University Hospitals of Leicester NHS
NHS Trust

Full Business Case

Adult Level 3 ICU Project – LRI Beds Enabler

November 2015

Version	Version 1.13
Issue date	24/11/15

Building Caring at its best

Document Quality Management

Title	Adult Level 3 ICU Project: LRI Beds Enabler
Date	24th November 2015
Prepared by	Sue Holding, Business Case Author, UHL
Checked by	Chris Green, Project Manager, EY
Authorised by	Ellie Wilkes, Reconfiguration Programme Director, EY

Document History

Version	Date Issued	Brief Summary of Change	Author
1.0	18/10/15	Skeleton draft updated with contributions to date	SH
1.1	28/10/15	Updated with contributions received to date	SH
1.2	30/10/15	Updated with contributions received to date	SH
1.3	30/10/15	Updated benefits in exec summary, following teleconference with Gaby Harris & Dr Vaja	SH
1.4	03/11/15	Updated strategic section (CG)	SH
1.5	11/11/15	Updated throughout including finance and generic comments for ICU BCs – AF/NT/CG	SH
1.6	12/11/15	Revised in line with team generic and specific comments	SH
1.7	12/11/15	Revised in line with CG comments	SH
1.8	12/11/15	Final review, amendments and inclusions including latest finance & economic information from TP	AF
1.9	12/11/15	Final review, amendments and inclusions including latest finance & economic information from TP	AF
1.10	13/11/15	Last adjustment to financial narrative as per TP, and workforce narrative added to section 5.3 as per LG	CG
1.11	13/11/15	Final removal of drafting notes	CG
1.12	19/11/15	Finance update and formatting	SH
1.13	24/11/15	Presentational changes to economic and finance sections	TP

Glossary of Terms

Abbreviation	Full Heading
BB	Bed Bureau
BCT	Better Care Together
CCG	Clinical Commissioning Group
CEPOD	Confidential Enquiry into Peri-operative Deaths
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
ESAC	Emergency Surgical Ambulatory Clinic
ESB	Executive Strategy Board
ESM	Emergency and Specialist Medicine
FBC	Full Business Case
FM	Facilities Management
GH	Glenfield Hospital
GI	Gastrointestinal
HDU	High Dependency 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
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
LRI	Leicester Royal Infirmary
LTFM	Long-Term Financial Model
MDT	Multi-Disciplinary Team
MSS	Musculoskeletal and Specialist Surgery
PDC	Public Dividend Capital
RRCV	Renal, Respiratory, Cardiac and Vascular
RTT	Referral to Treatment
SAU	Surgical Admissions Unit
SMART	Specific Measurable Achievable Realistic Time-related (objectives)
SRO	Senior Responsible Officer
TART	Transanal Resection of Rectal Polyps
TEMS	Transanal Endoscopic Microsurgery
UHL	University Hospitals of Leicester
USS	Ultra Sound Scanning
VAT	Value Added Tax
VFM	Value For Money
W&C	Women's & Children's
WTE	Whole Time Equivalent

Contents

Figures & Tables

1 | Executive Summary

1.1 Introduction

This Full Business Case (FBC) is for the interim reconfiguration of the elements of the Intensive Care Unit (ICU) currently located at the Leicester General Hospital (LGH) site of the University Hospitals of Leicester NHS Trust (hereafter referred to as 'UHL' or 'the Trust'). The primary aim is to provide sufficient ward bed and emergency theatre capacity on the LRI site to allow General Surgery to relocate from the LGH site by July 2016. This will be a clinical necessity as by July 2016 sustained Adult Level 3[1] Critical Care will not be available on the LGH site. It proposes to consolidate all elective and emergency activity onto one site, to enable the co-location of patients in physically co-located wards – leading to more efficient treatment and improved clinical outcomes. In particular it seeks:

- Consolidation of the Trust's day case activities from Leicester Royal Infirmary (LRI) and Glenfield Hospital (GH) to LGH, which is intended to have a positive effect on efficiency and effectiveness of service provision
- To free up LRI Ward 7 and Ward 21, to enable the co-location of General Surgery and Colorectal services with existing wards
- Joint Gynaecological/Colorectal cases to be undertaken at LRI on the General Surgery bed base, as agreed between the two specialties

1.2 Strategic Case

1.2.1 Why is immediate change necessary?

The overarching ICU Strategy, including the recent approval of the Vascular and ICU Level 3 business cases, necessitates the reconfiguration of LRI beds. While there is good quality and safe service at present, the LGH Department of Critical Care Medicine (DCCM) has experienced medical staff recruitment and retention issues across all grades. These issues are serious enough to make the service unviable in the future; they are driven by:

- Reduced dependency required within the Critical Care patient population at LGH (the majority of admissions now require HDU care) due to previous service moves across the Trust's three acute sites. This will reduce opportunities for Critical Care staff to maintain experience in providing care for the most critically ill patients, and is a threat to the safety of the service in the near future
- The changes to the case mix, together with a reduction in trainee numbers, has led to the removal of the middle tier Critical Care training rota at the LGH unit

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

- Recruitment to substantive Consultant Intensivist posts at LGH has been attempted on multiple occasions, but has failed. This is largely due to both the loss of training designation and the reduction in patient acuity
- A national shortage of experience Critical Care nursing and medical staff (coupled with imminent retirement of several existing experienced UHL consultant staff) has compounded the Trust's recruitment problems

1.2.2 What benefits will it bring?

The reconfiguration of Colorectal and General Surgery on the LRI site will enable better pathways for emergency patients with prompt intervention for patients who require emergency surgical treatment.

- The move will allow for economies of scale with better use of middle-grade and junior doctor cover. It will provide new training opportunities
- The move will create a single Colorectal Multi-Disciplinary Team (MDT), which will be commensurate with peer review recommendations for the service
- By ensuring prompt and efficient processing of emergency patients, more bed spaces will become available for elective cases – leading to fewer cancellations for cancer resections (for example)
- The pooling of consultants at LRI into one merged rota will have a beneficial impact on elective activity by reducing the frequency of on-calls
- Recent guidance from the Royal College of Surgeons[2] states that post-laparoscopic patients must go through ICU Level 3 for recovery. For emergency Colorectal laparoscopies, co-location with ICU Level 3 is therefore vital if an adequate, safe service is to be provided
- Support for the Trust's longer term strategy to become smaller while expanding its provision of specialised, co-located services

1.3 Economic Case

This business case is one of a series of business cases supporting the reconfiguration of critical care services across the three hospital sites. The Trust has reviewed its overall position in respect of transferring all services related to the LGH critical to the LRI and the Glenfield Hospital. It has run a high-level economic appraisal which compares a 'Do Nothing' scenario with respect to the Critical Care facilities at the LGH with a scenario that moves Critical Care beds and associated services from the LGH and the associated moves between other hospitals.

Given the fact that Vascular services have already been approved, it examines the costs including the Vascular move and excluding the Vascular move.

[2] 'The First Patient Report of the National Emergency Laparotomy Audit (Royal College of Surgeons, June 2015) stresses the following recommendation (indeed, it is the primary recommendation): "Hospital-level audit data should be examined to determine if national Standards for postoperative critical care admission are being adhered to. Where compliance is poor, a change of local policies and reconfiguration of services should be considered to enable all high-risk emergency laparotomy patients to be cared for on a critical care unit after surgery."

The result of this appraisal is as follows:

Table 1 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, including and excluding vascular services.

