NHS England

Improving Specialist Cancer and Cardiovascular Services in North and East London and West Essex

Business Case

THE NHS CONSTITUTION
the NHS belongs to us all

Improving Specialist Cancer and Cardiovascular Services in North and East London and West Essex

Business Case

Document revisions

Date	Version	Comment	Author
14/03/14	First draft	Submitted to SRO and wider programme team including finance chapters	Programme team
26/03/14	Second draft	Submitted for financial review	Programme team
28/03/14	Third draft	Submitted to trust boards	Programme team
30/04/14	Fourth draft	Submitted for final sign off	Programme team
02/05/14	Final draft	Submited for legal review	Programme team

Executive summary

Introduction

Cancer and cardiovascular disease are responsible for two-thirds of early mortality in London. If survival rates in north and east London and west Essex for cardiovascular disease and all cancers equalled the best achieved in England over 2,000 lives per year could be saved. This business case describes the recommendations to improve specialist services in order to support this aim.

In 2010 a clinical review made recommendations for improving cancer and cardiovascular services in London concluding that fewer specialist high-volume units would improve clinical outcomes, accelerate the uptake of new technologies, achieve greater quality and optimise efficiency.

Building on the London review and using clinical evidence, local clinicians through the leadership of UCLPartners have looked at how improvements can be made to specialist cancer and cardiovascular services in north and east London and west Essex (the local area). These were described in the Case for Change[1] document developed by NHS England (London).

This business case presents recommendations made by the programme to the decision making bodies for preferred options to be taken forward for further engagement and analysis. They have been informed by extensive public and clinical engagement by commissioners and a comprehensive options (see Appendix A) and financial appraisal.

Specialist cancer services recommendations

Current services are not meeting requirements in line with national guidance both in terms of patient volume and/or minimum population served. A 2010 London-wide review of cancer services estimated there are 400 avoidable deaths from cancer in north and east London and west Essex every year. These recommendations aim to address these issues, improving patient outcomes across the area and ultimately saving up to 400 lives.

Led by local clinicians, the vision for specialist cancer services is to consolidate specialist care for rare and complex cancers. Specialist centres would deliver clinical and research excellence across the whole of the cancer pathway. These centres would support local hospitals and GPs to share best practice resulting in a more unified experience for patients and their relatives.

Taking the Case for Change as its starting point, a thorough and transparent options appraisal process was applied to arrive at a set of preferred options to consolidate specialist services delivered by a selected number of providers in the area. These have been informed by the views of a wide range of stakeholders through a comprehensive phase of engagement. A rigorous impact analysis has also been undertaken and demonstrates a positive system net present value (NPV) and minimal adverse impacts on choice and competition, patient travel or any individual equality group. The following recommendations are proposed.

[1] Available at: http://www.england.nhs.uk/london/london-2/engmt-consult/

1. That the current providers of specialist cancer services in scope are consolidated into fewer, higher volume providers based on the configuration below.

Pathway	Configuration	RFH	BH	UCLH	BHRUT	BCF	HUH	NMUH	PAH
1.1 Brain	Current		S	S	S				
	Recommended			S	S				
1.2 H&N	Current		S	S		S			
	Recommended			S					
1.3 Bladder Prostate	Current		S	S	S	S			
	Recommended	Please refer to London Clinical Senate Review Summary for final recommendation							
1.4 Renal	Current	S	S	S	S	S	S		S
	Recommended	S							
1.5 HSCT	Current	S	S	S					
	Recommended		S	S					
1.6 AML	Current	S	S	S	S	S		S	
	Recommended		S	S	S				
1.7 OG	Current		S	S	S				
	Recommended			S	S				

Specialist cardiovascular services recommendations

The Case for Change highlights significant issues for cardiovascular services in north and east London and presented the relatively poor patient outcomes in comparison to the rest of England. More specifically, the following key reasons were highlighted for driving the need for change:

- The risk of cardiovascular disease is already high and is increasing with our growing ageing population. People with heart disease in north and east London are more likely to die prematurely than other people in London or England
- Current services cannot meet recommended standards for care. There is currently a high level of unmet need and unequal access to treatment
- There is insufficient volume in some of the providers to operate sub-specialist rotas and deliver other co-dependent services
- There is insufficient volume to sustain the specialists needed for 24/7 emergency care.
- Eroding patient experience through higher than average waiting times for surgery, higher readmission rates and few accommodation options

- There is an opportunity to integrate research and innovation into daily practice, improving care for local people and attracting additional funding for local services.

The vision for specialist cardiovascular services is to deliver world-class patient experience and clinical outcomes, underpinned by world leading academic research and education.

To achieve this vision, local clinicians, through the leadership of UCLPartners, have recommended to commissioners the establishment of a single integrated cardiovascular centre at St Bartholomew's Hospital with the Royal Free Hospital continuing to provide specialist heart attack services.

An appraisal team involving key patient groups, clinicians and commissioners was convened to consider the recommended options put forward by UCLPartners among all other possible configurations of specialist cardiovascular and heart attack centres (HACs). Of the five options considered, the appraisal team concluded only two options were safe and viable:

- A single cardiovascular centre at St Bartholomew's and two HACs at St Bartholomew's and the Royal Free Hospital

- A single cardiovascular centre at St Bartholomew's and two HACs at St Bartholomew's and The Heart Hospital

The options appraisal and the public engagement concluded with strong support both on clinical and patient experience grounds for a single cardiovascular centre at St Bartholomew's and two HACs at St Bartholomew's and the Royal Free Hospital. Following an impact assessment of the preferred option which identified a positive system NPV, the following recommended option is proposed.

2. That services at The Heart Hospital should be transferred to St Bartholomew's Hospital to create a single integrated cardiovascular centre.

The Royal Free Hospital and the integrated cardiovascular centre at St Bartholomew's Hospital would act as HACs for the area.

Decision making

This "Business Case" alongside supporting papers set out how the recommendations were developed and considers the financial, competition, travel and equality impacts of each of the recommendations for service change. Accompanying these papers is an assurance paper to indicate where and how the Secretary of State (SoS) four tests have been met. Taking into consideration the materials presented, majority commissioners of the services within scope are invited to make the following decisions at a Commissioner Decision Meeting to be held on Friday 9th May 2014.

1. To agree as commissioner preferred options the recommendations regarding proposed changes to specialist cancer services (1.1 – 1.7) outlined above
2. To agree as commissioner preferred option the recommendation regarding proposed change to specialist cardiovascular services outlined above
3. Approve the proposals for phase 2 engagement on the commissioner preferred options and implementation issues to inform final decision making.

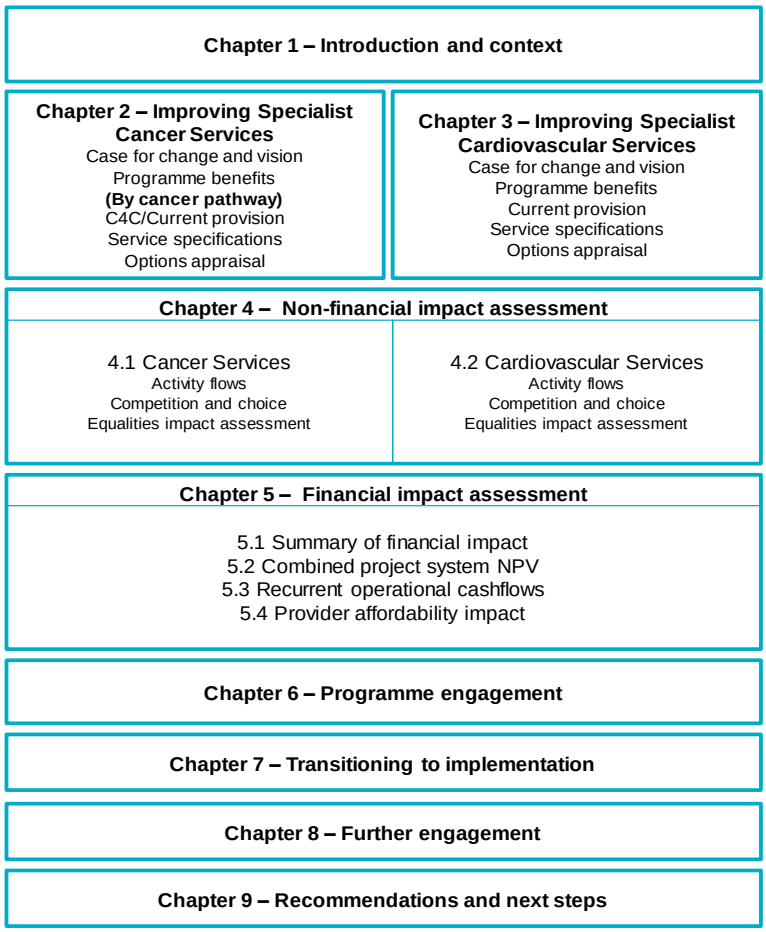
1 Introduction and purpose of this document

1.1 Structure of the business case

This business case sets out the process applied by the programme to arrive at a set of commissioner-led recommendations for both specialist cancer and cardiovascular services for north east London and west Essex. While there are no direct clinical interdependencies between the two sets of services, there are close capacity and financial interdependencies for the providers involved.

The diagram below presents the structure of this business case. The clinical evidence and appraisal to arrive at the recommendations for cancer and cardiovascular services are discussed in chapters two and three. The non-financial and financial impact analysis is described in chapters four and five respectively. Chapter six summarises the engagement undertaken and how the programme intends to address the issues raised by stakeholders (see also the phase one Engagement Report[2]). Chapter seven sets out the key considerations for planning for implementation and chapter eight describes in more detail the further engagement to support this. Chapter nine summarises the recommendations and decisions required by the Commissioner Decision Meeting and the immediate next steps for the programme.

Figure 1-1 - Business Case Structure



[2] Available at www.england.nhs.uk/london/engmt-consult.

1.2 Programme context

North and east London has some of the best cancer and cardiovascular experts in the country but specialist services are not organised in a way that gives patients the best chance of survival and the best experience of care.

In 2010 a clinical review made recommendations for improving cancer and cardiovascular services in London concluding that fewer specialist high-volume units would improve clinical outcomes, accelerate the uptake of new technologies, achieve greater quality and optimise efficiency.

Building on the London review and using clinical evidence, local clinicians through the leadership of UCLPartners have looked at how improvements can be made to specialist cancer and cardiovascular services in north and east London. These were described in the Case for Change document developed by NHS England (London) which recommended the following:

- For **five complex and rare cancers**, clinicians have recommended that specialist treatment should be provided in four centres of excellence across the area with a key hub at University College Hospital.

- For **cardiovascular care**, clinicians recommended services currently provided at The Heart Hospital, The London Chest Hospital and St Bartholomew's Hospital should be combined to create a single integrated cardiovascular centre. The Royal Free Hospital and the integrated cardiovascular centre at St Bartholomew's Hospital would act as heart attack centres (HACs) for the area.

NHS England (London) together with local clinical commissioning group (CCG) partners led an extensive engagement process on the Case for Change to receive feedback from key interest groups. Regular meetings and dialogue have been maintained with the three Joint Health Overview and Scrutiny Committees (JHOSCs) and Westminster Overview and Scrutiny Committee (OSC) before and during the engagement to understand their views and any requirement for further engagement or consultation. The JHOSCs have concluded that the proposals do not represent substantial variation or development in services and that, therefore, formal consultation with local authorities is not required under section 244 of the NHS Act 2006. The JHOSCs support plans for the programme to continue to conduct further engagement stakeholders before decisions are made.

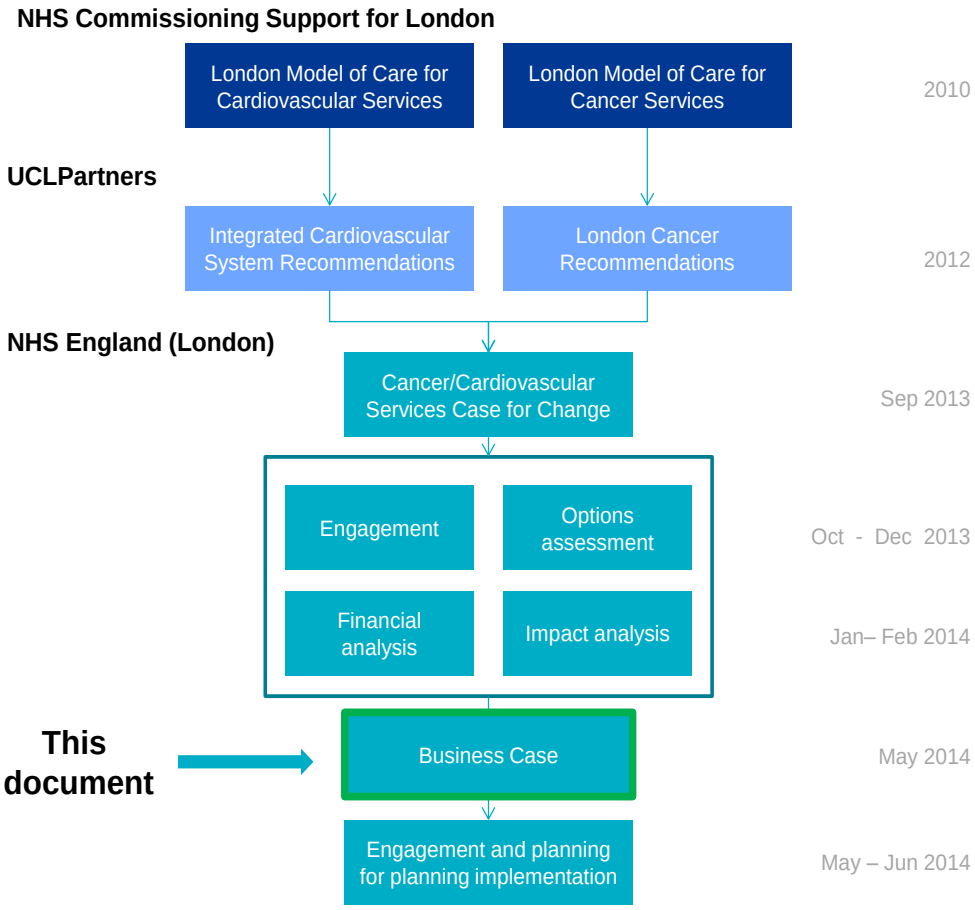
This document presents the recommendations NHS England (London) and the supporting clinical commissioning groups (CCGs) will consider to agree as commissioner preferred options prior to further engagement. Key inputs into these recommendations are the Case for Change[3], the stakeholder engagement and the financial and non-financial options appraisal.

[3] Available at: http://www.england.nhs.uk/london/london-2/engmt-consult/

1.3 Development of the programme and this document

The programme emerged from the London-wide models of care for both cancer and cardiovascular services in 2010. These were developed as part of the London Health Programmes work, in which individual models of care were developed for each of London's health priorities. For both cancer and cardiovascular services, these models of care were developed following extensive engagement in 2009. The recommendations made by the review were developed further through the leadership of UCLPartners before transitioning to the overarching programme led by NHS England (London) for additional analysis and appraisal. The diagram below outlines the key phases of the programme.

Figure 1-2 - The Development of the Programme



1.3.1 Development of the specialist cancer proposals

In March 2010, Commissioning Support for London, with support from local cancer clinicians published a Case for Change document outlining key arguments for changing cancer services in London. This was extensively engaged on by Commissioning Support for London including the involvement of cancer network management teams. Following this, in August 2010 the London Model of Care [4] was published outlining the requirements of London's cancer

[4] NHS Commissioning Support for London, A Model of Care for Cancer Services, August 2010 http://www.londonhp.nhs.uk/wp-content/uploads/2011/03/Cancer-model-of-care.pdf

commissioners. The London Model of Care recommended a reduced number of specialist centres for cancer surgery and complex treatments.

London Cancer was established by UCLPartners to oversee provision of cancer services for residents in north central and north east London and west Essex and tasked to implement the London wide Model of Care for their population. In doing so London Cancer developed detailed pathway specifications and assessment frameworks for each of the cancer pathways, and invited trusts to respond. The London Cancer pathway boards assessed the trust responses and the final proposals were presented to NHS England for consideration.

1.3.2 Development of the specialist cardiovascular proposals

In 2009, the NHS in London brought together London's cardiovascular community to propose changes to services in the capital. Commissioning Support for London led the development of and engaged on a Case for Change[5] in August 2010. Subsequently, the London Model of Care was developed, outlining a clear need to change cardiovascular services in London.

NHS England, CCGs and providers supported the development of an 'Integrated Cardiovascular System' (ICVS). One important element of the work initiated by the ICVS was ensuring specialist services perform at world class levels. Guided by the recommendations in the London Model of Care and the Cardiovascular Disease Outcomes Strategy (2013), a clinical proposal was developed by UCLPartners for a new model of care for adult specialist cardiovascular services for north and east London.

1.3.3 Development of commissioner led recommendations for north and east London and west Essex

NHS England (London) established a programme in June 2013 to appraise London Cancer's/ UCLPartners' recommendations and to assess them, along with all other options that were considered safe and viable.

Following a financial validation exercise, the development of the Case for Change in August/September and agreement with trusts in October, a formal 'go' decision was given to proceed with public engagement and a commissioner appraisal of the possible options.

An engagement exercise and a non-financial options appraisal were undertaken to establish the preferred options for delivering specialist cancer and cardiovascular services. The results of the options appraisal are outlined in this business case.

Once the preferred options were established, both a financial and wider impact analysis were conducted. The purpose of the financial appraisal was to identify the overall net present value of the proposed changes, establish the financial viability for NHS England, CCGs and affected providers and set out the transitional funding requirements for implementation. A wider impact analysis was undertaken to consider impacts on choice and competition, patient travel and individual equality groups. These are now presented as recommendations to commissioners at the Commissioner Decision Meeting.

[5] NHS Commissioning Support for London, Cardiovascular project: The Case for Change, August 2010 http://www.londonhp.nhs.uk/wpcontent/uploads/2011/03/Cardiovascular-case-for-change.pdf .

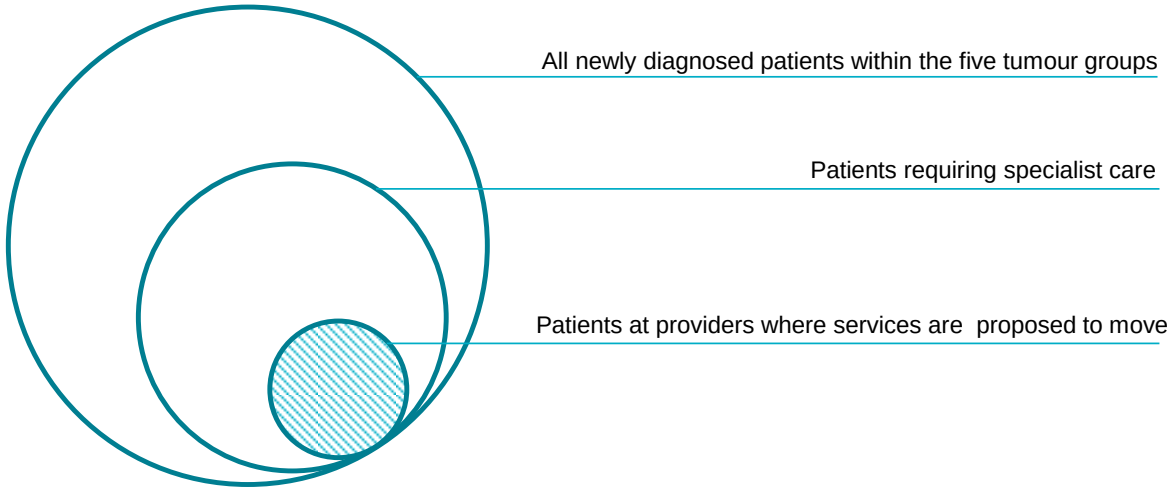
1.4 Scope of this business case

The scope of this programme includes patients who access specialist services in north and east London and west Essex. This document focuses on specialist services for:

- Brain cancer
- Head and neck cancer
- Urological (bladder, prostate and kidney) cancer
- Acute myeloid leukaemia (AML)
- Haematopoietic stem cell transplantation (HSCT – the transplantation of stem cells derived from the bone marrow or blood)
- Oesophago-gastric cancer (OG – cancer of the stomach or oesophagus).

Due to the specialist nature of the treatment, the number of patients that will be impacted by the recommendations in this business case is proportionally very low. Not all patients receive specialist treatment as often less invasive treatment options are preferable. For patients that do receive specialist treatment, the proposals considered in this business case focus on the *location* of specialist services currently provided in relatively few hospitals. No major changes are being proposed by this programme to the clinical pathway for patients and in most cases the diagnosis and follow up care will continue to be provided locally.

Figure 1-3 - Patients impacted by the proposals



For specialist cancer services the following hospital trusts are within the scope of the programme.

Figure 1-4 – Specialist cancer service providers within programme scope

Barnet and Chase Farm Hospitals NHS Trust

1 Chase Farm Hospital

2 Barnet Hospital

North Middlesex University Hospital NHS Trust

3 North Middlesex University Hospital

Barts Health NHS Trust (Barts Health)

4 Mile End Hospital

5 Newham University Hospital

6 The London Chest Hospital

7 The Royal London Hospital

8 St Bartholomew's Hospital

9 Whipps Cross University Hospital

Princess Alexandra Hospital NHS Trust

10 Princess Alexandra Hospital

University College London Hospitals NHS Foundation Trust (UCLH)

11 University College Hospital

12 The National Hospital for Neurology and Neurosurgery (NHNN)

Royal Free London NHS Foundation Trust

13 Royal Free Hospital

Barking, Havering and Redbridge University Hospitals NHS Trust (BHRUT)

14 Queen's Hospital

15 King George Hospital

Homerton University Hospital NHS Foundation Trust

16 Homerton University Hospital

Specialist surgery represents a significant but small part of the patient pathway. General cancer services such as early detection, diagnostic testing, chemotherapy, follow up and palliative care are not within the scope of this programme although are being addressed through the work of London Cancer.

For specialist cardiovascular services this programme focuses on the following:

- Adult congenital heart disease
- Cardiac anaesthetics and critical care
- Cardiac imaging
- Cardiac rhythm management
- Cardiac surgery
- General interventional cardiology
- Management of complex/severe heart failure
- Inherited cardiovascular disease.

Currently specialist cardiovascular services are mainly provided by Barts Health NHS Trust (Barts Health) at the London Chest Hospital and St Bartholomew's Hospital, and by University College London Hospitals NHS Foundation Trust (UCLH) at The Heart Hospital in Westminster. General cardiology services that are provided at University College Hospital and support services at the Royal London Hospital to treat acute admissions are outside the scope of this programme, although clinicians are reviewing the services provided at UCH and the Royal London to ensure high quality cardiac support services continue to be provided as part of 'planning for implementation'

Figure 1-5 - Cardiovascular service providers

St Bartholomew's Hospital and The Heart Hospital are both electrophysiology hubs for north and east London and provide 24/7 emergency services. There are eight HACs in London, three of which are in north and east London and within the scope of this programme. They are the London Chest Hospital, the Royal Free Hospital and The Heart Hospital.

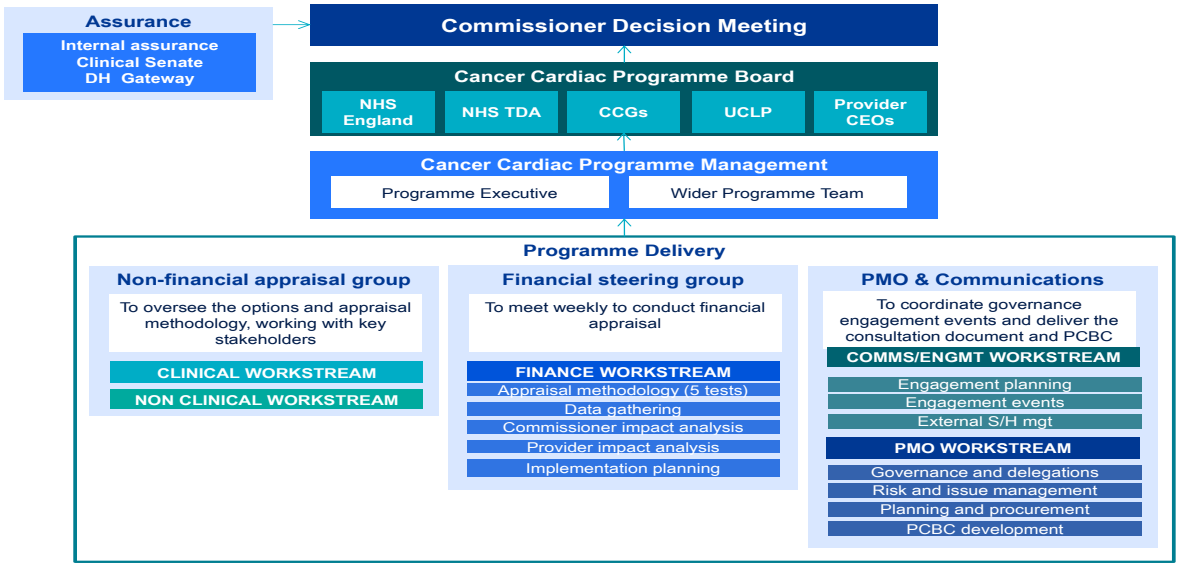
Figure 1-6 - Heart attack centres in London

1.5 Programme leadership and governance

NHS England (London), the main commissioner for specialised services in the area, is leading this reconfiguration of specialist cancer and cardiovascular services, together with a number of local CCGs. Clinical advice and engagement has been led by UCLP on behalf of the commissioners.

