can be safely shared with other areas it will be;
- ▶ Only equipment relating to the immediate increases brought about by ICU reconfiguration will be included.

The majority of imaging equipment is within a Managed Equipment Service (MES). This service is contracted to the Trust by Asterol.

The rooms involved within the ITU and vascular service reconfigurations are included in the MES scheme. The service reconfiguration has resulted in imaging equipment needing to be moved from one site to another.

This type of equipment move requires joint planning between the Trust and Asterol and the costs incurred in the moving of the equipment are met by the Trust.

Each piece of equipment has an agreed life cycle, specification banding and replacement date. Some of these dates have needed to be reviewed and changed to reflect the service moves. This incurs an increase in the contractual cost between the Trust and Asterol.

The agreed moves are shown below.

- ▶ Room 17 LRI to move to GH planned for April 2016
- ▶ Room 9 or 10 LGH to move to GH (either room would incur a similar cost) planned for July 2016
- ▶ Room F3 GH to be replaced early and upgraded planned for July 2016.

The remaining rooms at the LGH will then be used until their natural replacement cycles. Room 12 can then be replaced into the GH with no re-location costs incurred and this will mirror the planned service moves in the next 3 years. There will then be a room left at the LGH site, and a decision as to its use and future replacement in 2023 can then be decided at a later stage.

Interventional radiology (IR) also requires Ultrasound to support the procedures. There are 2 US machines currently at the LGH used for IR. One of these machines would have to move to the GH site to support the first wave of ITU moves. This will incur a cost to the Trust of movement of the machine, but has no additional contractual Asterol costs.