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

Table 2 Summary of Final Options Appraised – General Surgery, Colorectal and Joint Gynae Beds

Ref	Option	Description
1	Surgery to utilise Wards 7 and 21	Current Ward 7 moves into Ward 9, Ward 21 is refurbished following the Vascular Surgery move to GH in April 2016 and Ward 7 is refurbished to provide two wards for General Surgery.
2	Adults take ward 14 for 9 months then move to Ward 9	CAU remains where it is until it moves to the new ED floor in ~ Jan 2017 requiring adults to take ward 14 for a period of approximately 9 months and then move to ward 9, after which Children's would convert ward 14 into a medical day case and hospital school space.
3	Adults take ward 14 for 3 years	CAU remains where it is until it moves to the new ED floor in ~ Jan 2017 requiring adults to take ward 14 until the final Children's Hospital solution in approximately 3 years; children's then do minimal work on ward 9 to convert to a medical day case and hospital school space.

Table 3 Cost-benefit Analysis

Cost per benefit score	NPC £'000	Benefit Score	Cost per benefit Score £'000	Rank
Option 1	1,272,019	6.35	200,318	1
Option 2	1,271,140	4.60	276,335	3
Option 3	1,271,140	5.60	226,989	2

Cost-benefit analysis shows that by combining the financial and non-financial scores, option 1 is the preferred option. Although Option 1 is slightly more expensive, the non-financial scores are significantly better for Option 1 which make it overall the preferred option. Option 1 non-financial score would need to reduce to 5.604 it not to be the preferred option.

The above analysis indicates that option 1 is the preferred option, basically from a clinical and qualitative basis. The difference in costs for each of the options is marginal and as a result option 1 is the preferred option.

1.4 Commercial Case

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

- Reconfiguration of LRI beds to free up LRI Ward 7 and Ward 21, to enable the co-location of General Surgery and Colorectal services with existing wards

1.4.1 Procurement approach

The procurement of the team of professionals required to deliver the two areas will be sourced through two different procurement routes:

- Wards 7, 9 and 21 will be competitively tendered and led by the Trust Estates Team. This is driven by the financial value of the project for surgery (£2.7 million out-turn)
- The professional team will be required to undertake the detailed design and costing of the project up front. This needs to commence as soon as practically possible. The solution for the appointment of the professional team rests with either the use of a services framework or competitive tender

The project is constrained by the time in which it has to deliver the completed solution. The driver for the completion date is the operational pressure of workforce.

The project manager evaluated the potential routes of procurement for both capital works and services and has identified the preferred option that will ensure the project is delivered on programme.

The capital works will be procured traditionally through competition as there is time within the programme.

1.5 Financial Case

The financial position of this business case shows an additional cost of circa £269,000 per annum in 2016/17 and £404,000 in 2017/18 and 2018/19. This is shown in the following table.

Table 4 Financial Position of the Business Case

	2015/16 £'000	2016/17 £'000	2017/18 £'000	2018/19
Operating Costs				
Additional Ward Nursing		134	201	
Beds and Theatres capacity - Middle Grades		35	53	
Gynaecology Consultants		88	132	
Total Operating Costs		12	18	
Capital Charges		**269**	**404**	
Interest	2	38	70	
ROA	0	(49)	(96)	
Depreciation	0	5	10	
Total Capital Charges	2	(6)	(17)	
Total Impact on I&E	**2**	**263**	**387**	

Non-operating costs have been allowed for in the Trust's Long-Term Financial Model (LTFM), leaving the additional operating costs of circa £269,000 in 2016/17 and £404,000 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.

1.5.1 Capital Costs

The capital costs of the development total £2,898,586. The table below shows an analysis of the total costs.

Table 5 Capital Costs of LRI Beds

	£
Departmental Costs	1,751,085
On Costs	201,767
Works cost	1,952,852
Provisional Location Adjustment	(78,115)
Sub total	1,874,737
Fees	392,570
Non Works Cost	
Equipment Cost	98,000
Planning Contingency	112,484
Total For Approval Purposes	2,477,791
Optimism Bias	140,606
Sub Total	2,618,397
Inflation	280,189
Total Outturn	2,898,586

1.6 Management Case

The programme anticipating completion is set out below:

Table 6 Project Programme

Description	Activity/ Milestone	Start date	End date
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
New theatre timetables agreed	Activity	09-Nov-15	30-Mar-16
Business Case signed off at ESB	Milestone	17-Nov-15	17-Nov-15
Business Case signed off at CMIC	Milestone	20-Nov-15	20-Nov-15
Business Case signed off at IFPIC	Milestone	26-Nov-15	26-Nov-15
Identify staff in scope for MoC	Activity	01-Dec-15	31-Dec-15

Business Case signed off at Trust Board	Milestone	03-Dec-15	03-Dec-15
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
Draft MoC paper and undertake pre-consultation with staff side	Activity	01-Feb-16	28-Feb-16
Ward 9 (Ward 7 to move into Ward 9)	Activity	25-Apr-16	29-Jul-16
Ward 21 refurbishment	Activity	25-Apr-16	05-Jun-16
Ward 7 refurbishment	Activity	06-Jun-16	29-Jul-16
General Surgical Activity moves from LGH to LRI	Milestone	29-Jul-16	29-Jul-16

1.7 Conclusion

This business case delivers for elective Colorectal, Emergency General Surgery and Gynaecological services the benefits of consolidation of all elective and emergency activity onto one site, with patients in physically co-located wards – an enabler for the ICU reconfiguration that is anticipated will provide the following benefits:

- Improved staff recruitment, retention and training
- Safer, more efficient treatment
- Optimised clinical outcomes

1.8 Recommendation

The Trust Board is recommended to approve this 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 (DH) guidance and HM Treasury Green Book. The case comprises the following key components:

- **The Strategic Case** | This sets out the strategic context and the case for change, together with the supporting investment objectives for the scheme
- **The Economic Case** | This 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** | This outlines the content and structure of the proposed deal
- **The Financial Case** | This confirms funding arrangements and affordability and explains any impact on the balance sheet of the organisation
- **The Management Case** | This demonstrates that the scheme is achievable and can be delivered successfully to cost, time and quality

This FBC addresses the need to rapidly reconfigure elements of ward space within the LRI site footprint. It will also address the staffing requirements necessary to strengthen emergency surgical provision onsite.

The FBC is presented in the context of the immediate clinical imperative to remove Adult Level 3 Critical Care from LGH by July 2016 and sets out the proposed reconfiguration of three wards that will allow General Surgery and high risk combined Colorectal/Gynaecological procedures to relocate onto the LRI site. At present this activity is undertaken at the LGH.

Without this proposed investment, Adult Level 3 Critical Care cannot be moved from LGH by July 2016.The only realistic alternative to this proposed investment would be for the Trust to cease provision of those activities planned to be located at LRI, due to the lack of existing specialty ward space available.

Whilst the primary reason for reconfiguration of these wards at LRI is to enable Adult Critical Care Level 3 activity from moving off the LGH by July 2016, the developments set out within this business case will also bring other benefits. They would see the consolidation of all General Surgical elective and emergency inpatient activity onto one site, to enable the co-location of patients in physically co-located wards – leading to more efficient treatment and improved clinical outcomes.

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 primary clinical objective of the project is to create the ward bed space and Emergency operating capacity necessary to enable Adult Level 3 Critical Care reliant specialties to move from the LGH by July 2016.