The engagement process and the work that has informed this business case have been governed through a programme board under the leadership of the Regional Director for NHS England (London). The figure below illustrates the governance structure.

Figure 1-7 - Programme governance structure



Commissioner Decision Meeting

The Commissioner Decision Meeting will be held consisting of the majority commissioners for the services under consideration.

- **For Specialist cancer care** - All the services are solely commissioned by NHS England, with the exception of acute myeloid leukaemia (AML) services. The key commissioners impacted by the recommendations for this service include the following four CCGs: Enfield, Barnet, Haringey and Camden, due to the proposed transfer of services to ULCH from other locations. The above four CCGs will have a role in the decision-making for the AML recommendation. For the remaining other cancer recommendations, NHS England will have the sole decision making responsibility.

- **For specialist cardiovascular care**, around 59% of spells at The Heart Hospital (mainly general cardiology) are CCG commissioned. Of the CCG commissioned activity more than 70% is from six CCGs (Haringey CCG, City and Hackney CCG, Enfield CCG, Islington CCG, Camden CCG, Barnet CCG). It is therefore proposed that the above six CCGs will have a decision-making role, alongside NHS England, for the cardiovascular proposals.

The Commissioner Decision Meeting will hold overall decision making responsibility on the recommendations made in this business case. Further to this, the group will provide commissioner assurance at key stages of the programme.

Cancer Cardiac Programme Board

The Programme Board has oversight of the programme, and makes recommendations to the Commissioner Decision Meeting. In doing so, the Board steers and directs the programme through the recommendation making process and ensures sufficient involvement from relevant stakeholders is obtained to ensure the SoS four tests can be met. Membership includes NHS England, the TDA, relevant provider Chief Executives, relevant CCG representatives and UCLPartners.

Programme Executive

The Programme Executive meets on a weekly basis and focuses on the delivery of the programme. The group provides operational oversight by reviewing progress against plan, resourcing and actions against key risks. Any escalations are identified for Programme Board consideration. Membership includes the senior leadership within, Operations and Delivery, Specialised Commissioning and Reconfiguration all at NHS England (London) as well as UCLPartners.

Wider Programme Team

The Wider Programme Team provides a working forum for any operational matters of the programme. Both strategic and workstream level risks are discussed along with potential mitigating actions. Emerging outputs from both the engagement events and options appraisal are reviewed. Membership includes representatives from ULCPartners, providers, NHS England (London) finance, Specialised Commissioning and Reconfiguration, the TDA and North and East London Commissioning Support Unit (NEL CSU).

Financial Steering Group

The role of the Financial Steering Group is to oversee work of the financial workstream and ensure all parties involved agree on key inputs to the financial model and facilitate any issues that arise in the process. The group reviews the modelling outputs in relation to the financial implications of transitional costs and the provider and system net present value (NPV). Membership includes the Chief Finance Officers from providers and commissioners and chaired by the Director of Finance at NHS England (London).

In addition, the finance working-group was formed to develop all financial outputs and resolve issues at a working level. Membership includes representatives from providers and commissioners as well as NTDA and data experts to support the provision of relevant financial or activity data.

Programme Assurance

NHS England is the significant majority commissioner of the specialised services under consideration in this business case. The assurance of the recommendations has been guided by the London Reconfiguration Team that sits within the NHS England, London Region Transformation Directorate.

The London Reconfiguration Team concluded an assessment of the programme to understand the scale and scope of assurance on the proposed recommendations. The review concluded that the recommendations are relatively small in scale with low profile and strong clinical consensus. Further to this, feedback received from the JHOSCs, concluded that the proposals do not represent substantial variation or development in services and that, therefore, formal consultation with local authorities is not required under section 244 of the NHS Act 2006.

Guidance published by NHS England[6] sets out the mechanism for external assurance by NHS England of major service change proposals. Given the assessment above, the London Reconfiguration Team do not believe the changes represent a major change and therefore formal external assurance is not required.

Rather than adopting a formal external role, the London Reconfiguration Team has advised on a framework for the programme to conduct an internal assurance in line with best practice. This centres on an assessment of how the programme has met the **Secretary of State's four tests**.

The outcome of this internal assurance is presented in the Programme Assurance Report.

London Clinical Senate Review

As part of their advisory role, the Reconfiguration Team engaged a Clinical Senate with expertise relevant to each of the pathways and with no known conflict of interest to provide external clinical assurance.

[6] NHS England. Planning and delivering service changes for patients (2013)

The Clinical Senates sit within NHS England and their role is to be a source of independent, strategic advice and guidance to commissioners and other stakeholders to assist them to make the best decisions about healthcare for the populations they represent.

The scope of the assurance review was to test whether a sufficiently robust clinical process was adopted by NHS England to arrive at the recommended options, considering the clinical involvement and evidence used.

Department of Health Gateway Review

This programme engaged the Department of Health to conduct a *Gateway Stage Review 0* during the initial stages of the programme in November 2013.

The purpose of the review was to assess the outcomes and objectives for the programme (and the way they fit together) and confirm that they make the necessary contribution to the relevant organisations' overall strategy. This first stage review was undertaken over three days through a review of supporting documentation for the programme and interviews with senior stakeholders of the programme.

The report was made available to the Programme Board in December. A summary of the report and the responses to the recommendations is presented in the Programme Assurance Report.

2 Specialist cancer services options appraisal

2.1 Introduction

A robust and comprehensive options appraisal has been followed in order to arrive at a set of commissioner led preferred options for the reconfiguration of specialist cancer services. The process has taken into account the recommendations made to NHS England (London) by London Cancer along with all other options that were considered safe and viable. The results of the options appraisal process are summarised in the table below.

Table 2-1 Options appraisal results summary

Pathway	Current	London Cancer Recommendation	Preferred Option
Brain	The National Hospital for Neurology and Neurosurgery (UCLH) The Royal London Hospital (BH) The Queen's hospital (BHRUT)	UCLH + BHRUT	UCLH + BHRUT
Head and Neck	University College Hospital (UCLH) St Bartholomew's Hospital (BH) Chase Farm Hospital (BCF)	UCLH	UCLH
Bladder and Prostate	Chase Farm Hospital (BCF) King George Hospital (BHRUT) University College Hospital (UCLH) Whipps Cross University Hospital. (BH)	UCLH	See Clinical Senate Report Summary for final recommendation
Renal	Chase Farm Hospital (BCF) King George Hospital (BHRUT) The Royal London Hospital (BH) University College Hospital (UCLH) Whipps Cross University Hospital (BH) Royal Free Hospital (RFH) Newham University Hospital (BH) Princess Alexandra Hospital (PAH) Homerton University Hospital (HUH)	RFH	RFH
HSCT	University College Hospital (UCLH) St Bartholomew's Hospital (BH) Royal Free Hospital (RFH)	UCLH + BH	UCLH + BH
AML	The Queen's Hospital (BHRUT) North Middlesex University Hospital (NMUH) Barnet Hospital (BCF) St Bartholomew's Hospital (BH) Royal Free Hospital (RFH) University College Hospital (UCH)	UCLH + BH + BHRUT	UCLH + BH + BHRUT
OG	University College Hospital (UCLH) The Royal London Hospital (BH) The Queen's Hospital (BHRUT)	UCLH	UCLH + BHRUT

The remaining sections of this chapter are structured as follows:

2.2 – 2.3 The clinical Case for Change and vision for the future – This section outlines the key drivers for change, described in detail in the Case for Change, and the recommendations made by London Cancer and local clinicians.

2.4 - Programme benefits – This section presents the high level benefits the programme aims to realise through further consolidation of specialist services.

2.5 – 2.9 Options appraisal by pathway (see Appendix A for a description of the process)

- Current provision and the Case for Change
- National standards and service specifications
- Shortlisted options
- Appraisal of shortlisted options and preferred options.

2.2 The clinical Case for Change and vision for the future

Cancer is one of the biggest causes of death and disability in the UK. Every year, around 13,600 Londoners die from the disease. The number of new cases is predicted to rise from 27,000 a year to 28,500 in 2022. In north and east London, it is estimated around 12,900 people are diagnosed with cancer and 5,700 die from the disease each year.

Over the last decade, good progress has been made in prevention and treatment, so more people are surviving cancer, but there is still a lot of room for improvement. Services often fall short of the high standards that local patients expect. In the past year, cancer patients in England have rated nine out of the ten worst trusts as being in London – four of those were in north and east London.

While every cancer type is different, local clinicians have identified the following reasons for changing the delivery of specialist cancer services:

- Poor clinical outcomes
- There are inequalities in patient outcomes
- Services are fragmented
- Patients do not always have a good experience
- Insufficient specialisation to make the most of the latest advances in treatment
- Not enough patients are involved in clinical trials.

The Case for Change provides evidence to support the above and sets out where current services are not meeting requirements in line with national guidance both in terms of patient volume and/or minimum population served. The 2010 London-wide review estimated there are 400 avoidable deaths from cancer in north and east London and west Essex every year. The proposed changes to specialist service provision, can contribute to addressing these avoidable deaths as part of a broader pathway integration.

2.3 Vision for the future

Patients with cancer are cared for by a range of clinicians and organisations during their treatment. It is essential that services are coordinated and that all clinicians involved have access to training, support and peer review.

London Cancer plays a lead role in ensuring that improvements in cancer care are delivered across all care settings and organisations. At the heart of London Cancer's vision for cancer care is the development of an integrated network of care.

While the majority of care will continue to be provided locally, consolidating specialist care for rare and complex cancers would help improve outcomes for all patients. Specialist centres would deliver clinical and research excellence across the whole of the cancer pathway. These centres would work with local hospitals and GPs to share best practice resulting in a more unified experience for patients and their relatives.

2.4 Specialist cancer service reconfiguration benefits

The primary driver of this programme is to improve patient outcomes across the area by delivering world class services and this can be translated into a number of specific commissioners benefits derived through a more efficient health system. These include the following:

- Lower readmission rates - Reducing the number of cases with complications, through greater patient volumes and therefore increased familiarity with conditions, will result in lower readmission rates

- Reduced number of outpatient visits - Better joined up working across the pathway will lead to reduction in unnecessary or repeat diagnostic testing

- High cost drug savings - Larger centres that can attract more clinical trials will result in savings on high cost drugs where they are provided free as part of the trials

- Improvements in primary and secondary prevention - World class specialist centres that offer high quality care will encourage system improvements, in terms of primary and secondary prevention.

These commissioner benefits sit alongside a broader range of benefits for patients and providers. These are illustrated in the benefits map and detailed table below. The development of detailed outcomes measures and programme key performance indicators (KPIs) will be explored in more detail during planning for implementation as part of developing a benefits management strategy.

Figure 2-1 – Cancer service reconfiguration benefits map

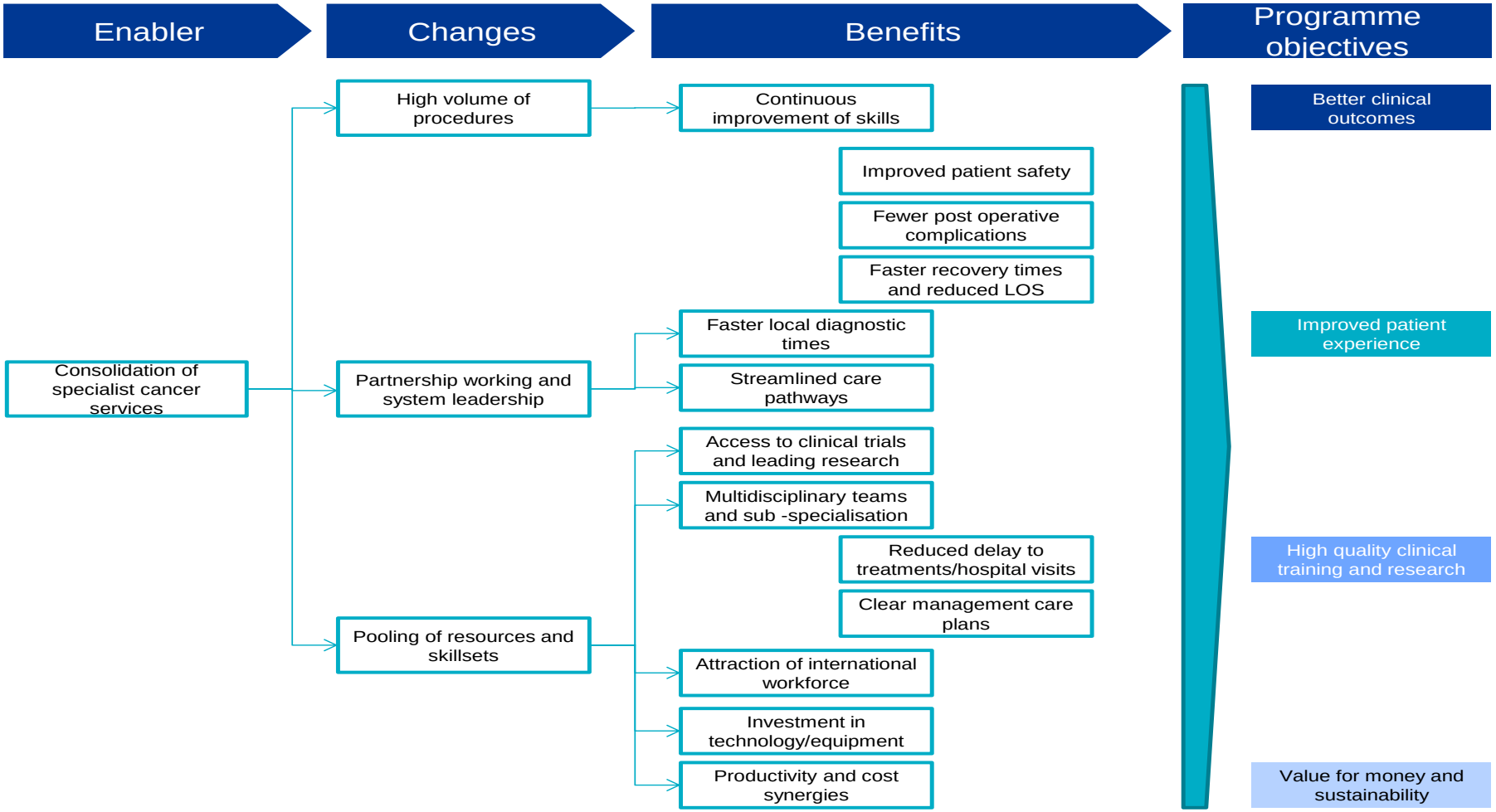


Table 2-2 - Cancer service reconfiguration benefits detail

Better clinical outcomes	Improved patient experience
There is compelling clinical evidence that better outcomes for cancer patients are achieved in centres which see larger numbers of patients. The Case for Change refers to numerous studies conducted over the past ten years supporting this case. In summary, better clinical outcomes can be achieved through the following: • Continuous improvement among surgeons and theatre staff who carry out enough operations each year • Access to the most up-to-date equipment • Access to research and clinical trials • Presence of a core multidisciplinary team working 24/7 hours • Recruitment of talented national and international clinical staff to work in the specialty	Specific benefits to the patient's experience include: • Reduced length of stay and earlier discharges • Reduced complications and readmission rates • Improved case mix through more effective triaging • Improved patient safety • Improved local diagnostic times through the network support of the specialist centre • Increased survival rates and reduced risk of post-op. complications • Prompt access to the relevant specialists, thereby reducing delay to treatment, minimising unnecessary hospital visits • Multidisciplinary clinics developing and communicating clear management of care plans for the patient • An enhanced recovery programme, reducing length of stay post operation • Better co-ordinated pathway of care • Strengthened multidisciplinary follow-up clinics at local providers through outreach and joint appointments
High quality clinical training and research	**Value for money and sustainability**
Developing high volume centres with pooled resources is expected to deliver the following benefits: • Provides scope for sub-specialisation, providing training opportunities for junior staff and research opportunities • Recruitment of talented national and international clinical staff to work in the specialty • High quality clinical training to junior doctors and other health professionals	Consolidation of specialist centres will drive better clinical outcomes and develop economies of scale which will in turn drive a number of financial benefits for both commissioners and providers. Specifically they include: • Reduced length of stay and earlier discharges • Reduced complications and readmission rates • Improved case mix through more effective triaging • Reduced overheads and efficient use of staff • Capacity to invest in latest technology • Enhanced productivity of multi-disciplinary teams

2.5 Brain cancer options appraisal

2.5.1 Summary of the options appraisal

This section presents the findings of the commissioner led options appraisal. The programme brought together key stakeholders with clinical, patient representative and commissioner backgrounds to conduct a comprehensive and independent assessment of all safe and viable options. All options scores were made independently of UCLPartners and clinicians from affected providers. See Appendix A for an overview of the process, the stakeholders involved and a description of the criteria used.

There are currently three providers delivering specialist brain cancer surgery. Only one option was shortlisted consisting of: BHRUT, at The Queen's Hospital, Romford, on the basis that it provides access to the Essex population; and UCLH, at the National Hospital for Neurology and Neurosurgery (NHNN), as the existing national centre of excellence. This option was appraised and preferred to the "do nothing" option of retaining all three centres.

2.5.2 Current provision

Patients with brain cancer usually present at A&E with severe symptoms and are referred directly to a neuro-oncology surgical centre for further specialist diagnostic tests and subsequent treatment. High levels of support and follow-up care are provided at both the neuro-oncology surgical centre and, where possible, at a provider local to the patient.

There are currently three neuro-oncology surgical centres (for malignant and non-malignant tumours), each with its own multi-disciplinary team. The Queen's Hospital, Romford provides the regional neurosurgical and neuro-oncology service for the whole of Essex. The NHNN is a national specialist centre in neurosurgery.

The level of available support services provided on-site at the three centres, such as radiotherapy and chemotherapy, varies. Both the NHNN and The Queen's Hospital in Romford are able to provide these services on-site whilst brain cancer patients at the Royal London Hospital are transferred to St Bartholomew's Hospital. In addition some brain cancer patients in north and east London receive their radiotherapy and chemotherapy at the Mount Vernon Cancer Centre in Middlesex.

Figure 2-2 - Current specialist neuro-oncology surgical centres

Activity is not evenly split amongst the providers. As seen in the table below, in the 12 month period from February 2012 to January 2013, 61% of neuro-oncology spells performed across the three centres were at the NHNN.

Table 2-3 - Number of neuro-oncology spells (Feb 2012 to Jan 2013)

Hospital	Trust	Number of spells (Feb 12 – Jan 13)	% of total
The National Hospital for Neurology and Neurosurgery	UCLH	522	61%
The Queens's Hospital	BHRUT	212	26%
The Royal London Hospital	BH	97	12%
Total		**831**	**100%**

2.5.3 Service Specifications

The National Institute for Health and Care Excellence (NICE) guidance[7] and national service standards[8] recommend that specialist multi-disciplinary teams are based in neuroscience and cancer centres serving a population of one to three million. In addition, neurosurgeons who manage brain tumours should spend at least 50% of their time in neuro oncological surgery and be regularly involved in dedicated specialty clinics for these patients.

[7] NICE, Guidance on Cancer Services ,Improving Outcomes for People with Brain and Other CNS Tumours ,The Manual, 2006. http://www.nice.org.uk/nicemedia/pdf/CSG_brain_manual.pdf

[8] NHS England, Service specification for brain/central nervous system tumours, 2013. http://www.england.nhs.uk/wp-content/uploads/2013/06/b13-cancr-brain-cent-nervous.pdf

Table 2-4 - Brain cancer service specifications

Population served	Number of spells (Feb 12 – Jan 13)	Current number of providers	Service thresholds		Recommended number of providers
			Volume per centre	Population per centre	
3.9m	831	3	-	1-3m	2

2.5.4 The clinical Case for Change and London Cancer recommendations

By having three providers unevenly serving a population of 3.9m, there is insufficient scale to enable the national standard on neurosurgeon time managing brain tumours to be met. It also means that the smaller centre, Royal London, in effect serves too small a patient population to deliver the same levels of service.

In particular when compared with the other two centres, the Royal London achieves a lower level of clinical performance, has longer radiotherapy waiting times and offers less access to specialist support from specialist nurses and oncologists.

London Cancer has recommended the three current neuro-oncology surgery services are consolidated to two centres, through retaining the service at The Queen's Hospital with the service at The National Hospital for Neurology and Neurosurgery (NHNN).

2.5.5 Shortlisted options

At present the three centres serve a north central and north east London population of 3.9 million, however this does not include the various other population groups that are served by NHNN and The Queen's Hospital, Romford. When looking at just north and east London patients, the NHNN still serves over 60%, with the remaining patients split similarly across the Royal London Hospital and The Queen's Hospital, Romford. Given this unequal distribution of patients, this effectively means there is one provider serving a population of over 2.3 million and two providers serving a population of 1.5 million. As a result the unequal distribution of patients causes the current configuration to fall below national standards and means activity from at least one centre should move to ensure there are no more than two centres providing this service.

The NHNN provides a full range of rare cancer services nationally, some of which fall outside the scope of this review. However to maintain the viability of a full cancer service, brain cancer services must be retained. In addition the NHNN is the largest provider, in effect serving a population group well in excess of national minimum guidelines.

The brain cancer service at The Queen's Hospital (managed by BHRUT) serves all of Essex as well as being the local service for Barking, Havering and Redbridge. If just the north and east London population were considered then both The Queen's Hospital, Romford and the Royal London would be serving a population group below the national minimum guidelines, but because The Queen's Hospital also serves the entire Essex population, it too meets the national minimum standard.

The Royal London Hospital is currently the smallest centre and lacks consistent access to the full range of specialist clinical and support service staff available at the other two providers. As described above it is also the only provider that does not meet the minimum standard on population groups served.

Moving activity from either NHNN or The Queen's Hospital to the Royal London Hospital would therefore represent a reduction in service provision and would not be viable given the wider patient populations outside of north and east London that the NHNN and The Queen's Hospital, Romford serve.

The result of this analysis is that it is necessary to move activity from at least one provider, but it is not viable to move activity from The Queen's Hospital or NHNN. The figure below summarises the shortlisted options.

Table 2-5 - Brain cancer shortlisting

Option		Shortlist	Rationale
A)	BH + UCLH + BHRUT	✗	Does not reach threshold for population served
B)	UCLH + BHRUT	✓	Retains access for Essex residents Threshold of population served is reached
C)	BH + UCLH	✗	Does not retain access for Essex residents
D)	BH + BHRUT	✗	Need to retain UCLH as a national service
E)	UCLH	✗	Unnecessary level of change Access from Essex to UCLH or from north London to Romford would be a serious factor
F)	BHRUT	✗	

2.5.6 Summary of appraisal

The weighted scoring of the single option is presented below and represents the agreed output from the non-financial appraisal workshops. Un-weighted scores are provided in Appendix C.

Table 2-6 - Brain cancer weighted scoring

Option		Clinical	Patient experience	Deliverability	Research education and training	Total
	Do nothing	1.8	3.0	1.6	0.4	6.8
B)	UCLH + BHRUT	7.2	3.0	2.4	1.8	14.4

This option would be delivered by two separate single multi-disciplinary teams (SMDTs), working in an integrated manner with common clinical practice developed through the pathway boards.

The engagement process identified a co-dependency of the Royal London Major Trauma Centre on some brain cancer surgical expertise. Workshops have been held to address this issue and further engagement will take place to ensure that any service model is robust and ensures the provision of necessary trauma surgical expertise.

2.6 Head and neck options appraisal

1.1.1. Summary of the options appraisal

There are currently three providers, more than the recommended number of one to two providers suggested by national guidelines. Three options were shortlisted consisting of a two provider option including Barts Health and UCLH and two single provider options. A single provider at UCLH was preferred and recommended by the appraisal team.

1.1.2. Current provision

The clinical pathway for patients with head and neck cancer is delivered locally through local cancer units, specialist oncology units and specialist surgical units. Patients with suspected head and neck tumours are investigated and diagnosed locally, ideally supported by rapid access diagnostic one-stop clinics. Surgery is the most common treatment although an increasing number of head and neck cancers are treated with chemotherapy and radiotherapy. Radiotherapy may be used to treat cancers that are small and have not spread, or where surgery could seriously affect important functions such as speech. Chemotherapy is usually given in combination with radiotherapy. Very occasionally, chemotherapy is given to shrink tumours before surgery or for palliative treatment.

Patients typically do not need to return to the specialist surgical centre after treatment. Their ongoing care and management are provided closer to home in a local hospital or in partnership with primary care in the community.

There are currently three specialist head and neck centres for north central and north east London illustrated in the figure below.