However there are several benefits which, whilst not the primary focus of this business case, will be enabled through its implementation. These are:

- Consolidation of the Trust's day case activities from Leicester Royal Infirmary (LRI) and Glenfield Hospital (GH) to LGH, which is intended to have a positive effect on efficiency and effectiveness of service provision
- To free up LRI Ward 7 and Ward 21, to enable the co-location of General Surgery and Colorectal services with existing wards
- Joint Gynaecological/Colorectal cases to be undertaken at LRI on the General Surgery bed base, as agreed between the two specialties
- The proposed reconfiguration of Colorectal and General Surgery on the LRI site will enable better pathways for emergency patients with prompt intervention for patients who require emergency surgical treatment
- The move will result in a single colorectal MDT which will be commensurate with peer review recommendations
- By ensuring prompt and efficient processing of emergency patients, more bed spaces will become available for elective cases leading to fewer cancellations for cancer resections
- The pooling of consultants at the LRI to one merged rota will also have beneficial impact on elective activity by reducing the frequency of on-calls
- To adhere to cancer targets for treatment of bowel cancers

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 by July 2016. The investment required is in keeping with the Trust's longer term strategic objectives. UHL's Five Year Strategy envisages that General Surgical services would all move to the LRI site. The investment will also allow the achievement of some of the key goals set out by the General Surgery department which are to;

- Adhere to national targets for the treatment of bowel cancers
- Offer to as many patients as possible the option for laparoscopic bowel resections with concomitant reduced length of stay
- Comply with national standards for RTT benign elective work; to provide a tertiary referral service for out-of-area patients
- Offer prompt and consultant-led investigation and treatment for patients presenting with acute abdominal pain

Surgical services at LRI presently consist of six Upper Gastrointestinal (GI) surgeons and six Colorectal surgeons. Maintaining two separate sites (LGH and LRI) results in significant duplication of resources. The surgical caseload is currently split across two sites on an approximate 60-40% basis, which results in:

- Delay in patient treatment times across the two sites (particularly for those patients seen in A&E at LRI who are transferred subsequently to LGH)
- Significant excess expenditure

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 and 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 and 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; and
- 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.

UHL is one of the largest Trusts in the country with over 10,000 admissions annually with acute abdominal pathology. At present these surgical admissions are spread across two sites (LGH and LRI). Colorectal surgery is also one of the largest units in the country undertaking over 300 cancer resections annually.

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 table below.

Table 7 National Strategies, Programmes and Policies

Strategy	Aims
DH report "Comprehensive Critical Care: a Review of Adult Critical Care Services" 2000	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.)
National Adult Critical Care Stakeholder Forum document, "Quality Critical Care – Beyond Comprehensive Critical Care" 2005	The document recommends that *"critical care networks be retained, strengthened and fully developed in line with local priorities and needs".*
Operational Delivery Networks (ODN) established 1st April 2013	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.
NHS England Service Specification No. D16 Adult Critical Care 2014	The Service Specification for Adult Critical Care states: "***Interdependencies with other services/providers*** *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:* ***Co-located Services – to be provided on the same site and to be immediately available 24/7:*** • *Competent resident medical practitioner with* • *advanced airway skills (anaesthetist/Intensive Care Medicine)*

Strategy	Aims
	• *General Internal Medicine* • *Endoscopy* • *Radiology: CT, Ultrasound, plain x-ray* • *Echocardiography/ECG* • *General Surgery for any site with unselected medical admissions.* • *Access to Theatres* • *Transfusion Services* • *Essential haematology/biochemistry service and point of care service* • *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* • *Informatics support* • *Physiotherapy* • *Pharmacy* • *Medical Engineering Services* ***Interdependent Services, available 24/7*** *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.* • *Interventional Vascular and non-vascular Radiology* • *Neurosurgery* • *Vascular Surgery* • *General Surgery* • *Nephrology* • *Coronary Angiography* • *Cardiothoracic Surgery* • *Trauma and Orthopaedic Surgery* • *Plastic Surgery* • *Maxillo-facial Surgery* • *Ear, Nose and Throat Surgery* • *Obstetrics and Gynaecology* • *Organ Donation Services* • *Acute/Early Phase Rehabilitation Services* • *Additional laboratory diagnostic services"*

Strategy	Aims
Intensive Care Society **"Guidelines for the provision of intensive care services"** **2015**	The guidelines include the following guidance pertinent to this business case: *"**Interactions with other services*** *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.* *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.* *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.* *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*

Strategy	Aims
	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."

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 heath, 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.

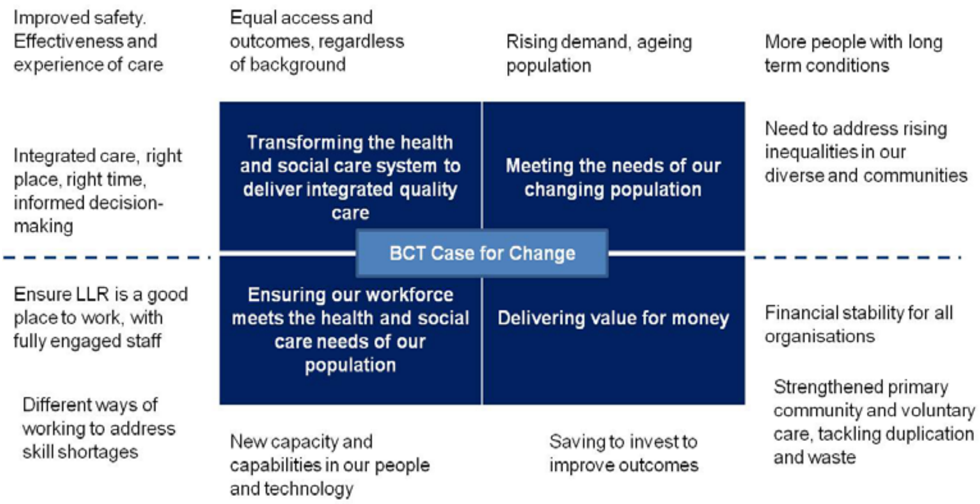
In response, the BCT programme represents the biggest ever review of health and social care across LLR. The programme represents a partnership of NHS organisations and local authorities across LLR, working together to achieve major transformation in the current and future delivery of services that are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

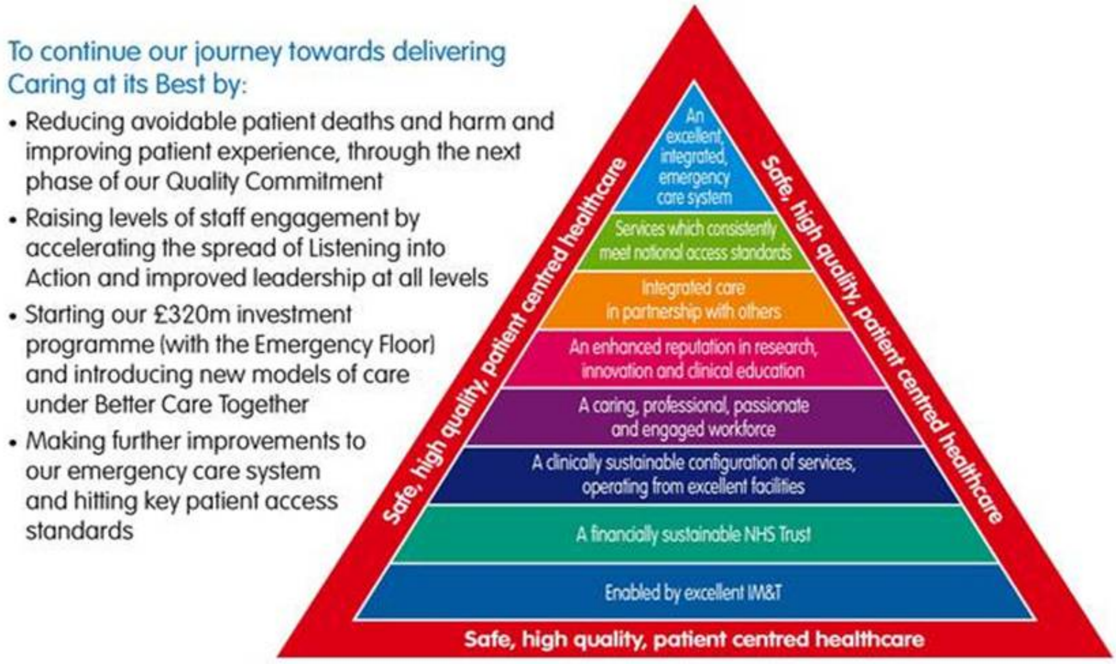
2.5.7 The Trust's Strategic Objectives

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"3. 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 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

[3] Treasury Value for Money Update, 2009

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

Staff currently working at the LGH site General Surgery and Gynaecology will be affected by this change due to the change in location of their services. This will be managed through a robust and transparent change management process to ensure that high quality services can continue to be provided and that disruption to staff is minimised.