Figure 2-3 - Current specialist head and neck cancer centres

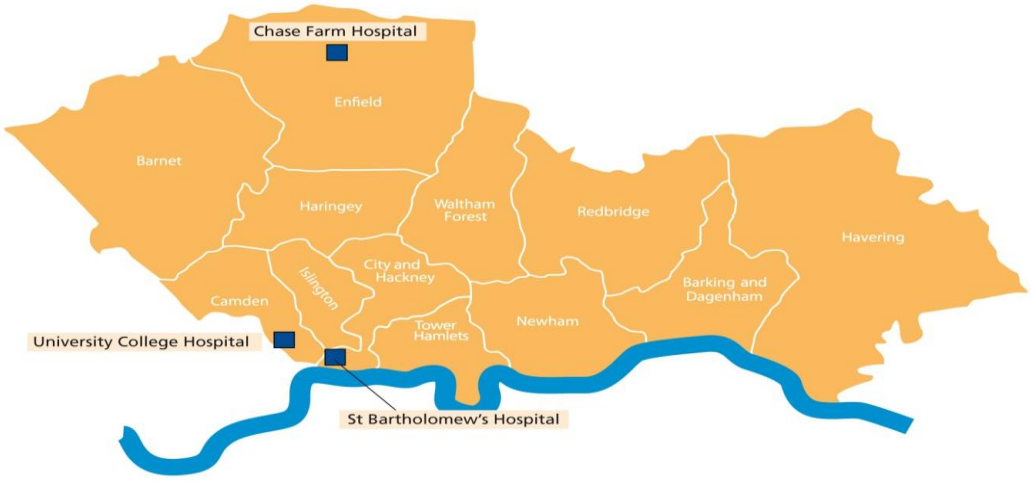


Table 2-7 - Number of head and neck cancer spells (Feb 2012 to Jan 2013)

Hospital	Trust	Number of spells (Feb 12 – Jan 13)	% of total
St Bartholomew's Hospital (since moved to RLH)	BH	185	47%
University College Hospital	UCLH	153	39%
Chase Farm Hospital	BCF	56	14%
Total		394	100%

2.6.1 Service Specifications and National Standards

National service standards and NICE guidance[9] recommend specialist multi-disciplinary teams for head and neck cancer should serve populations of at least one million. All surgery should be provided by a specialist multi-disciplinary team in a designated centre, and surgeons and their teams should manage a minimum of 100 new cases of head and neck cancer a year. This means that three providers are theoretically possible based on current volumes.

The 2010 London-wide review[10] recommended services for head and neck cancers should be consolidated and there should be five surgery providers across the whole of London, with two centres for base of skull and pituitary cancers.

Table 2-8 - Head and neck cancer service specifications

Population served	Number of spells (Feb 12 – Jan 13)	Current number of providers	Service thresholds		Recommended number of providers
			Volume per centre	Population per centre	
3.2m	394	3	100+	1m+	1-3

2.6.2 The clinical Case for Change and London Cancer Recommendations

Recommended volumes of care are not being achieved for some head and neck services in the local area as only two of the three centres achieve the threshold of 100 patient spells per year. This does not allow surgeons to develop expertise such as robotic surgery and surgical voice reconstruction. Nor does it enable further investment in developing supporting sub-specialties or investing in cutting-edge technology such as advanced radiotherapy techniques, which have been shown to reduce the side-effects of treatment. This results in unequal access for some patients, to the right people and facilities in one place.

The care pathway lacks coordination and the diagnosis of head and neck cancer often takes too long as patients may be referred to several different services, require numerous tests and

[9] NICE, Guidance on Cancer Services, Improving Outcomes in Head and Neck Cancers, The Manual, 2004. http://www.nice.org.uk/nicemedia/live/10897/28851/28851.pdf

[10] NHS Commissioning Support for London, A model of care for cancer services: Clinical paper, August 2010, p.86-88. http://www.londonhp.nhs.uk/wp content/uploads/2011/03/Cancer-model-of-care.pdf

have to wait for test results. The consequence of this is a poor patient experience which is detailed in the Case for Change.

Currently there are no enhanced recovery programmes in place. These programmes have been shown to cut the time spent in hospital following surgery by up to half, and reduce complications meaning patients can return home sooner to recover.

Based on the reasons outlined above, London Cancer recommended a single provider service based at UCH. This would enable patients to access all the relevant specialties required on one site and for skilled surgeons to continue to develop advanced treatment.

2.6.3 Shortlisted options

At present only two of the three providers are able to meet national volume standards (Royal London and UCH), with Chase Farm Hospital achieving less than 60% of the minimum threshold. This suggests that whilst there is enough total activity to sustain three providers treating 100+ cases per year, the patient flows from north London make this unfeasible. The four highest referring CCGs to Chase Farm Hospital, refer a similar number of patients to UCLH, meaning that much of the north London population elect to go to UCLH and mean that Chase Farm is below national standards.

Given Chase Farm Hospital is falling below the national standards and both Royal London and UCH are significantly surpassing it, it is not safe or viable to shut either Royal London or UCH in favour of Chase Farm Hospital. This therefore leaves the following options for further analysis.

Table 2-9 - Head and neck cancer shortlisting

Long list		Shortlist	Rationale
A)	BH + BCF + UCLH	✗	Insufficient demand to justify 3 providers. Sub-optimal service currently being provided
B)	BH + UCLH	✓	Meets minimum activity for two centres (under NICE guidelines)
C)	BCF + BH	✗	BCF options rejected. BCF currently offering a limited service without a number of key on-site support services.
D)	BCF + UCLH	✗	BCF options rejected. BCF currently offering a limited service without a number of key on-site support services.
E)	UCLH	✓	Meets minimum activity guidelines and current provider
F)	BH	✓	Meets minimum activity guidelines and current highest volume provider

2.6.4 Summary of appraisal

The results of the workshops held to conduct a non-financial assessment of the shortlisted options are presented below. Further detail on how the weighted scores were developed can be found in Appendix A.

Figure 2-4 – Head and neck cancer weighted scoring

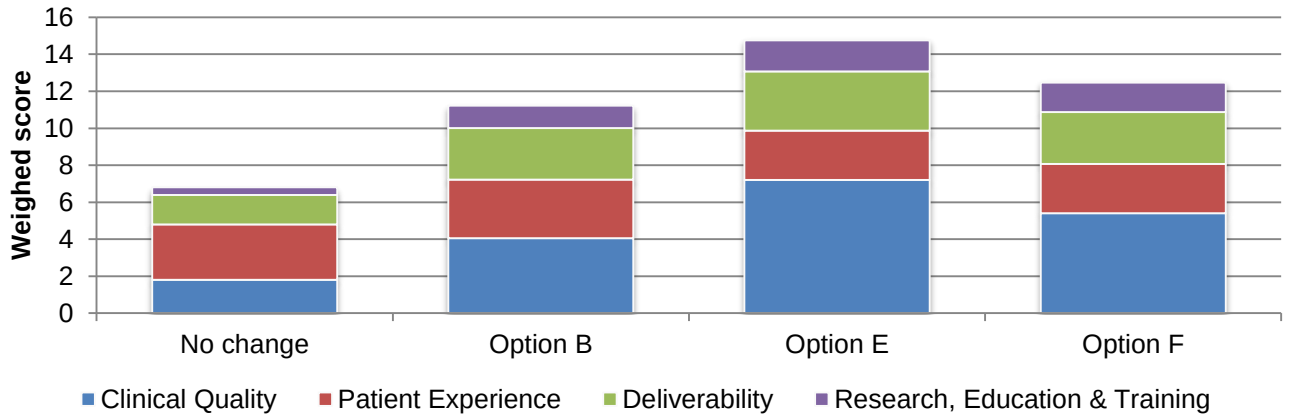


Table 2-10 - Head and neck cancer weighted scoring

Option		Clinical	Patient experience	Deliverability	Research education and training	Overall
	Do nothing	1.8	3.0	1.6	0.4	6.8
B)	BH + UCLH	4.1	3.2	2.8	1.2	11.2
E)	UCLH	7.2	2.7	3.2	1.7	14.7
F)	BH	5.4	2.7	2.8	1.6	12.5

Of the four options considered, option E, a single provider at UCLH was scored the highest by the appraisers. The key drivers for this were the clinical scores. While all options would meet national volume standards, the clinical appraisers agreed volume benefits would drive a clinical preference for a single provider option over a two provider option. Of the two single provider options, the UCLH option was preferred clinically over the Barts Health single provider option given the colocation with base of skull services and the commitment from UCLH to support a number of further senior clinical posts for head and neck.

Furthermore given the close proximity of both sites, the access benefits from two sites over one site were relatively modest, thus explaining the relatively small difference between one site and two site options for patient experience.

Sensitivity analysis shows that selection of option E as the preferred option is robust. The ranking of the criteria for options E and F are the same and therefore any adjustments to their relative weightings would not change the overall scores.

Option B scores highly for patient experience as more providers were preferred for patient access over fewer providers. The weighting for the patient experience criteria would have to be in excess of 70% (currently 25%) for this option to be marginally preferred.

2.7 Urology options appraisal

2.7.1 Summary of results

Specialist urological cancer services cover both specialisms of the upper urological tract (renal) and the lower urological tract (bladder and prostate).

For bladder and prostate cancer, national guidelines on minimum levels of care and minimum volume standards dictated a maximum of two providers. The two site options considered BHRUT and UCLH, and the one site option considered UCLH only. The UCLH single provider option was preferred on the strength of the clinical evidence base.

Two key pieces of information were made available to the programme but given the timeframes, could not be considered as part of the options appraisal. This included clinical outcomes data for UCLH and BHRUT collated by London Cancer and recently published (Jan 2014) NICE guidance on prostate cancer. Given the significance of this information, NHS England (London) commissioned the London Clinical Senate to conduct an independent review. A summary of this review will be presented to commissioners to inform decision making.

For renal cancer there are currently a large number of providers, which are recommended to consolidate to one to two providers locally. Three options were considered between RFH and Barts Health. Appraisers recommended a single provider option at RFH based on its potential to deliver a world class service.

2.7.2 Current provision

Around 400 people are diagnosed with bladder cancer each year locally. Eighty per cent of those have early bladder cancer which can often be treated by relatively simple surgery that can take place in most hospitals. NICE guidelines for urological cancers states that patients with newly diagnosed, non-complex bladder tumours should be treated by complete trans-urethral resection (TUR) at local units. A much smaller number (20%) of patients, less than 100 a year locally, have more advanced cancer which may have spread. These often need to be treated with a combination of complex major surgery, radiotherapy and chemotherapy.

Prostate cancer is the most common cancer found in men with around 1,500 men diagnosed locally each year but very few need complex surgery (15%).

Renal cancer is relatively rare with around 400 new cases diagnosed locally each year. There are few treatment choices for renal cancer and treatment is most often surgical (approximately 80%). Some surgical operations are simple whereas others are very complex. All are becoming increasingly reliant on emerging technologies including robotically-assisted surgery.

Patients with a urological cancer are typically referred to their local cancer unit for diagnostics by their local GP. If the patient is diagnosed with urological cancer, patients are reviewed by joint multi-disciplinary teams supported by the specialist centre.

Treatment options include monitoring the cancer, treatment with radiotherapy or brachytherapy (implanting small radioactive seeds in the prostate), hormone therapy, high-intensity focused ultrasound (a heating treatment), cryotherapy (a freezing treatment) or surgery, including surgery that is increasingly being done robotically.

Patients who receive surgical treatment at a specialist centre are discharged and return to the care of their local unit as soon as it is appropriate to do so (the day after for prostate surgery, between seven to ten days following bladder cancer surgery and three days following renal cancer surgery).

There are four bladder and prostate cancer specialist surgical centres in north and east London, each serving a population of between 600,000 and one million.

Figure 2-5 - Current bladder / prostate cancer specialist surgical centres

Table 2-11 - Number of bladder / prostate cancer spells (Feb 2012 to Jan 2013)

Hospital	Trust	Number of spells (Feb 12 – Jan 13)	% of total
University College Hospital	BH	161	47%
King George Hospital	BHRUT	91	26%
Chase Farm Hospital	BCF	60	17%
Whipps Cross University Hospital	BH	34	10%
Total		346	100%

Services at Chase Farm Hospital (BCF) are currently provided at UCH on an interim basis. Services at King George Hospital are proposed to move to The Queen's Hospital to access the co-dependent interventional radiology service provided at The Queen's Hospital.

There are currently nine renal cancer specialist centres in the same area, serving significantly smaller populations with current activity levels at less than 300. They are illustrated in the figure below.

Figure 2-6 - Current renal cancer specialist centres

Table 2-12 - Number of renal cancer spells (Feb 2012 to Jan 2013)

Hospital	Trust	Number of spells by Trust (Feb 12 – Jan 13)	% of total
Whipps Cross University Hospital	BH	52	22%
The Royal London Hospital			
Newham University Hospital			
Chase Farm Hospital[11]	BCF	50	21%
Royal Free London	RFL	44	18%
University College Hospital	UCLH	37	16%
King George Hospital	BHRUT	25	11%
Princess Alexandra Hospital	PAH	25	11%
Homerton University Hospital	HUH	6	2%
Total		239	100%

[11] Currently provided at Royal Free Hospital

2.7.3 Service Specifications and National Standards

National guidelines state that all specialist urological cancer services should be in a single specialist MDT located on the same site.

London currently has a region-wide derogation against this standard due to the lack of safe providers that can offer all of the key co-dependencies for upper and lower urological services on the same site. For bladder and prostate cancer these services must be co-located along with 24 hour interventional radiology and specialist gynaecological cancer. For renal cancer they include 24 hour interventional radiology and renal medicine, as well as a number of desirable co-locations including vascular surgery, liver and pancreatic surgery, cardiac surgery and renal transplant and dialysis. As a result specialist urological MDTs in London are split between renal MDTs and bladder / prostate MDTs.

This split between upper and urological cancer is consistent with international models of care in which the two specialisms are treated differently.

The options long-list therefore considered specialist bladder/prostate and renal services as two distinct options.

NICE guidance[12] for urological cancer services recommends patients with cancers that are less common or need complex treatment should be managed by specialist multidisciplinary teams performing a minimum of 50 bladder and prostate procedures a year, serving at least one million people. The London Model of Care recommended five specialist surgical centres in the capital, serving a population of at least two million. Each centre should carry out a minimum of 100 operations a year.

In order to meet NICE guidelines on volumes, and the recommendations made by the London Model of Care, bladder/prostate activity should be consolidated into no more than three specialist centres and potentially one or two depending on where patient volumes flow.

Table 2-13 - Bladder / prostate cancer service specifications

Population served	Number of spells (Feb 12 – Jan 13)	Current number of providers	Service thresholds		Recommended number of providers
			Volume per provider	Population per provider	
3.2m	346	4	50-100	1-2m	1-3

There are no NICE guidelines on the minimum number of specialist renal cancer procedures, nor does the London Model of Care make a specific recommendation on the number of providers. Clinicians however believe the same principle can be applied to that of the bladder and prostate threshold resulting in one or two specialist centres.

[12] NICE, Improving Outcomes in Urological Cancers, 2002 http://www.nice.org.uk/nicemedia/pdf/Urological_Manual.pdf

Table 2-14 - Renal cancer service specifications

Population served	Number of spells (Feb 12 – Jan 13)	Current number of providers	Service thresholds		Recommended number of provider
			Volume per provider	Population per provider	
3.2m	252	9	-	1-2m	1-3

2.7.4 Clinical Case for Change and London Cancer recommendations

The four specialist bladder and prostate centres serve a population of over 3.2 million which does not meet national or London-wide standards. All centres other than UCH fall short of the recommended yearly number of bladder and prostate procedures.

Specialist renal cancer services are spread across a number of providers. This impacts on the capacity to invest in the latest technologies and for the clinicians' ability to develop or maintain their expertise. In addition there are a number of critical and desirable co-dependencies including liver and pancreatic surgery, cardiac surgery, renal medicine and dialysis facilities. Equitable access to these necessary co-dependencies cannot be achieved with so many providers.

Based on the drivers outlined above which are described in more detail in the Case for Change, London Cancer and local clinicians recommended bladder and prostate care should be centralised into one specialist centre at UCH. For renal cancer, clinicians recommend consolidating surgical services into a single specialist centre at the Royal Free Hospital.

2.7.5 Shortlisted options and appraisal – Bladder/Prostate

At present the provision of specialist services for bladder and prostate cancer is fragmented across many providers, serving a population group that is too small for these providers to meet clinically sufficient volumes.

At the time of appraisal, NICE guidance specified a minimum of 50 combined procedures per annum. At present only two providers meet this standard, UCLH (at UCH) and BHRUT (at King George Hospital). Services are also provided at Barts Health (Whipps Cross), with the Barnet Chase Farm surgical services currently being referred for provision at UCLH.

The London Model of Care identifies a maximum of two providers of this service. As a result only options composed of UCLH and BHRUT were short-listed, on the grounds that services that do currently meet NICE volume thresholds should not be shut in favour of services that do not.

Retaining a service at Chase Farm Hospital is not safe or viable given Chase Farm Hospital activity is currently provided at UCH and the trust has made no provision to continue providing these services. As a result it was not deemed a safe or viable option to move services back to Chase Farm Hospital at the expense of providers who are already meeting safety volumes.

Retaining a service at Whipps Cross would not achieve the safe threshold of 50 procedures annually unless patients were diverted away from the two current providers already meeting that threshold.

King George Hospital, part of BHRUT, is currently achieving 91 bladder and prostate operations. Under any model, the expectation from BHRUT is that all services at King George will be transferred to The Queen's Hospital in order to deliver the relevant co-dependencies for specialist bladder and prostate surgery. However organisational capacity constraints mean that BHRUT would not be able to provide the service as a sole provider. This leaves UCLH and BHRUT as the two potential providers, with the following options emerging for the short-list.

Table 2-15 - Bladder / prostate cancer shortlisting

Long-list Options		Shortlist	Rationale
A)	BH + UCLH + BHRUT	✗	Insufficient volumes to meet the minimum national standards
B)	BH + UCLH	✗	Current service at Whipps Cross is too low volume to be viable
C)	BH + BHRUT	✗	Whipps Cross is too low a volume to justify closing the viable service at UCLH
D)	UCLH + BHRUT	✓	Responds to the engagement to consider retaining a local service in outer-NE London
F)	UCLH	✓	Full service available with support facilities
G)	BHRUT	✗	Difficult access for much of the area and lack of organisational capacity to be the sole provider

Through the engagement process, it was suggested that BHRUT could offer a joint service with UCLH as part of a lead provider model where only radical non-robotic prostatectomies (not complex bladder surgery) are undertaken at The Queen's Hospital, under a single specialist multi-disciplinary team led by UCH. As a result, a modification to option D was also taken forward for evaluation, as option E.

The results of the workshops held to conduct a non-financial assessment of the shortlisted options are presented below.

Figure 2-7 - Bladder / prostate cancer weighted scoring

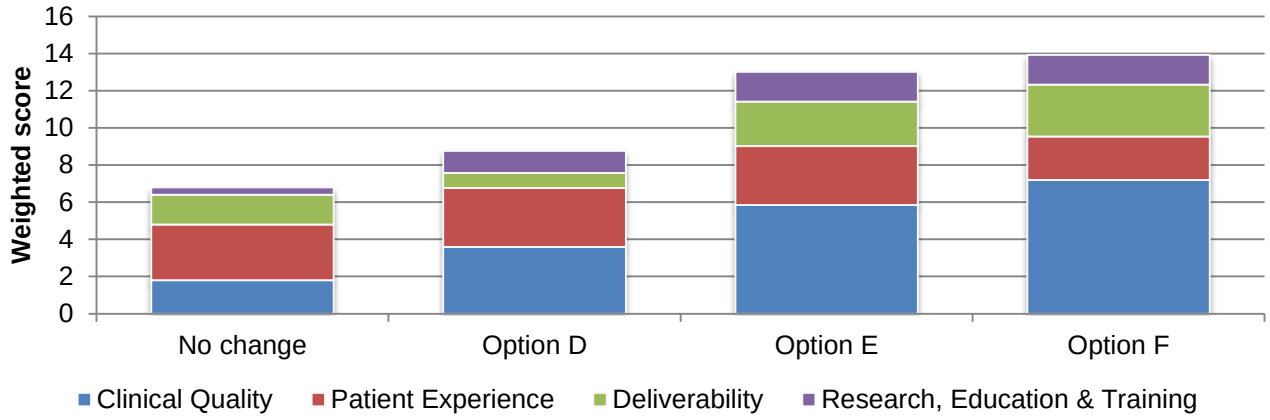


Table 2-16 - Bladder / prostate cancer weighted scoring

Option		Clinical	Patient experience	Deliverability	Research education and training	Overall
	Do nothing	1.8	3.0	1.6	0.4	6.8
D)	UCLH + BHRUT	3.6	3.2	0.8	1.2	8.8
E)	UCLH+BHRUT (Prostate only)	5.9	3.2	2.4	1.6	13.0
F)	UCLH	7.2	2.3	2.8	1.6	13.9

Of the four options considered, option F, a single provider at UCLH was scored the highest by the appraisers. The key drivers for this were the clinical scores. Volume benefits drive a clinical preference for a single provider option, although this score was offset by relatively poor waiting time performance at UCLH reducing the patient experience score.

BHRUT have indicated they currently do not plan to continue supporting complex bladder surgery which reduces the deliverability score of option D. Option E was considered deliverable and had a high patient experience score given the better access for the Essex population. However this benefit was not deemed sufficient to offset the lower clinical score.

Sensitivity analysis was conducted on options E and F given the close overall scores. The ranking of option E and F changes if the weighting of the patient experience score is increased to 42% (from 25%) of the total score, bringing the clinical weighting down to approximately 35%.

Two key pieces of information were made available to the programme but given the timeframes, could not be considered as part of the options appraisal. This included clinical outcomes data for UCLH and BHRUT collated by London Cancer and recently published (Jan 2014) NICE guidance on prostate cancer. Given the significance of this information, NHS England (London) commissioned the London Clinical Senate to conduct an independent review. A summary of this review will be presented to commissioners to inform decision making.

2.7.6 Shortlisted options and appraisal – Renal

Renal cancers are complex and there are a range of treatment options depending on the nature of the cancer. These treatment options rely on emerging technologies which are not always funded under NICE guidance without access to trials. At present these services are highly fragmented across providers, many delivering only very low volumes (some as low as ten per year).

The traditionally largest provider of nephrectomies (partial and general) was Barnet Chase Farm (provided at Chase Farm Hospital). These services are now provided at the Royal Free Hospital which comes close to meeting 100 procedures a year on a single site. With respect to more complex, partial nephrectomies, there are a limited number of these undertaken across north and east London and they are mainly performed at Royal Free Hospital and Royal London Hospital.

From a volumes perspective, this means options to discount RFH and Barts Health as providers would only be safe or viable if the assessment could demonstrate that other providers could offer an alternative form of treatment or better meet specific clinical co-dependencies through the support services they offered.

Patient volumes at BHRUT are significantly below those of RFH and Barts Health and it is unable to offer the full range of desirable dependencies (liver and pancreatic surgery and renal transplant and dialysis).

The only provider offering an alternative relevant treatment is UCH that has access to robotic surgery. However as UCH does not meet some of the critical renal co-dependencies identified in the London Model of Care (in particular renal medicine) and other desirable co-dependencies (liver & pancreatic surgery and vascular surgery), UCH was discounted as an option.

Table 2-17 - Renal cancer shortlisting

Long-list Options		Shortlist	Rationale
A)	Various 4/5 providers	×	4/5 provider options do not reach threshold for population served
B)	Combinations of PAH, HUH, BCF, WX, NUH	×	Not all hospitals have the requisite range of co-dependencies
C)	UCLH + RFH	×	UCLH does not meet critical co-dependencies
D)	UCLH + BH	×	UCLH does not meet critical co-dependencies
E)	RFH + BH	✓	Meets volume standards and relevant co-dependencies
F)	RFH	✓	Meets volume standards and relevant co-dependencies
G)	BH	✓	Meets volume standards and relevant co-dependencies
H)	UCLH	×	UCLH does not meet critical co-dependencies

The results of the workshops held to conduct a non-financial assessment of the shortlisted options are presented below.

Figure 2-8 - Renal cancer weighted scoring

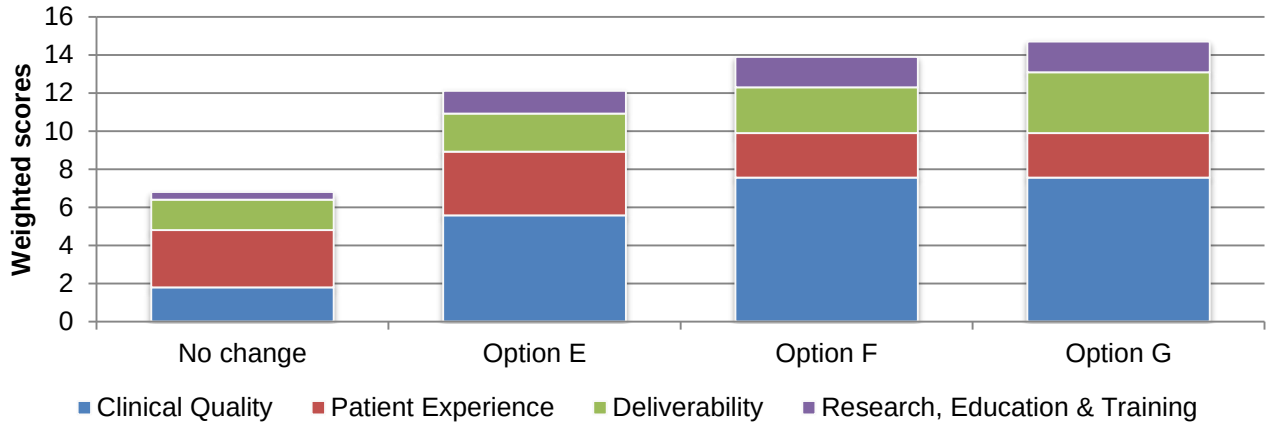


Table 2-18 - Renal cancer weighted scoring

Option		Clinical	Patient experience	Deliverability	Research education and training	Overall
	Do nothing	1.8	3.0	1.6	0.4	6.8
E)	RFH + BH	5.6	3.3	2.0	1.2	12.1
F)	BH	7.6	2.3	2.4	1.6	13.9
G)	RFH	7.6	2.3	3.2	1.6	14.7

Of the four options considered, option G, a single provider at RFH was scored the highest by the appraisers. A key driver for this was the deliverability scoring. A single provider option was considered more likely to reach world class status faster given the clinical benefits of further consolidation thus discounting option E. Between the single provider options, RFH was scored higher given the level of Board support from RFH and the higher likelihood of RFH as a foundation trust, of obtaining the required capital to invest. The appraisers could not distinguish a clinical difference between the two single provider options.

Sensitivity analysis shows that selection of option G as the preferred option is robust. The ranking of the criteria for options F and G are the same and therefore any adjustments to their relative weightings would not change the overall scores.

Option E scores highly for patient experience as more providers were preferred for patient access over fewer providers. The weighting for the patient experience criteria would have to be in excess of 50% (currently 25%) for this option to be marginally preferred.

2.8 Acute myeloid leukaemia (AML) and haematopoietic stem cell transfer (HSCT) options appraisal

2.8.1 Summary of results

For AML, national guidelines on minimum levels of care recommend three to four providers locally. Three options were shortlisted including Barts Health, UCLH, BHRUT and BCF. A three provider option was recommended including BHRUT, UCLH and Barts Health on the basis of strong clinical support and deliverability grounds.

For HSCT, two providers are recommended. Due to the necessary colocation with level 2 AML services, and current high volumes at Barts Health and UCLH, a two provider option involving both was shortlisted and preferred by appraisers.

2.8.2 Current provision

The treatment for younger AML patients (typically below seventy), involves up to four intensive courses of chemotherapy during which patients may spend a significant period of time in hospital needing access to intensive care. The specialist services offered for patients with this type of cancer vary in intensiveness, with the most intensive options (level 3) being best provided alongside HSCT due to co-dependencies with other forms of intensive care support, and the frequency for level 3 AML patients to require bone marrow transplants.

The levels for AML treatment are described below:

- Level 1 – Outpatient units provide treatment orally or intravenously, which does not normally cause significant loss of white blood cells
- Level 2a – These centres provide treatment that results in short periods (less than seven days) of bone marrow and white blood cell loss, requiring short hospital stays
- Level 2b – These centres provide complex chemotherapy needed to treat patients with relapsed lymphomas, as well as providing intensive treatment for AML
- Level 3 – These centres provide intensive treatment for acute lymphoblastic leukaemia and transplant services.

This business case considers only levels 2b and 3, as those represent the more specialised services where there are significant clinical benefits from consolidation.

There are six centres in north and east London providing level 2b treatment for patients with AML, each with their own multi-disciplinary team and three centres for transplantation services.

Figure 2-9 – Current level 2 AML and level 3 AML / HSCT centres

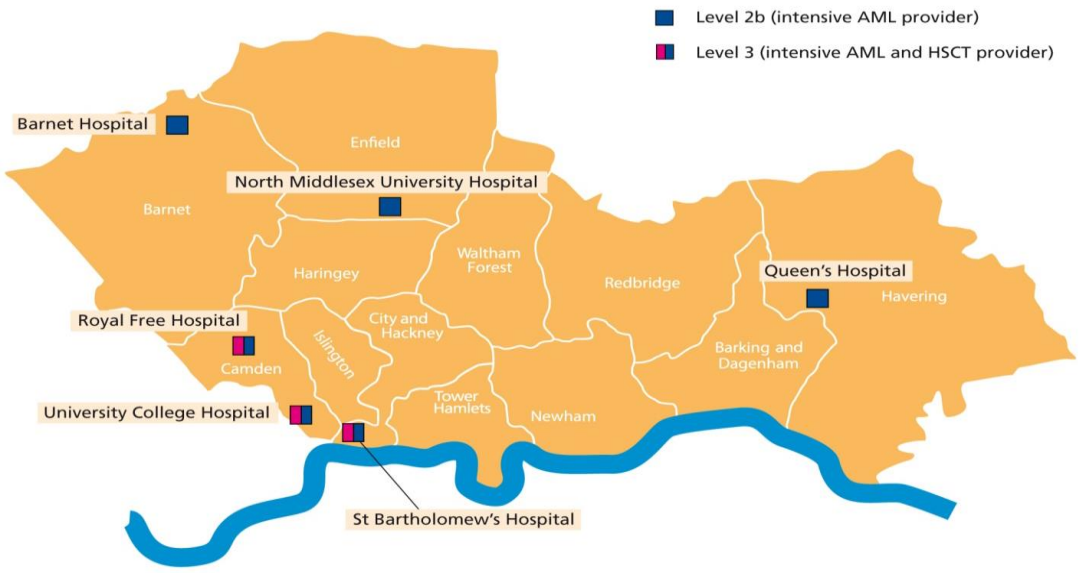


Table 2-19 - Number of AML level 3 / HSCT patients (Feb 2012 to Jan 2013)

Hospital	Trust	Number of patients (Feb 12 – Jan 13)	% of total
University College Hospital	UCLH	132	48%
St Bartholomew's Hospital	BH	89	32%
Royal Free Hospital	RFH	53	19%
Total		274	100%

Table 2-20 - Number of AML level 2b patients (Feb 2012 to Jan 2013)

Hospital	Trust	Number of patients (Feb 12 – Jan 13)	% of total
St Bartholomew's Hospital	BH	49	42%
University College Hospital	UCLH	35	30%
Royal Free Hospital	RFH	11	9%
The Queen's Hospital	BHRUT	15	13%
Barnet Hospital	BCF	Below 10 per provider	7%
North Middlesex University Hospital	NMUH		
Total		118	100%

2.8.3 Service specifications and national standards

For HSCT, NICE and London-wide guidance recommends each centre undertakes a minimum of 100 new cases a year[13]. Given the volume of activity the providers are currently achieving, it is only feasible for a two provider option to be considered. This aligns with the London Model of Care[14] which recommended that, given the specialist expertise and range of facilities required for stem cell transplantation, HSCT services should be reduced from eight to five providers in London.

Table 2-21 - HSCT service specifications

Population served	Number of patients (Feb 12 – Jan 13)	Current number of providers	Service thresholds		Recommended number of providers
			Volume per centre	Population per centre	
3.2m	274	3	100+ new cases	-	2

NICE[15] guidance states multidisciplinary teams should treat intensively a minimum of five new AML patients a year. It recommends that treatment be provided at a single facility within any one hospital site, in designated wards with continuous access to specialist nurses and haematologists. The London Cancer Pathway Board for Hematological Malignancies recommends providers should treat with intensive chemotherapy a minimum of 10 new cases of AML a year. They believe this number allows the clinicians involved to have sufficient familiarity with the complex therapy required to cure AML. This would indicate that there should be between three and four units.

Table 2-22 - AML service specifications

Population served	Number of patients (Feb 12 – Jan 13)	Current number of providers	Service thresholds		Recommended number of providers
			Volume per centre	Population per centre	
3.2m	118	6	5 – 10 new intensive cases	-	3-4

2.8.4 Clinical Case for Change and London Cancer recommendations

Some providers are not meeting minimum volumes of care of 10 new AML patients per year recommended by local clinicians in the Case for Change. Similarly not all HSCT services are carrying out the minimum 100 transplants each year recommended in the Case for Change. The Royal Free Hospital currently treats half that number of patients.

[13] NHS Commissioning Support for London, A model of care for cancer services: Clinical paper, August 2010, p.93.
[14] NHS Commissioning Support for London, A model of care for cancer services: Clinical paper, pp.88-89.
[15] NICE, Guidance on Cancer Services, Improving Outcomes in Haematological Cancers, The Manual, 2003. http://www.nice.org.uk/nicemedia/pdf/NICE_HAEMATOLOGICAL_CSG.pdf

Treatment of patients with AML is intensive and requires access to a dedicated support team both in and out of hours. Without sufficient scale some providers cannot offer these services and so therefore not all patients have the comprehensive care they need.

London Cancer recommended AML providers should be consolidated from six providers to three. Two of these would be co-located with the recommended level 3 HSCT centres at St Bartholomew's Hospital and University College Hospital. London Cancer has recommended that the third centre should be located at The Queen's Hospital in Romford.

London Cancer recommended the number of hospitals providing HSCT care be reduced from three centres to two, with services at the Royal Free Hospital being transferred to UCH and retaining St Bartholomew's hospital as a provider.

2.8.5 Shortlisted options and appraisal process - HSCT

A long-list of five options was considered from which only one option was considered for shortlisting. This was the only two provider option that met the criteria recommended by NICE whereby all units would have activity levels of 100 new cases per annum. Single provider options were rejected on the basis that these involved a level of reorganisation that was unnecessary to reach best practice.

For level 3 and HSCT services, it is not a safe or viable option to move activity away from St Bartholomew's or UCH to Royal Free as they are both currently delivering a service that more than meets national volume standards, whilst Royal Free is not. The table below summarises the shortlisted options.

Table 2-23 - HSCT shortlisting

Long-list Options		Shortlist	Rationale
A)	BH + UCLH + RFH	✗	Three provider options do not reach threshold for population served.
B)	BH + UCLH	✓	Meets NICE activity threshold.
C)	BH + RFH	✗	RFH is currently a much smaller unit and not viable option to increase
D)	UCLH + RFH	✗	
E)	BH or RFH or UCLH	✗	Unnecessary level of reorganisation. Current demand sufficient to justify two units

The table below presents the results of the HSCT appraisal. This was the only viable option considered and preferred over the do nothing option.

Table 2-24 - HSCT weighted scoring

Option		Clinical	Patient experience	Deliverability	Research education and training	Overall
	Do nothing	1.8	3.0	1.6	0.4	6.8
B)	BH + UCLH	8.1	3.0	2.4	1.8	15.3

2.8.6 Shortlisted options and appraisal process – AML Level 2b

Providers of level 3 services must also provide level 2b services. As a result, St Bartholomew's Hospital and UCH cannot be discounted from any 2b options. As demonstrated by the heavy skewing of volumes to St Bartholomew's Hospital and UCH, a third or fourth provider would only be viable if it served a distinct population, which would exclude Royal Free Hospital. As a result, the options would require either a northern centre or an eastern centre. The only viable option for an eastern centre would be the Queen's Hospital. The options for a northern centre would be Barnet Hospital or North Middlesex University Hospital, however given that North Middlesex University Hospital currently serves very low volumes, it is not deemed safe or viable to move Royal Free and Barnet Hospital services to North Middlesex University Hospital.

The table below summarises the shortlisted options.

Table 2-25 - AML shortlisting

Long-list Options		Shortlist	Rationale
A)	BH + UCLH + RFH + BCF + BHRUT	✗	Meets NICE activity threshold however RFH is not a viable option due to lack of transplant services
B)	BH + UCLH + BCF + BHRUT	✓	Meets NICE activity threshold
C)	BH + UCLH + BCF	✓	Meets NICE activity threshold.
D)	BH + UCLH + BHRUT	✓	Meets NICE activity threshold
E)	BH + UCLH + RFH	✗	Does not serve population of West Essex
F)	Various 1-2 provider options	✗	Unnecessary level of reorganisation. Current demand sufficient to justify three units

The results of the workshops held to conduct a non-financial assessment of the shortlisted options are presented below.

Figure 2-10 - AML weighted scoring

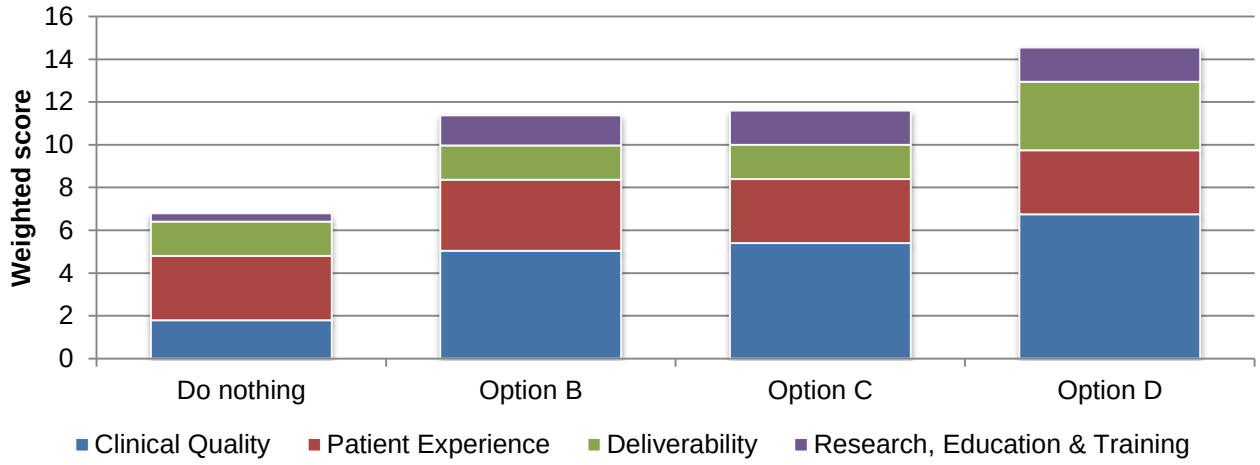


Table 2-26 - AML weighted scoring

Option		Clinical	Patient experience	Deliverability	Research education and training	Overall
	Do nothing	1.8	3.0	1.6	0.4	6.8
B)	BH + UCLH + BCF + BHRUT	5.0	3.3	1.6	1.4	11.4
C)	BH + UCLH + BCF	5.4	3.0	1.6	1.6	11.6
D)	BH + UCLH + BHRUT	6.8	3.0	3.2	1.6	14.6

Of the four options considered, option D, a three provider option at Barts Health, UCLH and BHRUT was scored the highest by the appraisers. The key drivers for this were both clinical and deliverability scores.

Volume benefits drive a clinical preference to the three provider options over option C. The three provider option including The Queen's Hospital scored higher than the three provider Barnet option reflecting the higher patient numbers at The Queen's Hospital currently and considerable effort that would be needed to raise clinical standards at Barnet Hospital given the size of the service. Due to its size, Barnet Hospital would face significant challenges in providing the necessary levels of support such as dedicated nursing for patients.

Option D (Barts Health, UCLH, BHRUT) for AML is robust and remained the highest scoring option under all the sensitivity tests carried out.

2.9 Oesophago-gastric cancer (OG) options appraisal

2.9.1 Summary of options appraisal

National guidelines on minimum volumes recommend one to two providers locally. There were no reasons to discount any current provider in the shortlisting process. Appraisers considered

various combinations of Barts Health, UCLH and BHRUT, recommending a single provider at UCLH. NHS England (London) are responding to feedback from engagement (staff, public) and propose a provider model is implemented at UCLH and BHRUT, with collaborative working between the sites sharing expertise and research. It is recommended this two provider option should be clinically reviewed in three to five years to ensure clinical outcomes are improving and that surgical volumes still justify a two provider model.

2.9.2 Current provision

OG cancer is the fourth most common cause of cancer death in the UK affecting around 13,500 people each year[16]. Each year around 830 new patients are likely to be diagnosed locally. The incidence of OG cancer is increasing with a poor five-year survival rate.

The diagnosis and management of patients with OG cancers involves a number of professional groups including GPs, specialist OG surgeons, clinical nurse specialists, dieticians, radiologists and physiotherapists.

Surgery offers the best chance of long-term survival for patients with early stage OG cancer if it is operable. These patients usually require surgery in conjunction with chemotherapy. About 75% of OG cancer patients have inoperable disease and require palliative and non-surgical treatment such as chemotherapy, radiotherapy or endoscopic intervention to relieve symptoms. Specialist multi-disciplinary teams are required to make the treatment recommendation for these patients, but the actual treatments may be provided in local units.

The specialist centres work in partnership with their local hospitals to manage the diagnosis and treatment of patients through multidisciplinary team meetings involving specialist clinicians in OG surgery, oncology, pathology and radiology as well as nursing and dietetics.

Currently, there are three specialist OG centres in the area. These centres perform a total of around 130-150 procedures a year. The table below illustrates the relative volumes of spells for each provider.

Table 2-27 - Number of OG cancer spells (Feb 2012 to Jan 2013)

Hospital	Trust	Number of spells (Feb 12 – Jan 13)	% of total
The Royal London Hospital	BH	53	41%
Queen's Hospital	BHRUT	41	31%
University College Hospital	UCLH	37	28%
Total		131	100%

[16] Cancer Research UK 2011; Office of National Statistics 2010.

2.9.3 Service Specifications and National Standards

National service specifications[17] state that specialist centres should carry out a minimum of 60 oesophageal and gastric resections per year. The professional association (the Association of Upper Gastrointestinal Surgeons - AUGIS) recommendation is that an individual specialist surgeon should undertake a minimum of 15 to 20 resections per year.

With respect to population served, NICE guidelines state that each centre should service a population of at least one million. AUGIS recommends 1.5 – 2 million and the Model of Care recommends at least two million.

Table 2-28 - OG cancer service specifications

Population served	Number of spells (Feb 12 – Jan 13)	Current number of providers	Service thresholds		Recommended number of providers
			Volume per centre	Population per centre	
3.2m	131	3	60+ ops per year	1 – 2m	1-2

2.9.4 Clinical Case for Change and London Cancer recommendations

None of the current services are meeting national or London-wide standards in relation to volume. OG patients are more likely to survive for five years after their operation if it is done in a centre that performs over 60 such operations a year: currently centres are performing an average of 50.

Improvements in early diagnosis and non-surgical treatments will eventually contribute to the reduction of the numbers of patients needing surgery which, in turn, will reduce the number of surgeons needed. As a result the current system is unlikely to sustain workable on-call arrangements. Concentrating surgeons in fewer centres would allow for 24/7 cover which has been shown to reduce length of stay and increase the chances of survival.

Local clinicians in the Case for Change recommended a staged consolidation of services in north and east London over three to five years. Initially, clinicians recommend the current three centres should be reduced to two, with one centre serving outer north east London and west Essex located at Queen's Hospital and one centre at University College Hospital.

2.9.5 Shortlisted options

At present all three providers are operating just below the national levels and there are no specific reasons to deem any one provider either unsafe or unviable.

There is some uncertainty regarding the expected number of procedures in the long term. However, over time, it is projected the level of OG procedures will fall as improvements in diagnostic and staging processes will identify a greater number of patients as inoperable. As a

[17] NHS England http://www.england.nhs.uk/wp-content/uploads/2013/06/b11-cancer-oesop-gast.pdf

result, in the long-term it may be that two centres are not sustainable to meet national guidance.

BHRUT provide services to the wider part of Essex and Suffolk as does Chelmsford Hospital. This service is outside of the scope for this review until a decision is made regarding the configuration services between these two providers. Therefore the service at BHRUT must be included in the shortlist.

For these reasons, single provider options should be considered as part of longer-term decision, and two provider options should only be considered if they do not move services out of The Queen's Hospital.

Table 2-29 - OG cancer shortlisting

Long-list Options		Shortlist	Rationale
A)	Various three provider options	✗	Three provider options do not reach threshold of 60 operations per year.
B)	BH + UCLH	✗	Moves service away from South Essex
C)	BH + BHRUT	✓	Meets NICE standards
D)	UCLH + BHRUT	✓	Meets NICE standards
E)	BH	✓	Meets NICE standards over long term
F)	BHRUT	✓	Meets NICE standards over long term
G)	UCLH	✓	Meets NICE standards over long term

2.9.6 Summary of appraisal

The results of the workshops held to conduct a non-financial assessment of the shortlisted options are presented below.

Figure 2-11 – OG cancer weighted scoring

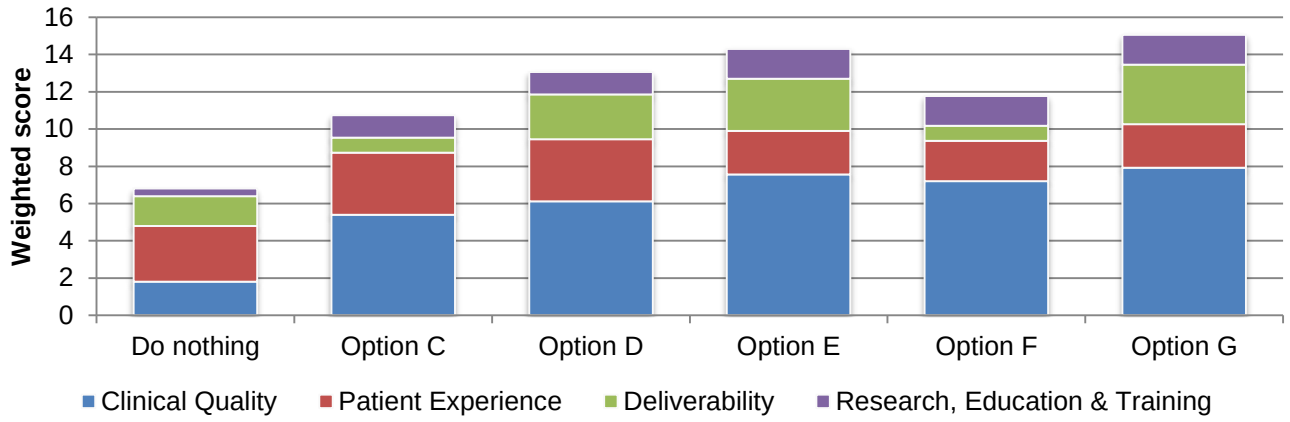


Table 2-30 - OG cancer weighted scoring

Option		Clinical	Patient experience	Deliverability	Research education and training	Overall
	Do nothing	1.8	3.0	1.6	0.4	6.8
C)	BH + BHRUT	5.4	3.3	0.8	1.2	10.7
D)	UCLH + BHRUT	6.1	3.3	2.4	1.2	13.1
E)	BH	7.6	2.3	2.8	1.6	14.3
F)	BHRUT	7.2	2.2	0.8	1.6	11.8
G)	UCLH	7.9	2.3	3.2	1.6	15.1

Of the six options considered, option G, a single provider at UCLH scored the highest by the appraisers. The key drivers for this were both clinical and deliverability scores. Volume benefits drive a clinical preference to the single provider options. A preferred surgical model adopted by UCLH drove the preference of option G over option F.

Two key factors drove the deliverability score. On the one hand, less investment was estimated to be required for UCLH to become world class over the other options, serving to increase the deliverability score for option G. On the other hand it was recognised that all single provider options will be challenging with lengthy implementations due to the necessary up-scale in capacity required.

NHS England (London) is responding to feedback from engagement (staff, public) and propose the two site model is implemented at UCLH and BHRUT with collaborative working between the sites, sharing expertise and research. It is recommended this model is reviewed in 3-5 years' time in the context of activity levels, and national standards and evidence, and consideration of the service at Chelmsford. As a result, option D is recommended as the preferred two-site option that would allow for the longer-term preferred option to be considered as part of the subsequent review.

3 Specialist cardiovascular services options appraisal

3.1 Introduction

The programme adopted a thorough appraisal to arrive at a commissioner-led recommendation for the reconfiguration of specialist cardiovascular services. The process has taken into account the recommendation made to NHS England (London) by UCLPartners along with an assessment of other options that were determined safe and viable.

The appraisal supported the original recommendations made to NHS England (London) by ULCPartners. Services currently provided at The Heart Hospital, The London Chest Hospital and St Bartholomew's Hospital should be combined to create a single integrated cardiovascular centre. The Royal Free Hospital and the integrated cardiovascular centre at St Bartholomew's Hospital would act as HACs for the area.

The remaining sections of this chapter are structured as follows:

3.2 - The clinical Case for Change

3.3 - Vision for the future

3.4 - Programme benefits

3.5 - Current provision of services

3.6 - Shortlisted options

3.7 - Appraisal of shortlist and development of the preferred option.

3.2 The clinical Case for Change

Cardiovascular disease affects millions of people in the UK and is one of the biggest causes of early death and disability. It is estimated that 5,436 people in north and east London die early because of heart disease and stroke.

The Case for Change highlights significant issues for cardiovascular services in north and east London and presented the relatively poor patient outcomes in comparison to the rest of England. More specifically, the following key reasons were highlighted for driving the need for change:

- The risk of cardiovascular disease is already high and is increasing with our growing ageing population. People with heart disease in north and east London are more likely to die prematurely than other people in London or England
- Current services cannot meet recommended standards for care. There is currently a high level of unmet need and unequal access to treatment
- There is insufficient volume in some of the providers to operate sub-specialist rotas and deliver other co-dependent services
- There is insufficient volume to sustain the specialists needed for 24/7 emergency care.
- Eroding patient experience through higher than average waiting times for surgery, higher readmission rates and few accommodation options

- There is an opportunity to integrate research and innovation into daily practice, improving care for local people and attracting additional funding for local services.

A number of these constraints and challenges are the result of limited capacity within The Heart Hospital. With limited scope to expand due to physical constraints The Heart Hospital is unlikely to be able to achieve the volume required to meet recommended standards of care for both elective and non-elective care. Further information and evidence to support the above can be found in the Case for Change.

3.3 Vision of the future

The vision is to deliver world-class experience and outcomes for patients, underpinned by world leading academic research and education. To achieve this vision there is a need to change the way current specialist cardiovascular services in north and east London are delivered through the establishment of a single integrated cardiovascular centre at St Bartholomew's Hospital with the Royal Free Hospital remaining as a second HAC.

To achieve this vision clinicians have identified seven key aims:

1. Establish a seamless pathway and better coordination of care for cardiovascular patients across all NHS organisations.

2. Deliver world-class standards of care and improve patient outcomes and experience.

3. Improve access to cardiovascular care and reduce waiting times.

4. Ensure our population benefits from the latest technological advances, research and access to clinical trials.

5. Ensure services are sustainable for the future.

6. Maximise efficiencies and attract national and international investment in research.

7. Ensure continuous training and education in cardiovascular disease is of a high standard across north and east London.