In order to ensure that an optimal working environment is achieved the following specialties were consulted during the design process and have signed off the design:

- Infection Prevention Team
- Clinical Teams (Consultants, Matrons)
- Fire Officer

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.

2.6 Current Activity and Demand

UHL provides hospital- and community-based healthcare services to patients across LLR. It also provides specialist services to patients throughout the UK. 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 currently provides Level 3 adult critical care services at each of its three acute sites. This provision enables a range of specialties which require a co-location with Level 3 critical care to be delivered across the Trust's hospitals. The section below sets out how required capacity on the LRI was determined, in order to feed into the estates brief for this investment proposal.

The Colorectal department at the LGH comprises of six surgeons and two specialist nurses. It is one of the largest cancer services in the country, undertaking over 300 cancer resections annually. It provides laparoscopic (and robotic) cancer resections and localised resections such as Transanal Endoscopic Microsurgery (TEMS) and Transanal Resection of Rectal Polyps (TART) procedures. In addition to the cancer work, the unit undertakes a range of minor surgeries such as haemorrhoidectomies, fistula-in-ano and lateral sphincterotomies.

The General Surgical component of the service includes hernias (both lap and open) incorporating incisional, parastomal and ventral hernia repair. In addition, a limited number of laparoscopic cholecystectomies are also undertaken by three of the six surgeons.

The unit also undertakes a General Surgical on-call covering a range of emergencies including perforation, Hepato-pancreatic-biliary (HPB) emergencies (such as acute pancreatitis), obstruction, non-specific abdominal pain, cutaneous abscesses and investigation and management of abdominal pain. HPB emergencies requiring intervention from the HPB team are transferred to the care of an HPB consultant.

The unit undertakes lower GI endoscopy including colonoscopy and flexible sigmoidoscopy as diagnostic, screening and therapeutic procedures.

There are also regular (x2 monthly) sessions with gynae-oncology for cancer resections and complex benign work.

Following reconfiguration:

- All A&E and General Surgical emergency pathology will be seen and assessed by the surgical team at the LRI. GP admissions and Bed Bureau (BB) patients will be assessed in a revised and expanded triage unit at the LRI. Suitable patients will be assessed by the emergency surgeons at the LRI in particular those with pathology, not requiring acute admissions. (The two emergency surgeons were appointed in April 2015 and defining the patient pathways is still ongoing.)
- Patients requiring admission will be triaged and admitted to the surgical wards. Those patients requiring theatre will be operated on within Confidential Enquiry into Peri-operative Deaths (CEPOD) requirements. Patients not requiring admission will be discharged or seen by the emergency surgeons and assessed in the Emergency Surgical Ambulatory Clinic (ESAC). Elective Colorectal patients will be admitted and managed as per the usual pathway at the LRI

- The new triage area will enable ambulatory surgical are to be delivered to a much broader range of patients than at present. Ward 7 will allow for immediate ultra sound scanning (USS) and assessment by an ESAC surgeon and will also allow for simple wound care and minor procedures to be undertaken under regional anaesthetic
- On the Balmoral Stack, Ward 7 will be fully utilised for the expanded Surgical Admissions Unit (SAU) to meet the additional capacity by having all surgical activity moved to the LRI site. Ward 21 will be fully utilised for elective inpatients

2.6.1 Demand and Capacity Modelling

Detailed work has been undertaken using Trust activity data for 2014/15, in order to determine the number of beds that General Surgery will require at the LRI.

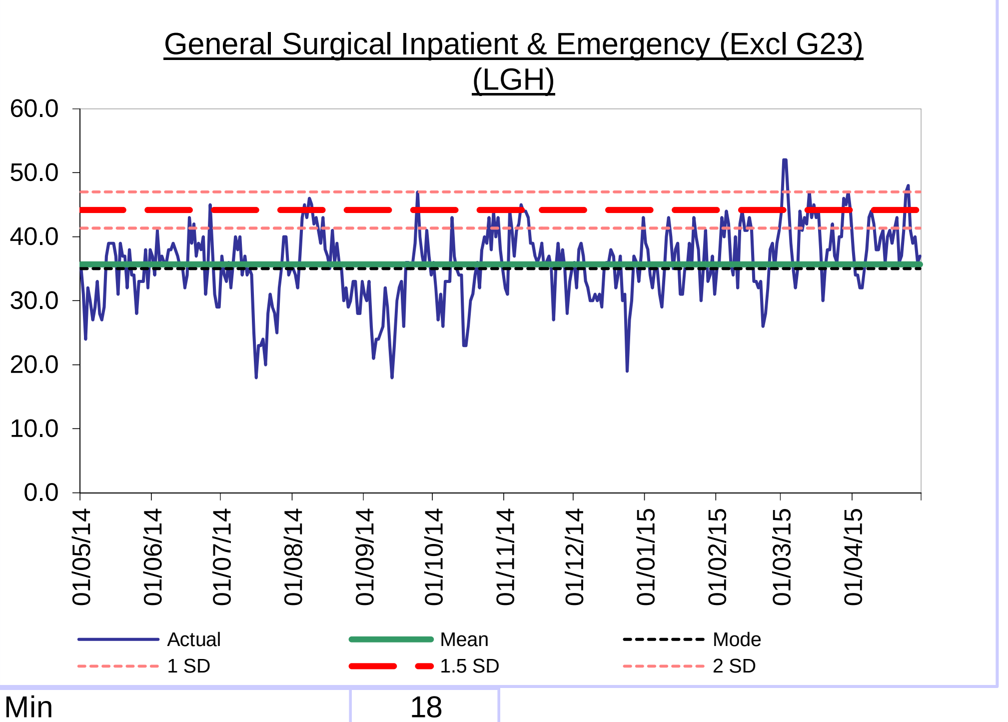
This analysis was undertaken by looking at the number of patients in General surgical beds at LGH every day for a year. This approach was used to ensure that enough capacity was provided to meet peaks in activity as opposed to planning on an overall number of bed days. The below analysis sets out the beds required by General Surgery based upon standard deviation analysis and indicated that 44 beds (plus 4 for joint colorectal/gynaecological operating would be required to meet the majority of peaks in demand.

In terms of theatre capacity it was agreed that current (LGH) inpatient provision would be re-provided at the LRI. It was agreed that this equated to 8 Elective sessions for General Surgery and the equivalent of 2.25 lists of shared colorectal/gynaecological operating.

Creation of capacity for this transfer of operating activity will be facilitated through the centralisation of General Surgical day case activity from the LRI onto the LGH. This capacity is in addition to the Elective capacity vacated by Vascular Surgery when the specialty moves to the GH in April 2016.

It has been agreed that 4.5 weekly sessions of additional Emergency activity will be required at LRI to accept the general Surgical Emergency admissions onto the site. This will allow the running of two parallel adult Emergency theatres every day of the week and should improve flow and efficiency.

Figure 4 General Surgical Inpatient & Emergency - LGH



Min	18
Max	52
Mean	36
Median	36
Mode	35
1 SD from Mean	41.4
1.5 SD from Mean	**44.2**
2 SD from Mean	47.0
85% LOS Method	42.0

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 & Benefits Criteria

In the context of the above and the Trust's corporate objectives, the 'SMART' investment objectives for this project are detailed below as part of the wider Benefit's Realisation Plan.

- To move Adult Level 3 Critical Care activity off the Leicester General Hospital site, still providing the ability to stabilise and transfer where this is required
- To increase capacity for Level 3 care at both the Leicester Royal Infirmary and the Glenfield Hospital. 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 ICUs and dependent specialties to optimise clinical safety and reduce clinical risk
- To enable the physical adjacency of General Surgical wards at LRI
- To increase Emergency provision at the LRI to enable efficient flows of Emergency patients once General Surgery moves on to the LRI site
- 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 create a design that is fit for purpose
- To deliver the development in time for the anticipated increased clinical demand over winter
- To deliver the development with minimal disruption to the current provision of service to current ICU areas

2.9 Summary

This investment business case addresses the immediate clinical need to provide additional bed capacity at the LRI. This will enable General Surgery (which is an Adult Level 3 Critical Care dependant specialty) to relocate from the LGH by the required deadline of 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 is of the ongoing transformation of the Trust's three main hospital sites, responding to the significant challenges it faces.

The investment project to provide additional beds at LRI 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 case describes the options for delivering bed capacity for General Surgery, Colorectal Surgery and joint Gynaecological/Colorectal cases on the UHL sites in terms of their relative benefits and costs. It highlights the preferred option after each shortlisted option has been appraised on both a financial and non-financial basis.

3.2 Overall Economic position for Critical Care

The Trust has reviewed its overall position in respect of transferring all services related to LGH Critical Care to LRI and GH. It has run a high-level economic appraisal which compares a 'Do Nothing' scenario with respect to the Critical Care facilities at LGH with a scenario that moves Critical Care beds and associated services from LGH with associated moves between other hospitals. Given the fact that Vascular Services have already been approved it examines the costs including the Vascular move and excluding the Vascular move. The result of this appraisal is as follows.

Table 8 Net Present Cost of Each Option

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, including 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.)

3.3 Benefits appraisal process

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

Table 9 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 Interventional Radiology at Glenfield Hospital	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 shown below.

Table 10 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 listed in the table above. Each option was scored as detailed in the 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 LRI site; these were then assessed with clinical and estates staff to ensure that a full qualitative benefits appraisal was undertaken. The analysis was conducted within the context of the need to ensure continuity between this appraisal and the longer term UHL reconfiguration programme, both in terms of capital cost and strategic location. The options initially explored for each specialty are as follows.

Table 11 Options Explored – General Surgery, Colorectal and Joint Gynae Beds

Ref	Option	Description
1	Surgery to utilise Wards 7 and 21	Current Ward 7 moves into Ward 9, Ward 21 is refurbished following the Vascular Surgery move to GH in April 2016 and Ward 7 is refurbished to provide two wards for General Surgery
2	Adults take ward 14 for 9 months then move to Ward 9	CAU remains where it is until it moves to the new ED floor in ~ Jan 2017 requiring adults to take ward 14 for a period of approximately 9 months and then move to ward 9, after which Children's would convert ward 14 into a medical day case and hospital school space.
3	Adults take ward 14 for 3 years	CAU remains where it is until it moves to the new ED floor in ~ Jan 2017 requiring adults to take ward 14 until the final Children's Hospital solution in approximately 3 years; children's then do minimal work on ward 9 to convert to a medical day case and hospital school space.

3.5 Benefit scoring by potential location

These locations were subject to a qualitative options appraisal as set out below.

Table 12 Weighting of Criteria

Criteria/Weighted Scores		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

The options were appraised against the weighted benefits criteria.

Table 13 Options Appraisal against Weighted Benefits Criteria

Ref	Benefit Criteria - LRI beds	Weighting	Option 1	Option 2	Option 3
1	**Clinical Quality and Configuration**	**5%**	**10**	**7**	**7**
1.1	Enables an acute configuration of services that maximises clinical affinities and critical adjacencies minimises clinical risk		5	2	2
1.2	Is in line with the trust vision – 2 acute and 1 ambulatory sites		5	5	5
2	**Efficiency & Effectiveness**	**5%**	**5**	**5**	**5**
2.1	Provides capacity for activity moving from LGH		5	5	5
3	**Staffing**	**20%**	**4**	**3**	**3**
3.1	Ease of staffing cover		4	3	3
4	**Quality of the Patient Environment**	**10%**	**13**	**11**	**11**
4.1	Improves the quality of the patient environment; privacy & dignity; single sex areas; single rooms		4	3	3
4.2	Enhances the overall patient experience		4	3	3
4.3	Safe from an infection control perspective		5	5	5
5	**Achievability**	**50%**	**4**	**3**	**5**
5.1	Likely timescale and cost of conversion works/interdependencies		4	3	5
6	**Accessibility**	**10%**	**15**	**8**	**8**
6.1	Operational access to area		5	2	2
6.2	Clinical adjacencies		5	2	2
6.3	Overall patient journey		5	4	4
	Totals		**51**	**37**	**39**
	Weighted Totals		**6.35**	**4.6**	**5.6**

	Rank		1	3	2

3.5.1 Preferred option

Only one option generated provided a suitable environment as well as the number of beds required and as a result option 3 was determined to be the favoured option through qualitative assessment.

The clear preference demonstrated by the qualitative options appraisal was the utilisation of space around the current Bay B to expand the existing unit.

This preference was largely driven by the following factors:

- the required area (which precluded consideration of Option 1 within existing courtyard space);
- consideration of the safety and quality of the patient environment;
- consideration of ease of staffing cover (all options except for Option 3 saw either a reduction in natural light entering the unit or produced a build which would be awkward to staff given the sight lines involved).

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 for each site.

3.6.1 Capital Costs

The option appraisal process evolved as a result of timescales and funding available. Capital costs for each option are shown below.

Table 14 Capital Costs

	Option £	Option	Option £
Departmental Costs	1,751,085	1,216,385	1,216,385
On Costs	201,767	140,157	140,157
Works cost	1,952,852	1,356,542	1,356,542
Provisional Location Adjustment	(78,115)	(54,262)	(54,262)
Sub total	1,874,737	1,302,280	1,302,280
Fees	392,570	300,593	300,593
Non Works Cost			
Equipment Cost	98,000	98,000	98,000
Planning Contingency	112,484	78,137	78,137
Total For Approval Purposes	2,477,791	1,779,009	1,779,009
Optimism Bias	140,606	97,671	97,671
Sub Total	2,618,397	1,876,680	1,876,680
Inflation	280,189	194,674	194,674
Total Outturn	**2,898,586**	**2,071,354**	**2,071,354**

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 General Surgery, Musculoskeletal and Gynaecology expenditure across the Trust has been used in developing the revenue costs. This is broken down as follows.

Table 15 Revenue Costs – General Surgery and Gynaecology

	£'000
General Surgery	42,577
Gynaecology	21,667
Total Baseline	**64,244**

3.6.3.1 Changes in revenue costs

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

Table 16 Changes in Revenue Costs

	16/17 (£'000)	17/18 (£'000)
Additional Ward Nursing	134	201
HPB Middle Grades	35	53
Gynaecology Consultants	12	18
Additional emergency theatre sessions	88	132
Total Direct Costs	**269**	**404**

3.6.4 Results of economic appraisal

The result of the economic appraisal is as follows.

Table 17 Economic Appraisal Summary

	NPC £'000	Rank
Option 1	1,272,019	3
Option 2	1,271,140	1
Option 3	1,271,140	1

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 18 Cost-benefit Analysis

Cost per benefit score	NPC £'000	Benefit Score	Cost per benefit Score £'000	Rank
Option 1	1,272,019	6.35	200,318	1
Option 2	1,271,140	4.60	276,335	3
Option 3	1,271,140	5.60	226,989	2

Cost-benefit analysis shows that by combining the financial and non-financial scores, option 1 is the preferred option. Although Option 1 is slightly more expensive, the non-financial scores are significantly better for Option 1 which make it overall the preferred option. Option 1 non-financial score would need to reduce to 5.604 it not to be the preferred option.