3.4 Specialist cardiovascular service reconfiguration benefits

The primary driver of this programme is to improve patient outcomes across the area by delivering a world class centre and this can be translated into a number of specific commissioners benefits derived through a more efficient health system. These include the following:

- **Lower readmission rates** - Reducing the number of cases with complications, through greater patients volumes and therefore increased familiarity with conditions, will result in lower readmission rates

- **Reduced number of outpatient visits** - Better joined up working across the pathway will lead to reduction in unnecessary or repeat diagnostic testing

- **High cost drug savings** - Larger centres that can attract more clinical trials will result in savings on high cost drugs where they are provided free as part of the trials

- **Improvements in primary and secondary prevention** - World class specialist centres that offer high quality care will encourage system improvements, in terms of primary and secondary prevention.

These commissioner benefits sit alongside a broader range of benefits for patients and providers. These are illustrated in the benefits map and detailed table below. The development of detailed outcomes measures and programme KPIs will be explored in more detail during planning for implementation as part of developing a benefits management strategy. These will align with the benefits that are currently being worked up by Barts Health as part of their Barts Heart Centre Programme.

Figure 3-1 - Cardiovascular service reconfiguration benefits map

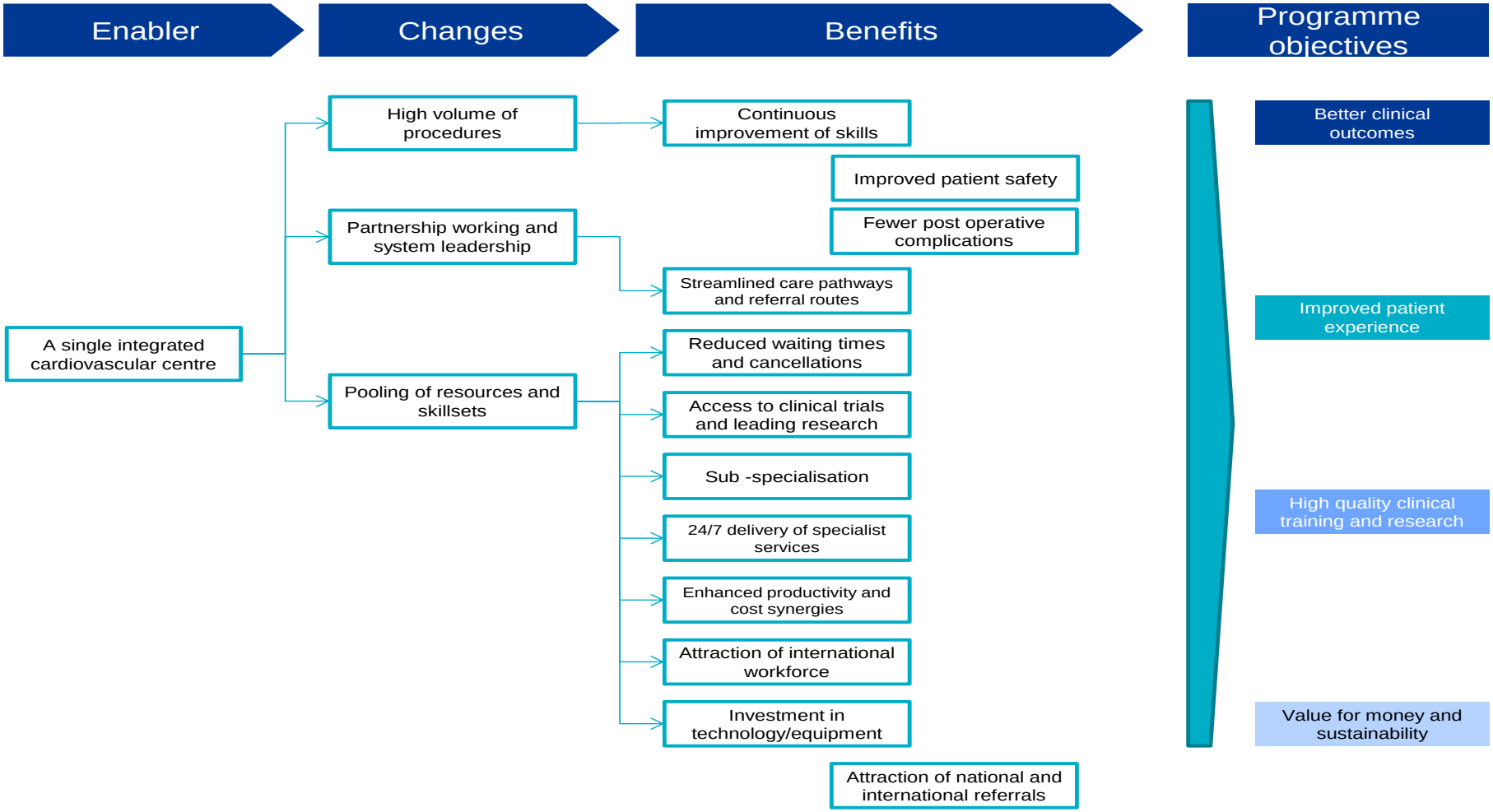


Figure 3-2 – Cardiovascular service reconfiguration benefits detail

Better clinical outcomes

The Case for Change demonstrates that outcomes for patients treated by clinicians who are experienced and have high volumes of cases are better. Specific benefits include:

- Surpassing evidence-based recommended numbers of complex and emergency procedures in cardiology
- Further sub-specialisation in surgery and supporting services and access to a specialist 24/7 rota
- Additional investment in new technologies enhancing and facilitating the growth of specialties
- System leadership driving improvements in care through the support to local acute hospitals and primary and community health services
- Access to clinical trials and pioneering research

Improved patient experience

Cardiovascular care would be delivered as part of an integrated system with an expert specialist centre at its hub. The following patient experience benefits have been identified as a result:

- Reduced length of stay and earlier discharges
- Reduced complications and readmission rates
- Improved case mix through more effective triaging
- Streamlined care pathways and clearer referral routes for emergency units, ambulance services, GPs and community services
- Greater capacity and flexibility to respond to demand, reducing waiting times and cancellations
- Prompt access to treatment in all departments reducing waiting times and cancellations
- Greater access to the latest diagnostics and equipment
- Access to highly skilled surgeons 24/7

High quality clinical training and research

Developing high volume centres with pooled resources is expected to deliver the following benefits:

- Strengthened research, science and clinical trials. By creating access to data from such a large, diverse population and broad range of activity, the centre would attract funding for clinical trials
- Sub-specialisation and defined career pathways
- Recruitment of talented national and international clinical staff to work in the specialty
- High quality clinical training for junior doctors and other health professionals

Value for money and sustainability

Consolidation of specialist centres will drive better clinical outcomes and develop economies of scale which will in turn drive a number of financial benefits for both commissioners and providers. Specifically they include:

- Reduced length of stay and earlier discharges
- Reduced complications and readmission rates
- Improved case mix through more effective triaging
- Reduced overheads and efficient use of staff
- Capacity to invest in latest technology
- Enhanced productivity of multi-disciplinary teams

3.5 Current provision of cardiovascular services

Cardiovascular services are categorised into tiers that form the whole patient pathway. The table below presents the current provision of services in the sector. While services in cardiac units and diagnostic catheterisation laboratories are not affected by the changes that are being proposed here they do form an important part of the patient pathway.

Table 3-1 - Current cardiovascular provision

Type of Facility	Services Available	Description	Current Providers
Cardiac Unit	• cardiology outpatients • rapid access clinic • Echocardiogram • perfusion scanning • inpatient beds • Support to acute cardiac care and A&E	• First point of access for referrals and emergencies that do not require referral to a HAC • Routine diagnostic, assessment and treatment	All hospitals with an Accident and Emergency Unit
Diagnostic Catheterisation Laboratory	• Diagnostic angiography • Pacemaker insertion and maintenance	• Diagnostic tool for assessing patients with heart and circulation issues • Unit for treatment of patients needing a pacemaker	North Middlesex Hospital Barnet Hospital King George Hospital Whipps Cross Hospital
Interventional Catheterisation Laboratory (Diagnostic and Treatment)	• Diagnostic angiography • Pacemaker insertion and maintenance • Angioplasty (balloon stents or PCI) • Implantation of Implantable Cardioverter Defibrillators (ICDs)	• As above plus elective and urgent treatment of patients requiring the unblocking of main vessels using a stent or balloon or an ICD	The Royal Free, Barts The London Chest The Heart Hospitals
Heart Attack Centre	• All of the above on a 24/7 standby rota plus A&E receiving point.	• Receiving point for treatment of patients diagnosed as having had a heart attack and requiring immediate intervention	The Royal Free The London Chest Heart Hospital
Specialist Cardiovascular Unit	• Cardiac surgery • Specialist clinics for rarer cardiology conditions such as heart muscle disease. • Specialist arrhythmia	• Elective surgical centre for patients requiring Coronary Artery Bypass Surgery (CABG) and heart surgery such as valve replacement or repair • Specialist centre for diagnosis and treatment of rarer heart conditions	The London Chest St Bartholomew's Hospital The Heart Hospital

The three specialist cardiovascular units in north and east London are provided by Barts Health and UCLH. UCLH's specialist cardiovascular services are mainly provided from The Heart Hospital in Westminster. Barts Health is due to move the specialist cardiovascular services currently provided at The London Chest Hospital and St Bartholomew's Hospital to a new state-of-the-art facility within the St Bartholomew's Hospital complex, when the building is complete at the end of 2014.

There are eight HACs in London, three of which are in north and east London – The London Chest Hospital, the Royal Free Hospital and The Heart Hospital. The HAC at The London Chest Hospital currently receives around 1,500 patients a year – the highest number of patients of the three centres in north and east London. These patients mainly reside in the east and north east boroughs of London. Most patients taken to the Royal Free Hospital and The Heart Hospital reside in north London.

As well as heart attack services the Royal Free Hospital also provides complex invasive cardiology and vascular surgery.

Most patients with a heart condition will follow one of the two pathways through the treatment tiers, depending upon whether they are emergencies or referrals from a GP.

Elective Pathway

Patients showing symptoms of a heart problem are referred to their local hospital for assessment. Patients will be seen as an out-patient or admitted to a rapid access chest pain clinic. Following assessment there are two possible pathways:

- The majority of patients will be treated locally

- A minority of patients will be diagnosed with a rarer heart condition requiring referral directly to a specialist cardiovascular unit. Thereafter the patient's treatment is usually retained by the specialist service.

Following a catheterisation a specialist multi-disciplinary team will consider the best treatment which could involve an interventional catheterisation or heart surgery. Patients will generally receive rehabilitation at a local cardiac unit.

Non-Elective Pathway

Patients showing signs of an emergency heart condition will usually be seen initially by the ambulance service. Where the patient is diagnosed by the ambulance paramedic as having a ST-elevation myocardial infarction (STEMI) heart attack the patient will be taken straight to a HAC where the normal procedure will be to have an emergency primary percutaneous coronary intervention (PPCI). The majority of patients not having a STEMI are taken to the local A&E. Thereafter they are usually admitted to the rapid access service and the pathway follows the elective pathway described above.

3.6 The preferred option

Five options were considered by the appraisal team adopting the methodology outlined in Appendix B. All options considered must retain St Bartholomew's Hospital as a cardiovascular centre given the current investment in the new St Bartholomew's site. Consequently, all

options must include St Bartholomew's Hospital as a HAC as it would be sub-optimal to have a cardiovascular centre that is not a HAC. For these reasons, the possible options are presented below and the results of the shortlisting process are described.

Table 3-2 - Cardiovascular shortlisting

Cardiovascular Centres		Heart Attack Centres	Shortlist	Rationale
A)	2 centres St B & HH	3 centres St B, HH & RFH	✗	The Case for Change has set out the argument for why the current configuration is not viable in the medium to long-term
B)	1 centre St B	3 centres St B, HH & RFH	✗	Insufficient demand (both current and future) for PPCIs at The Heart Hospital to justify maintaining it as a HAC
C)	1 centre St B	2 centres St B & RFH	✓	Evidence that consolidating services into one cardiovascular centre will enhance clinical outcomes
D)	1 centre St B	2 centres St B and HH	✓	Shortlist on the basis that this could be a safe and viable option but there is no case for closing the RFH HAC on volumes or clinical standards. Increases travel times for patients in north central London
E)	1 centre St B	1 centre St B	✗	No case for closing the RFH HAC on volumes or clinical standards. Increases travel times for patients in North Central London

3.7 Summary of appraisal

The two shortlisted options were appraised along with the "do minimum" option against three criteria:

- Clinical outcomes: the extent to which the configuration will improve clinical outcomes
- Deliverability: the relative difficulty associated with bringing the option to completion
- Patient experience: the impact of the option for individual patients and the way that services are accessed

The table below summarises the output from the appraisal workshop. Three criteria were discussed qualitatively among appraisal participants who represented a broad cross section of the sector.

Table 3-3 - Cardiovascular appraisal results

Criteria	Do minimum 2 centres at Barts and HH. 3 HACs HH, RFH & Barts	Option C 1 centre at Barts. 2 HAC centres at RFH & Barts	Option D 1 centre at Barts. 2 HAC centres at HH & Barts
Clinical Outcomes	• Service at The Heart Hospital will not meet standard of 300 PPCIs per annum. • Insufficient volume of activity at both units to justify sub-specialties in either mitral valve surgery or acute aortic dissection. • The Heart Hospital has no co-dependency with vascular surgery.	• Activity at RFH and Barts HAC is already achieving recommended levels. • Current clinical performance at RFH is higher than that of HH.	• No certainty the volume of PPCIs at HH will increase to 300+ pa. Much of the current RFH HAC activity will flow to Harefield and Hammersmith Hospitals.
Deliverability	• Both units will find it difficult to justify capital investment decisions because of the lower level of activity and income to each unit. • Without the full range of cardiovascular services there is a risk that the two units will not be attractive to the best clinicians resulting in future workforce challenges. • Heart Hospital offers no potential for redevelopment or expansion.	• Proposal supported by all providers and considered to be deliverable.	• Clinical teams at RFH would have to be reconfigured to follow activity flows. • Would not be supported by management of RFH or UCLH. • Leaves UCLH with isolated HAC and an estates issue of how to fully utilise the HH.
Patient Experience	• No change to high cancellation rates and transfer delays. • Satisfaction scores at The Heart Hospital are lower than elsewhere. • No same sex wards at The Heart Hospital.	• Marginal impact on journey times and access with move of services from Heart Hospital to Barts.	• Longer journeys and reduced access for patients from north central London (NCL).

On the basis of this analysis the appraisal team fully endorsed the option of consolidating services at The Heart Hospital to St Bartholomew's Hospital given the option was preferred across all three criteria. A key assumption of the preferred option is that the majority of patients previously going to The Heart Hospital would flow to the new site at St Bartholomew's Hospital. Variations on this, where some of the services at The Heart Hospital transfer to an alternative provider, were not formally evaluated on the basis that:

- There are established relationships between the hospitals in the sector and Barts Health that do not exist with alternative providers.
- For the large proportion of the patients currently using The Heart Hospital, St Bartholomew's is more accessible than other providers and is closer than The Heart Hospital for many patients.
- Other providers were invited to engage in the process and suggest alternative options, to which the team received no response.

4 Impact assessment of preferred options

4.1 Introduction

This chapter seeks to examine the non-financial impacts the preferred options derived from the options appraisal will have on various elements of the health care system. Key to understanding this is the impact on patient flows from the current configuration of specialised services to the new configuration. This underpins the analysis of the competition landscape, travel times and equality impacts. The methodologies for each element of the impact analysis are outlined below.

	1. Patient flows
Description	Under the preferred options, it is expected that patients will be transferred from the decommissioned services to their nearest provider of the retained services. This has been done for modelling purposes. Actual patient flows will be the result of individual patient choice. Additionally, no assumptions have been made with respect to future growth of patient volumes.
Data	CSU HES data extract. Feb 2012 – Jan 2013
Further analysis	See Appendix C for patient transfer tables

	2. Competition analysis	3. Patient travel analysis	4. Equality Impact Assessment (EqIA)
Description	The programme engaged Frontier Economics to conduct an expert competition analysis. This analysis sought to understand 1) the overall size of the services moving, 2) the resulting market share of the providers that are expected to be retained and improved and 3) the implication for patient choice.	The programme examined the net impact on travel times for those patients that are expected to transfer under the preferred options.	The analysis was led by the Equity and Diversity team within NEL CSU and focused on the age, gender and ethnicity profiles of the patients transferring.
Data	CSU HES data extract.(10 months actual 12/13 data scaled up to 12 months)	Patient flow transfer tables CSU HES data extract. Feb 2012 – Jan 2013	CSU HES data extract. (3 year average) 2011-2013
Further analysis	Frontier Competition Report	Further analysis will be conduct as part of planning for implementation	Equality Impact Assessment Report

The impact analysis takes the preferred options from the options appraisal as the starting point. However, the preferred option for bladder and prostate was subject to the findings from a clinical review at the time of drafting. For the purposes of the impact analysis the single site option at UCLH was used as it represents the option with the greatest level of change (from three site to one) and so largest possible has been modeled.

4.2 Impact assessment on the specialist cancer services reconfiguration

The options appraisal has resulted in UCLH both retaining and growing its existing provision of specialist cancer care in order to develop a single world class specialist centre. This will be supported by the services of Barts Health, BHRUT and RFH which will retain and develop expertise for specific tumour types.

The table below summarises the preferred options which are used to model the patient flows and subsequent impact analysis.

Table 4-1 – Current and preferred specialist cancer reconfiguration

Pathway	Configuration	RFH	BH	UCLH	BHRUT	BCF	HUH	NMUH	PAH
Brain	Current		S	S	S				
	Preferred			S	S				
H&N	Current		S	S		S			
	Preferred			S					
Bladder Prostate	Current		S	S	S	S			
	Preferred	Please refer to Clinical Senate Review Summary for final recommendation							
Renal	Current	S	S	S	S	S	S		S
	Preferred	S							
HSCT	Current	S	S	S					
	Preferred		S	S					
AML	Current	S	S	S	S	S		S	
	Preferred		S	S	S				
OG	Current		S	S	S				
	Preferred			S	S				

The key messages relating to the impact assessment if these preferred options are adopted are summarised below.

- ✓ **Patient flows -** The total number of patients receiving specialist cancer surgery over the course of 2012 was relatively small (c2,333). Just under two thirds of these patients would be unaffected by the proposals given they received care at a retained provider. Of the remaining, patients will mainly transfer to either UCLH (528) or to RFH (145).

- ✓ **Competition –** The impact of any reduction in patient choice and competition from the creation of these specialist centres has been properly recognised and considered, but is outweighed by the patient benefits described in section 2.4.

- ✓ **Travel** - Patient travel has increased for some patients, particularly for patients travelling from outer north east London and west Essex. Understanding this in more detail and developing contingency plans will be required in the planning for implementation phase.

- ✓ **Equality –** The impact assessment shows the preferred options are unlikely to have major adverse impacts on the equality groups considered. However the analysis does indicate that some decommissioned services are located in more ethnically diverse communities. As a result, receiving trusts will be required to give consideration to ensuring these communities are not unduly affected.

4.2.1 Impact on patient flows

The table below illustrates the net flow of patients between trusts as a result of the preferred options based on historical data available to the programme. This is likely to be a conservative estimate as there is currently an increasing trend of patients flowing to UCLH, as they exercise their right of choice for elective services. Therefore current activity at each of the trusts is likely to be more skewed towards UCLH than is presented in the data. The total flow of patients between providers is relatively small given UCLH will be retained as a majority provider for all specialist cancer services other than renal cancer. For the patients that are expected to be transferred from the decommissioned services, most are estimated to flow to UCLH based on the patient transfer tables in Appendix D.

Table 4-2 – Net flow of spells/patients (Feb 2012 to Jan 2013)

Pathway	Total Activity (spells/ patients)	Transferring activity (spells/ patients)	% transferred of total	Estimated flow of patients to retained providers of service				
				UCLH	BHRUT	BH	RFH	Others
Brain	831	97	12%	75	22	-	-	-[18]
Head and Neck	394	241	61%	233	-	-	-	
Bladder	71	32[19]	45%	31	-	-	-	
Prostate	275	93[20]	34%	92	-	-	-	
Renal	239	145[21]	82%	-	-	-	142	
HSCT	274	53	19%	36	-	12	-	
AML	118	18	15%	16	-	-	-	
OG	131	53	40%	45	7	-	-	
Total	2,333	732	40%	528	29	13	142	20

[18] Individual numbers are below information governance thresholds
[19] Does not include the 17 spells reported by BCF during the period the data was collected. All BCF services are currently provided by UCLH.
[20] Does not include the 43 spells reported by BCF during the period the data was collected. All BCF services are currently provided by UCLH.
[21] Does not include the 50 spells reported by BCF during the period the data was collected. All BCF services are currently provided by RFH.

4.2.2 Competition impact

According to the NHS (Procurement, Patient Choice and Competition) Regulations 2013, commissioners are required to act with a view to:

a) Securing the needs of the people who use the services
b) Improving the quality of the services
c) Improving efficiency in the provision of the services

Based on the analysis of patient flows described above, the programme engaged Frontier Economics to conduct an expert competition analysis. This section seeks to understand 1) the overall size of the services moving, 2) the resulting market share of the providers that are expected to be retained and improved and 3) the implication for patient choice.

What is the overall size of the services moving?

The size of the service is defined as yearly provider revenue[22] by pathway. The size of the services moving for each of the cancer pathways is presented in the table below. The specific changes proposed involve the movement of very small amounts of revenue (£0.2m - £2m). This is well below the OFT turnover test thresholds.

Table 4-3 – Size of service moving by cancer pathway

	Brain	Head & neck	Bladder	Prostate	Renal	HSCT	AML	OG
Size of service moving (£m)	0.9	1.8	0.5	0.6	1.6	0.4	0.2	0.6

The very specialist nature of the services means they are a small proportion of total spend on these cancers. In 2011/12 London commissioners spent approximately:

- £44m on urological cancers: £2.7m of revenue is moving (less than 7%)
- £94m on blood cancers: £0.6m of revenue is moving (less than 1%)
- £32m on upper GI cancers: £0.6m of revenue is moving (less than 2%)
- £22m on head or neck: £1.8m of revenue is moving (about 8%)

What is the impact on the provider's share of supply?

The provider's share of supply is defined as its proportion of all revenue of London specialist providers. The resulting shares of supply are often small and in all cases there are many alternative providers across London.

[22] Calculated as the number of spells * non-elective spell tariff*provider MFF

Table 4-4 – Current and proposed share of supply by cancer pathway and trust

Pathway	Retained provider	Share of supply of receiving providers(s) (Current)	Share of supply of receiving provider(s) (Proposed)
Brain	UCLH	37%	41%
	BHRUT	13%	15%
Head and neck	UCLH	12%	32%
Urology	UCLH	12%	19%
	RFH	4%	17%
Haematological	UCLH	16%	21%
	Barts Health	16%	17%
	BHRUT	2%	2%
OG	UCLH	15%	32%
	BHRUT	14%	14%

What are the implications for patient choice?

The programme team considered the impact on patient choice and used the NHS Constitution[23] as its starting point which states that patients have a right to:

> *"make choices about the services commissioned by NHS bodies and to information to support these choices. The options available will develop over time and depend on your individual needs."*

Patients have access to a number of services across London – Given the specialist nature of the services, patients are likely to consider providers outside of north and east London and west Essex. While within the area, services are recommended to consolidate, a number of providers offering the same service will remain throughout London and Essex for patients to access.

Choice of primary and secondary services has not changed – Specialist services represent a significant but small part of the wider patient pathway. Patients access specialist services following assessments, diagnosis and treatment both in primary and secondary care settings. Following surgery patients often access oncology and follow up care locally. It is typically at these points where patients most exercise their choice over provider and will continue to have that choice. Through the leadership of the centres of excellence and the wider pathway work underway, this programme supports the need for these services to be provided locally where possible for the patient.

All patients will have access to world class care – There is currently unequal access to world class services. Not all patients can access the range of sub-specialties they need nor can they access treatment options funded through clinical trials. Through these recommendations

[23] NHS Constitution, 2013 http://www.nhs.uk/choiceintheNHS/Rightsandpledges/NHSConstitution/Documents/2013/the-nhs-constitution-for-england-2013.pdf

and the development of world class centres of excellence, all patients will be able to access these world class services, reducing inequality of access.

Patients will be able to make more informed choices – Developing centres of excellence in cancer care will result in better clarity for the patient to make informed choices about their surgical treatment and follow up care. This is enabled through the system leadership that lead clinicians at the specialist centres are able to provide to multi-disciplinary teams working closely together to provide the patient with a comprehensive assessment of the options available.

4.2.3 Travel analysis

This section utilises the patient flow assumptions described above to understand the net impact on travel times for patients and families for those patients that are transferring[24]. Typically, travel time increases as services are consolidated. Many patient representatives throughout the engagement process recognised the need to travel further to have once in a lifetime surgery, or specialist complex treatments for rare cancers. However it was still an expressed concern, particularly for older patients, family and carers. In response to this a travel advisory workshop will be held in the next phase of engagement to explore the issues and identify appropriate mitigation measures.

Under the proposed preferred options, specialist brain cancer surgery at Barts Health will be decommissioned. Based on the available data the majority of patients will flow to UCLH. These patients will experience a minor increase in total travel time. The patients that are expected to flow to BHRUT will see a drop in their travel time primarily as these patients reside in north London and west Essex.

Patients undergoing brain cancer surgery patients at Barts Health are expected to flow either to UCLH or BHRUT.

The NHNN and the Royal London Hospital are around 4 miles apart. Both are located close to underground stations but neither have parking apart from disabled bays. For patients travelling from Hackney, Tower Hamlets, Waltham Forest and Newham, which make up 40% of the activity at the Royal London, there will be small increases to journey times; average journey time increases vary from 1 minute (Hackney) to 16 minutes (Waltham Forest).

20% of patients currently being treated at the Royal London Hospital live to the east of the hospital and are likely to be treated at The Queen's Hospital in Romford in future. For these patients, journey times are likely to be shorter and parking is available.

Table 4-5 – Net impact on travel time - Brain

Transferring from	Activity (spells) (Feb 12 – Jan 13)	Transferring to UCLH		Transferring to BHRUT	
		Public (mins)	Private (mins)	Public (mins)	Private (mins)
Barts Health	97	5	15	-9	-30

[24] Calculated as the difference between the average time across all patients/boroughs to the current provider and the recommended provider.

Under the proposed preferred options, specialist head and neck cancer surgery at Barts Health and BCF will be decommissioned and patients will flow to UCLH. UCLH and the Royal London Hospital are around three miles apart. Both are located close to underground stations but neither have parking apart from disabled bays. For patients currently receiving care at the Royal London Hospital there will be small increases in travel times (an average of nine minutes). The impact is greater for patients who live locally to the Royal London (Newham and Tower Hamlets) than for those who are already travelling from further afield.

For the patients who currently receive their care at Chase Farm Hospital who will journey to UCLH there is a greater impact on travel. With most of the patients living locally and parking at UCLH limited to disabled bays, travel by private transport will be more difficult and take on average 21 minutes longer. Travel by public transport is less impacted as rail links into central London are good and journey times on average do not change significantly.

Table 4-6 – Net impact on travel time – Head and neck

Transferring from	Activity (spells) (Feb 12 – Jan 13)	Transferring to UCLH	
		Public (mins)	Private (mins)
Barts Health	185	9	23
BCF	56	1	21

Under the preferred option, specialist bladder cancer at Barts Health and BHRUT will be decommissioned. A total of 32 patients were seen over the course of a year. Patients at BHRUT would have had to travel an additional 23 minutes by public transport to attend UCLH however this is a minority of the total number of patients.

Table 4-7 – Net impact on travel time – Bladder

Transferring from	Activity (spells) (Feb 12 – Jan 13)	Transferring to UCLH	
		Public (mins)	Private (mins)
Barts Health	19	8	21
BHRUT	13	23	51

Under the preferred option, specialist prostate cancer services at Barts Health and BHRUT will be decommissioned. This will have a minor impact on Barts Health patients and a significant impact on BHRUT patients. Up to 78 patients would have had an additional 26 minutes to travel by public transport UCLH or 43 minutes by private transport. More detailed work is required in the next phase of the programme to understand how this can be mitigated.

Table 4-8 – Net impact on travel time – Prostate

Transferring from	Activity (spells) (Feb 12 – Jan 13)	Transferring to UCLH	
		Public (mins)	Private (mins)
Barts Health	15	3	3
BHRUT	78	26	43

With respect to renal cancer services, around 200 patients a year that currently would receive surgery at hospitals throughout north and east London will have their care transferred to the Royal Free Hospital. The Royal Free Hospital is located in Hampstead; it is close to underground and overground stations and a number of bus routes. The hospital also has public parking.

The travel impact for patients living in the west of the area is relatively minimal. This increases the further east patients reside. The 25 patients a year travelling from Redbridge, Barking & Dagenham or Havering, that currently use King George Hospital, will see journey times increase by an average of 29 minutes by public transport and 62 minutes by private transport.

Table 4-9 – Net impact on travel time – Renal

Transferring from	Activity (spells) (Feb 12 – Jan 13)	Transferring to RFH	
		Public (mins)	Private (mins)
Barts Health	52	19	26
BCF	50	Currently being provided at RFH	
UCLH	37	7	-1
BHRUT	25	29	62
PAH	25	20	17
HUM	6	Under 10 spells	

Around 50 patients a year that currently have their HSCT treatment at the Royal Free Hospital will transfer to either UCH or St Bartholomew's Hospital. Given UCH and St Bartholomew's Hospital are both well located in central London and accessible by public transport the travel impact is minimal for most patients.

Table 4-10 – Net impact on travel time – HSCT

Transferring from	Activity (patients) (Feb 12 – Jan 13)	Transferring to UCLH		Transferring to BH
		Public (mins)		Private (mins)
RFH	53	-2	10	Under 10 patients

The proposals for AML services will affect around 20 patients a year who live in the north of the sector. Care for these patients will transfer to ULCH or St Bartholomew's Hospital. The impact on journey times will be small with many journeys not increasing at all and the average public transport journey time increasing by less than 10 minutes.

Table 4-11 – Net impact on travel time – AML

Transferring from	Activity (patients) (Feb 12 – Jan 13)	Transferring to UCLH	
		Public (mins)	Private (mins)
RFH	11	0	8
BCF	Below information governance threshold		
NMUH	Below information governance threshold		

In 2012 53 patients received specialist OG surgery at the Royal London Hospital. Under the proposed changes 45 of these would have been treated at UCLH and eight patients would have been treated at The Queen's Hospital (Romford).

UCLH and the Royal London Hospital are around three miles apart. Both are located close to underground stations but neither have parking apart from disabled bays. For patients currently receiving care at the Royal London Hospital there will be small increases in travel times (six minutes by public transport). The impact is greater for patients who are local to the Royal London (Newham and Tower Hamlets) than for those who are already travelling from further afield.

The small number of patients whose care will transfer to The Queen's Hospital are residents of Essex or Redbridge and their average journey times are expected to reduce.

Table 4-12 – Net impact on travel time – OG

Transferring from	Decommissioned activity	Transferring to UCLH		Transferring to BHRUT	
		Public (mins)	Private (mins)	Public (mins)	Private (mins)
BH	53	6	19	Under 10 patients	

4.2.4 Equality Impact Assessment findings

The analysis was led by the Equality and Diversity team within NEL CSU and focuses on the age, gender and ethnicity profiles of the population impacted by the preferred options. In each case the patient profiles of those transferring is compared with the patient profiles of all patients within the pathway. The analysis seeks to address the following issues:

- What is the nature of the patients affected by the proposed changes?
- Where do the patients come from?
- What is the age, ethnicity and gender profile of the group?
- Is the profile of the group of patients affected by the changes any different from the profile of patients in general?

The analysis presented in this business case represents the summary findings of the EqIA Report[25]. The aim of this report is to provide an assessment of the impact on equality which will inform phase two of the engagement. The final business case will consider ways in which

[25] Available at: http://www.england.nhs.uk/london/london-2/engmt-consult/

adverse impacts can be mitigated and how the programme can be used to reduce existing inequalities.

The initial EqIA scoping exercise concluded that of the human rights specifically identified by the public sector duty:

- The changes proposed would have the greatest effect on the elderly as cancer most commonly affects older people
- There was likely to be no impact on marriage/civil partnerships or pregnancy
- It is difficult to measure the impact on inequalities in the areas of disability, religion/belief, sexual orientation or gender reassignment as data was not collected by the trusts on these groups.

The analysis is summarised below with more detailed findings and recommendations made in the EqIA Report. The analysis indicates a marginal impact on a selection of ethnicity groups. This reflects the composition of population the existing trusts serve as services recommended to be decommissioned are typically located in areas which are more ethnically diverse. The impact of this should be considered by the receiving trusts so these ethnicity groups are not unduly affected by the reconfiguration. There are no significant differences of age profiles or gender profiles between the patients affected and the wider patient population.

Table 4-13 - EqIA findings by specialist cancer pathway

Pathway	Description of patients impacted (vs all pathway patients)		
	Age	Gender	Ethnicity
Brain	No significant difference	No significant difference	Smaller white British population (55% of impacted population vs 73% of pathway population) Larger Bangladeshi and Black African population
Head and neck	No significant difference	No significant difference	Smaller white British population (54% of impacted population vs 58% of pathway population) Larger Bangladeshi and Black African population
Renal	No significant difference	No significant difference	Marginally larger white British population (64% of impacted population vs 62% of pathway population) – Patients affected are the majority in this case.
Bladder/ Prostate	No significant difference	N/A	No significant difference
AML	Patients are typically moderately older (40% of affected patients are between 60 and 70, compared with 30% of all pathway patients)	No significant difference	Larger mixed white/Asian and mixed white/black African population
HSCT	No significant difference	No significant difference	Smaller white British population Larger Bangladeshi population and mixed white/Asian
OG	No significant difference	No significant difference	Smaller white British population Larger Bangladeshi population and mixed white/Asian

Currently there is no data collected on the number of patients treated with a disability. Consequently it is difficult to assess the numbers of patients with disabilities that might be affected by the proposed changes. However the impact should be negligible because all the hospitals involved in the reconfigurations:

- Comply with the Disability Discrimination Act 1995
- Are routinely assessed by the Care Quality Commission to ensure that their services are responsive to the needs of patients with a disability
- Operate special transport arrangements for patients with mobility problems.

There remains an onus on all the providers involved in the project to ensure that the implementation of the changes is done in a way that takes the needs of disabled patients into consideration.

The recommendations from the analysis include:

1. The consolidation of services should be planned in such a way that the receiving providers are sensitive to the needs of the population that will in future be using the new facilities. This principle should be built into the implementation plans and reflected in both the physical design of premises, the way that staff are encouraged and trained to behave, and in the culture of the provider. Providers should consider whether any changes proposed could have a negative effect on equality and work to mitigate any effect.

2. Providers could consider whether there should be any mitigation introduced for cancer patients with increased long or difficult journeys.

3. Subject to endorsement of the recommendations, in the next engagement phase the findings of this report should be tested with stakeholders. Every effort should be made to get views on the proposals from groups identified as likely to be the most impacted by the proposals. The engagement process should be used to enable views to be obtained from groups where the analysis in this report has been limited by a shortage of information (for example, impact on people with disabilities, religion, sexual orientation and gender reassignment).

4. Providers should be mindful of their duties in respect of equalities. Providers should:

- Collect and publish information covering all equality groups
- Be proactive in addressing the cultural needs of patients and staff
- Empower staff and patients with the knowledge, skills, organisational leadership and commitment to achieve a human rights-based approach.

4.3 Impact assessment of the specialist cardiovascular services reconfiguration

The options appraisal led to the preferred option of decommissioning specialist cardiovascular services at The Heart Hospital and transferring the patients to the newly developed site at St Bartholomew's Hospital. This would result in a single high volume specialist cardiovascular centre and two HACs, one at St Bartholomew's and one at the Royal Free Hospital.

This section outlines the impact on patient flows of decommissioning specialist cardiovascular services at The Heart Hospital given the majority of patients will flow to the St Bartholomew's site.

The key messages relating to the impact assessment if these preferred options are adopted are summarised below.

.

- ✓ **Patient flows** – Total activity expected to flow from The Heart Hospital to Barts Health is significant (circa 5,000 spells).
- ✓ **Competition –** The impact of any reduction in patient choice and competition from the creation of a specialist cardiovascular centre at St Bartholomew's has been properly recognised and considered, but is outweighed by the patient benefits described in section 3.4.
- ✓ **Patient travel** – There is a minimal impact on patient travel given the proximity of The Heart Hospital to the new site at St Bartholomew's.
- ✓ **Equality –** There are no significant impacts on gender and age profiles. Patients transferring are more likely to be from a white/British background.

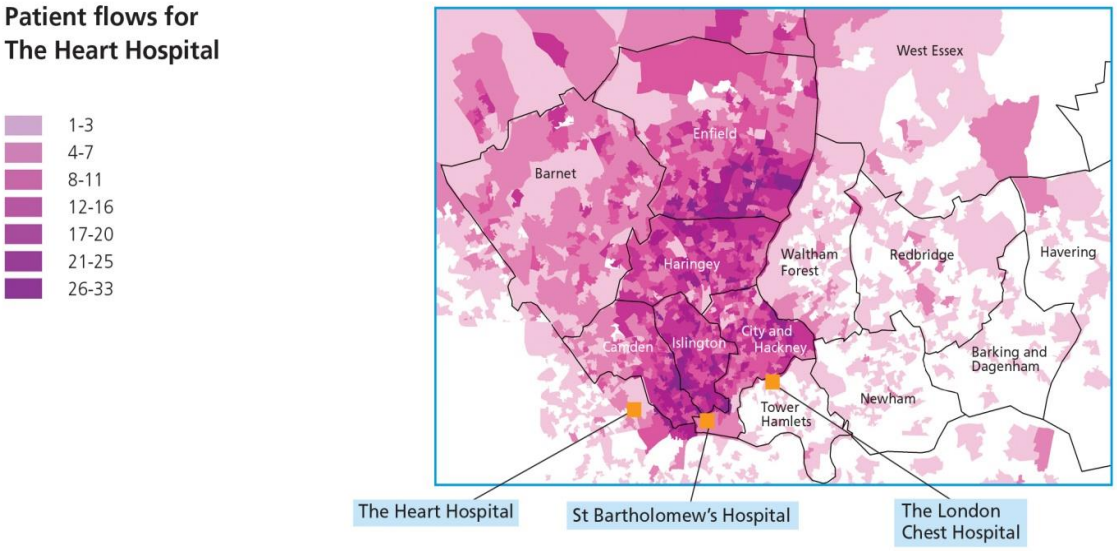
4.3.1 Impact on patient flows

The table below shows activity for 2012-13 by local area at The Heart Hospital. Just under two thirds of the cardiac and cardiovascular activity currently going to The Heart Hospital comes from the boroughs in the north central London area (Camden, Islington, Haringey, Enfield and Barnet) as well as City & Hackney. The other category accounts for approximately 150 CCGs reflecting the broad catchment of the specialist services provided at The Heart Hospital and long established referral relationships such as with the East Surrey Hospital which refers around 120 patients a year.

Table 4-14 – Cardiovascular patients spells at The Heart Hospital (2012-12) by area

Area	Cardiac Surgery	Catheterisation laboratory	Other Activity	Congenital	Cardiology	Total	% of total
Haringey	105	491	27	2	113	738	14%
Enfield	81	388	32	7	79	587	11%
Islington	74	314	24	3	120	535	10%
City & Hackney	48	406	17	4	48	523	10%
Camden	82	238	30	7	93	450	9%
Barnet	76	142	22	7	73	320	6%
Other	389	1,061	113	66	377	2,006	38.9%
Total	855	3,040	265	96	903	5,159	100%

Figure 4-1 – Cardiovascular patients flows to The Heart Hospital (2012-12)



It is anticipated that most activity currently flowing to The Heart Hospital will be retained by the consolidated services at Barts Hospital based on the assumption the established referral arrangements from hospitals in the north central London area as well as those with hospitals elsewhere in the south east would be retained.

A small proportion of patient activity is expected to flow elsewhere as patients exercise their right to choice of provider. This is estimated to be 5% for the purposes of modeling patient flows from a financial and competition perspective.

4.3.2 Competition impact

According to the NHS (Procurement, Patient Choice and Competition) Regulations 2013, commissioners are required to act with a view to:

a) Securing the needs of the people who use the services
b) Improving the quality of the services
c) Improving efficiency in the provision of the services.

As discussed above, NHS England and local CCGs as lead commissioners for specialised cardiovascular services are required to ensure good practice and to promote and protect patient choice and competition.

Based on the analysis of patient flows described above, the programme engaged Frontier Economics to conduct an independent competition analysis. This analysis sought to understand 1) the overall size of the services moving, 2) the resulting market share of the providers that are expected to be retained and improved and 3) the implication for patient choice.

What is the overall size of the services moving?

The size of the service is defined as yearly revenue[26] and is measured as a proportion of total services commissioned for the whole pathway across London. The size of the market transferring from UCLH is c£34-37m, below the OFT turnover test of £50m[27].

What is the impact on the provider's share of supply?

The provider's share of supply is defined as its proportion of all revenue of London specialist providers and presented in the table below. The change in share of supply is small due to the significant number of alternative providers of specialist cardiovascular services in London.

Table 4-15 – Current and proposed share of supply of cardiovascular activity

Provider moving	Retained provider	Share of supply of receiving trust(s) (Current)	Share of supply of receiving trust(s) (Proposed)
The Heart Hospital (UCLH)	Barts Health	14%	c20%

What are the implications for patient choice?

Following the proposed option of transferring services from The Heart Hospital to Barts Health, a range of alternative providers (15 trusts in total) across London will be maintained offering genuine patient choice.

Similarly to specialist cancer services, the services being consolidated represent only a small part of the wider patient pathway and are referred either by a secondary care provider or are an emergency admission. The opportunity to exercise choice of tertiary providers is limited.

Creating a world class centre of excellence will provide patients with more choice to a wider range of world class services. The Heart Hospital has reported less choice of admission dates and patients are more likely to have their appointment changed than the national average. The preferred option will help to develop a critical mass to ensure patients have greater access to a wider range of services at a time of their choosing.

4.3.3 Travel analysis

The Heart Hospital and St Bartholomew's Hospital are around 2.5 miles apart. Both are located close to underground stations and both are within two underground stops from the main rail termini for north London (Kings Cross, St Pancras & Euston). Given the close proximity of The Heart Hospital to the new site at St Bartholomew's Hospital the impact on travel was expected to be minimal. Patient representatives at the appraisal event agreed that where travel times do increase as a result of the proposed options, they were in support of this given the benefits of receiving world class care.

[26] Number of spells * non-elective spell tariff*provider MFF

[27] The size of the market affected is less than the total volume of activity transferring. This is because the calculation only considers services moving to one site that are provided on more than one site. As a result this does not include the adult congenital heart service which is only provided at the Heart Hospital currently.

Travel analysis was conducted on patients that attend The Heart Hospital to test this assumption. Patients from the top six local boroughs were considered given they would be most sensitive to the change. On average patients would travel four minutes less by public transport to the new site compared with the current arrangement and therefore the difference is not significant. This however does not detract from the need to ensure the service is accessible for all patients and their carers and will be subject to review at the patient access forum.

4.3.4 Equality impact assessment

The analysis was led by the Equality and Diversity team within NEL CSU and focuses on the age, gender and ethnicity profiles of the population impacted by the preferred options. In each case the patient profiles of those transferring is compared with the patient profiles of all patients within the pathway. The analysis seeks to address the following issues:

- What is the nature of the patients affected by the proposed changes?
- Where do the patients come from?
- What is the age, ethnicity and gender profile of the group?
- Is the profile of the group of patients affected by the changes any different from the profile of patients in general?

The analysis presented in this business case represents the summary findings of the EqIA Report[28]. The aim of this report is to provide an assessment of the impact on equality which will inform phase two of the engagement. The final business case will consider ways in which adverse impacts can be mitigated and how the programme can be used to reduce existing inequalities.

The initial EqIA scoping exercise concluded that of the human rights specifically identified by the public sector duty:

- The changes proposed would have the greatest effect on the elderly as cardiovascular disease most commonly affect older people

- There was likely to be no impact on marriage/civil partnerships or pregnancy

- It is difficult to measure the impact on inequalities in the areas of disability, religion/belief, sexual orientation or gender reassignment as data was not collected by the trusts on these groups.

Patients using The Heart Hospital predominately come from the north central London area and Hackney (60%). Within this area, the public health analysis shows that Islington and Hackney are areas of high mortality for coronary heart disease. The improved outcomes forecast for these changes will contribute to closing health inequalities for deprived populations that have higher mortality rates for CHD.

The age profile of patients at The Heart Hospital and at Barts Health is younger than patients accessing similar services across London. A number of factors help explain this:

[28] Available at: http://www.england.nhs.uk/london/london-2/engmt-consult/

- The Heart Hospital and services at Barts Health focus on interventional cardiac services where the patients tend to be younger and fitter. Patients requiring non-interventional cardiology are treated at UCLH rather than The Heart Hospital

- The congenital heart service at The Heart Hospital has a younger case mix than conventional cardiovascular service

- Demographic factors effecting the Boroughs served by The Heart Hospital.

A larger proportion of patients at The Heart Hospital are white/British (63%) compared with patients at Barts Health (53%) or across all other providers in London (52%). This is due to the significant Bangladeshi population served by Barts Health.

The recommendations from these findings are consistent with the recommendations outlined in the specialist cancer services impact assessment (section 4.2.4).

5 Financial impact assessment

5.1 Introduction

The primary focus of the proposals (as covered in the previous chapters) is the delivery of significant quality improvements, through the creation of fewer specialist high volume units. The financial impact of the proposals on providers, commissioners and the overall system is summarised in this chapter. A more detailed financial Appendix (E) is included with the Business Case.

The proposals have an impact on the physical estate and capital requirements on a number of Trusts, in particular UCLH (Heart Hospital site) and Barts Health (St.Bartholomew's site), and these will be explored in this section. The impacts are compared against the de minimis scenarios described in the options appraisal sections (2 and 3).

In terms of productivity benefits, further consolidation will also help to drive through efficiency improvements through synergy and scalable efficiencies. Under the reconfiguration:

- 732 spells are expected to transfer to new providers as part of the cancer reconfiguration.
- 5,159 spells from The Heart Hospital will transfer to Barts Health (95%) or other providers (5%).

This section sets out the key points of the impact on the following parties:

1. The NHS as a whole, – the net present value (system NPV) of the preferred option to the NHS.
2. The Providers – the incremental operating cashflow and the assessment of affordability[29] of the preferred option to providers.
3. The Commissioners - the incremental operating cashflow and the assessment of affordability of the preferred option to commissioners.

5.2 Combined project system NPV

The combined cancer and cardiovascular net present value ("combined project system NPV") combines the system NPV for both the specialist cancer and cardiovascular preferred options. As outlined in the table below, the combined project NPV demonstrates there is an overall net benefit of £94.2m to the NHS, over a 34 year assessment period. This period is used to align with the remaining life of the Barts PFI building on the West Smithfield site. The £94.2m is analysed between the two key workstreams as below and in table 5.1.

- £64.1m of the net benefit of the combined project system NPV is as a result of the cancer reconfiguration.

[29] Affordability analysis seeks to estimate the impact on provider income and expenditure over the period from 2012/13 to five years after the service transition date.

- £30.1m of the net benefit of the combined project system NPV is as a result of the cardiovascular reconfiguration.

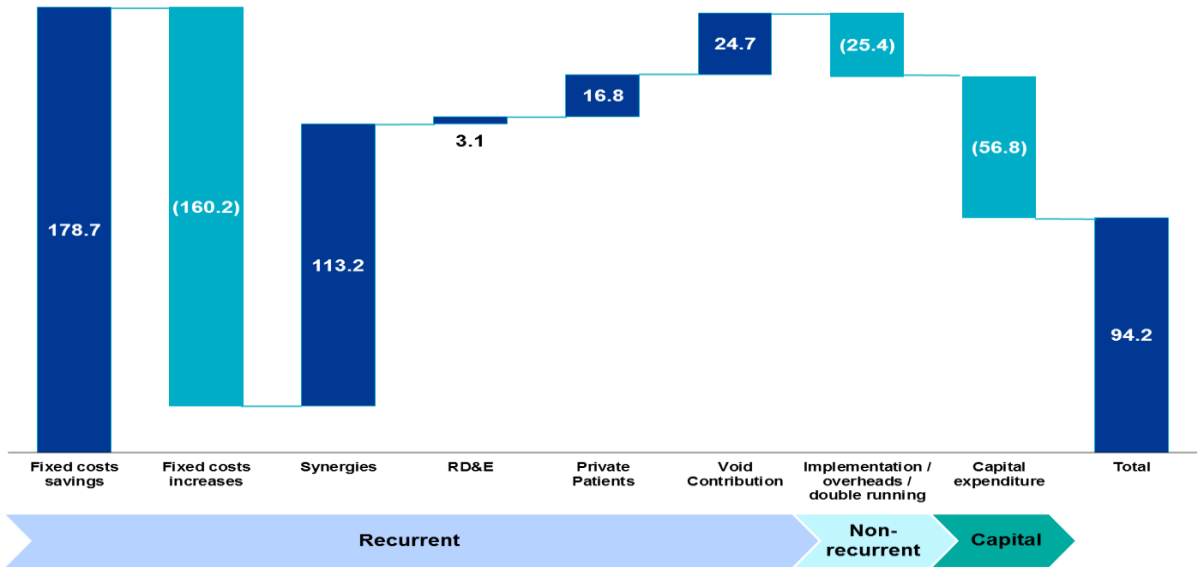
Table 5-1 - 34 year System NPV of the preferred option for cancer and cardiovascular activity (£000)

	Cancer	Cardiovascular	Total
Recurrent operational cashflows			
Fixed costs savings (costs no longer incurred)	51,522	127,187	178,709
Fixed costs increases (incremental fixed costs)	0	(160,211)	(160,211)
Post-reconfiguration synergies	13,088	100,122	113,210
Other recurrent cashflows			
RD&E contribution	894	2,163	3,057
Private patient contribution	9,642	7,205	16,847
Void contribution	10,623	14,101	24,724
Other			
Implementation costs	(10,228)	(15,180)	(25,408)
Capital expenditure	(11,478)	(45,278)	(56,756)
Total	**64,063**	**30,108**	**94,171**

The table above shows the positive NPV for cardiac, cancer and for the combined project. This is broken down into the constituent incremental spend categories of fixed and variable costs and required investment.