3.8 Preferred option

The above analysis indicates that option 1 is the preferred option, basically from a clinical and qualitative basis. The difference in costs for each of the options is marginal and as a result option 1 is the preferred option.

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

The procurement of the team of professionals required to deliver the two areas will be sourced through two different procurement routes:

- Wards 7, 9 and 21 will be competitively tendered and led by the Trust Estates Team. This is driven by the financial value of the project for surgery (£2.7 million out-turn);
- The professional team will be required to undertake the detailed design and costing of the project up front. This needs to commence as soon as practically possible. The solution for the appointment of the professional team rests with either the use of a services framework or competitive tender.

The project is constrained by the time in which it has to deliver the completed solution. The driver for the completion date is the operational pressure of workforce.

The project manager evaluated the potential routes of procurement for both capital works and services and has identified the preferred option that will ensure the project is delivered on programme.

The capital works will be procured traditionally through competition as there is time within the programme.

4.3 Key Factors Affecting Outcomes

4.3.1 Planning Permission

As this interim scheme for improvements to the existing facilities at LRI 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 following risks have been identified for this project.

Table 19 Identified Project Risks

Risk description	Likelihood (1-5)	Impact (1-5)	RAG	Risk mitigation	RAG post mitigation	Risk Owner
Beds:- Capacity constraints within system to enable moves (including failure of Left shift to deliver bed space required) could require a costly solution to create capacity or risk increased operational pressure	4	5	**20 Red**	Requirement for beds at LRI is dependent upon preceding ward moves but not out of hospital shift. At present Wards 28 and 29 are being planned to be vacated at GH site. A backup plan is being formulated to ensure that these beds are free by March 2016. Impact of plans to close GH theatre capacity gap is being worked through operationally with service leads	**Amber**	ICU Board / Trust Exec
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	3	5	**15 Red**	Early engagement of workforce team to build a clear workforce recruitment plan will be required to identify and target	**Amber**	ICU Board / Specialties

Risk description	Likelihood (1-5)	Impact (1-5)	RAG	Risk mitigation	RAG post mitigation	Risk Owner
incurred above the originally agreed budget				likely risk areas rapidly.		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
Increased bed pressures on the 2 busiest sites.	2	5	**10 Amber**	Detailed modelling to identify likely capacity needed at both sites. LRI and GGH work stream to agree co-location possibilities. Movement off LRI and GGH site of all specialities not needing to be on these sites. Consider ring-fencing of surgical beds	**Amber**	CA/JJ
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

Risk description	Likelihood (1-5)	Impact (1-5)	RAG	Risk mitigation	RAG post mitigation	Risk Owner
Risk of congestion around Emergency surgery in LRI if flow is not managed effectively. This will also be impacted when Vascular Surgery are required to manage their Emergency activity prior to a full GH emergency theatre coming online in July 2016.	3	3	**9 Amber**	Increased Emergency capacity (in week) will be provided at LRI which will de-congest weekend Emergency lists and allow improved flow. Close monitoring will be required	**Amber**	ICU Board / ITAPS
Estates risks around timescale - Wards requiring greater refurbishment than anticipated, slippage on interdependent schemes etc.	2	4	**9 Amber**	Continuous monitoring and clear understanding of dates for required vacation of space for wards and imaging	**Amber**	ICU Board
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 options 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 options as set out in the Economic Case and the proposed deal (as described in the Commercial Case).

5.2 Capital Costs

The capital costs of the preferred option total £2,898,586. Total costs are summarised in the following table.

Table 20 Summary of Capital Costs

Capital Costs	£
Departmental Costs	1,751,085
On Costs	201,767
Works cost	1,952,852
Provisional Location Adjustment	(78,115)
Sub total	1,874,737
Fees	392,570
Non Works Cost	
Equipment Cost	98,000
Planning Contingency	112,484
Total For Approval Purposes	2,477,791
Optimism Bias	140,606
Sub Total	2,618,397
Inflation	280,189
Total Outturn	2,898,586

5.2.1 Financing

The Trust has assumed the scheme will be funded through Interim Capital Support Loan (ICSL) in line with Department of Health 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 21 Income & Expenditure Changes

	2015/16 £'000	2016/17 £'000	2017/18 £'000	2018/19 £'000
Operating Costs				
Additional Ward Nursing		134	201	201
Beds and Theatres capacity - Middle Grades		35	53	53
Gynaecology Consultants		88	132	132
Total Operating Costs		12	18	18
Capital Charges		269	404	404
Interest	2	38	70	67
ROA	0	(49)	(96)	(92)
Depreciation	0	5	10	10
Total Capital Charges	2	(6)	(17)	(16)
Total Impact on I&E	**2**	**263**	**387**	**388**

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. Middle grades have been assumed to have an average cost of £70,000 per annum. However allowance has been made for the reduction in bandings meaning the additional cost of reduces.

5.3.3 Workforce

Key to the removal of Level Three patients to the LRI and GH sites is the implementation of a robust workforce plan to directly support the case mix of patients at all three sites and provide a safe level of care appropriate to the acuity of patients.

Overall, the plan aims to:

- Ensure the appropriate supply and skill mix of staff to service a revised model of care described within the operational policies
- Ensure an appropriate supply and skill mix of staff to support a short term change in the physical location of General Surgery wards and Gynaecology beds for level three patients
- Ensure an appropriate supply and skill mix of staff to support the splitting of HPB, General Surgery and Urology beds through a different configuration at the LRI, LGH and GH sites
- Provide an opportunity for repatriation of General Surgery from Specialist Surgery to prevent outliers.

Service Changes

The service changes have created a number of new and revised models of care and physical location of beds required to ensure the safety of level three patients until such time as all staff are consolidated onto a two-site model of working.

Nursing Impact

The move of General Surgery Level three patients from LGH to LRI has created the requirement for an additional staffing at the LRI site which is summarised in the table below.

Table 22 Additional Staffing at LRI Following Move of General Surgery L3 Patients from LGH

	As Was WTE	Proposed WTE	Change WTE	MSS WTE	Gynae WTE	Net Impact WTE	Cost Per WTE £'000	GH Proportion £'000	LRI proportion £'000	Total Additional Cost £'000
Band 7	5.00	6.00	1.00			1.00	44	44		44
Band 6	13.41	14.00	0.59			0.59	41	24		24
Band 5	85.87	96.39	10.52	(4.52)	(1.90)	4.10	34	10	130	139
Band 4	0.00	2.00	2.00			2.00	28	56		56
Band 2	65.41	79.03	13.62	(2.71)	(1.27)	9.64	23	146	71	218
Band 1 Housekeeper	11.42	10.00	(1.42)			(1.42)	18	(26)		(26)
Ward Clerk	7.40	8.40	1.00			1.00	22	22		22
Total	**188.51**	**215.82**	**27.31**	**(7.23)**	**(3.17)**	**16.91**		**277**	**201**	478

General Surgery needs 15 additional beds to accommodate patients currently being cared for in Gynaecology and Musculoskeletal beds. This increase in beds drives a staffing requirement of 17.38 WTE which is a mix of band 5 and band 2 nursing staff.

Gynaecology have identified they require four additional beds at the LRI to accommodate their patients requiring level three care (see Appendix 3). These beds will be accommodated on a colorectal ward which has a staffing ratio of 1.27 nurses per bed. This was recently uplifted from 1.1 nurses per bed following an acuity review. This drives a requirement for 5.08 WTE staff. Gynaecology can only release 3.17 WTE from the ward remaining at LGH as a result of a lower efficiency associated with a smaller bed base. The net cost pressure is therefore 1.91 WTE. MSS and Gynae can only release 10.4 WTE. This leaves a net increase in staff of 6.98 related to the repatriation of these patients. The net additional cost of this is £201,000.

As HPB and Urology are split from the General Surgery bed base when the move to LRI takes place, there is increased capacity to accommodate current Musculoskeletal outliers at the LRI site. This is driving a further requirement for 10 beds and a staffing requirement of 12.3 WTEs. Musculoskeletal can only release 7.23 WTEs. The net cost pressure is therefore 5.07 WTEs.

The release of staff from Specialist Surgery and Gynaecology is summarised below.

Table 23 Release of Staff from Specialist Surgery and Gynaecology

Ward	WTE	2016/17 £'000	2017/18 £'000
Gynaecology Ward	**(3.17)**	**(62)**	**(93)**
MSS Ward	(7.23)	(143)	(215)

As Musculoskeletal and Gynaecology will be operating from a smaller bed base, the requirements outlined in Table 22 cannot be met and there is a resultant inefficiency in the workforce at LRI/LGH. Some of specialist surgery cost pressure has been offset by excluding known safe staffing issues at Kinmouth Ward currently.

A number of options were explored to offset this inefficiency including combining female urology patients on the released gynaecology bed base and creating a large Urology ward at the LGH site. This was not pursued on the basis of patient safety and the proximity of Urology specialist nurses at LGH site.

All General Surgery wards will be aligned at the LRI site on Wards 21 and 7:

- **Ward 21** – Elective Colorectal based on 28 beds with 1.27 Nurse to bed ratio 60/40 Skill mix split, which mirrors the nurse to bed ratio on ward 22. This was recently increased from 1.1 nurse to bed ratio following and acuity review.
- **Ward 7** – Emergency Surgical Assessment Unit will constitute 28 beds including a chaired triage area. The staffing is modelled on a current ward operating with a combined assessment unit with nurse staffing levels at 1.66 nurse to bed ratios with a 60/40 split. Although this is higher than the ratio currently operating at LGH (1.45) this will be done through fewer beds with a higher throughput.

There are some potential efficiencies associated with combining surgical triage on the Ward 7 surgical assessment unit. This efficiency does not form part of this business case as the model of care needs to be implemented before an accurate benefit can be calculated. In the interim it will improve the quality of care for patients.

To address the requirement for nursing WTE, The CHUGGS CMG will continue to pursue international recruitment as the current vacancy level is 11%.Over the next two months the Trust will be developing a robust attraction strategy to improve the net recruitment position.

Nursing posts will be included in the UHL rolling recruitment advertising. It is hoped that the work to brand Leicester will make a difference to the current recruitment trajectory for General Surgery.

Medical Workforce

An allowance has been made of 0.15 WTE consultant Gynaecology workforce to cover inefficiency of ward rounds across two sites.

The gynaecology consultant increase will be sourced from existing resources.

Table 24 Consultant Gynaecology Workforce Allowance

	WTE	2016/17 £'000	2017/18 £'000
Gynaecology – Consultants	0.15	12	18

An inefficiency of 1.0 WTE Middle Grade is assumed as a joint rota is created to cover three sites covering General Surgery and HPB. The current requirement is 20 Middle Grade Drs (excluding two vascular middle grades who will move to an independent rota) to 22 middle grade doctors. 1.0 WTE is required at the GH site and is excluded from this business case.

The two HPB/General Surgery Middle grade will be recruited for through local NHS Jobs advertising in the first instance.

Table 25 HPB Middle Grades Allowance

	WTE	2016/17 £'000	2017/18 £'000
HPB - Middle Grades	2.00	79	105

Theatre Staff

The move of General Surgery to the LRI form the LGH requires 4.5 additional emergency theatre sessions per week. The appropriate staff for this has been allowed for.

5.3.3 Capital Related Revenue Costs

The other major cost element of this investment business case is the capital cost. 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. 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 26 Capital Charge Impact of Scheme (ICSL)

Critical Care Capital Charges	2015/16 £'000	2016/17 £'000	2017/18 £'000	2018/19 £'000
Opening Balance		203	2,890	2,770
Drawdown	203	2,696		
Loan Repayments		(8)	(120)	(120)
Closing loan	**203**	**2,890**	**2,770**	**2,650**
Interest on loan (1 July 2015 rate 2.46%)	2	38	70	67
ROA	0	(49)	(96)	(92)
Depreciation		5	10	10
Total Capital Charges and interest	**2**	**(6)**	**(17)**	**(16)**

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 27 Capital Charge Impact of Scheme (PDC)

ICU Capital Charges PDC	2015/16 £'000	2016/17 £'000	2017/18 £'000	2018/19 £'000
Return on Asset	4	5	3	3
Depreciation		5	10	10
Total Capital Charges (PDC)	4	10	13	13

This analysis assumes an impairment of £2.801 million relating to the refurbishment element of the development as it does not add to the value of the buildings.

Although the Trust would need to earn a higher rate of return if the scheme were funded through PDC, the Trust would also need to pay back the loan required to fund the scheme. It is assumed that £120,000 per annum loan repayment would be made from late 2016/17. Therefore the impact on I&E is compounded by an even more significant impact on the Trust's cash flow of £120,000 per annum. With everything else being equal, this would reduce the amount of operational capital available to the Trust by this amount.

.

5.4 Impact on Trust Income, Cash Flow & Balance Sheet

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

Table 28 Impact on the Trust's Balance Sheet

	2015/16 £'000	2016/17 £'000	2017/18 £'000	2018/19 £'000
Opening Balance		203	93	83
Capital Expenditure	203	2,696		
Impairment		(2,801)		
Depreciation		(5)	(10)	(10)
Closing Balance	203	93	83	74

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 £269k in 2016/17 and £404k in 2017/18 and 2018/19 respectively. The revenue costs will need to be managed as described above and potentially reduced as a result of further investigation.

5.5.2 Capital Affordability

The scheme is included in the reconfiguration programme's capital cost allowance. Due to the urgency of the scheme the funding of this will be reviewed in terms of budget allocations for critical care and beds at the LRI and Glenfield. This review will take place in November 2015.

6 | The Management Case

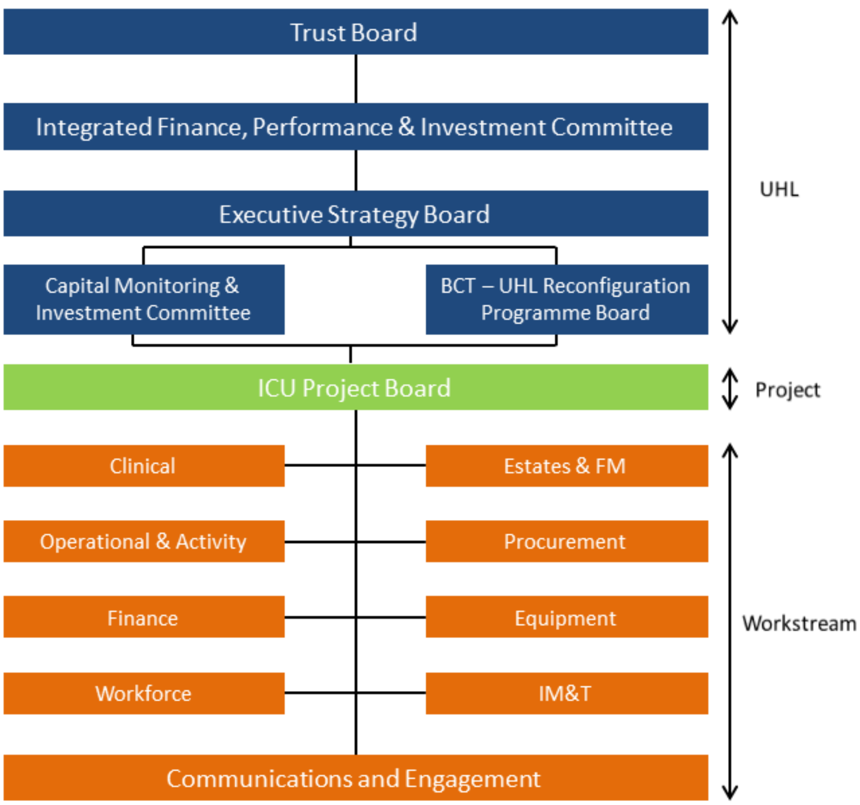
6.1 Introduction

The Management Case provides a summary of the arrangements which have been put into place for the successful delivery of the LRI Beds scheme; 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.