The bridge diagram below provides a visualisation of the combined project NPV, and identifies the key material cashflows over the 34 year assessment period.

Figure 5-1 – System NPV bridge (£m)



5.2.1 Recurrent operational cashflows

Consolidated incremental operating cashflows

The NPV of the impact on recurrent operational cashflows (the sum of fixed cost savings, fixed cost increases and synergies) is a net benefit of £131.7m over the 34 year assessment period. The main elements of this are:

- A PV (Present Value) of £178.7m generated through Provider fixed cost savings (from Providers who are losing activity). This £178.7m represents a net present value of £505.6m of fixed costs savings generated over the 34 year assessment period.

- A PV of £160.2m which represents a loss to the overall system through Provider fixed costs increases (from Providers who are the recipient of activity). This £160.2m represents a net present cost of £441.1m fixed costs increases over the 34 year assessment period.

- A PV of £113.2 generated through reconfiguration synergies. This £113.2m represents a net present value of £314.7m of fixed cost savings generated over the 34 year assessment period.

The other elements that achieve the £94.1m positive NPV are:

- A PV of £44.6m is generated through R&D and PP increases, and contribution from use of estates temporarily left void.

- A PC (Present Cost) of £82.2m is incurred in Capital and Non-recurrent implementation cost.

Table 5.2 indicates that there is a significant benefit to Provider recurring operational cashflows by year 5 as a result of the reconfiguration.

Table 5-2 – Summary of consolidated operating cashflows for all providers (£'000s)

Year	0	1	2	3	4	5	6	7	8	9	10
Fin. Yr	**2013/14**	**2014/15**	**2015/16**	**2016/17**	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**2021/22**	**2022/23**	**2023/24**
Increase / (reduction) in provider income											
National Standard Contract	0	(1,224)	(3,531)	(3,419)	(3,517)	(3,616)	(3,715)	(3,816)	(3,917)	(4,019)	(4,121)
Reduction / (increase) in provider cost											
Fixed	228	(1,279)	(6,550)	(3,963)	(1,520)	379	1,341	1,386	1,434	1,482	1,533
Variable	0	788	2,574	4,197	4,352	4,510	6,196	6,415	6,638	6,866	7,098
Total	**228**	**(1,716)**	**(7,506)**	**(3,184)**	**(685)**	**1,274**	**3,821**	**3,985**	**4,155**	**4,329**	**4,509**

There is a reduction in Provider income from 2014/15 as a result of the impact of the cardiovascular activity shifting from UCLH to Barts Health due to the level of activity transferring. It is assumed that 95% of activity will transfer to Barts Health. This decrease in Provider income is due to the relative payments from commissioners decreasing to account for the lower cost

base of the new providers (e.g. Barts Health has a lower cost base than UCLH due to its geographical location) rather than a reduction in baseline activity. See tables E-32 and E-49 in Appendix E for further detail.

The incremental change to fixed costs is driven by fixed cost savings as part of the cancer and cardiovascular reconfigurations and the increase in fixed costs at Barts Health as part of the cardiovascular reconfiguration. The changes in fixed cost savings are driven by the consolidation of activity to a fewer number of providers. .

Variable costs are assumed to transfer from the current Provider to the receiving Provider. As shown below, when considering all providers, the variable cost saving is entirely due to scaleable synergy savings as a result of the consolidation of activity into higher volume units.

The table below shows the recurrent reduction in variable costs over the first 10 years of the project, which represents the initial synergy savings forecast from implementing the project.

Table 5-3 – Post reconfiguration synergy savings (nominal) (£000)

	1	2	3	4	5	6	7	8	9	10
	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Reduction in variable cost due to post-reconfiguration synergy saving										
Cancer reconfiguration	0	153	472	491	510	703	730	758	786	815
Cardiovascular reconfiguration	788	2,422	3,726	3,862	4,000	5,493	5,685	5,880	6,079	6,282
Total	**788**	**2,574**	**4,197**	**4,352**	**4,510**	**6,196**	**6,415**	**6,638**	**6,866**	**7,098**

Synergy assumptions were initially tested by running workshops for cardiovascular cancer activity groups. Clinicians were given the opportunity to identify areas where synergies may arise. The finance working group then converted the outputs of the clinical workshops into the synergy assumptions Providers then agreed these assumptions through the finance steering group. As a significant driver of the combined project system NPV, the source and quantum of these synergy savings will require further investigation.

Incremental operating cashflows by Provider

As already described there is a net financial benefit to Providers from the implementation of the preferred cancer and cardiovascular option. The material movements are in respect of Barts Health and UCLH which is driven by the fact that those providers transfer out or receive the most significant level of activity.

Barts Health

Under the preferred option, Barts Health is subject to the following changes in activity so there is a net transfer in of activity:

- Net transfer out of specialist cancer activity - losing 421 spells and gaining less than 22.

- Transfer in of cardiovascular activity from The Heart Hospital – gaining 4,901 spells.

There is a significant improvement in the Barts Health net operating cashflow which is predominately due to the contribution from cardiovascular activity moving from the Heart Hospital.

UCLH

Under the preferred option, UCLH is subject to the following changes in activity so there is a net transfer out of activity overall as a result of the cancer and cardiovascular reconfigurations:

- Net transfer in of specialist cancer activity - gaining 528 spells and losing 37 spells.
- Transfer out of cardiovascular activity from The Heart Hospital – losing 5,159 spells.

The impact on the UCLH net operating cashflow is predominately due to the transfer of high margin cardiovascular activity from the Heart Hospital. This is mitigated slightly by the positive financial impact as a result of the implementation of the preferred cancer option.

This project provides opportunistically a very good estates solution, with acute timing issues around the existing business cases being developed by each provider, and provides forecast synergy with the commissioner business case. The commissioner business case takes advantage of those Provider plans, which decant the activity from the west Smithfield site to the London Chest Hospital, and to reutilise the Heart Hospital for London cancer activity flows.

UCLH is undertaking a phase 4 hospital build primarily for cancer activity, which forms the above ground component of a business case to implement one of England's two proton beam units, the other expected to reside in Manchester.

This NHS England business case has been constructed as a self-contained project excluding the UCLH planned phase 4 development, due to the critical time based dependency of Helical Bar on the Barts Health finances. Barts Health as part of a PFI re-scoping exercise established a need to sell an element of the existing Barts Health estate. This estate has contractually been sold to Helical Bar, which gives rise to a contractual penalty in the region of £1.5m per month if the sold estate is not evacuated by Nov/2016. It is both imperative and opportune that this project does not wait until the completion of the UCLH phase 4 business case, as the UCLH and existing Barts Cardiac activity will need to transfer to the London Chest Hospital simultaneously and ultimately to the Barts PFI tower. The Barts PFI tower will need to be fitted out to absorb the totality of the activity that will be transferred to it. It is therefore not economically viable to fit out the PFI tower for the Barts activity alone pending a decision on further fit out and transfer of cardiac activity from UCLH. It is therefore deemed time critical that to proceed, this project should be implemented prior to the UCLH phase 4 business case completion, in order to avoid the impact of severe abortive fines from Helical Bar on the Barts Health finances.

The table below shows the net cashflow impact to each provider, along with the total NHS cashflow impact. This demonstrates that after an initial 5 year implementation period, with negative cashflows incurred at UCLH, there is significant recurrent system benefit.

It is forecast that with temporary financial support going to UCLH within the first 5 years until Phase 4 is implemented, which will be compensated primarily from Barts Health and commissioners' cashflow gains, UCLH will be able to exit all stranded overheads and fixed and variables costs, negating the future impact of any contribution loss on the trust.

The perpetual loss of contribution at UCLH is displayed below, as a forecast baseline rather than a real cashflow, in order to measure the total incremental and Gross provider financial improvement of implementing the business case against (e.g. a do nothing, or do minimum scenario).

Table 5-4 – Summary of consolidated net operating cashflows by provider (£000)

	0	1	2	3	4	5	6	7	8	9	10
	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Barts Health	228	4,977	12,157	14,682	15,914	17,214	19,822	21,077	22,413	23,834	25,348
UCLH	0	-6,844	-19,827	-17,959	-17,146	-16,973	-17,346	-18,510	-19,755	-21,086	-22,510
RFH	0	0	-655	-1,186	-924	-641	-483	-508	-533	-558	-583
BHRUT	0	0	185	418	506	599	660	684	708	734	760
Other providers	0	151	633	861	964	1,075	1,168	1,242	1,321	1,405	1,495
Total	228	-1,716	-7,506	-3,184	-685	1,274	3,821	3,985	4,155	4,329	4,509

Incremental costs for commissioners

The combined impact of the preferred cancer and cardiovascular option is a reduction to the commissioner cost base (specifically National Standard Contract) as shown in table 5.5 below.

There is a decrease in the cost to the commissioners as a result of the cardiovascular activity shifting from UCLH to Barts Health. The cost decrease reflects the differential market forces factor – MFF – payable by Commissioners under the PbR national tariff mechanism – The UCLH MFF tariff premium is currently 1.2976 times tariff, verus the Barts Health MFF of 1.2128 times the current tariff price. The MFF compensates the trust for unavoidable geographical cost, and ensures unitary equity in spend on health care services. See table E-9 and E-18 in appendix E for further details.

Table 5-5 - Commissioners - Incremental costs from the preferred option (£000)

Year	0	1	2	3	4	5	6	7	8	9	10
Fin. Yr	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Decrease / (increase) in cost											
CCG	0	366	1,100	1,126	1,160	1,194	1,228	1,263	1,298	1,334	1,369
NHS England	0	858	2,430	2,292	2,357	2,421	2,487	2,553	2,619	2,685	2,752
Total	0	1,224	3,531	3,419	3,517	3,616	3,715	3,816	3,917	4,019	4,121

Table 5.5 above demonstrates the recurrent cashflow impact to commissioners. This demonstrates that approximately two thirds of the commissioner savings is specialised commissioning and a recurrent saving to NHS England. The remaining third is PbR based gains primarily due to MFF and therefore a two-year non-recurrent gain to CCGs thenceforth addressed by the allocation formula as PoC adjustment. The remaining 8 years against the heading CCGs demonstrates the continued system benefit after CCG allocations have been adjusted.

5.2.2 Other recurrent cashflows

Other recurrent net cashflows are defined as those that are positive (e.g. income received) or negative (e.g. operating costs including but not limited to staff costs and overheads).

The NPV of the impact of the preferred cancer and cardiovascular option on other recurrent cashflows is a benefit of £44.6m (see Table 5-1), derived from:

- A PV of £3.1m generated through incremental research, development and education (RD&E) contribution (income net of the associated costs of delivering the research, development and education) earned by UCLH and Barts Health. The £3.1m represents the net present value of £9.2m of research, development and education contribution generated over the 34 year assessment period.

- A PV of £16.8m generated through incremental contribution from providing specialist cancer and cardiovascular services to private patients. This £16.8m represents the net present value of private patient contribution totalling £46.7m over the 34 year assessment period.

- A PV of £24.7m generated by providers in the north and east London and west Essex cancer system and at UCLH in respect of the cardiovascular reconfiguration, through their ability to utilise (for other profitable services) surplus bed capacity arising from the reconfiguration of specialist cancer beds.

Research, development and education (RD&E)

Through the creation of a specialist cancer centre at UCLH and a cardiovascular centre at Barts Health, there will be better access to RD&E opportunities, generating additional income for the NHS.

Table 5-6 shows a small but increasing financial benefit from 2018/19. The present value of the financial impact of the incremental RD&E (£3.1m) is considered small relative to the overall NPV of £94.2m.

Private patients

Through the creation of a specialist cancer centre at UCLH and a cardiovascular centre at Barts Health, it is anticipated that there will be an increase in the number of private patient referrals. The financial benefit of additional private patient income from 2016/17 at Barts Health (in respect of the cardiovascular reconfiguration) and 2018/19 at UCLH (in respect of the cancer reconfiguration) is modest. The present value of the financial impact of the incremental private patient income (£16.8m) is considered small relative to the overall NPV of £94.2m.

Void contribution

The activity transferring into specialist cancer centres under the preferred cancer option and from UCLH to Barts Health under the preferred cardiovascular option will result in surplus bed capacity across a number of providers which generates a void contribution as detailed in the table below.

Table 5-6 Incremental contribution from private patients. RD&E and void contribution (£000)

	0	1	2	3	4	5	6	7	8	9	10
	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Private Patients	0	0	0	538	538	821	891	966	1,046	1,131	1,221
RD&E	0	0	0	0	0	161	168	174	181	188	196
Void contribution	0	322	1,311	1,657	1,686	1,716	1,747	1,747	1,747	1,747	1,747
Total	**0**	**322**	**1,311**	**2,195**	**2,225**	**2,699**	**2,805**	**2,887**	**2,974**	**3,066**	**3,163**

5.2.3 Non-recurrent transitional cashflows

Implementation and capital costs

The costs associated with implementing the preferred cancer and cardiovascular options, including double running costs, have a net present cost of £25.4m. At this stage cost estimates have been provided by Barts Health, UCLH and RFH. The detailed next phase planning for implementation will provide further clarity on whether any other Providers will incur implementation costs associated with the preferred option. These are not anticipated to be significant.

The total capital expenditure in relation to implementing the preferred cancer and cardiovascular options is £61.9m (see table below), with a net present cost of £56.8m (Figure 5-1). The main components of capital expenditure are:

- 79% of £61.9m (£49.0m[30]) relates to the implementation of the preferred cardiovascular option as Barts Health will incur additional cost at the Barts Health PFI hospital in order to create capacity required to service the additional activity. This estimate has been developed by a combination of Barts Health and external cost consultants (See table E-57 in Appendix E).

- 21% of £61.9m (£12.9m) relates to the implementation of the preferred cancer option as UCLH will incur £12.6m to refurbish the Heart Hospital to accommodate the additional cancer activity, whilst £0.3m is required by RFH. The UCLH estimate has been developed by external cost consultants (see Table E-38 in Appendix E).

Table 5-7 – Implementation and capital costs of implementing the preferred cancer and cardiovascular options (£000)

	0	1	2	3	4	Total
	2013/14	2014/15	2015/16	2016/17	2017/18	
Implementation costs	1,300	16,446	6,601	3,446	1,143	28,936
Capital Costs	300	28,179	33,378	0	0	61,857
Total	1,600	44,625	39,979	3,446	1,143	90,793

5.3 Commissioner affordability impact

[30] The total nominal capital expenditure that has been modelled is £49.0m. The latest figure provided by Barts Health is £49.8m following more detailed information being made available following the completion of the modelling exercise.

An assessment has been undertaken to quantify the incremental impact on commissioners cost base from the implementation of the preferred option for both cancer and cardiovascular. The assessment period is for the analysis is 1 April 2013 through to 30 September 2020[31]. More text required including cost impact and reference to the table underneath.

Table 5-8 - Affordability of implementing the preferred option for commissioners (£000)

	Cardiovascular		Cancer		Total	
	CCG	NHS England	CCG	NHS England	CCG	NHS England
Cost – (increase) / decrease						
Operational cost – National Standard Contract	2,599	6,168	(9)	(999)	**2,589**	**5,169**

5.4 Provider affordability impact

An assessment has been undertaken to quantify the incremental NPV impact on the income and expenditure cash flows of Barts Health and UCLH from the implementation of the preferred option for both cancer and cardiovascular. The assessment is limited to these providers on the basis that these providers experience material transfers of activity through implementation of the preferred cancer option. The period for the income and expenditure analysis is 1 April 2013 through to 30 September 2020[32].

An assessment has been undertaken to quantify the incremental NPV impact on the income and expenditure cash flows of Barts Health and UCLH from the implementation of the preferred option for both cancer and cardiovascular. The assessment is limited to these providers on the basis that these providers experience material transfers of activity through implementation of the preferred cancer option. The period for the income and expenditure analysis is 1 April 2013 through to 30 September 2020[33].

Table 5.9 below shows that the net difference between gains at Barts and losses at UCLH in the implementation period up to 30th September 2020 equate to approx. £30m. This means theoretically if 100% of Barts gains are provided to UCLH to compensate losses during the early years of this project, there is still an external funding requirement of approx. £30m which will need to be provided (before actual contribution levels are negotiated, including organisational delivery risk profiles) in order to gain the project positive NPV of £94.1m. The commissioner gains are internal to the project, and can over this initial implementation period can be used to fund some of this external funding requirement. (approx. £8m).

After the injection of the commissioner gains, any additional funding to plug this gap, and compensate the risk factors of the parties involved is external to the project and will effectively reduce the overall NPV attained from this project.

[31] 30 September 2020 is the date 5 years after the date of transition of services.
[32] 30 September 2020 is the date 5 years after the date of transition of services.
[33] 30 September 2020 is the date 5 years after the date of transition of services.

Table 5-9 - Affordability of implementing the preferred option for providers (£000)

	Cardiovascular		Cancer		Total	
	Barts Health	UCLH	Barts Health	UCLH	Barts Health	UCLH
Operating Contribution – gain / (loss)						
Income	345,066	(380,574)	(5,785)	37,935	339,282	(342,639)
Costs	271,221	(283,645)	(11,629)	29,729	259,593	(253,917)
Operating Contribution	73,845	(96,929)	5,844	8,207	79,689	(88,722)
Transitional Costs[34]						
Implementation / OHs / double running costs	(10,201)	(4,050)	(7,440)	(4,045)	(17,641)	(8,095)
Other						
RD&E contribution	189	0	0	127	189	127
PP contribution	1,973	0	0	850	1,973	850
HH void contribution	0	1,272	0	0	0	1,272
Provider – gain / (loss)	**65,806**	**(99,707)**	**(1,596)**	**5,139**	**64,210**	**(94,568)**

The analysis above is not a funding solution, and was written to support a discussion between Barts Health, UCLH and NHS England with the view to determining any transitional support that will be paid or received by each of these parties. The gain or loss that is contributed or received in the transitional support agreement may therefore be subject to change through negotiation and a compromise will be sought that allows all three organisations to confirm that the impact of the preferred option is, following transitional payments made or received, considered to be affordable.

The actual funding agreement will be subject to a separate commercial agreement between Barts Health, NHS England and UCLH.

[34] Temporary refurbishment costs incurred by Barts Health have been excluded for the purposes of affordability

6 Engagement to date and how feedback has been influenced

6.1 Introduction

As the lead commissioner for specialised services, NHS England, together with local clinical commissioning group (CCG) partners, has proactively sought the views of patients, the public and stakeholders to help inform these proposals. Extensive engagement has been conducted and has identified a number of considerations which have been taken into account and will be further addressed as commissioners engage on the commissioner preferred options in phase 2.

This chapter summarises the feedback that has been received from both a programme-wide and pathway specific perspective and identifies how this feedback has influenced the proposed way forward. The process for engagement is also summarised. Further detail is provided in the programme engagement report[35].

6.2 Engagement feedback

Throughout the engagement period, the programme received positive feedback and support on the clinical proposals outlined in the Case for Change across a broad spectrum of stakeholder groups. Stakeholders understood and supported the rationale for consolidation of specialist services onto fewer sites. They also strongly supported the need to create specialist centres of excellence that would work as part of an integrated system where services would be kept local where possible. A number of common themes/concerns did emerge which have been addressed by the programme. These are discussed below in more detail.

6.2.1 Programme-wide feedback

What we have heard	How has this been addressed
Travel The difficulty of travelling further to specialist centres for patients and their carers was raised as a common concern but in particular from patients and their families in outer north east London and west Essex. Strong concerns were expressed about the inconvenience and difficulty for patients and their families travelling to central London, lack and cost of car parking, and the difficulty and discomfort of travelling when undergoing treatment.	Patients were reassured through the engagement events that they would only be required to travel to specialist centres when absolutely necessary and that through the leadership of the centres, local cancer units would be able to conduct most of the diagnostics, oncology and follow up care. Further to this stakeholders were made aware of the transport plans the trusts have developed. A key role for commissioners going forward is to assure themselves these plans are workable and are in place. This assurance framework will be developed in the next phase of the programme. Stakeholder advisory workshops will be held in the next phase of engagement to explore the issues and identify appropriate mitigation measures.

[35] http://www.england.nhs.uk/london/london-2/engmt-consult/

What we have heard	How has this been addressed
Patient choice and competition A perceived reduction in patient choice or equality of access was raised by some patient representatives.	Competition analysis has been undertaken as part of the "Business Case" to provide more clarity on the impact on choice and competition. Patient choice was also a criterion used for the options appraisal.
Whole pathway integration Patients and GPs want the journey to be seamless, as patients move from initial diagnosis through to specialist treatment. It is important that patients are able to move effectively through the system as they progress from local provider to the specialist centre and back again and that it feels "joined-up".	To develop a better understanding of the whole pathway, the programme undertook a mapping exercise to identify the points along the patient pathway where proposals are likely to have the most significant impact. This was presented at the public drop-in sessions and patient experience workshops. A key intended benefit of developing specialist centres of excellence is the system leadership they can provide to drive improvements across the whole pathway and drive improved interfaces between providers. Integrated specialist multi-disciplinary teams will use system-wide pathways and guidelines, which will be regularly updated, to ensure a seamless patient journey. The challenge for the programme is to ensure commissioners have the assurance that providers take on this role effectively. This assurance framework will be developed in next phase of the programme. Stakeholder advisory workshops will be held in the next phase of the programme to explore these issues further.

6.2.2 Feedback on specialist cancer services

While stakeholders recognised the clinical benefits of consolidating specialist cancer services onto fewer, higher volume sites, a number of key themes were raised which are summarised below, alongside detail of how this feedback has been addressed by the programme.

What we have heard	How has this been addressed
Specialist Prostate Cancer Some patients and clinicians raised specific concerns regarding the option of transferring specialist prostate cancer surgery (radical prostatectomies) from BHRUT to UCLH suggesting the clinical evidence did not support that option.	A potential two-site model offering some specialist prostate surgery at a second centre at The Queen's Hospital in Romford was included as part of the options appraisal process. Further to this, an independent Clinical Senate review of prostate outcome data for UCLH and BHRUT and recently published NICE guidance was commissioned by NHS England.
Staged consolidation of OG specialist surgery While overall there was support for consolidating the current specialist OG surgery providers to a two provider model (UCLH and BHRUT) concerns were raised around further consolidation to a one-site model, particularly when taking into consideration the future configuration of services in Essex and the strong surgical outcomes observed at BHRUT.	The proposed recommendation is for a two provider model of UCLH and BHRUT. However further consolidation may be appropriate in the future. The model will be kept under review to ensure both providers deliver high quality clinical outcomes in light of future trends in OG cancer surgery. In order to achieve world class status, expert staff will be required to work together across the entire system. Joint appointments will be in place to ensure specialist input into the diagnostics, treatment and follow up care for patients at the current local hospital sites. This will ensure that the majority of patients, not requiring specialist surgery have equitable access to specialist team expertise.

What we have heard	How has this been addressed
Impacts on other services Some clinicians raised concerns of how the consolidation of specialist services may affect other parts of the health system. Specifically clinicians at Barts Health were concerned of the loss of key surgical expertise on their major trauma service. The impact on other allied specialties including interventional radiology, histopathology, specialist anesthesia and critical care, was also raised.	Key to the successful implementation of these recommendations is developing joint-working arrangements with the proposed specialist cancer centres and the wider services. Specifically addressing the major trauma concern, the programme has initiated the process of building commitment to maintain services and work collaboratively between trusts through an all-day clinically led workshop. Links have been established with leaders of the service and the pathway implementation planning work to ensure these interdependencies are addressed. Stakeholder advisory workshops will be held in the next phase of engagement to further capture the wider issues, and identify appropriate mitigation measures that will need to be addressed in planning for implementation.
Prevention and early diagnosis Stakeholders suggested that NHS resources would be better used on improving early diagnosis and prevention or that more information was needed as to how proposed specialist centres would work with local hospitals, GPs and charities to increase early diagnosis and prevention.	Through the engagement, stakeholders were made aware of the wider work UCLPartners are leading, specifically focused on prevention and early diagnosis. Phase two engagement will include examples of how the wider model of care will work in practice.

6.2.3 Feedback on specialist cardiovascular services

Strong stakeholder support was received for the preferred option of developing a single integrated cardiovascular centre at St Bartholomew's. The feedback received focused on challenges for implementation and is detailed below.

What we have heard	How this has been incorporated
Service quality and patient experience A number of stakeholders were keen to point out the high quality of service and positive patient experience delivered at The Heart Hospital. Stakeholders were naturally concerned this would be lost should services move to St Bartholomew's.	The primary driver for the recommendation is to deliver world class patient outcomes and so build on the good reputation of The Heart Hospital, the London Chest and St Bartholomew's. Planning for implementation will involve clinicians and patients from both trusts to ensure the new integrated cardiovascular centre brings together the best of both organisations. Transformation leads have been appointed from across UCLH and Barts Health to lead the development of the new clinical and academic strategy and service models. UCLPartners and Professor Richard Bohmer (Harvard Business School) are supporting the transformation leads in developing these models.
Conveyance of heart attack patients Stakeholders wanted to be clear on how the proposed move of the HAC at The Heart Hospital would impact emergency conveyances and for patients who have a heart attack in central London.	The London Ambulance Service (LAS) is modeling the impact of the proposals and the outcomes of this will be looked at as part of planning for implementation in the next phase.

What we have heard	How this has been incorporated
Impact on the Royal Free Hospital Some members of the public were concerned about the additional stress on the Royal Free Hospital HAC should the HAC at The Heart Hospital be decommissioned.	Travel and referral analysis has shown the majority of current Heart Hospital patients live nearer to the proposed new centre at St Bartholomew's. LAS modeling has been undertaken and will be looked at as part of planning for implementation. The clinical lead for cardiovascular at RFH is involved in the development of the clinical and academic strategy for the proposed new centre. RFH continue to support the proposal and is confident it can manage any future increased activity.