6.1 Project Governance Arrangements

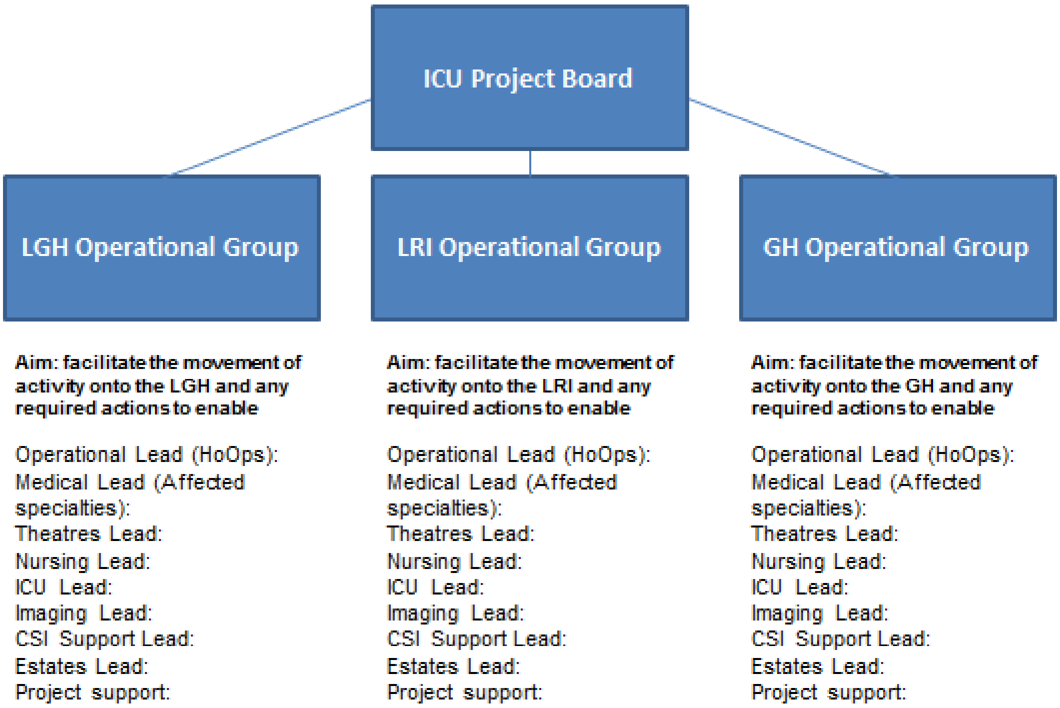
Project Governance arrangements have been established to reflect national best practice guidance and the Trust's own Capital Governance Framework, as shown in the diagram below. As the capital value of this business case is less than £1m; it does not need to be approved at Trust Board and can be approved by the Integrated Finance, Performance & Investment Committee.

Figure 5 Project Governance Arrangements – Project Structure



This structure was used during the strategic planning phase of this investment business case. To enable operational delivery it has been 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 29 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. Also responsible for offering clinical challenge to models put forward.
Clinical Leads	Giuseppe Garcea/ George Kenney	Responsibility for determining clinical requirements, reporting progress to the Project Board and providing clinical challenge to operational plans and designs
Estates Lead – LRI beds	Nigel Bond	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 stage
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 Strategic Outline Case. Throughout the life of the project, the Project Board will be 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 BCT-UHL Reconfiguration Programme Board for onward reporting and management to the Executive Strategy.

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 reconfiguration 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 Director
- 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 managers 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 30 Project Milestones

Description	Activity/ Milestone	Start date	End date
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
New theatre timetables agreed	Activity	09-Nov-15	30-Mar-16
Business Case signed off at ESB	Milestone	17-Nov-15	17-Nov-15
Business Case signed off at CMIC	Milestone	20-Nov-15	20-Nov-15

Business Case signed off at IFPIC	Milestone	26-Nov-15	26-Nov-15
Identify staff in scope for MoC	Activity	01-Dec-15	31-Dec-15
Business Case signed off at Trust Board	Milestone	03-Dec-15	03-Dec-15
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
Draft MoC paper and undertake pre-consultation with staff side	Activity	01-Feb-16	28-Feb-16
Ward 9 (Ward 7 to move into Ward 9)	Activity	25-Apr-16	29-Jul-16
Ward 21 refurbishment	Activity	25-Apr-16	05-Jun-16
Ward 7 refurbishment	Activity	06-Jun-16	29-Jul-16
General Surgical Activity moves from LGH to LRI	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 4 ‘Communications Strategy and Action Plan’ for more information.

6.4.1 Internal

- Face to face briefings: These should be 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 LRI Beds 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): an opportunity to share what has been accomplished and what is planned next
- Patient information leaflets

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 were 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 have signed-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 the 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.

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 justifies the LRI Beds project which has the primary aim of providing sufficient ward bed and emergency theatre capacity on the LRI site to allow General Surgery to relocate from the LGH site by July 2016. This will be a clinical necessity as by July 2016 sustained Adult Level 3 Critical Care will not be available on the LGH site.

Aside from the immediate clinical need to undertake this project it will also allow the Trust to consolidate all elective and emergency General Surgical inpatient activity onto one site, to enable the co-location of patients in physically co-located wards – leading to more efficient treatment and improved clinical outcomes. It will also support the delivery of a number of benefits.

The reconfiguration of Colorectal and General Surgery on the LRI site will enable better pathways for emergency patients with prompt intervention for patients who require emergency surgical treatment. Further, it will:

- Allow for economies of scale with better use of middle-grade and junior doctor cover. It will provide new training opportunities
- Create a single Colorectal MDT, which will be commensurate with peer review recommendations for the service
- Ensure more bed spaces become available for elective cases by ensuring prompt and efficient processing of emergency patients – leading to fewer cancellations for cancer resections (for example)
- Pool consultants at LRI into one merged rota, which will have a beneficial impact on elective activity by reducing the frequency of on-calls
- Improve the efficiency and effectiveness of the estate as an enabler. It will provide vital co-locations and physical adjacencies. Recent guidance from the

Royal College of Surgeons[4] states that post-laparoscopic patients must go through ICU Level 3 for recovery. For emergency Colorectal laparoscopies, co-location with ICU Level 3 is therefore vital if an adequate, safe service is to be provided

- Support the Trust's longer term strategy to become smaller while expanding its provision of specialised, co-located services

[4] 'The First Patient Report of the National Emergency Laparotomy Audit (Royal College of Surgeons, June 2015) stresses the following recommendation (indeed, it is the primary recommendation): "Hospital-level audit data should be examined to determine if national Standards for postoperative critical care admission are being adhered to. Where compliance is poor, a change of local policies and reconfiguration of services should be considered to enable all high-risk emergency laparotomy patients to be cared for on a critical care unit after surgery."

Appendices

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

Appendix 1	What is Intensive Care?
Appendix 2	Estates Annex
Appendix 3	Operational Policies
Appendix 4	Communications Strategy and Action Plan

University Hospitals of Leicester NHS

Building Caring at its best