6.3 How engagement was conducted

6.3.1 Building on previous consultations and engagement work

Engagement undertaken for specialist cancer and cardiovascular services builds on previous pan-London and local engagement exercises, namely: Healthcare for London which engaged across the capital; the London-wide 2010 review of cancer and cardiovascular services (led by the former NHS organisation Commissioning Support for London); and engagement on specialist urological cancer services covering north and east London and west Essex undertaken in early 2013. These early activities express a commitment made by the NHS as lead commissioner to engage as many stakeholders as possible in order to arrive at the current commissioner led recommendations.

6.3.2 Programme engagement events

Engagement events have been co-ordinated by NHS England's programme team with support from UCLPartners and clinicians, on a pan north and east London and west Essex basis.

- **Public drop-in events** - Five events were advertised through local press and CCG and trust communication's cascades. Clinicians and commissioners were on hand to talk to attendees and address concerns raised on a one to one basis with the aim of sharing information and widening participation.

- **Clinical events** - Aimed at clinicians to raise awareness and clinical involvement in the programme. Five events were held at trusts across the locality and were attended by local clinicians keen to understand the impact on their working arrangements and their teams. These events were attended by the leadership of the trusts involved to champion the need for change and encourage participation in the development of the recommendations.

- **Public and stakeholder involvement in the options appraisal process** - Key to ensuring the options appraisal was transparent and robust was to involve patient groups, clinicians and commissioners throughout the entire process. This also served as a useful engagement exercise to help articulate the Case for Change and the relative merits of each option considered.

- **Patient group meetings** - Commissioners and clinical representatives presented the proposals at 10 patient group meetings. This included meetings with the Cancer

Partnership Group – a group of patient representatives from north, central and east London and west Essex – and The Heart Hospital Patient Group.

6.3.3 Joint Health Overview and Scrutiny Committees

There are three pre-constituted JHOSCs – Outer North and East London (ONEL, on which Essex is represented), North Central London (NCL) and Inner North East London (INEL). As The Heart Hospital is located in Westminster, the borough's Adults, Health and Community Protection Committee was also involved in scrutiny of the preliminary proposals for cardiovascular care. In August 2013 the programme team wrote to all JHOSCs and Westminster OSC to provide them with a briefing on the review and to seek early views on how the committees would wish to be engaged as part of the review. The Chief Executive of each local authority also received a briefing in August 2013.

Engagement with the scrutiny committees continued from August 2013 with formal scrutiny of the programme undertaken on 20 and 29 November 2013 when the programme team and clinicians presented the Case for Change and clinical recommendations at previously timetabled JHOSC meetings. A subsequent meeting on 9 December 2013 brought together Chairs of the three JHOSCs to gather preliminary views on the requirements for engagement or consultation.

The JHOSCs have concluded that the proposals do not represent substantial variation or development in services and that, therefore, formal consultation with local authorities is not required under section 244 of the NHS Act 2006. The JHOSCs support plans for the programme to continue to conduct further engagement with stakeholders before decisions are made.

7 Transitioning to implementation

7.1 Introduction

This business case identifies the recommendations commissioners will decide to take forward as commissioner preferred options for further engagement. In parallel to this the programme will commence planning for implementation where detailed implementation plans and an assurance framework will be developed.

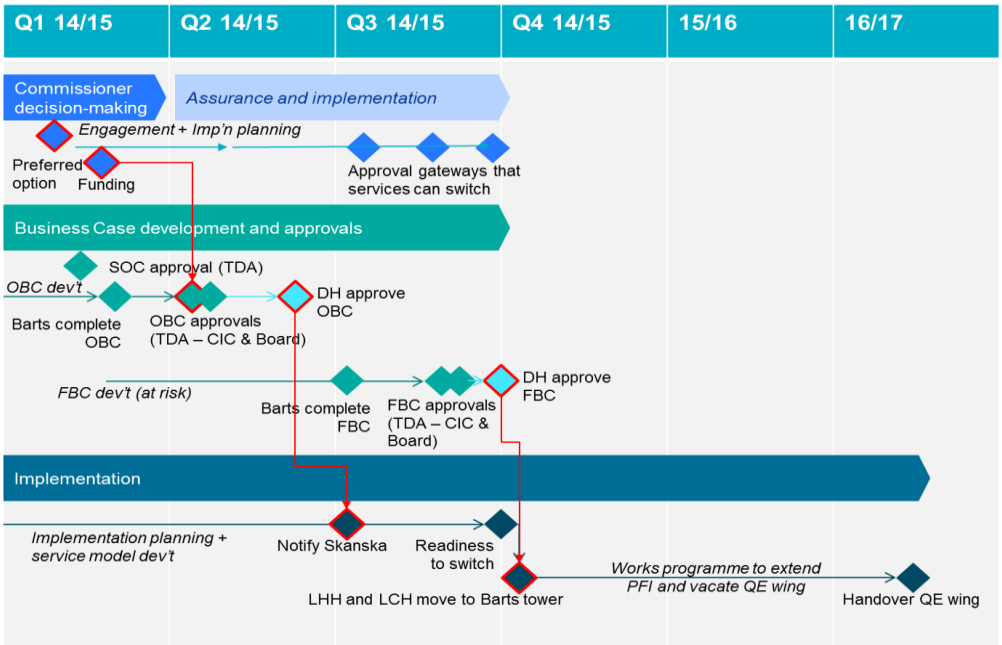
This chapter describes the planning for implementation work and is focused on the following:

- The requirements from the next phase
- The scope of work
- How this will be delivered
- The assurances that will be needed

7.2 The requirements for the next phase of work

The end to end decision-making timeline requires confirmation of commissioner intentions and the funding support to be secured by the end of June. This will enable the capital approvals timeline for the Barts Health Cardiovascular Centre to be met. The case will be taken through the Trust Boards and the NHS England Finance & Investment Committee in June to secure funding approvals.

Figure 7-1 – High level end to end plan



The other focus of this phase is effective implementation planning and a supporting assurance framework. This will enable commissioners to manage and monitor the delivery of these plans by providers, with appropriate gateways to ensure that any service changes happen safely and securely. The development of these plans will be informed by engagement conducted with stakeholders around key implementation themes.

7.3 The scope of this work

The scope of this phase of work needs to cover the following areas of activity:

1. Securing funding approvals
2. Provider level planning
3. Pathway level assurance
4. System-wide assurance
5. Engagement
6. Ongoing assurance mechanisms

7.3.1 Provider level planning

In the next phase of the programme, providers will be responsible for developing implementation plans that:

- Are deliverable
- Provide clear phasing and timelines, with inter-dependencies understood (eg estates, support services, staffing, information, communication with patients, travel plans)
- Enable effective workforce consultation
- Maintain and enhance clinical quality on all services not just those that are moving.

7.3.2 Pathway level assurance

For each proposed change a number of assurances will need to be in place and considered by Commissioners before any final service move commences. These include:

1. Commissioner assurances that the clinical models are deliverable, will not compromise safety and will ensure all co-dependencies are provided

2. Commissioner assurances that these service models:
    - support full pathway integration
    - ensure dependent services are not adversely affected (including major trauma and emergency services)
    - will be supported by the appropriate commissioning levers to deliver the commissioning intentions
    - will facilitate effective management of hand-offs across the pathway, including the provision of timely patient information
    - ensure the continuity of patient care
    - will provide for effective clinical and non-clinical staff rotas
    - are underpinned by a clear timeline with realistic and achievable phasing.

7.3.3 System-wide assurance

The full programme of changes needs to be deliverable and coordinated, with the capacity in place to achieve this. As a result, commissioners will need to establish an assurance mechanism that ensures the following:

1. An integrated end to end plan which delivers the system benefits and manages any dependencies across pathways, providers, estates, workforce and IT.

2. Consistency of approach across all pathways and providers with regards to the management of support services, travel, HR, access to patient information and the provision of information for patients.

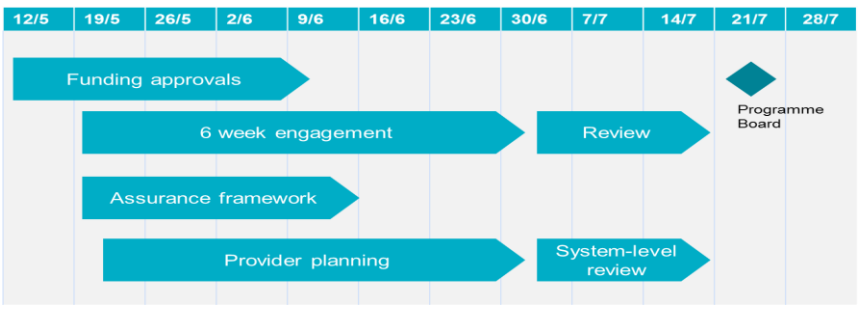
3. The duties under the Equality Act 2010 have been satisfied or will be addressed

4. Subsequent implementation plans are consistent with the NHS (Procurement, Patient Choice and Competition) (No. 2) 2013 Regulations.

7.4 How this will be delivered

The next phase of work will require commissioners, providers and clinicians working together to ensure a coordinated model that delivers the benefits identified in this case. The timeline below indicates the key timing of activities to support this.

Figure 7-2 – Next phase plan



8 Further engagement

8.1 Introduction

Subject to approval at the Commissioner Decision Meeting, the programme will undertake a second phase of engagement and further scrutiny to enable local people to offer further feedback on the commissioner preferred options prior to a final decision by commissioners.

In liaison with the three Joint Health Overview and Scrutiny Committees, it was concluded that the proposals do not represent substantial variation or development in services and that, therefore, formal consultation with local authorities is not required under section 244 of the NHS Act 2006. The JHOSCs support plans for the programme to continue to conduct further engagement stakeholders before decisions are made.

A six week engagement period will be held from mid-May to June 2014. This was accepted as an appropriate engagement period which would engage on the preferred recommendations and identify the impacts on the local health economy to be addressed in planning for implementation.

The engagement strategy for the next phase involves a number of measures to address issues that have been raised consistently through engagement undertaken so far. As travel and access has been raised consistently during the first engagement phase, a series of stakeholder advisory workshop on this issue (and others including pathway integration and managing impacts on other services) will be held.

In order to ascertain that the programme is engaging with all interested and affected patient and community groups in the area, the programme are liaising with local branches of Healthwatch to receive their feedback and ensure that all affected groups across the patch are included and engaged with as part of this phase. In addition, key documents will continue to be available in other languages on a request basis.

8.2 External assurance on the engagement approach

The programme team has sought guidance on the phase two engagement activities from a range of independent third parties including patient groups, Healthwatch and JHOSCs. In addition, phase two engagement follows previous extensive stakeholder engagement exercises.

8.3 Governance arrangements for undertaking engagement

Accountability for undertaking engagement on specialist cancer and cardiovascular services is with NHS England but with significant input from CCGs and trusts.

The programme team will provide engagement materials such as the summary leaflet, presentation packs and FAQs and will act as a central point of contact for further information requests. The programme team will also be responsible for delivering regular briefings to the three Joint Health Overview and Scrutiny Committees, attending meetings as requested and the co-ordination of engagement events.

Trusts and CCGs are expected to use their local channels of communication with the general public, members, patient groups and wider stakeholder groups to ensure effective engagement

prior and during the engagement period. Both CCGs and trusts will fully brief their staff about the engagement.

8.4 Accessibility

The engagement will be carefully targeted. Audiences include cancer and heart disease patients, their families, carers organisations, clinicians working in cancer and cardiovascular care, appropriate royal colleges and professionals' groups and relevant NHS managers.

Public materials will be written in plain English and technical terms will be explained. Translations and alternative formats will be available on request.

A series of advisory workshops will provide people with a face-to-face opportunity to make comments and the programme team will attend meetings, as requested.

8.5 Engagement methods

The table below summarises the engagement methods the programme intends to adopt for stage two of the engagement.

Assessment	Description
General publicity – paid advertising (to ensure accuracy) in local media, as well as publicity via NHS organisations and established stakeholder channels such as Healthwatch and local voluntary group networks.	Programme team to coordinate pan sector publicity; CCGs and trusts responsible for promoting publicity through usual channels. Measures should be taken to ensure accuracy of publicity.
Prostate public discussion event – an effective way of engaging with a wide range of interested parties in the local health economy, as well as patients and general public.	In light of the high-level of interest in this pathway and the London Clinical Senate's review, a specific public discussion event will be held on the prostate preferred recommendations. Organised and managed by the programme team, and held in outer north east London. Ensure suitably credible speakers are available and briefed.
Advisory workshops – detailed engagement on planning for implementation issues.	The programme team will run a series of advisory group workshops focusing on travel, service impacts and system-wide integration. The workshops will encourage collaboration to identify potential issues and appropriate mitigation measures. The programme will hold advisory workshops on travel and will work closely with UCLP to consider the best approach to communicate. Commissioners and clinicians will present and facilitate discussions.
One-to-one meetings – for key individual stakeholders such as MPs and OSC leads, as requested.	Briefings will be provided to CCGs and trusts for use at existing one-to-sessions. Programme attendance, as requested.

Assessment	Description
Patient group meetings – attended as requested	Commissioners and, where appropriate, clinicians will present the commissioner preferred options and the public consultation document to gain feedback on these options
Website and social media	Stakeholders will be able to access the public consultation document and supporting materials via this mechanism. A page on NHS England's website is established. NHS England's Twitter account will be used to highlight the engagement. Key partners will also be encouraged to use their Twitter accounts to publicise the engagement.
Telephone, email and post – the programme team will be directly accessible via telephone and post mechanisms in addition to online contact information	Programme office telephone, email and postal contacts established. The programme have developed an extensive mailing list during phase one and will inform stakeholders of their opportunity to respond.

8.6 Engagement materials

The engagement methods listed above give rise to some common materials, defined below. The materials will be developed by the programme team and given to CCG and trust communications teams.

Material	Audience
Public consultation document	All public and stakeholders
Engagement fact sheet – background of phase one and how the feedback has been incorporated	All public and stakeholders
NHS website – central point for accessing documents	All public and stakeholders
Press releases – designed to inform local media of the engagement and its implications	Media
Public presentation – for use at meetings, as requested	All public stakeholders, tailored and updated as required
Staff presentation – for use in staff engagement	All staff, tailored and updated as required

9 Decision making and next steps

9.1 Introduction

Specialist services in north and east London are not organised in a way that gives patients the best chance of survival and the best experience of care. This “Business Case” presents a set of recommendations made to commissioners that have a clear mandate for change established through extensive clinical and wider stakeholder engagement and a thorough options appraisal.

The impacts of the recommendations have been assessed financially for the system, commissioners and the trusts and for patient choice, travel times and individual equality groups. While this assessment was positive for the recommended options, a number of concerns were raised through engagement and are being addressed by the programme.

This chapter summarises the recommendations to be agreed as the commissioner preferred options for further engagement with the local population.

9.2 Specialist cancer services recommendations

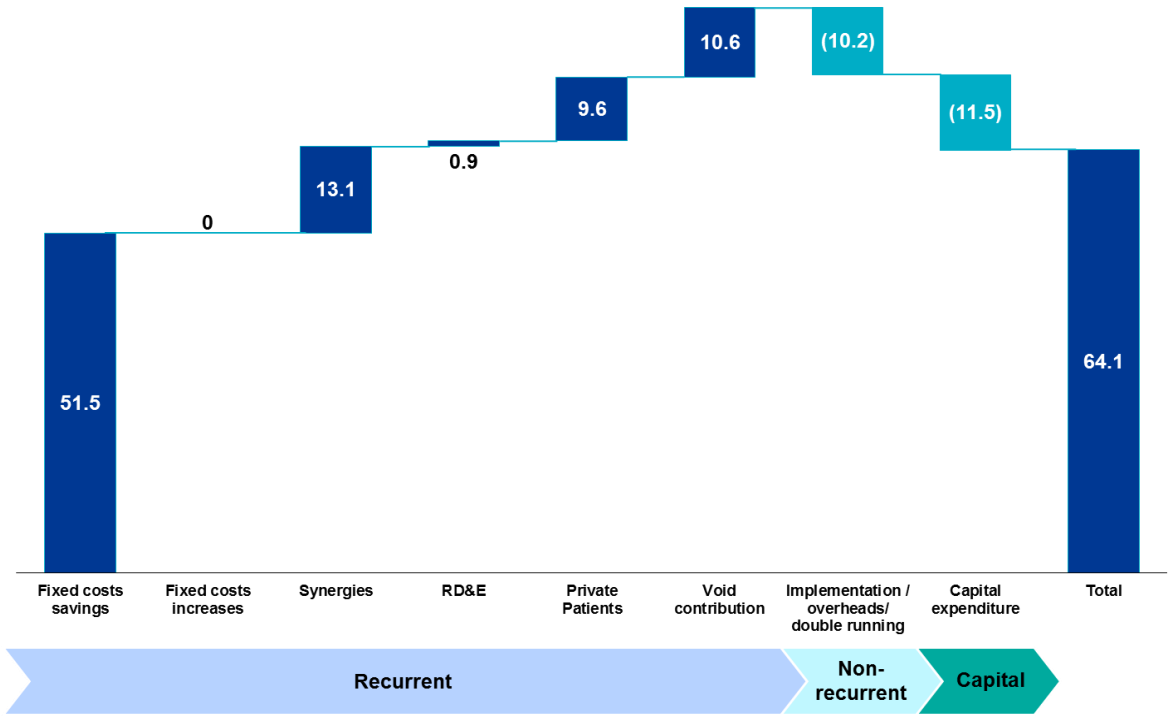
The current configuration of specialist cancer services is not achieving the patient outcomes expected by local residents of north and east London and west Essex. The options appraisal and feedback from the engagement events led to the following preferred options for each of the cancer pathways in scope.

Table 9-1 - Specialist cancer preferred options

Pathway	Current configuration	Preferred option
Brain	UCLH + BHRUT + BH	UCLH + BHRUT
Head and Neck	UCLH + BH + CFH	UCLH
Bladder and Prostate	UCLH + BH + BHRUT + BCF	(See London Clinical Senate summary)
Renal	Various providers across the area	RFH
HSCT	UCLH + RFH + BH	UCLH + BH
AML	UCLH + RFH + BHRUT + BH + NMUH + BCF	UCLH + BH + BHRUT
OG	UCLH + BHRUT + BH	BHRUT + UCLH

The preferred options above were subject to an impact assessment. Broadly the preferred options have a minor impact on patient flows, competition, equality and travel given the relatively small number of patients transferring. A summary of the system NPV is presented in the figure below.

Figure 9-1 – NPV bridge of preferred cancer option (£m)



The recommendations made to the Commissioner Decision Meeting by pathway are summarised below. These are proposed to be adopted as the Commissioner preferred options, which will then be engaged on.

1.1 Brain cancer

That the National Hospital for Neurosciences (UCLH) and The Queen's Hospital (Romford) (BHRUT) are retained as the two units in the area providing neurosurgical cancer services

Neurosurgical cancer services at the Royal London and St Bartholomew's Hospitals should be decommissioned.

1.2 Head and neck cancer

That UCLH is retained as the single centre for specialist head and neck cancer surgery in the area.

The specialist head and neck cancer surgery currently provided by Barts Heath and BCF should be decommissioned.

1.3 Urological cancer: Prostate and bladder

Refer to London Clinical Senate Summary for final recommendation made by the programme.

1.4 Urological Cancer: Renal

That the Royal Free Hospital is the single provider for renal cancer surgery for the area

Specialist renal cancer surgery at all other hospitals in the area is recommended to be decommissioned.

1.5 Haematological cancer: Haematopoietic stem cell transfer

That Barts Health and UCLH are retained as the two level 3 providers for AML and HSTC in the area.

The HSTC service currently provided at the Royal Free Hospital is recommended to be decommissioned.

1.6 Haematological Cancer: Acute myeloid leukaemia (level 2b)

That Barts Health, UCLH and The Queen's (Romford) are retained as providers of AML level 2b services.

The AML (2b and 3) services at North Middlesex, the Royal Free and Barnet Hospitals are recommended to be decommissioned.

1.7 Oesophago-gastric cancer

That an interim position is adopted that retains a service at UCLH and The Queen's Hospital with both units operating collaboratively under a single model and sharing best practice.

In three to five years' time consideration of further consolidation should be given following a review of the volume of activity at both units against the latest standards of best practice.

The oesophago-gastric surgical cancer service at the Royal London Hospital is recommended to be decommissioned.

9.3 Specialist cardiovascular services recommendations

The options appraisal process considered a long-list of five possible configurations of cardiovascular centres and HACs. It was concluded there were only two options that were safe and viable options:

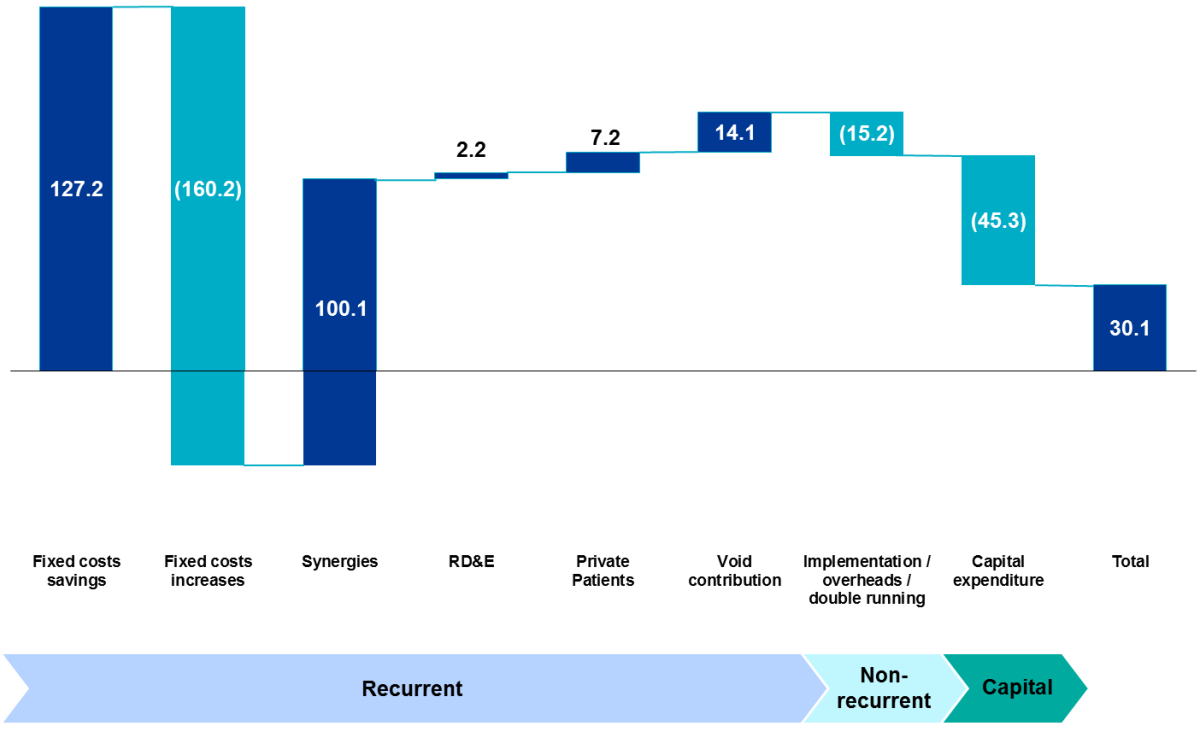
- A single cardiovascular centre at Barts Health and two HACs at Barts and the Royal Free Hospitals

- A single cardiovascular centre at Barts Health and two HACs at Barts and The Heart Hospitals.

Of these two options the second option was preferred and showed significant improvement over the “do minimum” option.

The preferred options above were subject to an impact assessment. Despite the significant number of patients transferring, the impact on travel, individual equality groups and choice and competition is minimal. A summary of the system NPV is presented in the table below.

Figure 9-2 – NPV bridge of preferred cardiovascular option (£m)



The recommendation made to the Commissioner Decision Meeting is summarised below. This is proposed to be adopted as the Commissioner preferred option, which will then be engaged on.

2. That services at The Heart Hospital should be transferred to St Bartholomew’s Hospital to create a single integrated cardiovascular centre.

The Royal Free Hospital and the integrated cardiovascular centre at St Bartholomew’s Hospital would be the Heart Attack Centres for the area.

9.4 Decision making

This “Business Case” alongside supporting papers set out how the recommendations were developed and considers the financial, competition, travel and equality impacts of each of the preferred options for service change. Accompanying these papers is an assurance paper to indicate where and how the Secretary of State (SoS) four tests have been met.

Taking into consideration the materials presented, majority commissioners of the services within scope are invited to make the following decisions at a Commissioner Decision Meeting to be held on the 9th May 2014:

1. To agree as commissioner preferred options the recommendations regarding proposed changes to specialist cancer services (1.1 – 1.7) outlined above

2. To agree as commissioner preferred option the recommendation regarding proposed change to specialist cardiovascular services outlined above

3. Approve the proposals for phase 2 engagement on the commissioner preferred options and implementation issues to inform final decision making.

9.5 The next phase of the programme

Subject to agreement by commissioners to take the recommendations on as a preferred options, the immediate next steps are to:

- Deliver phase two of the public and patient engagement
- Coordinate planning for implementation work among the providers
- Develop an end to end programme implementation plan
- Develop the assurance framework for commissioners to robustly oversee the implementation.